Sun. Tribune 1/7/79 (55)

URANIUM HUNT STEPPED UP

By JACK BRICKHILL

THE SEARCH for the energy minerals, coal and uranium, already at an unprecedented level before the latest oil price rises, is being stepped up.

The main thrust in the search for uranium is in the Karroo but large scale prospecting operations are also being conducted in the Northern Transvaal. Most large coal deposits in South Africa are already known but examination of these deposits, mainly in the Northern Transvaal and Natal, are being intensified.

The uranium search in the Karroo is directed from Beaufort West with most of the mining groups represented and several foreign companies joining in the hunt. Although millions of rands have been spent on prospecting no new deposits have been defined in the Karroo. However there are known occurences of the mineral in the area.

The aerial and ground search is over a wide area and extends halfway to Aberdeen, across to Sutherland — a distance of about 300 kilometres — and then about 600 kilometres north to Upington.

In the Northern Transvaal, General Mining has discovered indications of a significant source of uranium in certain areas and although geological and technical investigations to solve complex recovery problems are given priority, the company warns that no immediate results should be expected.

Production figures of this strategic material are kept secret but the opening in 1981 of Union Corporation's R200-million Beisa uranium mine south of Welkom, is certain to boost sales considerably. A concerted search for this mineral started about five years ago when the uranium price shot up. At present the price has dipped after the accident at the Three Mile Island nuclear power station in the United States.

General Mining's prospecting in the Northern Transvaal has indicated substantial reserves of power station coal in addition to the coking coal reserves previously proved in the area. The main groups involved in the coal search are Anglo American and General Mining but JCI and Rand Mines are also involved.

Sunday Express

'Yellow cake' averages $52 a pound

By PAUL DIAMOND

SOUTH African uranium producers are averaging more than $52 a pound for uranium sold on contract, and more than that occasionally on a spot sale.

This was disclosed yesterday by Dr Ampie Roux, retiring president of the Atomic Energy Board.

He said South Africa's current production is more than 5 000 tons a year, and added that the uranium revenue for 1979 should amount to R500-m.

The Vaal Reefs South plant, officially opened this week, brings the number of plants pumping out "yellow cake" to 16. Three are sited at Vaal Reefs.

Roux, who has presided over the country's nuclear programme for more than a quarter of a century, held out some glittering prospects:

- Production is building up to 13 000 tons in the early 80s — yielding in today's money terms R1 300-m a year — when all current projects come on stream.

These include new plants, plant extensions, the two big re-processing plants at Ergo and its Free State counterpart, along with the new Beisa and Afrikander Lease mines.

The latter will begin producing 15 000 tons a month by the year-end, and when its new pressure leaching plant is commissioned in early 1981, mining will increase to 50 000 tons a year. Beisa begins production in 1982.

As an indication of the growing earning power of uranium, Vaal Reefs' new plant, as well as the extensions to the older East and West plants which have cost R90-m will, when production reaches 1 700 tons in 1982, boost the mine's uranium revenue by R60-m annually.

South Africa has intensively researched uranium extraction from low-grade ores and Roux commented: "Following the incorporation of ferric and pressure leach processes as well as other techniques, the percentage of uranium recovered is expected to exceed 90% in the near future."

This could presage new small dump treatment plants as well as possible extensions to the Ergo and Free State retreatment plants.

On the subject of uranium output reaching 13 000 tons annually, Roux said that as a result of prospecting operations currently being carried out, he was confident South Africa would "be able to maintain or even exceed this figure well into the next century".

Last year the private sector spent nearly R21-m on exploration activities, with the State contributing an additional R800 000 on airborne surveys.

"Our ore reserves have increased in proportion to the amount of money spent and recent estimates have shown that South Africa's total uranium resources, recoverable at a cost of $30 or less per pound, amount to 355 000 tons. Total resources recoverable at a cost of $50 or less per pound amount to approximately 625 000 tons."

Detainee was kept naked in his cell

Daily News 15/5/79

Parliamentary Correspondent

Mrs Helen Suzman, the official Opposition's chief spokesman on police matters, clashed sharply with the Minister of Justice, Mr J. T. Kruger, yesterday over the alleged maltreatment in detention of Mr. Peter Jones, the man who was detained with Stephen Biko.

Speaking in committee during the debate on the Police Vote, Mrs Suzman said Mr Jones had been kept naked and not allowed to bath during the two months he was detained at the Algoa Park police station, Port Elizabeth, under Section Six of the Terrorism Act.

He was allowe donly one blanket and got no exercise.

Mrs Suzman also said Mr Jones had visible injuries following interrogations by the "bully boy" security police at Sanlam Building in Port Elizabeth.

Asked by Mr Kruger whether she had seen the injuries, Mrs Suzman said she had all the information on affidavit and she indicated that it was Mr Jones' intention to sue the Minister for damages.

Replying to the debate, Mr Kruger admitted that Mr Jones had been kept naked in his cell but said this had only occured after he had tried to commit suicide.

The Minister also warned Mrs Suzman not to have anything to do with Mr Jones because he was using her.

He said Mr Jones had been regularly visited by magistrates but had never made any complaints to them.

Speaking earlier, Mrs Suzman said that, like Mr Biko, Mr Jones had received fortnightly visits by a magistrate during his 17 months in detention, four-and-a-half of which were under Section Six of the Terrorism Act.

"The magistrates who visited him from September 1 at the Algoa Park police station saw he was kept naked the entire time he was there.

"They saw he had only one blanket and a mattress. They could see he wasn't allowed to bath for two months. They must have known he was kept in a locked cell for the entire time and not allowed any exercise.

"They must have seen the injuries inflicted on this man during interrogations at all hours of the day and night by the security police bully-boys at Sanlam Building.

"Yet not one of the magistrates evidently raised a finger to see that he was kept under conditions pertaining to a civilised country," she said.

No charges were ever laid against Mr Jones ...

POLICE FACE HUGE CLAIMS

Voice 19/5/79

By Phil Mtimkulu

THE LATEST claim for damages against the Minister of Police Mr J Kruger brings the total for known claims against the police to R316 000.

Mr Zwelakhe Sithole is the latest claimant against the police. He is suing the ...

Within a short period of three months they were compelled to pay out R28 339.

One claim was settled out of court while the police lost three in court.

The out-of-court settlement involved the death in detention of Mr Joseph Mdluli whose widow accepted a settlement of R15 000.

... bosch were awarded R1 339 in terms of a judgment handed down in the Cape Town Supreme Court.

They had lodged the claim against the police after an alleged assault on them by a police constable. The police are also facing massive claims lodged by alleged victims of the security police.

They are R90 000 from the Biko family, R40 000 from four Section 10 detainees from Natal, R6 750 from Daniel Montsisi and R150 000 for two separate actions lodged by some of the Bethal accused.

ANC Swazi...

MBABANE — Two former Soweto men convicted in Swaziland this week of carrying weapons of war claimed they crossed into the Kingdom from South Africa to escape pursuing South African security forces.

Abel Xakaza (19) and Jerry Seleki (23) pleaded guilty before Mbabane resident magistrate, Mr Paul Shilubane to possessing the weapons in the Pigg's Peak area on April 14.

Xakaza, who was ...

Sasol and a surplus of cash

Sun. Tribune 1/7/79

55

By Ben Temkin

THERE'S a lot of liquidity in the capital market — notwithstanding the R500-million about to be raised by Sasol, so that Tongaat's R12,5-million proposed preference share issue and Ovenstone's R9-million rights issue of ordinary shares are unlikely to make much impact on current balances.

Thinking when the Sasol venture was announced was that this would go a long way to drying up some of the liquidity in the market and that interest rates would probably harden in the wake of the issue. But that thinking was at a time when it seemed that little could prevent the economy from achieving a real growth rate this year of 4 percent or better. Since then, much has happened to change that forecast, not least of which has been the enormous oil price increase.

As a result it is now almost certain that much projected capital expansion within industry will not take place. Many companies will do little more than take up their unused capacity while some will consider it worthwhile to strain capacity if they do have an improvement in business.

Infrastructural spending is, however, progressing at a rapid rate as a result of the Sasol expansion. But here, too, there has so far not been much call for additional funding from the capital market. The result is that interest rates are still in a weak trend and the reversal is being delayed.

Further, Senator Horwood has just shown once again with his British loan "at very attractive rates" that, if overseas capital is wanted, then it will be forthcoming. Although capital flows were not to South Africa's advantage in the early part of this year, they could easily be if local borrowers were to roll over their loans or if more demands were made on overseas markets.

But why should borrowers want to go abroad when rates here are attractive enough and the supply of cash is good?

In the public sector, at current rates, apart from institutions that are obliged to meet their statutory investment requirements, there will be little rush to take up new issues. Vast over-subscriptions — last year's pattern — are likely to be replaced by marginal over-subscriptions or even under-subscriptions as happened with the recent City of Johannesburg loan. Caution and hesitancy are the keywords to investment in this sector.

But this is not necessarily the case with private sector issues. With money begging for a decent home, attractive conditions and/or rates should meet with success.

... and Xakaza told the ... ca News Service.

...old of killing

(12/5/79)

he collapsed. There was blood coming from his nose and mouth and chest.

He died soon afterwards.

Mrs Nkosi testified she became so hysterical she did not realise she had been shot in the stomach. She was taken to hospital after police arrived at her home.

She said her husband had heard previously there were "political persons" who wished to kill him. This information had come from friends and police informers.

These threats had been reported to his superior officers, who supplied him with extra ammunition for his pistol.

The court heard that Sergeant Nkosi had gone for his further studies overseas under the aegis of the African National Congress. He had first gone to a camp at Dar es Salaam and then to Russia. There he received military training between August 1963 and August 1964.

He had entered Rhodesia but later however, he and others had broken away and returned to South Africa ...

U.K. row looms over 'oil swop'

appr N.m 55

Mercury Correspondent

LONDON — There will be a Commons row this week over the Government's decision to drop the unofficial ban, imposed by the Labour Government, on indirect sales of oil to South Africa by British Petroleum.

The decision made by the Foreign Secretary, Lord Carrington, has angered Labour MPs but in addition the publicising of the existence of the unofficial ban and now its relaxation has also embarrassed British Petroleum which is dependent on Black African markets for both supplies and its markets.

Under the "oil swop" deal BP, in which the Government has a majority shareholding, will provide the American Conoco Company with oil, partly from its North Sea Reserves, which Conoco will sell to South Africa.

The former Foreign Secretary, Dr. David Owen, feels that lifting the ban will inflame the already delicate relations between Britain and the African Commonwealth countries over the question of recognising the new Black Government under Bishop Abel Muzorewa.

Nigeria, in addition to being a major oil supplier, is the second largest importer of British goods in the African continent and has threatened trade cuts if Britain recognises the Muzorewa regime.

South African oil supplies have been very badly hit by the ban on sales imposed by Iran, hitherto its principal supplier. Although there is no official international ban on supplies to South Africa an unofficial embargo is in practice enforced by the Black African countries. BP recently had a cargo destined for South Africa seized by the Nigerian Government when the ship docked at one of its ports.

Benefactors

In Canberra yesterday the British Prime Minister, Mrs. Margaret Thatcher, defended multinational oil companies as benefactors of national economies, reports Sapa-Reuter.

In comments to the Australian Press Club here, Mrs. Thatcher said without these companies Britain would not have been able to exploit its oil reserves in the North Sea.

"I do wish people wouldn't go on against multi-national companies," she said.

Mrs. Thatcher said the problems of inflation and energy called for new solutions and "strong nerves."

The recent price rises by the Organisation of Petroleum Exporting Countries could cause an international recession and put into focus the problems and dangers of the energy situation, she said.

She said Australia, which has about 20 percent of the Western world's known uranium resources and vast coal reserves, could play a major part in solving the world's energy problems.

Summit goes for coal use

RMN Bus. 27/7/79 (55)

By NEIL BEHRMANN

LONDON. — A significant outcome of the summit in Tokyo was the pledge to use more coal for direct energy and for the production of oil.

The summit communique said: "We pledge our countries to increase as far as possible coal use, production and trade. We will endeavour to substitute coal for oil in the industrial and electrical sectors, encourage the improvement of coal transport, and maintain positive attitudes towards investment for coal projects."

Of particular significance to South Africa was the pledge not to interrupt coal trade under long-term contracts, and to maintain measures which do not obstruct coal imports.

The seven major industrial nations are also committed to nuclear energy. They said: "Without the expansion of nuclear power generating capacity in the coming decades, economic growth and higher employment will be hard to achieve. This must be done under conditions guaranteeing our people's safety."

The agreement of the leaders was far more impressive than the previous four summits.

There was a definite commitment to lower oil imports to offset the increase in Opec oil prices.

"The most urgent tasks are to reduce oil consumption and to hasten the development of other energy sources. Our countries have already taken significant actions to reduce oil consumption. We will intensify these efforts."

The Euorpean Economic Community has decided to restrict 1979 oil consumption to 500-million tons (10-million barrels a day) and to maintain community oil imports between 1980 and 1985 at an annual level not higher than in 1978.

The United States goal is to maintain its 1985 oil imports below 1977 ranges — at 8 500 000 barrels a day.

In response to Opec's new two-tier price system, oil product prices on the international spot market rose sharply.

Saudi Arabi has raised its price to $18, but with more stringent credit terms, the price is effectively $19 a barrel.

Under the new agreement, Opec producers will be allowed to add a premium to their basic price up to an upper limit of $23,50 a barrel.

Reuter reports from Tokyo that the seven-nation declaration represents the first collective response of the major democratic oil-consuming countries to the challenge to economic growth and employment posed by Opec.

Delegates to the meeting described the Opec decision as shocking, unjustified, destabilising, and severely damaging to the economic prospects of the less-developed countries.

The two days of discussions among the heads of government from France, Germany, Japan, Canada, the US, Italy and the UK were dominated by the energy issue where hard bargaining resulted in a communique specifying both short and medium goals for reducing oil imports and making the seven countries less vulnerable to the Opec grouping.

One result of the hard bargaining, the delegates pointed out, was the commitment of the four EEC countries to ask their five partners not present to accept individual country goals for oil imports.

French President Valery Giscard d'Estaing, who is president of the EEC Council, says the energy ministers will be charged with establishing the national goals. These goals will be submitted for approval to the EEC summit to be held in Dublin later this year.

Delegates of the four EEC countries stressed that throughout the summit discussions on energy, their five other partners were kept informed.

Although the communique deplored Opec's action in raising oil prices again, the majority of the nations represented said they believed the declaration provided a convincing demonstration of their will to reduce oil consumption and would thus help the moderate element in Opec to counter the demands for even greater oil-price rises.

The British Chancellor of the Exchequer, Sir Geoffrey Howe, said that the commitment "represents a tilting of the balance of the demand side away from Opec".

If the seven countries had not taken any action, the situation would have been even more unbalanced and therefore more difficult to stabilise, he said.

For the EEC the commitment is to maintain oil imports between 1980 and 1985 at an annual level not higher than in 1978. This freeze covers oil imports from outside the community and does not incorporate the supply from the North Sea, according to Sir Geoffrey.

Canada's target for imports was originally projected at 650 000 barrels a day by 1985. This has been reduced to 600 000, but Canada will become a big importer during 1981-85 because of the rapid decline in its domestic oil production.

Japan's 1985 target is a level of imports not to exceed the range between 6 300 000 and 6 900 000 barrels a day.

This will allow for real GNP growth on an annual basis of around 6,3%, but Japan is to review the target periodically in an effort to reduced imports.

The British Prime Minister, Mrs Margaret Thatcher, said the Japanese aim was to cut imports to 6 300 000 barrels a day.

The US goal for 1985 is for import levels not to exceed the levels either of 1977 or the adjusted target for 1979 of 8 500 000 barrels a day. British officials said that the choice of the two years was technical and involved balance of payments measurements, but they could not be more specific.

The comments generally by the heads of the summit showed their belief that the major industrial countries were now facing a period of real decline in living standards and changes in the pattern of social behaviour unless they could achieve more productivity and flexibility in their respective economies.

US officials said the limit placed on oil imports meant the industrialised nations would not have to rely on increased production by Opec to meet their needs in coming years.

They said this maintenance of demand should limit the capacity of Opec to raise prices. The summit agreement placed greater reliance in the US in coming years on higher coal output, increased use of nuclear energy and higher natural gas production if the economy was to continue growing.

US scrapes bottom of the barrel for oil

NEW YORK. — Amid all the wrangling about President Jimmy Carter's new policy to decontrol oil prices, one crucial question gets less of a hearing than it deserves: will this policy actually boost US oil production? If so, where will the extra oil come from?

Mr Carter's backers argue that the more the price of oil goes up, the more the oil companies will want to go out and find it. Others who claim to have analysed the oil companies' economics say that producers already enjoy so high a return on domestic oil that raising prices will make little or no difference. Some add that all the big oilfields have already been found, so that the exercise is futile. Americans will only end up paying more for their oil without any guarantee of more supplies.

The supporters of decontrol have by far the biggest guns. Apart from Mr Carter, they include the entire oil industry, Wall Street and most economists. Of these, Mr Carter and the oil companies are bound to argue that decontrol will boost production because this is one of the major justifications for raising prices.

Energy specialists with less of an axe to grind agree that there is more oil to be found, although it will be extremely expensive to produce, either because it lies in small, uneconomic pools, or in northern or offshore regions where production costs are enormous.

The oil production of the US is on something of a plateau. After peaking at just under 3 5000-million barrels in 1970, it fell to below 3 000-million barrels in 1976 when the start-up of Alaskan production pushed it back to nearly 3 5000-million.

It is unlikely to go higher than that. Although Alaskan production could theoretically be doubled, it will be years before that happens. Production from the other states is dropping steadily.

The underlying or reserve situation is not improving either. Known reserves reached 32 000-million barrels in the early 1960s, after which they started falling. The Alaskan discoveries pushed them up to nearly 40 000-million barrels in 1970, but by the end of last year they were down to 29 5000-million barrels, and likely to drop further unless something happens.

Dozens of forecasts have been made of the increase of oil production that decontrol will bring, ranging from 10% to 25% over the next five years or so. Most of them are of little use because Congress has yet to decide how big a windfall profits tax it will levy on the oil companies' additional earnings. The House Ways and Means Committee has proposed 70%, as against 50% proposed by the Administration, but it does not follow that either will be the final figure. The main point is that the availability of oil is not the limiting factor. Rather the opposite. Geologists argue that present reserves could be increased to 100 000-million barrels or more, provided that oil producers are given the incentive to find them.

The mistake is often made in assessing US production prospects of assuming that it is the Exxons, Gulfs and Texacos that find the oil. That is not so at all.

According to the American Association of Petroleum Geologists, independent producers account for nine out of 10 wildcat wells drilled in the US, and have found 54% of current oil and gas reserves. It is, therefore, the economics of such operations, often run by one or two men only, that should be considered.

What the independents need above all else is capital. Unlike the oil giants, they have few resources of their own, and are less attractive to outside investors.

Although the shift is now to offshore wells, the small producer will continue to poke around for the small wells onshore where the giants cannot be bothered to look. A good independent can get a well into production for as little as $200 000, a fraction of what it would cost a company like Exxon. But the chances of his losing his shirt are all the greater.

Most of the independents are active in the traditional oil regions, Texas, Louisiana, Oklahoma, although some are also moving further north to the new producing regions around the Rockies, such as the Overthrust Belt (OTB) in Wyoming, Utah and Idaho.

This wide geological belt has been explored for several years. Its real potential has only recently emerged and seems to be mainly for natural gas.

Mr Tom Petrie, oil industry analyst at First Boston, the Wall Street investment firm, wrote in a recent analysis of the OTB: "Notwithstanding the attention that was being focused (last summer) on the Baltimore Canyon following Texaco's encouragement, the most important exploratory news of the year was actually recorded in the Overthrust Belt region."

The Rocky Mountain Oil and Gas Association has estimated the belt's reserve potential at over 50 000-million million cubic feet. Mr Petrie says this is probably a biased judgment, but "results to date are already very impressive and augur well for 1979-80".

Yet the main new finds are likely to be made offshore. There were hopes that the Baltimore Canyon might turn up something big. This promising undersea structure 160 km off New Jersey would be a boon to the energy-short East Coast. But so far, after over a year of drilling, there has only been one good find, of gas, by Texaco in a block at the northern end, and it has not yet been evaluated. At the latest lease auction, companies made only $42-million worth of winning bids for 44 tracts, a mere fraction of the $1 1000-million at the first auction in 1976.

The failure of the Baltimore Canyon so far to live up to expectations has boosted interest in other domestic exploration areas. Most immediately, the experience with the canyon bears on the prospects for George's Bank, a structure just to the north, off the coast of Massachusetts.

After years of legal wrangling by environmentalists and people concerned about the area's rich fish stocks, the courts finally gave the go-ahead for exploration in February. Lease auctions will probably be held towards the end of the year, with drilling starting next spring.

A find would be significant because of its proximity to a highly populated but energy-poor area.

Several zones off the Atlantic and Pacific coasts are being examined, like Georgia, where drilling has just begun, and southern California, where the oilmen have to contend with stiff environmental opposition. But they tend to be overshadowed by the Alaska and the Gulf of Mexico, the two largest areas which have been most productive in the past.

The high taxes and hostile operating conditions of Alaska (where it can cost $30-million to drill a hole, as against barely a third of that in the Baltimore Canyon), have tended to dampen the oil companies' enthusiasm for the region.

Several oil companies have recently closed their exploration offices there, in spite of the high estimates of undiscovered oil and gas reserves put out by the US Geological Survey, amounting to 30 000-million barrels of oil and 76 000-million million cubic feet of natural gas. Of the three companies with a share in the Kuparuk field next to Prudhoe Bay, only one, Arco, has so far announced that it will move into development.

For the companies that do stick it out, the best prospects seem to lie in the Beaufort Sea, the icy wilderness off Alaska's north coast. Tracts covering over 500 000 acres about 80 km north-east of Prudhoe Bay are due to be auctioned in December. Off the neighbouring Canadian coastline, Dome Petroleum has been exploring for the past two summer seasons without definite results having become known.

Two other Alaskan offshore areas have won attention. The Gulf of Alaska was drilled in 1976-77 with no result at all despite the existence of several big structures.

But oilmen believe that next year's auction of leases covering the southern portion of the gulf could be promising. The only well so far drilled in the Cook Inlet (by Marathon) off the Alaskan south coast, turned out to be dry, too.

The US has already investigated about 50 sedimentary basins, and geologists estimate that an additional 20-30 remain to be drilled. However — as well as being more costly — they could prove more politically difficult to open up.

Unlike the earlier wells which were largely drilled on private land, the new offshore and Alaskan frontier regions lie in Federal territory, for which Federal leases must be obtained. — Financial Times.

 RDM 3/7/79 (55

The Saudis, Opec and Geneva

ONDON. — Just over a year ago the Trilateral Commission published a report saying that world energy supplies would be adequate to meet consumers' demand "for the next several years and possible into the early 1990s".

The conclusion of this exclusive club of some 200 leading businessmen from North America, West Europe and Japan raised a few eyebrows and provoked some wry comments a few days later, when the Organisation of Petroleum Exporting Countries (Opec) met at Geneva.

Even delegates from the most "hawkish" member states were reconciled then to the fact that surplus crude on the market at the time made impossible any sizeable price increase in the absence of a concerted effort to curtail output — which Saudi Arabia refused to countenance.

Questioned a year ago about the Trilateral Commission's report Sheikh Ahmed Zaki Yamanmi, Saudi Minister of Oil, said:

"There are strong indications that there will be a shortage in the supply of oil sometime around the mid-1980s if not before.

"This, of course, depends on conservation measures taken by the consumers, on the level of Saudi production, and on the growth rate for the various OECD members.

"No matter what we do, that date is coming, I guess."

Just how far Sheikh Yamani regards the longer-term supply-demand equilibrium can be seen from the accompanying graphs based on figures presented by him when he spoke recently in London.

They show supply failing to meet a demand growth rate of 2,5% a year by 1985, if Opec produces what it considers a reasonable amount of oil.

If it depletes irreplaceable reserves faster than it wants, then the shortfall would occur in 1990.

For its part, the Trilateral Commission, even if its long-term scenario was wrong, recognised that the "critical variable" would be the willingness of Saudi Arabia to expand production.

It also advocated — as Sheikh Yamani had begun to — that there should be progressive price increments, in advance of the point of serious shortage, for the consumers to cushion themselves from its shock.

Because of Iran, the chance of the period of adjustment has gone. As in the winter of 1973-74, so in the first half of 1979, the extent of the shortage may be exaggerated by extraordinary circumstances.

Sheikh Yamani suggested that restraint by consumers and "a little help" from Saudi Arabia could lead to a surplus again in 1980.

But prices already established on a much higher plateau this year by Opec will not be reduced and are unlikely even to be modified at all by anything that the European Community or the western economic summit in Tokyo might decide about curbs on consumption or the control of the spot market.

In practice, the Western consumers did miss two reasonably clear, related signals about the coming crisis from the producers' camp.

One was Saudi Arabia's growing unwillingness, for a complex of various reasons, to meet increasing demand for oil.

Over the past two years the Kingdom's moderation has been qualified explicitly, though politely and somewhat ambigiously — not the least in its request to the US for the achievement of a Middle East settlement satisfactory to all the Arab parties concerned.

The second has been the gradual move by Opec members, including Saudi Arabia, towards an overall limitation of production (while their own consumption has steadily increased and will go on doing so).

Total Opec production has remained more or less static since 1973 when it ran at 30 700 000 barrels a day.

It fell in the following two years, and only in 1977, when it ran at 31 100 000 b/d, did it surpass the previous peak.

Last year it was down to 29 800 000 b/d. The initial stagnation reflected the impact of the 1973-74 price escalation.

Subsequently new supplies of oil from the North Sea, Alaska and Mexico came on the market.

Over the five-year period from 1974 to 1978 the basic price of oil rose by only 16% while the cost of goods imported by producers rose by at least 50%, by Western estimates, but by far more according to Opec calculations.

The erosion in purchasing power was such that Iraq at various times sold oil at a discount and the North African producers were prepared to cut the differentials on their premium crude.

Despite the squeeze on purchasing power, however, since 1974 the drift in Opec, collectively and individually was towards conservation.

Since the last decade Venezuela has followed strict conservation policies and subsequently its difficulty has been to maintain a reasonable level of output within the maximum that it set a few years ago of 2 300 000 b/d.

Kuwait first imposed a ceiling in 1972, subsequently reducing it in 1974 and 1975 to the present level of 2-million b/d.

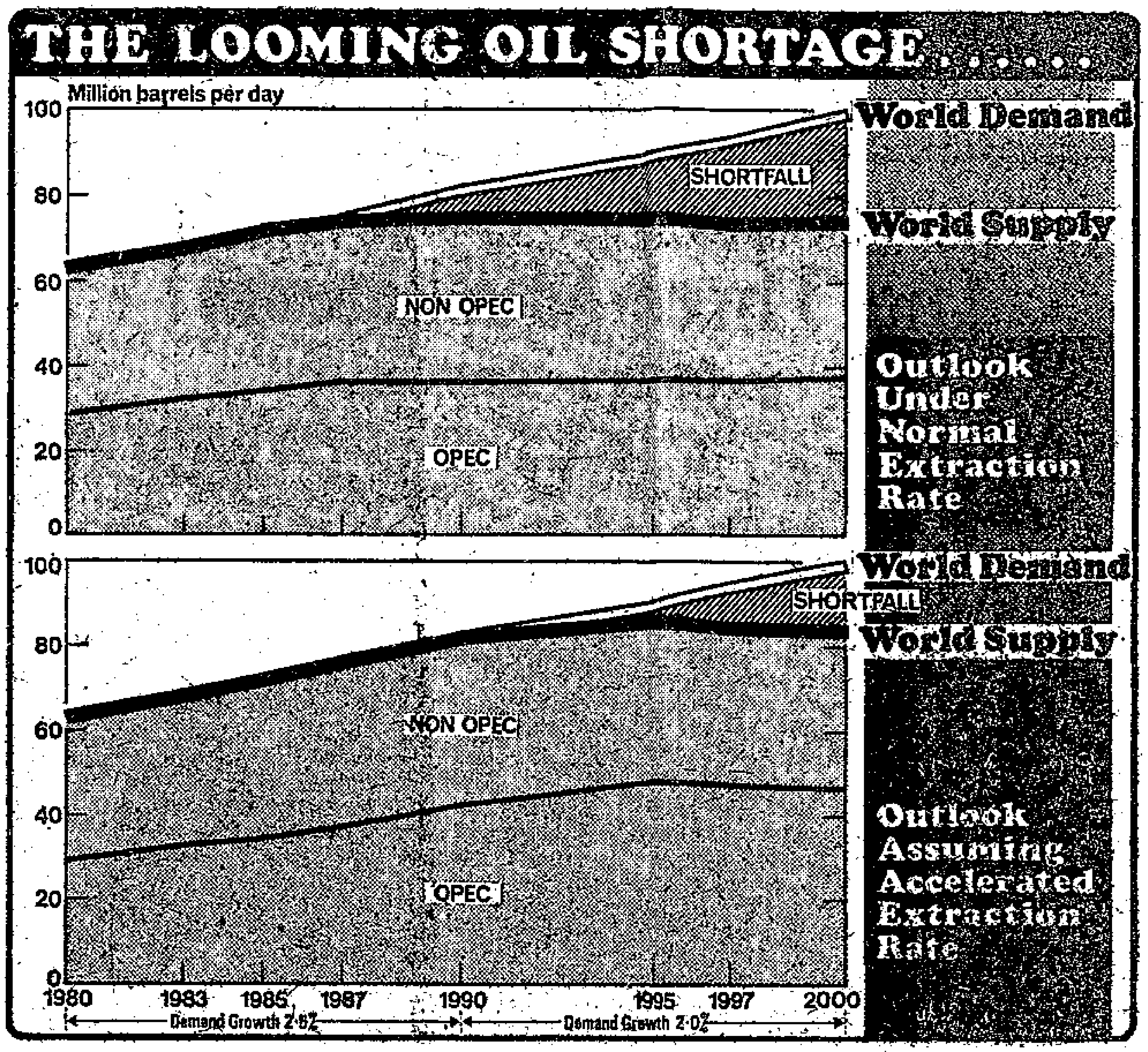
Though at one point last year Libya was producing less than it would have liked, it has exercised tight control over depletion rates since the 1969 revolution.

Algeria is physically limited to 50 000 b/d. Since 1977 Abu Dhabi and Qatar have set a maximum allowable output.

Now post-revolutionary Iran, in trimming output in line with reduced public expenditure, has cut the volume available from 5-million b/d to just over 3-million b/d.

Increasingly, the concept of optimum recovery of oil — the application of which can be debated endlessly by economists and petroleum engineers — has become an obsession among members, not least Saudi Arabia.

No assumptions about output can be made like those of the Economic Models group which forecast OECDS consumption rising from the current 30 500 000 b/d to 42 300 000 b/d by 1990 on the basis of a comparable expansion in Opec output to 45-million b/d.



Among members of Opec and according to their own criteria of conservation — quite apart from the need for revenue — only Saudi Arabia and Iraq (whose potential is largely unexplored) look as if they have the capacity in hand or in prospect to meet increasing demand in any meaningful way.

The big question mark is over Saudi Arabia.

The Kingdom has unequivocally conveyed its own doubts not only about its will but also its ability to raise production, especially in the medium-term future.

It has about a quarter of the world's proven reserves and could maintain a rate of 8 500 000 b/d until about 2030 on the basis of published estimates that may be regarded as conservative.

Yet expanding and maintaining output above that level is a different matter.

Even two years ago the US Central Intelligence Agency in its energy report blithely assumed Saudi Arabia could raise it to 19-23-million b/d by 1985 from existing fields and those under development.

The whole issue is fogged in confusion, deliberate or otherwise.

But the indications given by the Saudis are that on technical grounds they could not now sustain an output of more than 9 500 000-10 500 000 b/d, and will not be able to achieve the present notional capacity of 12-million b/d over prolonged periods of time for several years yet.

The pessimistic talk may, to an extent, camouflage reluctance for political reasons.

However, one of the studies submitted last year to the US Senate Committee on Foreign Affairs by the Arabian American Oil Company gloomily predicted that a rate of 12-million b/d could not be maintained for more than 15-20 years without irreversibly declining.

Within the Saudi ruling hierarchy there is known to have been debate over the past five years about how far the Kingdom should produce above the level sufficient for its revenue needs and it would have been intensified by the growing Opec concern about depletion.

Equally ill-defined but as important is the country's political predicament.

At the best of times it was difficult for Saudi Arabia to stand out alone for moderation against the majority in Opec, which includes six other Arab members.

Out of concern for the economic health of the West and in knowledge of its inter-dependence with it, the Saudi regime has a continuing concern that sufficient oil should be available to it at reasonable prices. In return Saudi Arabia has looked for technology for its developments, assistance with the build up of its military strength and in the last resort, guarantees for its security and survival.

Saudi Arabia is keeping its options open on the question of its own output, although its room for manoeuvre is very small.

N.M. 3/7/79 55

U.S. may seek Sasol 'know-how'

Mercury Correspondent

WASHINGTON — South Africa's oil-from-coal technology could be at the core of a projected crash energy programme expected to be announced soon in the United States.

President Carter, back from the Tokyo economic summit to find a nation bickering and confused and demanding action, is about to turn all his attention to the fuel crisis.

He is expected to launch a massive energy programme to free the United States from the Opec shackles.

Sources said in Washington that in addition to the obvious immediate measures such as a standby rationing authority and alternate refuelling days for motorists, the programme would be based on synthetic fuel production.

The long petrol queues in which motorists have to wait up to three hours for dwindling supplies, have helped concentrate American minds that there is in fact an oil crisis.

Public mood

The legislative rush on Capitol Hill to push through Synfuel (the new word that has become part of the language) Bills appears equalled by the White House's determination to match the public mood.

President Carter whose standing in the polls has steadily dropped to its lowest point in his Presidency because of the public perception that he is not solving domestic problems, is beginning to act tough on issues like oil.

But for the synfuel programme to start contributing quickly to a lessening of dependence on imported oil American plants will have to start off with the best available technology.

This is where the Sasol technology comes in.

An aide to Congressman Bill Moorhead, who steered a major Synfuel Bill through the House of Representatives, said yesterday the best way of producing petroleum products from coal was the South African process.

"The kind of plants Sasol has are the kind of plants we've in mind here for our programme.

"The basic technology is known but South Africa has refined it and is doing commercially what we're still doing on a pilot basis."

Best estimates of United States synfuel production target dates range from 1982 to 1984.

Congressman Moorhead's Bill has a "fast track" three-year clause providing for speedy resolution of environmental problems.

"But however you slice it," said one Capitol Hill source, "we need the South African know-how."

Congressman Moorhead's aide said whether America would pay for the Sasol technology or ac- [illegible]

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the residents.

The residents are [illegible] the men have been to the West Rand Ad- [illegible] have their names mentioned because the Wrab might evict them, they said.

The past week was the worst for them because they say the water was on and off the whole week. They have not been able to do anything in their houses.

Wrab officials were not available for comment yesterday.

Communities

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50 go [illegible]ore

[illegible] quatter families, except [illegible] ere registered workers, [illegible] nship at Glenmore, the [illegible] ation Board, Mr Louis [illegible]

He said that since Thursday, when the board gave an undertaking in the Supreme Court that [illegible] squatters [illegible] would be shifted about all families had been moved to Glenmore.

He said there were now about 140 families [illegible] at Kapfontein [illegible] headed by registered employees and 20 families who refused to move.

He said [illegible] "Since Thursday, squatters who [illegible] desire to be moved to Glenmore, were asked by the board to sign a letter of consent.

In an interview from Grahamstown yesterday, the chairman of the newly-formed Glenmore Action Group, Professor Rodney Davenport, said it was inexcusable that the Department of Plural Relations was refusing to allow journalists to visit Glenmore.

"The public ought to be encouraged to take an interest in the resettlement. There can be no possible objection if it is seen to be done properly," Professor Davenport said.

He said the burning question was the long term prospect of work at Glenmore. Commuting between Grahamstown and Glenmore by workers was ruled out because return bus fares were R1.50.

The authorities were gambling with people's futures. What work would there be in five years time when the Glenmore settlers had finished building the proposed 3 000-house township there, he asked.

"The government does not appear to have learnt the lesson at Dimbaza, Ilinge and other resettlement areas where long term work prospects did not meet expectations," he said.

In an interview last week, the Deputy Minister of Plural Affairs and Administration, Dr Willie Vosloo, said it was hoped to eventually establish [illegible] industries and agricultural projects at Glenmore. None of the long term plans had been [illegible] yet, he said. — Dfa.

Squatter leader vanishes

POST 8 April 1979

By MANDLA NDLAZI

MR SHADRACK SINABA, leader of the [illegible] squatters, has disappeared from home after being warned by riot squad police not to hold any more public meetings.

A member of the [illegible] Community Council, Mr Sinaba was warned after more than [illegible] shacks on the fringe of the township had been demolished by the West Rand Administration Board police on [illegible].

His son, Mr [illegible] told SUNDAY POST yesterday that two white policemen in camouflage uniform warned his father on [illegible].

"They came here and I heard them tell my father not to hold public meetings any longer. They gave him no reasons and while the [illegible] the others remained in their cars outside the yard," he said.

He said when his father did not return [illegible] Friday it was rumoured that he had been arrested.

"He left this to the other members of the family to [illegible]," he said.

Normally, he said, his father would tell the family if he would not return.

[illegible] that something must have happened to him and it could be that he has been arrested," said [illegible].

At the local police station yesterday, Sgt E N [illegible] who was in charge, said Mr Sinaba was not held by them. If arrested he said he could have been taken to at some other police station.

[illegible] against [illegible] had gone [illegible] half [illegible] Supreme [illegible] that families [illegible] removal

[illegible] to halt these removals when it brought to Dr Koornhof's attention that most of the people were pensioners and children.

[illegible] Moving [illegible] Klipfontein [illegible]

[illegible] SABC [illegible]

[illegible] were [illegible] More than [illegible] had already moved [illegible] of Major [illegible] The Board [illegible] last week calling [illegible]

South African Press [illegible]

Meanwhile Saudi Arabia decided to raise its crude oil production, reports Sapa-Associated Press.

Quoting an official source at the Royal Palace, the Saudi Arabian State Radio said the production increase was temporary but did not specify how much it would be.

The source said the increase was necessary to meet expenses in Saudi Arabia's R119 280 million 1976-81 development plan.

Because of the principle of supply and demand, a substantial increase in Saudi Arabian production could theoretically hold down prices worldwide.

'Stop UK oil going to SA' say unions and Nigeria

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3/7/79

The Star Bureau

LONDON — British Petroleum is facing strong pressure from British trade unions over its proposal to supply oil indirectly to South Africa.

Britain has already received warning that African countries will press at forthcoming Organisation of African Unity and United Nations meetings that oil-producing nations should suspend deliveries to Britain as a result of the decision.

The Transport and General Workers' Union, representing manual workers, and the Association of Managerial, Scientific and Technical Staffs have asked for urgent talks with BP management to discuss the issue.

Direct action by trade unions through the British petroleum industry could follow. The unions are being briefed for their meeting with BP by the anti-apartheid movement, which has already asked the British Government to reconsider its decision and is lobbying London representatives of oil-producing countries.

Senior British government Ministers were yesterday forced to defend the policy on oil sales to South Africa in Parliament after persistent charges from Labour MPs that it threatened Britain's trade with black Africa, notably Nigeria.

LASTING DAMAGE

Energy Secretary Mr David Howell insisted there had been no significant change in policy and recalled that oil had gone to South Africa under the aegis of BP while Labour was in power.

"One should be very careful about exaggerating any alleged changes which have taken place because they can do immense and lasting damage to British commercial interests throughout the world," Mr Howell warned MPs.

Some R1 800-million

Mennonite Central Committee se Konferensie oor: 'Die Rol van Geskiedkundige Vredeskerke', Gaborone, Botswana. Verhandeling voorgelê oor: 'The Role of Churches in Promoting Justice in Southern Africa' (Oktober).

navorsings-fellows het aansienlik tot die Sentrum se program bygedra: dr Sheila T. van der Horst, afgetrede mede-professor van Ekonomie, U.K., en professor J.L. Boshoff, gewese Rektor van die Universiteit van die Noorde.

LIDMAATSKAP

Soos voorheen gemeld, is die Sentrum vir Intergroepstudies geregistreer as 'n maatskappy. In die Memorandum en Statute van Vennootskap word voorsiening gemaak vir die benoeming van eenhonderd lede. Tans is daar 57 lede en hulle sluit die volgende in:

a) Drie stigterslede:

Mnr J.G. Benfield
Mnr H.L. Kennedy
Mnr P.G.T. Watson

b) Seventien persone wat gedurende die afgelope 10 jaar lede van die Beheerraad was (* dui stigterslede aan):

Professor E.V. Axelson
Professor J.F. Beekman
Professor J.F. Brock*
Mnr C.S. Corder*
Professor W.H.B. Dean
Dr J.P. Duminy*
Professor G.F.R. Ellis
Biskop A.W. Habelgaarn

R 250 m Beisa mine holding its secrets

By Michael Chester, Financial Editor

While the Atomic Energy Board holds back on information about individual mines and their exports and selling prices, it provides a national overview which shows the growing importance of uranium.

New calculations put South Africa's annual earnings from uranium at about R500m a year, accounting for 11,4 percent of total Western world production.

On current planning, output of uranium metal will rise from 3 961 tons last year to 8 200 tons by 1984. Depending on demand, production could be lifted by around 11 000 tons a year by the mid-1980s.

The new Beisa uranium mine now in embryo 25 km south of Welkom, which looks likely to prove the costliest of the jewels to adorn the Union Corporation coronet, has become the most secret mining venture in South Africa.

The secrecy is enforced by the Atomic Energy Board in its blanket embargo on the release of details about uranium production and shipments, now to be regarded as classified information.

DISMISSED

However, one gains the impression that Union Corporation in fact rather enjoys the security wraps, at least for the moment, while it strives for a head start over its rivals in the exploitation of the uranium and gold deposits on the southern fringe of the Witwatersrand Basin extension.

The news embargo entitles them to stay mum when quizzed about the possible riches and longer-term prospects of the mine.

It is ironical that Unicorp dismissed the exact site as a disappointment on the negative results that emerged from first borehole tests made back in 1938.

Interest was reawakened when a uranium-bearing reef was located on a return of the drilling gear in 1972, when the oil crisis was stirring and the world started to take a more urgent look at supplies for future expansions of nuclear power programmes.

The tempo of exploration was put at full speed and a year ago the formal go-ahead was given for the first new mine in South Africa planned primarily as a uranium producer with gold as a by-product, rather than the other way round.

UNLOCK

Hints of the size of the treasures it is hoped to unlock come with estimates that capital expenditure will run as high as R250m by the time the Beisa mine is in full production in 1982 -- by far the biggest bill paid by Unicorp for a new mine because of the inflation spiral.

But nerves are relaxed in the executive suite at Unicorn House in Johannesburg: already with production of an initial 100 000 tons of ore a month still three years away, a long-term contract has been negotiateed to absorb a "substantial portion" of the uranium oxide.

FINANCE

Here again th esecurity embargo comes in to block the identification of the buyer, the direction of the shipment, the value of the contract, the precise amount of uranium oxide.

Such secrecy may only become a problem if and when Unicorp presses on with the idea of an offer of shares to the public.

Both Anglo American and Gold Fields have joined Unicorp with adrilling operations in the area.

But not a word or a hint from the Beisa team as it pushes into the lead

navorsings-Fellows het aansienlik tot die Sentrum se program bygedra: dr Sheila T. van der Horst, afgetrede mede-professor van Ekonomie, U.K., en professor J.L. Bushoff, gewese Rektor van die Universiteit van die Noorde.

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Professor G.F.R. Ellis
Biskop A.W. Habelgaarn
Mnr E.V.E. Howes*
Professor M.F.Kaplan
Ds. W.A. Landman
Mnr C.K. Lindsay
Sir Richard Luyt
Professor S.J. Saunders
Professor H.W. van der Merwe
Mede-professor D.J. Welsh
Professor Monica Wilson

55 The Star Thursday July 5 1979

Big drop in road accidents

Last month was a bad one for motorists and pedestrians falling foul of the law. But it was also a month in which Johannesburg had an unusual drop in road accidents, deaths and injuries.

Mr John Pearce, Johannesburg's chief traffic officer, said today that the accident rate had been cut by half in June and was full of praise for the co-operation his men had received from the public.

But traffic prosecutions — for speeding, jaywalking, drunken driving and not using seatbelts — soared last month because of the traffic department's blitz on offenders after the petrol price rise.

Although all the figures are not complete, Mr Pearce said there were 1 752 accidents in June, compared with 4 198 in June 1978. There were 14 deaths (35), 111 accidents involving serious injuries (250) and 254 involving slight injuries (475).

But there were 3 822 prosecutions for jaywalking, compared with 16 a year ago. There were 457 seatbelt prosecutions and 320 breathalyser prosecutions. Speeding prosecutions totalled 4 930.

Mr Pearce said it was difficult to attribute the drop in the accident rate to any single reason.

"It could be that fewer people are on the roads because of the higher price of petrol. But then the breathalyser is keeping drunken people at home and our crackdown on jaywalkers, people who don't wear seatbelts and speedsters could also be helping to reduce accidents," he said.

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OIL PRICE

Opec strikes again

(55) RU6/7/79

The complicated new oil price list finally agreed by Opec last week will raise consumers' oil prices by roughly 16% on average for the remainder of this year. When this is added to the more than 30% increase that has already taken place in 1979, the overall rise will be over 50%.

Opec has abolished its previous chaotic pricing system based on an "official" price of US $14,55 a barrel. Only Saudi Arabia observed this anyway, with other cartel members adding whatever surcharges the market would bear.

The Organisation has now set a new maximum selling price of $23,50 for the remainder of the year, which is roughly what the premium grades were fetching. Saudi Arabia and the United Arab Emirates have agreed to sell their oil at the new "official minimum price" of $18 a barrel.

Saudi Arabian Oil Minister Sheikh Zaki Yamani predicted that this dual pricing system would allow prices to fall if Western consumers reduced their energy consumption and thus cut their need to buy expensive supplies at $23,50.

In the meantime, the overall oil price increase accepted last week is less than the fourfold oil price increase with which Opec first left its mark on the world in 1974. But it threatens to be almost as damaging to a world economy that was only just beginning to show the first faint signs of recovery from that shock.

A 50% oil price hike this year — Opec will not meet again until December — threatens to add roughly 2,5% to the average rate of inflation in the Western world in a full year. This will undo all the progress the West has made in its fight against rising prices in the last year or so, lifting the average inflation rate from just over 7% last year to more than 9%, unless offset by new deflationary measures.

The effect on growth is more difficult to estimate because Opec will spend some of its additional revenues on imports from the West. But the OECD secretariat in Paris fears that average Western growth, which nearly touched 4% last year, will be down to under 3% by end-1979. As a result, the OECD's 16m long dole queues will grow even longer.

Besides upsetting the West's efforts to stimulate growth and reduce inflation, the new oil prices will also reverse the progress made towards a better international payments balance. Last year, Opec's collective surplus had fallen to a relatively insignificant $5 billion. Now, it is likely to be running at a $30 billion to $35 billion annual rate by the end of 1979.

This will push up the US deficit, perhaps eventually bringing fresh troubles for the dollar. France has already abandoned its 1979 payments targets. But the worst hit will be developing countries, who face a swollen collective deficit of some $40 billion or more at a time when

Yamani . . . prices will fall — if!

many have exhausted their international creditworthiness.

Yet, in a very real sense, Opec is only being cruel to be kind. The bitter truth is that the West did not learn the lessons of the 1974 oil price rise fast enough. By failing to learn to live on less oil, it finds itself vulnerable to a mere 4% shortfall in supply now — due to the Iran crisis — and the soaring prices this produces.

While Opec's 50% price hike this year means more unemployment and higher inflation everywhere, it is often overlooked that the real price of oil, after adjustment for inflation, has been falling for the past three years. The new price rise allows oil to catch up with the rising price of motor cars, hair cuts and TV sets.

The reason is that Opec, at the insistence of pro-Western moderates like Saudi Arabia, held oil prices steady after the big 1974 hike in order to help the world economy. At the same time, Western governments tried to shield their own consumers from the full price rise by reducing taxes on energy, or freezing the price of domestic oil and gas supplies.

The result is that petrol in Britain and Germany, as well as in the US, was costing less in real terms at the start of this year that it did in 1974. Total energy costs to Japanese industry increased only about 20% in real terms over the past four years.

From now on, the chances are that oil prices will climb steadily, even if the forthcoming mini-recession, aided by a brief stepping up in Saudi Arabian production, calms the oil market for a while.

This is because Opec members are increasingly unwilling to raise output to meet Western demands, preferring instead to keep oil in the ground. Saudi Arabia, disillusioned with the US-inspired Middle East peace treaty and fearful of internal unrest, already imposes an 8,5m barrel a day production ceiling and has postponed plans to increase productive capacity to over 12m barrels. Kuwait, Libya, and Venezuela also limit output.

There are signs that Western leaders now appreciate that the oil crisis is potentially more serious this time than in 1974, because of the shortfall in physical supplies.

At the Tokyo summit, President Carter and the leaders of Europe, Canada and Japan, set limits to their oil imports and committed themselves to intensive development of nuclear power and other alternative energy sources.

By showing themselves more willing seriously to conserve energy than after the 1974 price hike, the Western leaders hope to encourage moderate Opec members, like Saudi Arabia, Venezuela and Nigeria, to use their muscle to keep future price increases manageable. But the big unknown remains Carter's ability to win Congressional support for his conservation goals, and whether Western leaders will be able to overcome grass-roots hostility to nuclear power.

(5)

OIL SUPPLY

BP's swap deals

FM 6/7/79

The UK government has approved a request from British Petroleum to set up oil swap deals which will eventually result in supplies being made available to SA.

The decision reverses the policy of the previous Labour government, which failed to respond either way to earlier requests from BP for similar swap arrangements. But Energy Minister David Howell suggested, in answer to a question in the House of Commons, that the change should not be overestimated.

"There has been no significant change in the way South Africa gets oil supplies under the aegis of BP," said Howell on Monday. "I think one should be very careful about exaggerating any alleged changes that have taken place, because this could do immense and lasting damage to Britain's national and business interests in Africa and throughout the world," he continued.

~~did you hear~~

~~to the board of ESAB. The ownership of ESAB recently passed from Swedish to South African hands. Dr Weck was for 20 years director general of the Welding Institute in England — the largest research organisation devoted to welding~~

The *FM*'s man in London understands that, so far, no oil has been shipped to SA in the way BP proposes, and that the amounts involved are not likely to be large in the context of SA's total requirement.

But the arrangement could nevertheless be more significant than the quantities would suggest. With the collapse of the Shah's regime, SA lost an important source of supply. Much of the surge in oil prices on the Rotterdam spot market was attributed by oil industry sources to the buying activities of SA and Israel, which also suffered from the fall of the Shah. The Rotterdam price explosion was compounded when US buyers became more active.

The BP proposal gives two clear benefits: security of supply, and prices much closer to normal levels than those in the volatile spot market.

The proposal is that BP makes North Sea oil available for sale in EEC or other free world markets in exchange for third party crude, which would be supplied to BP's South African subsidiary. This type of swap arrangement between major oil companies is a common procedure in the business and simplifies the problems of matching physical availability with local demand on a worldwide basis.

It is also understood that none of the crude oil which will eventually find its way to SA via these proposed swaps will originate from supplier nations which have an embargo on South Africa.

TOKYO SUMMIT (56)

Oiling the works

FM 6/7/79

The hard-won agreement reached by the seven major industrial powers in Tokyo last week to restrict their oil imports for the next five years was, at least, a temporary triumph.

Saudi Arabia, the world's biggest oil exporter, responded immediately by announcing a production increase of 1m barrels a day, confident that this, coupled with lower demand from the developed nations, would enable it to regain control over Opec prices.

The seven summit nations agreed to very different targets. The US said it would hold down imports to a maximum of 8,5 Mt a year until 1985, roughly the same level as during the boom year of 1977. The four European countries, Britain, France, Italy and West Germany, agreed to tie themselves until 1985 to separate import targets which freeze total imports for the EEC at the level of 1978. Canada, which argued that falling production at home was bound to mean rising imports, lopped a few thousand barrels of oil off its projected figures for 1985. And host nation Japan, more heavily dependent on oil than any other industrialised country, got away without any sacrifice at all.

Jenkins . . . trying to hold the Europeans together

President Carter and his team arrived in Tokyo determined to stick to a short-term import target, for 1980, and no longer. The nine European members of the EEC, however, had decided at their meeting in Strasbourg the week before to freeze the EEC's total imports for five years, on condition that the US pinned itself to a medium-term target as well. But the Americans reckoned the EEC's plan for holding imports steady was nonsense, because of rising North Sea production. Their price for committing themselves to medium-term targets was agreement by the Europeans to set import ceilings for each country, a much tougher proposition than the Strasbourg agreement.

The bargain was done, but at a price. The US has been landed with import ceilings which will prove very hard to live with. Observers in Tokyo reckoned that the US import ceiling was bound to be broken before the five years were up, although it should prove a useful weapon for Carter to wave at Congress in his attempts to introduce an energy policy.

And the European countries will be hard put to avoid a political row when they try to divide up the EEC's import quota, the 470 Mt the nine member states imported in 1978. The argument had already begun before the delegates left Tokyo. To make matters worse, some of the European delegates were saying that the agreement excluded North Sea oil, a suggestion which infuriated the Americans.

Mr Roy Jenkins, president of the European Commission, tried to calm things down by warning European countries against trying to use that loophole. That will only make the job of sharing out import ceilings much more difficult.

The summit agreed on little else of substance besides import ceilings.

Criticism of spiralling prices of oil on the spot market led to nothing more than an agreement to keep a closer watch on who was paying how much for oil. The summiteers suggested a register of international oil transactions, and said they would look into the feasibility of asking for documents showing the original price paid to the producing country. The big buyers on the spot markets, including SA and Israel, may have to show their hands more openly, but are unlikely to run up against controls on spot market transactions by the major oil companies.

The haggling over energy left little time for talking about growth. The seven summit nations congratulated themselves on getting the world economy moving after the last summit in Bonn, but lower growth forecasts in recent months, rising inflation and now the big jump in oil prices spoiled the fun. The hope in Tokyo was that import ceilings on oil would avoid both extremes, either of sharp deflation to cut energy demand, or energy-guzzling growth which would plunge the consuming nations into an inflationary crisis. The summit nations will probably get a dose of both before they meet again in Venice next summer.

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SUGAR SHARES

Ethanol sweetener

Huletts, Tongaat and Transvaal Suiker are thinking along the lines of putting up ethanol plants. If they were to replace their entire sugar export entitlement with ethanol production, it is possible that earnings could be lifted 22%.

Last year the industry exported below 700 000 t of sugar and produced 1,4 Mt for the local market. The average export price was around £94/t, some £40 below the breakeven price, and R25m was borrowed and injected into the Price Stabilisation Fund. This enabled the sugar companies to show surprisingly good results, but increased the industry's total debt to some R50m. Had all the export sugar been used in ethanol production, they would have received the equivalent of R291/t. And the ethanol would have been produced at the 35c/l oil refinery cost of petrol. This way the entire industry would have hoisted its revenue by R99m.

With the oil price set to continue rising, and the world sugar price likely to stay flat, the question arises why the industry has not jumped at the opportunity of increasing its returns through ethanol production.

Huletts' MD Kees van der Pol tells the *FM* that his company would consider an ethanol plant, which would cost around R12m and annually produce some 70 Ml. Transvaal Suiker, in the Volkskas group, is busy with feasibility studies into a R15m plant to produce some 40 Ml. TSC is discussing the prospects with Sentrachem.

When asked whether Tongaat would establish a plant, MD Alan Hankinson said it definitely would, provided the industry agreed with the principle of using sugar for ethanol production. On this point there is general consensus within the industry. However, before any decision is taken, the government will have to give the assurance that ethanol will be considered an essential part of SA's liquid fuel pool.

CG Smith is known to be opposed to diverting export stocks to ethanol production because there is no telling what sugar prices will do, particularly as world stocks are susceptible to droughts and pests. According its calculations, the economics of ethanol do not add up to a viable proposition at this stage.

Other arguments against ethanol from sugar are well known. Briefly, they are that export market's cannot be switched on and off like a tap, and that cheap food should not be used for fuel.

Then there is ethanol's relative inefficiency in a conventional petrol engine. A normal car will travel 66% further on the same volume of petrol. Granted, it is miscible and can be mixed with petrol to lift octane rating, replacing tetra ethyl lead. Through dual injection ethanol could be used in the ratio 50:50 in diesel engines. Another criticism is the time factor required to set up a plant which would produce the magnitude envisaged by, say, Huletts, and require 25 000 ha of raw land which would have to be ploughed and treated, and cane planted. Sugar cane's maturation period is of the order of two years. So this would take too long to implement. However, industry sources indicate the sensible way of doing it would be to add plants to existing factories which could be turned on and off as the export price dictates. This would obviate the need to increase cane production, but would clash with the principle of keeping export markets supplied under all circumstances.

A more economical production method is to use molasses, but it is in short supply. Producing it from molasses would cost only 12c to 15c. CG Smith still produces a small quantity of Union Spirit, which is none other than ethanol from sugar.

With the oil price set to rise further and the sugar export price looking unexciting, the logical conclusion would be for the industry to go into ethanol production.

The sugar companies have not been optimistic about their sugar profi[t] prospects this year, but this could ad[d] another dimension, which was not take[n] into account.

Peter Pittendrigh

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4. *The nature of a 'Language Family'*

A 'Language Family' is a group of languages all believed to be derived from a common ancestral language. In the absence

Carter tackles energy crisis

NM

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7/7/79

Mercury Correspondent

WASHINGTON — President Carter, watched by a nation racked with problems caused by the oil crisis, conferred with top advisers yesterday to put the finishing touches to a long awaited energy blueprint.

The President has been at his Maryland mountain retreat, Camp David, for four days working on the new policy.

It has not been a good week for the American leader. On Monday the White House said he would make a major television address on Thursday night.

That appearance was cancelled abruptly without reason, strengthening the popular view that President Carter is a decent, intelligent man but indecisive.

His standing in the polls is at its lowest. Only a quarter of the people think he is doing a good job.

President Carter is thus acutely aware that when he does unveil his energy blueprint he must do so with a strong, inspirational speech.

Equivalent

It will emphasise that he was right all along — that the energy crisis is indeed the "moral equivalent of war".

President Carter is expected to announce — perhaps not until next week — strong measures to restrain United States demand for imported oil.

At the same time he will unveil the core of his new energy programme — a massive drive for synthetic fuels in which South Africa's long experience in commercial extraction of oil from coal could play a vital part.

President Carter, according to most observers, has to start looking "Presidential" if his deteriorating political fortunes stand a chance of revival.

[illegible] Konferensie oor: 'Die Rol van [illegible] Vredeswerke', Gaborone, Botswana. Verhandeling voorgelê oor: 'The Role of Churches in Promoting Justice in Southern Africa' (Oktober).

[illegible] van [illegible] Beweging, [illegible] Oktober)

[illegible] Deelname aan [illegible] en Openbare Organisasies

Die Direkteur het [illegible] gedien in die Suid-Afrikaanse Instituut vir Rasse-verhoudinge as 'n lid van die [illegible] komitee, die Nasionale Uitvoerende Komitee en die Raad.

Hy is [illegible] van die [illegible] Service Fund in die Kaap, die diensafdeling van die Godsdienstige Vriendekring (Quakers), wat gemeenskapsontwikkeling op die platteland en in die stadsgebiede bevorder.

Die Direkteur is gekies as lid van die Raad van die Vereniging vir Sosiologie in Suidelike Afrika. Hy is ook 'n lid van die Suid-Afrikaanse Sosiologiese Vereniging en van die Internasionale Sosiologiese Vereniging. Hy is aangestel as die Suid-Afrikaanse afgevaardigde in die Raad van die Internasionale Sosiologiese Vereniging vir die tydperk 1978-1982.

WAARDERING EN DANK

Ek is altyd dankbaar vir die geleentheid wat die jaarverslag bied om my waardering te betuig aan lede van die Akademiese Advieskomitee en die Beheerraad vir hulle leiding, aanmoediging en belang in die aangeleenthede van die sentrum.

Die Universiteit van Kaapstad het benewens 'n bydrae tot die bedryfskoste van die Sentrum, ook vir die Sentrum sedert sy stigting in kantoorruimte voorsien. Met die uitbreiding van personeel het [illegible] die huisie op die laer

[illegible]-Fellow het [illegible] tot die Sentrum [illegible] [illegible]: [illegible] Sheila T. van der Horst, [illegible] mede-professor van Ekonomie, U.K., en professor J.L. Boshoff, [illegible] Rektor van die Universiteit van die Noorde.

LIDMAATSKAP

[illegible] reeds gemeld, is die Sentrum vir Intergroepstudies [illegible]

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Mede-professor D.J. Welsh
Professor Monica Wilson

BP onder druk oor olie aan SA

Van GIELIE DE KOCK
LONDEN

KWAAI druk gaan op British Petroleum uitgeoefen word deur sy belangrikste vakunie oor sy voorneme om olie direk aan Suid-Afrika te voorsien. Die eerste skote word reeds môre in Scarborough verwag waar die tweejaarlikse kongres van die Vervoer- en Algemene Werkersunie begin.

Dié unie het reeds vir 'n dringende vergadering met BP se bestuur gevra om die aangeleentheid te bespreek. Direkte aksie deur vakunies in die maatskappy en selfs wyer in die petroleum-nywerheid in Brittanje en Frankryk kan volg.

Mnr. John Mille, die vakbondunie se nasionale sekretaris vir olie en chemikalië, sê sy mense voel „baie ongelukkig" oor die beplande transaksie.

Hy is die man wat vra vir dringende samesprekings met die bestuur waar hulle hul kommer wil uitspreek. Indien die maatskappy se antwoord nie bevredigend is nie, sal die unie sy saak aan sy lede in die nywerheid stel.

Mnr. Miller wil ook steun in Frankryk verwerf om BP tot ander insigte te probeer bring.

Nog 'n Sasol nou, sê Greyling

Rapport 8/7/79

55

DIE oprigting van 'n vierde Sasol moet as eerste prioriteit onmiddellik aangepak word om Suid-Afrika so gou as moontlik selfversorgend met olieprodukte te maak.

Dit is die mening van mnr. Danie Greyling, hoofredakteur van Volkshandel, in die uitgawe wat môre gaan verskyn.

Hy sê die energiekrisis en oliesanksiedreigemente in die verlede het die voordeel gehad dat ons Sasol 11 en 111 betyds beplan het. Ons sal dus oor ses maande in een-derde en binne drie jaar in 60 persent van ons behoeftes aan petrol uit eie bronne kan voorsien.

Die ineenstorting in Iran het nie net die wêreldaanbod van olie nadelig geraak nie, maar het ook Suid-Afrika se vaste bron van voorsiening in duie laat stort. Hierdie feit verg opnuut besinning en bespoediging van Sasol IV.

Indien daar langer gewag word met die oprigting van Sasol IV sal dit ook aansienlik meer kos. Sasol 11, wie se koste aanvanklik op R1 200 miljoen geraam is, sal dubbel soveel kos terwyl die koste van Sasol 111 op sowat R3 300 miljoen geraam word. Sasol IV behoort dus so spoedig moontlik aangepak te word ten einde ons teen 1985 85 persent selfversorgend te maak.

Met petrolbesparings weens die hoër prys en metanol- en etanolaanvullings sover doenlik, kan ons dan in 'n sterk posisie wees en die hoër goudprys benut om 'n nuwe groeitydperk sterk te stimuleer in plaas van om duur olie daarmee in te voer.

Die onmiddellike beplanning van Sasol IV verg eerstens skakeling met die groot oorsese oliegroepe om in die petro-chemiese tegnologie van Sasol te deel en kapitaal plaaslik en oorsee te vind vir belegging in 'n petro-chemiese alternatief vir die dalende oliebronne van die wêreld.

Indien daar nie voldoende buitelandse kapitaal en tegnici gevind kan word nie, sal ons op eie bene moet staan, tot eie voordeel.

As 'n uitweg vir die verkryging van kapitaal stel mnr. Greyling voor dat 'n toeslag van 10 persent op belasting gehef moet word as 'n verpligte belegging in Sasol-aandele vir die oprigting van Sasol IV. So 'n toeslag sal beteken dat sowat R1 000 miljoen per jaar byeen gebring sal word wat ons kan deursien indien geen verdere kapitaal gevind kan word nie.

Die huidige oliekrisis skep die uitdaging aan ons om binne vyf jaar onafhanklik van ingevoerde olie te word. Uitvoer van petrol vanaf binnelandse Sasols deur die benutting van oliepyplyne waarmee petrol voorheen vanaf die kusraffinaderye na die binneland gepomp is, is 'n winsgewende langtermynprojek.

Mnr. Greyling sê as ons hierdie uitdaging aanvaar en ons wêreldleiding op die petro-chemiese terrein uitbou en tegnologie en petrol uitvoer, sal die tweede helfte van hierdie dekade as die goue tagtigs uitstaan.

Die groot wêreldwye koste-inflasie wat voor die deur staan weens die duurder olie, onderstreep die noodsaaklikheid om Sasol IV as eerste prioriteit onmiddellik aan te pak, voordat die kostespiraal handuit ruk.

SCOTT THORNTON reports:

Rotterdam oil moguls blamed for high prices

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NM 11/7/79

THE oil moguls of Rotterdam have now replaced the "Gnomes of Zurich" as the men to blame for aggravating the world's major current crisis in the eyes of most Governments and citizens in the West.

The role of bogymen, cast upon Swiss bankers in the 1960s, has now been switched to oil traders operating in bustling Rotterdam, the world's biggest port.

As oil costs have zoomed consumers are angrily blaming Rotterdam's spot, or free, market for driving up prices even higher.

Leaders of the world's seven leading non-Communist States announced at their summit conference in Tokyo that they had decided to curb its influence.

Operators involved in the spot market have inherited the ill fame of the faceless men of Zurich accused by Britain's then Foreign Secretary, Mr. George Brown (now Lord George-Brown) of currency speculation which led to the devaluation of sterling soon after Sir Harold Wilson's Labour Government gained power in 1964.

Scapegoats

But the dealers claim criticisms heaped upon them are unjustified. They say they are being made scapegoats by oil producers and consumers unable to solve the world's energy problems.

Breaking a long silence, traders interviewed defended their business, which has seen 300 percent rises this year.

"The whole popular image of the Rotterdam free oil market is a myth. There is a spot market, but it is not based here. It is worldwide. London and Paris, just to name two, are bigger centres," one veteran trader said.

Dealers said they were being hounded by governments and the media simply because they were buying and selling such a sensitive commodity. They pointed out that oil prices had been depressed for four years until last summer, and that an increasing share of the spot oil market was now falling into the hands of the major multinationals.

The market is invisible. There is no central bourse where operators meet, and anyone with a telephone and telex can join in. One trader said about 700 people worked on the market here, but another stressed that only a handful of firms were of any significance.

Basically, the spot market deals with oil which is not sold on long-term contracts. Most traders said this covered about five percent of total world consumption, but a Dutch oil company executive maintained it currently exceeded seven percent.

Operators said the multi-nationals which dominate the overall traffic bear a greater share of the blame for rising costs.

Dealers sell to companies who need more oil at short notice and buy shipments from firms which find themselves with too much at a given moment.

The oil comes from the Middle East, the Mediterranean, the Caribbean, the Soviet Union, Rumania and refineries in north-west Europe. West Germany is the biggest national recipient of Rotterdam oil.

Since such a relatively small portion of total supplies is involved, the market tends to act as an exaggerated pointer to world price trends.

Costs have risen faster since the Islamic revolution in Iran overthrew the Shah. Iran, one of the biggest suppliers of oil to Western Europe, also provided an economic lifeline to South Africa and Israel. With this cut, these two countries have been forced to seek more oil on the free market.

Strange picture

"It is a strange market, but extremes of supply and demand always present a strange picture," said Dr. Willem Tieleman, head of the Dutch Economic Ministry's energy department.

Since there is no central oil bourse, it is difficult to get information about what goes on. The communique issued after the Tokyo summit said the seven nations would set up a register of international transactions to bring the working of oil markets into the open.

President Carter and the other leaders said they would urge oil firms and exporting countries to moderate spot deals.

The dealers' only condition to being interviewed was that neither they nor their companies should be identified.

"We are in a very vulnerable position," one source said. "Whatever we say is bound to be misinterpreted by producers, consumers or both. We are a bit like tightrope walkers."

In recent months there has been a large influx of businessmen wanting to get rich quickly, but many soon quit because they were ostracised by the rest of the close-knit trading community.

A fraternity

"There are maybe 100 firms involved in the business world-wide and most people know one another. It is a fraternity, because confidence in your trading partners is vital. Newcomers are looked at very carefully to see if they fit in," one trader said.

Shipments of oil are called "parcels" in market jargon, and individual lots of several hundred thousand tons are commonplace. They can change hands several times while at sea.

One source said he had dealt with one consignment which had been bought or sold 10 times in two days. Asked if that implied speculation, he answered simply: "We perform a useful service."

A trader said his company was the only independent spot oil firm based in the Netherlands. Less than 10 percent of its trade was in crude oil. Most was in refined products such as petrol, jet fuel, gas oil and naphtha, an important raw material for the petrochemicals industry.

"I do most of my business outside the Netherlands. You can buy oil just as easily from a base in Genoa or the Caribbean where there are also important spot markets. To describe the trade as being based in Rotterdam is nonsense," he said.

Not dismayed

The traders said they were not dismayed at the Tokyo declaration.

"Why should we be? We have no secrets," said a dealer based 20 kilometres outside Rotterdam.

Dutch Government officials said the rhetoric of the Tokyo summit communique would be hard to put into practice. They were particularly sceptical about whether it would be possible, as the Government leaders proposed, to make compulsory the presentation of certificates at the time of unloading of crude oil cargoes, showing the purchase price as certified by the producer country.

An Economics Ministry spokesman in The Hague said the Dutch Government had no plans to take unilateral action against the Rotterdam market.

"We are willing to co-operate in making the spot oil market more transparent, but there are more sides to the equation than just Rotterdam. All countries involved must act together or you won't get a workable solution," he added.

Dr. Tieleman said many critics claimed high prices in Rotterdam gave oil-producing States the idea they could raise charges even more.

Over-regulation

"But if you try to over-regulate the market here the dealers will just move elsewhere," he said.

He said he did not "think any government can exercise direct control. It is a free market."

Traders agreed the business could be lucrative, but emphasised that it contained losers as well as winners.

"I have been in the business for 15 years, and in that time I've seen 10 to 15 independent firms go bust," a dealer said.

"For example, last week the price of gasoline in New York dropped from 1,38 dollars a gallon to 98 cents, just because of varying supply and demand. Any trader who had 30 000 tons of petrol in his hands lost three million dollars. There have been some huge losses," he added.

He said no restrictions were imposed on spot trading.

"I do my business where I am allowed to and when my bank will give me any credit that is necessary. The only rule is that you stay out of politics," he said.

What about future prospects? "It depends on politics," one trader said.

Will Iran increase production? Will Libya make good its threat to stop exports? These are two of the main questions.

One thing is for sure. Prices in the future will go up further. — (Sapa-Reuter.)

F.M. 13/7/79 (55) (58) (60)

fox

SASOL

Stalled by dissent

Dissatisfaction is growing over the way the Sasol issue is being handled by merchant banks. Dissent among some of them is causing what are believed to be unnecessary delays.

Despite Sasol MD Johann Stegmann's announcement, that he expected particulars of Sasol's launch to be finalised by the second half of June, it is now almost the second half of July and details of the rate, the proposed pref share issue, proposed debentures and participation by overseas oil companies still appear to be in the balance.

The merchant banks are still testing the market, but it appears that there is consensus on a 7% prospective yield. When the preliminary announcement was made, the prospects of the issue were only coolly welcomed in certain quarters and the thinking at Sasol was that the issue would have to be pitched at an attractive rate, possibly as high as 8%, to ensure the issue's success. After all, Sasol is well aware of the implications if the issue failed — a second chance would be unlikely. In any event the last petrol price hike had not been announced at the time and now the Sasol project looks that more essential and attractive.

Long-term investment

Another reason for deciding on a lower rate is that Sasol does not have to rely on stags. It is aiming the issue at long-term investors who receive tax advantages on dividend income. To institutions, a 7% dividend yield is worth close to 12% due to the tax offset.

It appears that the slated convertible deb issue has been thrown overboard. The reason for issuing debs was to allow institutions to plan their forward commitments. To replace that arrangement, Sasol will enter contracts with institutions allowing them to pick up four predetermined tranches of shares until end-1980 at varying intervals. Debs were not thought to be such a good idea, as tax advantages would not accrue to institutions and necessarily higher deb rates would just have added to Sasol's costs.

With the new arrangement, the ords will become eligible for the dividends as and when they are taken up. Effectively it means that the first tranche, which will be allocated in September, when the shares are listed, will be entitled to half of the interim dividend for the six months to end-December. And the second tranche to be allotted Jan 1 1980 will get the final. This will give an effective return equivalent to 35% of the dividends that would have received if all the shares were taken up at once. From then on the remaining two tranches will be taken up half-yearly on July 1 1980 and January 1 1981.

To attract more institutions a new element has been introduced — namely, a pref issue. Stegmann tells me "the prefs will be compulsorily convertible into ords at an early date still to be determined."

One merchant banker says these prefs are to be aimed at pension funds and insurance companies, which are more concerned with achieving high returns than growth. This implies that the prefs will be pitched at higher rates than the ords. He believes Sasol could be thinking along the lines of conversion within two to three years. This suggests that despite Sasol's obvious growth prospects, there could be some institutions, such as insurance companies, which may hold back from the issue.

There is also talk of misgivings regarding the appointment of five merchant banks. This has apparently led to drawn-out meetings in which decisions are reached with difficulty. And, some merchant banks are competing against others to get the best for clients rather than looking after Sasol's interests. That was not the whole idea behind their appointment. Sasol, understandably, is becoming a little peeved with these manoeuvres.

Another bone of contention is Sasol's future board of directors. Some of the present heads are likely to roll. A call is being made to government and the IDC to draw even more heavily on the private sector to participate in management of the enlarged company. With government more amenable to private sector consultation, it is likely that private enterprise appointees will increase.

Foreign stakes

There is still no clarity on overseas participation. Generally, it is believed that government has little option but to allocate as many shares as are demanded by the oil majors operating in SA. Hill Samuel, which is not a member of the merchant banking team, believes that Sasol has it in mind to give it the task of looking after any overseas investors due to its strong overseas connections.

The oil majors probably recognise the growth prospects. And as one Sasol official points out, "at current oil prices we will be able to service the new shares, but the big bonanza is yet to come with Sasol 2 and 3. And, that was before the latest 40% petrol price hike."

At this stage it is not possible to quantify the effect of higher petrol prices on Sasol's earnings. But with the latest hike, Sasol could well achieve the R120m earnings this year which appeared to be out of reach at end-May.

However, Sasol 2 and 3 should be money-spinners as long as the oil price continues to rise. Sasol 2 was designed to be profitable once crude oil prices approached $15 a barrel. That level has now been convincingly passed with SA paying $40 a barrel and more.

Peter Pittendrigh

F.M. 13/7/79 (55)

OIL PRICE

Slippery slopes

SA's retail price of petrol is in precarious balance. But whether it will rise yet again in response to higher Opec postings for the third quarter depends on a number of seemingly unpredictable factors.

Formalisation of Opec's multi-tiered price structure, which sets the Arab light benchmark crude at $18 a barrel — but permits individual exporters to levy quality and geographic differential surcharges to an upper limit of $23,50 a barrel — has somewhat complicated application of the standard price formula government applies to SA oil companies. This means that in any given period the landed price of oil in SA will range between $20-$25 a barrel cif (including cost, insurance and freight) for oil acquired in the formal sector of the market, to $35-$40 cif bought on the spot market.

Under normal circumstances the increased Opec posted prices would certainly have resulted in a higher domestic price in terms of the agreed standard formula which allows SA oil companies a gross margin yielding less than 15% before interest and tax on depreciated book value.

However, since December 26 last year, when SA was cut off from Iranian sources of supply, the domestic pricing mechanism has been dictated by the international spot market and the weighted average price of offshore acquisitions has soared way above official postings. This is despite the 20%-30% of current imports that comprises unembargoed oil obtained outside the spot market.

After Opec's December 1978 price fix, which was to have been a phased quarterly rise averaging 10% on the year, government raised the home price of all petroleum products 3,2c a litre, of which about 1,7c went to the oil companies and 1,5c into the State Oil Fund (SOF) equalisation account to pay for premiums charged in excess of posted prices.

Levy raised 6c

In February this year the premium equalisation levy was raised 6c a litre when spot prices began to move to $20 a barrel and last month it was hoisted a further 15c a litre which, according to then Economic Affairs Minister Chris Heunis, included 10,4c for the equalisation fund and 4,6c a litre for the "oil companies".

At that stage SA was paying $35-$40 a barrel, between two and three times the price of the Arab light benchmark crude. To pay the premium, SA consumers contributed nearly 17c a litre to the equalisation fund, while Finance Minister Horwood surrendered 2c a litre of his excise collections to further boost the fund.

The question now is whether the higher postings in the formal sector of the market will require a further increase in retail prices to compensate the oil majors for higher offshore costs, or whether there is a sufficient degree of "over-recovery" in the existing SOF levy simply to divert the relevant portion to the companies by a mere book entry, and leave existing retail prices as they are.

The answer depends on the behaviour of the spot market. If it stabilises at a lower level than the one ruling at June 28 then the SOF will be in a position to absorb increased entitlements of the oil majors. If they don't, consumers will have to cough up a few more cents a litre at the pump.

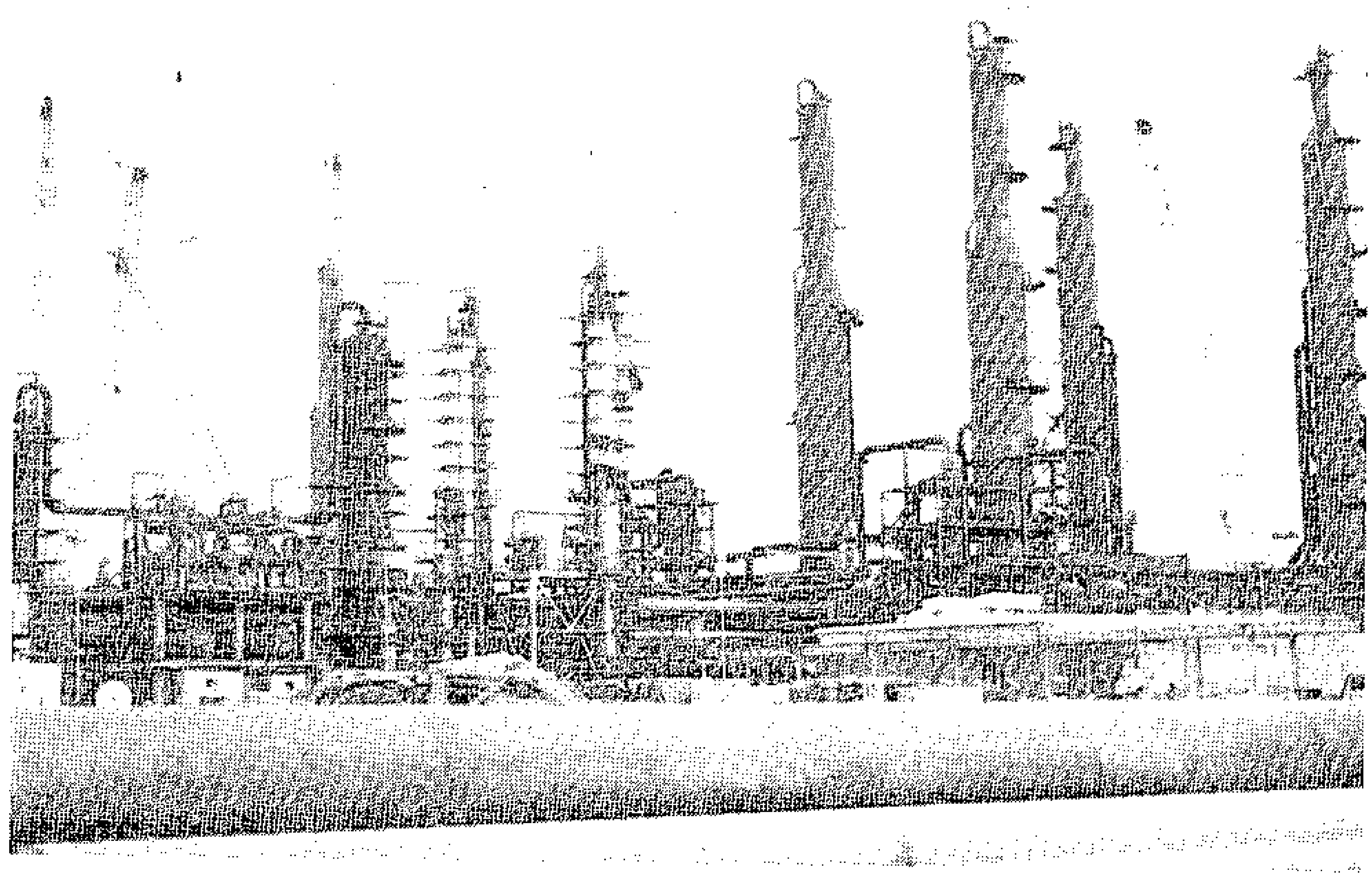
Factors determining the behaviour of the spot market are so plentiful and so unpredictable that government oil officials are saying: "The name of the game is waiting."

If Saudi Arabia raises production 1m barrels a day as expected, it may restore calm to the spot market, particularly now that posted prices have been lifted closer to the insane levels obtaining on the so-called Rotterdam market at the end of June.

But the question oilmen are now asking is whether Saudi Arabia will make additional production available to Aramco (the western oil consortium dominated by US majors) or to Petromin, the Saudi national oil company. The importance of the answer to this question seems to be that if the oil goes to Aramco it will take some of the heat out of US and western European markets and arguably release greater quantities of non-political oil for SA.

If the Saudis award the oil to Petromin, oilmen say it will almost certainly be directed to Third World countries on a state-to-state basis in exchange for raw materials and/or finished goods and/or political commitment.

Other factors that will influence the spot market are Mexico's marketing policy, the severity of the northern winter, the US administration's ability to formulate a working energy policy, the internal stability of Iran and threats by Libya to halt production altogether.



Sasol . . . Opec makes it look better every day

But quite apart from short-term discomfort in terms of the domestic oil price, the behaviour of the spot market will influence SA's own plans to achieve at least 50% relief from imported oil.

It is no secret that government depends overwhelmingly on consumer levies to finance the development of Sasol 3. Of Sasol 2's estimated capital cost of R2 450m, no less than R1 626m came from consumer contributions to the SOF. There have been no official statements that Sasol 3 will depend less on SOF contributions for its funding.

Arguably, therefore, if the lion's share of present contributions is diverted offshore to pay for persistently high oil prices, how much will remain to build up a pot to pay for Sasol 3?

The answer is one of government's most closely guarded secrets.

Financial Mail

F.M. 13/7/79

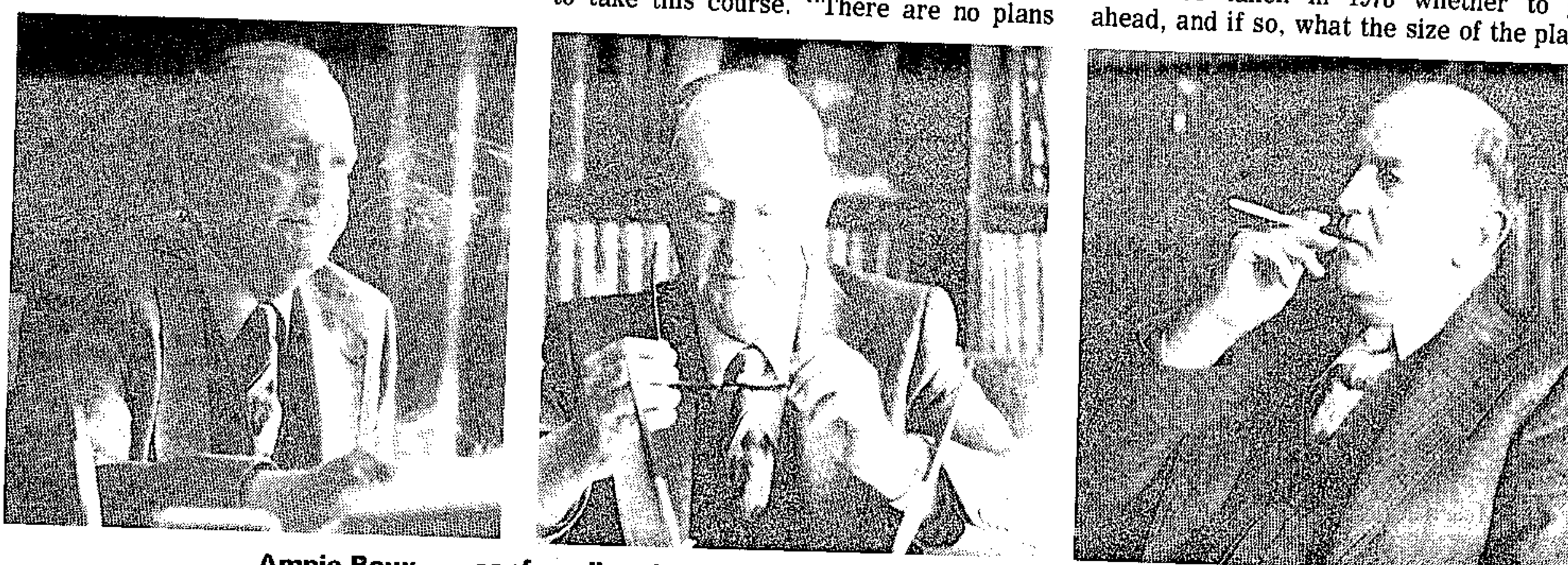
55

URANIUM

SA's secret

"Nuclear energy is as deeply involved in politics as oil — if not deeper" - **Dr Ampie Roux, chairman of the Uranium Enrichment Corporation, in an interview with the *FM* this week.**

Many years ago, when the government decided to start work on its secret uranium enrichment process, there was a fair amount of public criticism — and scepticism — over its plans. As in the case of Sasol's oil-from-coal project, it was argued by many that such expenditure could not be justified when both oil and enriched uranium could be imported far more cheaply.



Ampie Roux . . . confounding the nuclear critics, prescient — and ready to export?

Both decisions have shown themselves to be prescient, even if fortuitously so. SA faces the possibility of total exclusion from the world oil markets, and the US has shut off the supply of enriched uranium — at least for the time being.

Now, the *FM* learns, SA is not only in a position to meet locally the needs of the Koeberg power station, but could supply sufficient enriched uranium to meet all Escom's needs as far as additional power stations are concerned — should the decision be taken to expand its production capacity accordingly. Moreover, says Dr Roux, should government give the green light it would be a relatively easy matter to go commercial and export enriched uranium if market conditions warranted it.

"I have no doubt in my mind that when we've expanded the pilot plant (this expansion was authorised by government in February last year, and is well under way), and if the market opens up again, we'll consider this kind of further development," he adds.

Dr Roux says the current expansion of the pilot plant to a production plant will mean SA should soon have a "semi-commercial" unit, and one that could develop further should government decide to take this course. "There are no plans yet, as this would be a matter for the government, not the corporation to decide," he explains.

In the past, however, government has met virtually all Roux's requests on behalf of Ukor. And if SA's negotiations for highly enriched uranium from the US finally break down, sources close to Prime Minister P W Botha believe he will encourage Roux to go full steam ahead.

Significantly, too, Roux believes the international demand for enriched uranium will increase substantially by the mid-Eighties. "There's an overproduction of separative work (enriched uranium) right now. How long it will last is not easy to say. But I think the market for enriched uranium will start opening up again after the mid-Eighties because that will be the only way the world will be able to meet the demand for electricity generation." At the moment, however, there is more than enough produced by countries such as the US to meet the world's requirements. And it was this problem that caused SA to suspend plans for Ukor's development some years ago.

Says Roux: "Before the pilot plant came into operation we had given consideration to the next phase, which we had hoped would be a large-scale plant. We always said, however, that a decision would be taken in 1978 whether to go ahead, and if so, what the size of the plant would be.

In fact we took a decision earlier — in 1977 — because it was clear that the market for enriched uranium was such that there was no room for a large scale plant. At that stage, we decided as a first step to expand the pilot plant into a production plant for our own needs, and not for marketing enriched uranium elsewhere in the world. That is what we're doing now."

If, as most experts believe, the market situation alters to such a degree that SA reverses this decision, Ukor would have to produce enriched uranium, not only in volume, but at an attractive price. Can this be done? Roux reckons it is quite possible. "If we expand the plant to a large enough size, we could produce at a competitive price," he avers.

P.T.O

At present, SA needs highly enriched uranium for the Safari reactor and when Koeberg is incorporated into the Escom grid it will need "lowly enriched" uranium, which is a standard requirement for nuclear power stations. The US is not supplying the highly enriched version for Safari, but SA is still relying on the Americans to supply Koeberg with its nuclear fuel.

Roux explains: "As far as the Koeberg fuel is concerned, we are still busy with delicate negotiations. We hope the Americans will supply because, after all, Escom has a contract with them. But it is difficult to say when we'll have finality on this question."

Nevertheless, Koeberg could be supplied from Ukor's planned capacity, once the expansions are completed.

The difference between enriched uranium and highly enriched uranium is relatively simple. "When we talk of enriched uranium in terms of nuclear power we usually mean 'lowly enriched' fuel with a U_235 component in the region of 3%. If you increase this component to more than 20% you have highly enriched uranium. Safari presently operates on uranium enriched in the region of 93%," he says.

Huge capital requirements

One of the problems facing SA is naturally the large amount of capital required for development. But given the parallel between Iscor and Sasol, it would indeed be surprising if the government jibbed at further investment in energy.

For, as Roux points out with justification: "Today we're pleased we started with Sasol when we did. The same sort of thing is bound to happen in the nuclear field. Nuclear energy is as deeply involved in politics as oil — if not deeper."

On the question of future nuclear power stations, Roux is not sure what will be demanded of SA's atomic energy resources. It appears the decision will finally be Escom's.

"Escom constantly expands its capacity (roughly doubling every 10 years) and they will certainly be building further power stations. What proportion of these will be nuclear is difficult to say."

When it comes to funding future Ukor expansion, the *FM* would not be surprised to find government going to the public for money, as is being done in the case of Sasol, with SA's biggest ever public issue of shares (see *Fox*).As Sasol appears to have captured the imagination of SA's investing public, it would be far more logical for government to go to the market with Ukor, rather than introduce more unpopular taxes — though in the initial stages government subsidisation above present levels will certainly be required.

F.M 13/7/79

262

MUNICIPAL FINANCES

From whence the money?

"All things began in order, so shall they end, and so shall they begin again; according to the ordainer of order and mystical mathematics of the city of heaven." — **Sir Thomas Browne**

Judging by the soaring costs involved in running SA's fast-growing cities and towns, today's municipal treasurers could well do with a little more "mystical mathematics" from above.

Finding the millions necessary to finance major new capital projects for our cities, including housing, road networks, electricity extensions and so on, is proving a major headache to municipal authorities.

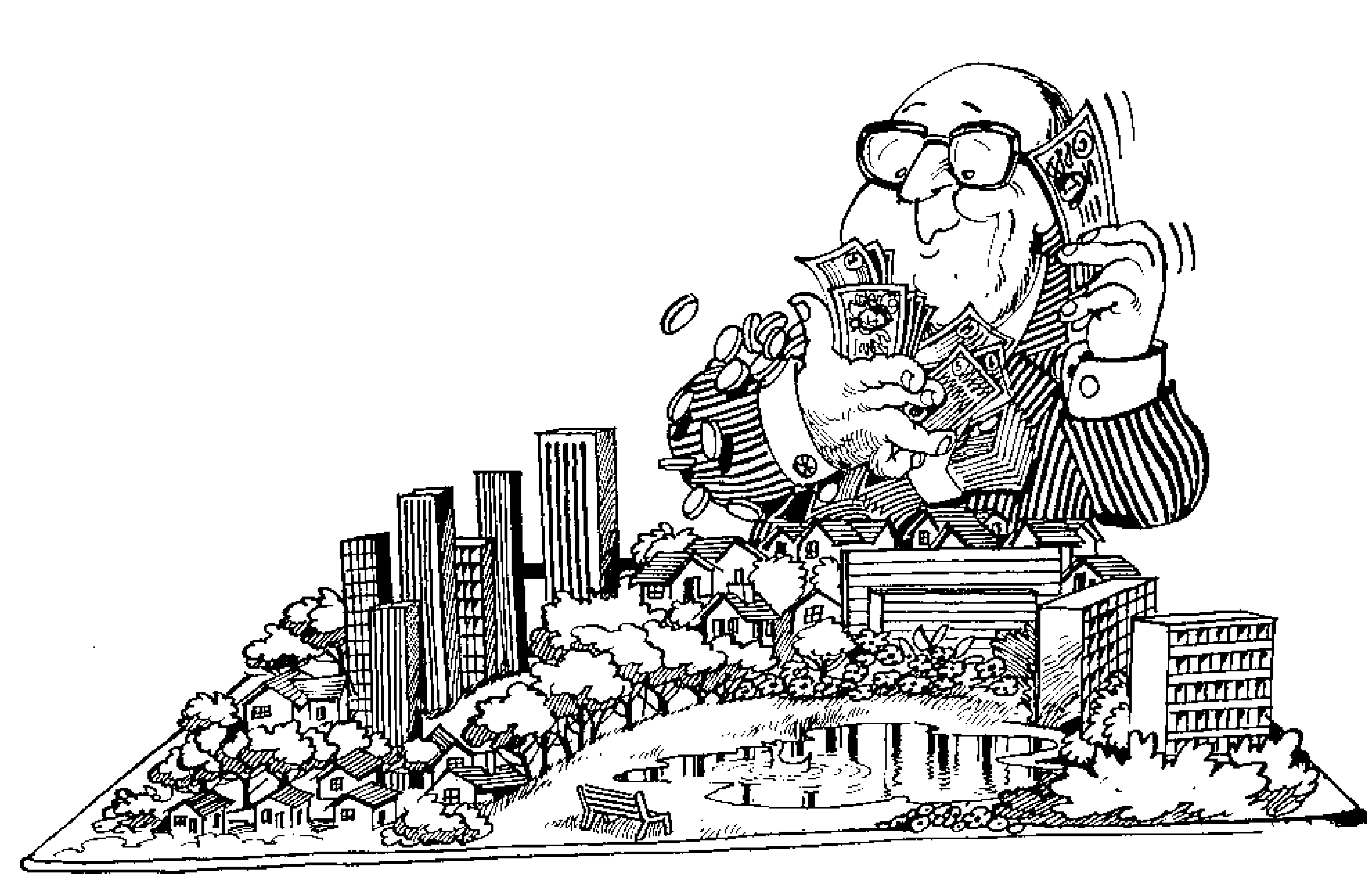
Indeed, many treasurers admit they've either had to shelve or cut back substantially on numerous capital projects, simply because of a capital shortage. Says Johannesburg city treasurer, John de Villiers: "At the moment most of us are involved in a holding operation, but the next couple of years could see a dramatic rise in our capital demands."

Durban city treasurer Ossie Gorven asserts: "Raising sufficient capital is going to be our number one problem for some years to come."

Indeed, according to the latest Treasury schedule of public sector borrowers, SA's cities and towns will be looking for roughly R200m by way of loan issues over the next 12 months. Johannesburg and Cape Town, for instance, are each due to borrow R40m over the next year, all of which will be used to finance on-going and new capital development projects.

Johannesburg's total budgeted expenditure for the 1979-80 financial year has risen from R372m last year to R407m (of which some R90m-odd is earmarked for capital expenditure), while Cape Town's has grown from R365m to R387m. Although the bulk of each city's and town's budgeted expenditure is financed from operating income, such as property and utilities rates, licensing, transportation and so on, each municipality has to find additional capital funds from other sources.

This means that in addition to administering the normal operating income, today's municipal treasurer must also oversee such monies as consolidated loans funds, capital development funds, Department of Housing and Community Development's loans to the municipality and various other funds.



Considering the volume of outstanding debt, along with future capital needs, it is not surprising that a number of municipalities have taken steps to promote a secondary market (dealings after original issue) in their stocks. Johannesburg, for example has outstanding loans amounting to R377m, while the city's own purchases and sales

At present, SA needs highly enriched uranium for the Safari reactor and when Koeberg is incorporated into the Escom grid it will need "lowly enriched" uranium, which is a standard requirement for nuclear power stations. The US is not supplying the highly enriched version for Safari, but SA is still relying on the Americans to supply Koeberg with its nuclear fuel.

Roux explains: "As far as the Koeberg fuel is concerned, we are still busy with delicate negotiations. We hope the Americans will supply because, after all, Escom has a contract with them. But it is difficult to say when we'll have finality on this question."

Nevertheless, Koeberg could be supplied from Ukor's planned capacity, once the expansions are completed.

The difference between enriched uranium and highly enriched uranium is relatively simple. "When we talk of enriched uranium in terms of nuclear power we usually mean 'lowly enriched' fuel with a U_235 component in the region of 3%. If you increase this component to more than 20% you have highly enriched uranium. Safari presently operates on uranium enriched in the region of 93%," he says.

Huge capital requirements

One of the problems facing SA is naturally the large amount of capital required for development. But given the parallel between Iscor and Sasol, it would indeed be surprising if the government jibbed at further investment in energy.

For, as Roux points out with justification: "Today we're pleased we started with Sasol when we did. The same sort of thing is bound to happen in the nuclear field. Nuclear energy is as deeply involved in politics as oil — if not deeper."

On the question of future nuclear power stations, Roux is not sure what will be demanded of SA's atomic energy resources. It appears the decision will finally be Escom's.

"Escom constantly expands its capacity (roughly doubling every 10 years) and they will certainly be building further power stations. What proportion of these will be nuclear is difficult to say."

When it comes to funding future Ukor expansion, the *FM* would not be surprised to find government going to the public for money, as is being done in the case of Sasol, with SA's biggest ever public issue of shares (see *Fox*). As Sasol appears to have captured the imagination of SA's investing public, it would be far more logical for government to go to the market with Ukor, rather than introduce more unpopular taxes — though in the initial stages government subsidisation above present levels will certainly be required.

Y SYSTEM

C		B	
M	F	M	F
80	1,59	0,13	0,10
,15	0,17	0,02	0,04
,14	0,17	0,11	0,13
,54	1,27	0,73	0,78
,33	8,25	4,61	5,01
,12	40,90	13,55	14,21
,74	2,69	1,14	1,20
3114	3140	2390	1921

ORY SYSTEM

C		B	
M	F	M	F
,20	28,78	13,54	14,15
,32	5,45	2,46	2,13
,21	0,23	0,18	0,16
,94	0,72	0,66	0,52
,88	2,14	2,75	1,72
,07	10,49	9,32	6,19
,87	2,22	1,37	1,24
270	2588	2858	1951

IV DISEASES OF BLOOD AND BLOOD-FORMING ORGANS

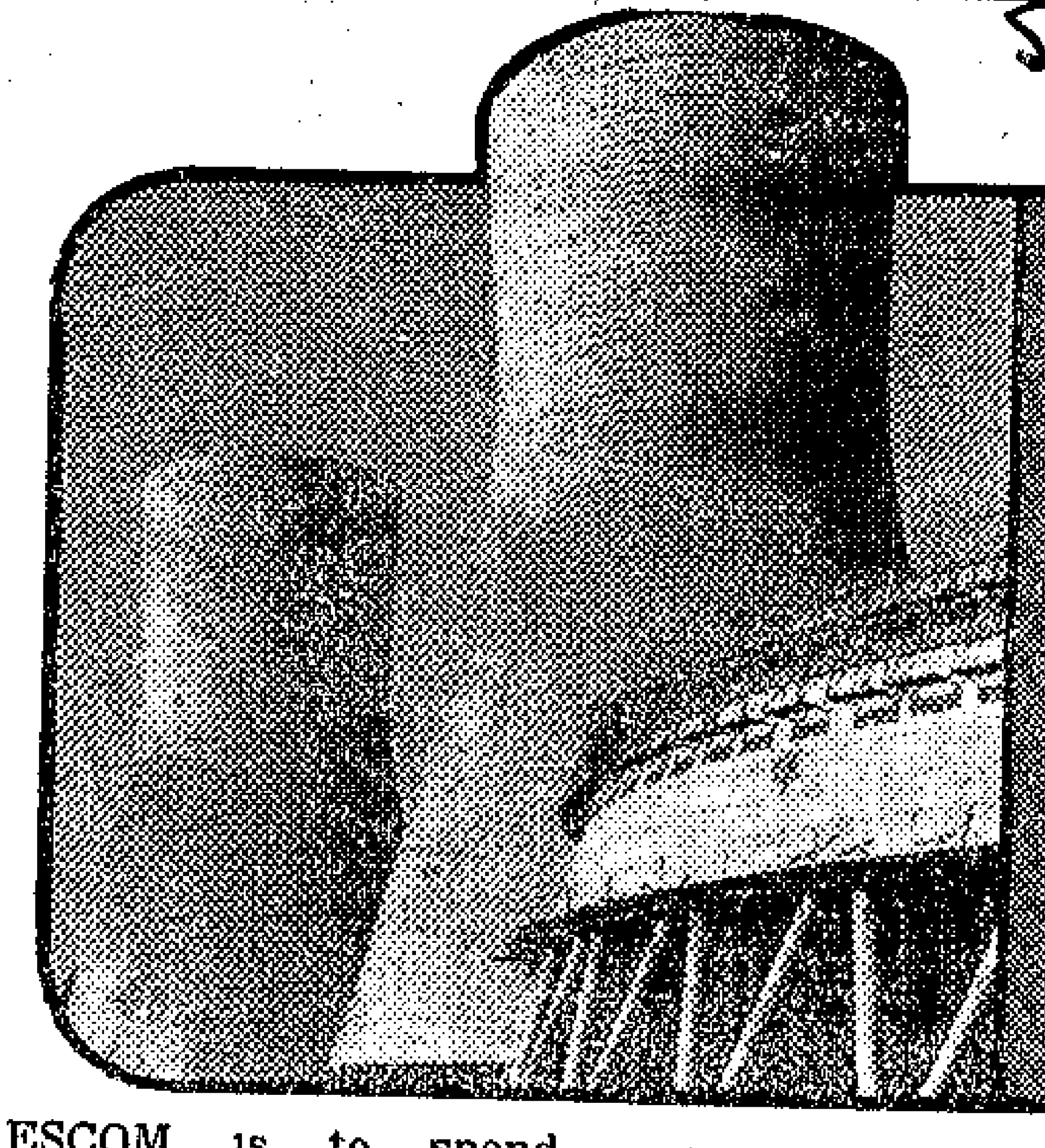
	W		A		C		B	
	M	F	M	F	M	F	M	F
0-1	0,02	0,03	0,20	0,21	0,06	0,16	0,06	0,06
1-4	0,01	0,01	0,02	0,00	0,02	0,04	0,01	0,01
5-24	0,00	0,00	0,01	0,01	0,01	0,01	0,01	0,01
25-44	0,01	0,01	0,01	0,02	0,00	0,01	0,01	0,01
4 5-64	0,02	0,02	0,03	0,03	0,06	0,04	0,01	0,03
65+	0,11	0,11	0,13	0,15	0,13	0,15	0,03	0,03
ALL	0,01	0,02	0,02	0,02	0,02	0,03	0,01	0,01
NO.	30	34	7	7	21	31	23	21

VI DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS

	W		A		C		B	
	M	F	M	F	M	F	M	F
0-1	0,52	0,18	0,50	0,41	2,02	1,56	1,26	1,20
1-4	0,05	0,05	0,02	0,07	0,45	0,26	0,23	0,18
5-24	0,03	0,01	0,05	0,04	0,09	0,06	0,09	0,07
25-44	0,03	0,01	0,04	0,05	0,23	0,09	0,13	0,06
45-64	0,07	0,07	0,21	0,11	0,36	0,13	0,26	0,07
65+	0,18	0,13	0,00	0,15	0,47	0,18	0,44	0,15
ALL	0,06	0,04	0,07	0,06	0,25	0,14	0,17	0,12
NO.	128	85	26	23	289	164	366	187

Sun. Tribune 15/7/79 (55)

Report by Jack Brickhill



HUGE BOOST FOR POWER

Escom to spend R2000-m on two massive plants

ESCOM is to spend R2 000 million in the next six to nine years on two new giant power stations in the Eastern Transvaal.

This expenditure, nearly equal to the cost of the Sasol 2 extension, will give another massive boost to South Africa's engineering, construction and manufacturing industries. Overseas companies too, who will supply 40 percent of the power station content, will join in the scramble for contracts.

Escom does not comment on projects still in the pipeline but industry sources confirm that tender enquiries have already gone to coal mining companies. Iscor is interested in developing its coal deposits in the North Western Transvaal for power generation but there is insufficient water in the area for cooling purposes.

The new power stations will be built in the Eastern Transvaal in the vicinity of Witbank where the other giants Matla, Duvha and Kriel are still under construction.

The swing from oil and new mining developments are boosting electricity consumption which is now expected to double every eight or nine years. This means that existing capacity and capacity under construction including Koeberg nuclear power station (1 844 MW), the Drakensberg pumped storage scheme (1 000 MW), Kriel (3 000 MW), and Matla and Duvha (3 600 MW each), will come under strain.

Indeed construction of Kriel has been speeded up and the station will be fully operational by the end of the year, about six to eight months ahead of schedule. This station already has five generators in operation. Koeberg, Drakensberg and the other Eastern Transvaal stations will all be fully operational by 1983.

The two new stations which will each have capacity of more than 1 000 MW, will probably start generating electricity from the first set in 1985. Escom's present installed capacity is about 15 000 MW and in addition the country receives 1 400 MW from Cabora-Bassa in Mozambique. By 1983 capacity will be about 22 000 MW.

South Africa has the coal resources to generate increasing amounts of electricity and supply coal exports and other markets until well into the next century before deposits start being depleted. Nevertheless other forms of generation are likely to be developed although there are no plans for another nuclear station before 1990.

A probable project in the next 10 or 20 years is the development of the Tugela hydro-electric potential of 3 000 MW. Electricity at present accounts for 21 percent of the country's energy consumption but this will rise to more than 40 percent by the end of the century.

The move to greater use of electrical energy is worldwide. Despite its North Sea oil fields Britain, which has installed capacity of 62 000 MW, is increasing electricity sales. The same pattern is happening in Germany and in France 15 nuclear power stations are under construction. These countries and South Africa are fortunate to have the underlying infrastructure on which to develop electricity supplies. Energy problems in less developed countries will be increasingly acute.

An Escom spokesman says a great deal of money is being spent on the installation of precipitators to counteract pollution at power stations. About R80 million has been spent on two old stations in the Sasolberg area and R20 million has been spent on the Komati station. The new power stations in the Eastern Transvaal will also have anti-pollution equipment installed.

Escom's developments are paid for from tariff income and from local and overseas loans. The commission has foreign borrowings of more than R586 million and local borrowings of R666 million.

In addition there is a secondary market with Escom making a turn out of selling Escom stock and reinvesting in new Escom stock issues.

Escom will spend R8 500 million in the next five years, mainly on new generating capacity, and at least R20 000 million will be spent in the next 20 years. Foreign borrowings and credits are likely to increase in proportion to local borrowings in this period.

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SUNDAY TRIBUNE, JULY 15, 1979

New York — Walter Pfaeffle

US car industry heading for a slump

THE U.S. car industry appears to be heading for a slump, with causes reaching far beyond the current disruptions in petrol supply.

While Detroit's auto managers try to soft-peddle the fact, dealers across the country report sales down by as much as 35 percent from last year and buyers shunning all but the smallest, most fuel-efficient autos.

What is more, the experts say car sales will remain in serious trouble even after the petrol crunch, as inflation has cut deep into consumers' spendable income and so eroded their confidence that they simply aren't buying expensive cars.

"Even if the Arabs were drowning us in oil, there would still be a downturn in auto sales," says Fabian Linden, senior economist for the Conference Board, a non-profit organisation that studies consumer attitudes.

Only a few weeks ago, Chrysler president Lee Iacocca predicted sales of 11,1 million cars in 1979 and General Motors boss Thomas Murphy put his estimate at 11,5 million. But Automotive News, a respected trade publication, says the industry at mid-year has piled up the biggest stock of unsold cars in its history.

While no one expects the kind of disastrous sales collapse that occurred after the 1974-75 slump, many don't see any chance of a recovery before next year or even later.

Given the petrol crunch and the high price tags on the bigger American-built cars, it is no surprise that the small imported cars should do well. And US manufacturers who said some years ago they would "throw the invaders back into the sea" have become much more cautious in their comments.

In May the number of imported cars sold in the United States almost reached 25 percent, with foreign manufacturers selling 254 495 units — an increase of nearly 23 percent over last year.

Lately however, the softness of the car market has hurt imports as well.

Sales of the little foreign cars, which had been running 25 percent to 30 percent ahead of year-earlier volume since March, increased only eight percent in June. Sales of US makes were off 26 percent.

If sales remain so low, of course they can only worsen the economy and speed up a recession that most economists now believe is inevitable.

"A downturn in auto sales hurts overall business which has been looking shakier and shakier in any event," says one economist.

Meanwhile even Government economists are painting a much blacker painting of the economy in 1979, saying there will be little, if any, economic growth and a high rate of inflation, probably in the double-digit range.

The new forecast undoubtedly will add to President Carter's political problems because they represent such an erosion from both the present conditions and previous forecasts.

Arab oil — a weapon against the West

55/9 16/7/79

PEREGRINE WORSTHORNE on the real object of the Arab oil-producers, which he believes is to punish the West.

MAO said: "Power comes out of the barrel of a gun." In the light of the oil crisis that famous phrase should be abbreviated to "Power comes out of the barrel." The Western world needs to start thinking of Arab oil as a deadly weapon in the hands of an implacable enemy.

The states that control it are not primarily concerned with exploiting its economic value for commercial advantage according to the iron laws of supply and demand; they are primarily concerned with exploiting its political value according to the dictates of Arab nationalism and Islamic fanaticism.

Allah has placed in their hands a weapon with which to chasten the Christian infidel, not to mention the Jewish invader. So the price of oil is not being determined by market considerations on the advice of financiers and statisticians steeped in the works of Adam Smith. It is being determined by the Arab equivalents of priests and potentates dreaming of crusades and conquests. When Opec meets, its deliberations owe quite as much to the Koran as the computer, to the Crescent as to the counting house.

So far Western leaders have not begun to react like statesmen, or stateswomen, faced by what amount to the first moves in a major exercise aimed at altering the balance of world power. They still seem to assume that the Arab states are fundamentally responsible, in the sense of being prepared to use their oil with proper regard for economic laws, on the assumption that they would not want to ruin their best customers. As a result, all the Western emphasis is on finding new sources of energy, on curbing excess consumption, on expanding local production. Up to a point this is understandable, since at the moment such reactions may well seem still to be sufficient, as they were in 1973.

The object

But the resurgence of Islam has progressed mightily since those pre-Khomeini days. What should be becoming clear now is that the Arab oil-producers don't want the West to learn to live with the problem of reduced supplies. That would defeat the object of the exercise, which is to punish the West for its past patronage, to redress the centuries-old record of technological, cultural and religious superiority. In other words, it is reasonable now to assume that the Arab states are going so to employ the oil weapon as to guarantee that there are no easy or painless solutions, no smooth transition. They positively want to cause the maximum dislocation, to enjoy the spectacle of the West in crisis.

It is this deepening of the political, even religious, dimension of the challenge that must call in question the West's faith in what is still an exclusively economic response. No doubt market forces could cope adequately with an Arab oil embargo that was being used for the respectable and normal purpose of maximizing the producers' wealth — which has good old greed as its motive. if Sheik Yamani were simply playing the familiar capitalist game, then indeed the international oil companies might be relied upon to fight back effectively with the classical weapons of commercial competition.

Inadequate

But, given the farmore radical and sinister nature of the Arab motive, such a Western reaction is bound to prove absurdly inadequate, rather as did the kind of half-hearted measures envisaged by the British in 1939 for the fighting of the phoney war against Hitler. Just as exhorting people to dig a few new trenches in the London parks did not measure up to the challenge of total war then, so will the present reliance on the price mechanism to reduce petrol consumption fail to measure up to the scale of the sacrifices that the Western people are shortly going to have to face.

It is a tragedy that President Carter seems wholly unable to give his own people, let alone the West as a whole, any kind of leadership. His behaviour suggests a total failure of nerve in the White House. So spectacular is the collapse of his authority that it is by no means far-fetched to talk of another Presidential débâcle, comparable to the weeks and months of decline that preceded the resignation of Richard Nixon, the only difference being that on this occasion it is congenital ineptitude rather than congenital infamy that may be driving another American president out of office. No wonder the American people show such disturbing signs of running amok. For the man in the White House is wholly incapable of raising the oil crisis to a level where calculations other than the material come into play — to a level where it makes sense to call for individual sacrifice in the interest of the nation.

A challenge

To date, the lady in Downing Street has not chosen even to try to do so. As a firm believer in market forces, she is loath to recognize that her administration is faced, so early on, with a challenge that transcends the philosophy of the invisible hand. All demands for rationing, in an effort to allocate resources on a fairer basis than that of a motorist's ability to pay, or for government intervention in the priorities of distribution — so that country districts do not lose out to urban centres — are firmly rejected. Let the market cope as best it can, which is better than any alternative socialist system.

All this is fine as far as it goes. The country is sick of socialist solutions, eager to give the market the benefit of the doubt. Although the Labour Party calls on the secretary of state for energy to impose wartime-type controls, there is no political mileage in such routine rhetoric. Not at any rate for the time being. But this situation could change very rapidly; far more rapidly than Mrs Thatcher and her colleagues seem to realize. For if Opec is motivated by a positive determination to disrupt the West, its price increases will come with machine-gun rapidity, to the point where the public — all but the rich — will suffer acute pain, even allowing for the cushion of North Sea oil.

Mailed fist

Normally laws of supply and demand have their effects slowly, giving people time to adjust. Thus the social tensions are spread over years, even decades. But in this case the invisible hand of the market could well operate much more like a mailed fist, cutting into the fabric of society with a ferocity determined much more by Arab political passion than by neutral economic necessity. For Ayatollah Khomeini was not dreamt of in the world of Adam Smith, any more than Adolf Hitler was dreamt of in the world of Neville Chamberlain.

What the Arabs are waging is a war by other means. Imposed ruthlessly enough, price hikes are the equivalent of torpedoing tankers at sea. Faced by this kind of pressure from the Arab world, Western governments will not be able to let the faceless oil companies pursue their own interests. Such will be the public indignation that only a governmentally-determined policy, in the national interest, will begin to suffice. Normal changes in the patterns of trade, those induced by the ups and downs of harvests, of commodity values, of scarcity and abundance — all these may best be absorbed by allowing the capitalist market to work its miracles of adaptation and adjustment, painful as they very often are for ordinary people.

New situation

But when the normal levels of pain inseparable from capitalism — themselves likely to be unpopular enough — are further upped on purpose by the Arab states with the express intention of escalating the West's suffering to the point where it becomes socially unbearable, then a new situation is bound to emerge, requiring a protective response from government on a scale Mrs Thatcher may well find difficult to make.

Having trained herself for one form of struggle, it is beginning to look as if her destiny could be to fight a very different kind of battle — one where setting the individual free is less important than rallying him behind a collective effort. Let us hope that she can read the writing on the wall, in spite of the message being in Arabic. Roll up those pages of Friedman and Hayek. They will not now be needed for many a year.

NM

17/7/79

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Petrol pirates' giant haul

Crime Reporter

PETROL worth millions of rand is being stolen in South Africa by organised syndicates, some operating road tankers and siphoning fuel from bulk storage tanks.

Petrol companies agree that the figure is difficult to assess because of lack of co-ordination but one company estimated the loss at R1 000 000 a month.

In Durban several garage owners claimed they have lost thousands of litres through organised thefts in recent weeks.

Nippers Garage in Queensburgh and Malvern Garage both reported thefts had taken place at night, allegedly by gangs siphoning petrol from their bulk storage tanks.

Police are investigating the thefts but have been unable to shed any light on the disappearance of the petrol.

The owners of both garages said the thieves had siphoned the petrol by means of a road tanker, stealing 2 000 litres at a time.

In another theft a combi filled with drums and fitted with a handpump and siphoned out 800 litres of petrol from Malvern Garage.

The owner of Shepstone Road Motors in New Germany, Mr. Gordon Speed, said thieves had also stolen 2 000 litres from his garage in one weekend but he could not say how the theft occurred.

"I am certain I know how it was done but I don't want to say at this stage," he said but added that siphoning from bulk storage tanks was a reality.

Other garage owners said they also had thefts of petrol but were unable to establish how the fuel had been stolen.

Most agreed, however, that organised gangs or syndicates were behind the large-scale thieving.

The head of the public relations department of Caltex Oil, Mr. Keith Bewick, said from Cape Town yesterday that organised efforts to steal huge quantities of petrol had become a reality.

He pointed out that two road tankers filled with petrol had already been stolen in South Africa and he warned that hijackings of petrol-filled tankers was "in the bounds of possibility."

Mr. Bewick said it would be difficult to assess the value of petrol being stolen but added that with the present price of petrol a "million rands' worth is not really all that much petrol".

"One tanker's-worth is about R12 500."

Mr. Bewick said that where there were large petrol thefts it was unlikely to be the work of individuals but that of organised gangs.

He said it was the dealer's responsibility to ensure that thefts did not take place and added that new devices would have to be found to safeguard against the siphoning out

★ TURN TO PAGE 2

evaluated, and it is probable that some of the dates are not associated with Iron Age occupations (Huffman, in press), and (2) quantile ranges are sensitive to processes associated with settlement proliferation as well as archaeological research strategies (Collett, in prep.). However, within one of the Early Iron Age traditions the bevelled/flutted complex (Urewe, Lelesu, Kwale and Silver Leaves cultures), a North to South temporal ordering of the first appearance is supported by the radiocarbon chronology, and the fission model is contradicted by this ordering. On the other hand a continuous spread process would have made changes in pottery styles unlikely since group isolation does not occur, and social pressure would have enforced group norms. Therefore, the

55 mim 17/7/79

Petrol pirates' giant haul

★ FROM PAGE 1

of bulk storage tanks. "Some kind of electronic device might be the answer."

Mr. Chris van den Heever, public relations officer for Shell and BP's Natal, Free State and Northern Cape branches said it was difficult to give details of petrol thefts because of lack of co-ordination.

But he too agreed that it had become a very serious problem because of the role petrol played in transport and the present price of fuel.

He said the theft of petrol from underground bulk storage tanks was "not a new thing. It has been taking place for a very long time".

Mr. van den Heever said the theft of petrol from filling stations was, however, a security problem and he emphasised that unless security was tightened more petrol would be stolen.

The Deputy Chief of the CID of South Africa, General Kobus Visser, said that thefts of petrol took place all over the country but added that it was difficult to draw a definite picture of what was happening.

"I could get details of all the major thefts being reported throughout the country but it could take a day or two.

"However, we will investigate all reported thefts and if organised gangs were responsible we will do our utmost to track them down," he said.

Petrol company

Mr. Theuns Snyman of Nippers Garage said that according to his information a tanker had pulled up at his garage in the early evening and the thieves were actually dressed in petrol company overalls.

"They were seen siphoning out the petrol but nobody thought anything of it. The following morning I discovered that 2 000 litres had been taken."

Mr. D. Irvin of Malvern Motors said his information of the thefts which took place at his garage was similar to that at Nippers Garage.

Another garage owner in Westville, who has also lost petrol, pointed out that petrol companies often delivered petrol at filling stations at night and if a tanker pulled up at a petrol station at night to steal fuel few people would suspect it.

group would split into two or more sub-groups, and all but one of these would move away some distance and settle. An imaginary boundary enclosing the settlements would appear to move outward (Fig.1). If population continued to grow, the boundary would continue to move outwards, and population

density would increase in the central area until all the potential site territories were being utilised. In the central area population limiting factors would operate to balance recruitment (birth, immigration) and loss (death, emigration).

This simple ecological model has some utility although it has been noted that population often appears to be at a lower density that the carrying capacity. It has been suggested that social organisation may act as a population regulating mechanism (Wynn-Edwards, 1962; Snyder, 1968). In Early Iron Age communities individuals would have interacted, and as population density grew the number of interactions would have increased. Animal models (Calhoun, 1952; Christian, 1955; 1956) suggest that this would have led to

ch eventually would have led to a split in
ation of nearby site territories by some of the
continuous spread model it was assumed that the
d behind the advancing frontier and this followed
that after community fission the groups would
before settling.
y of population regulation is not universally
critical resource has been considered as the main
ensity in nature (Chitty, 1960; Lack, 1954).
nan populations (Yellen, 1976). In the case of
e in genetic fitness associated with movement from
be used to explain fission. The problem of the
unity fission will be returned to later.
ationship between population growth, carrying
closing the colonised area (Fig.2) forms the basis
Appendix 1) presented here,

assumption in the continuous spread model of short
en the whole culture, can be treated in a similar
way to a community. ~~Thus~~ discontinuous spread model settlement proliferation and the movement of the frontier would have been the same as in the continuous spread case. As the density of settlements increased behind the frontier the

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For full text see Acts 1979

STAATSKOERANT

VAN DIE REPUBLIEK VAN SUID-AFRIKA

REPUBLIC OF SOUTH AFRICA

GOVERNMENT GAZETTE

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KAAPSTAD, 18 JULIE 1979

VOL. 169] CAPE TOWN, 18 JULY 1979 [No. 6585

DEPARTEMENT VAN DIE EERSTE MINISTER

No. 1558. 18 Julie 1979.

Hierby word bekend gemaak dat die Staatspresident sy goedkeuring geheg het aan die onderstaande Wet wat hierby ter algemene inligting gepubliseer word:—

No. 116 van 1979: Wysigingswet op die Brandstofnavorsingsinstituut en Steenkool, 1979.

DEPARTMENT OF THE PRIME MINISTER

No. 1558. 18 July 1979.

It is hereby notified that the State President has assented to the following Act which is hereby published for general information:—

No. 116 of 1979: Fuel Research Institute and Coal Amendment Act, 1979.

GENERAL EXPLANATORY NOTE:

__________ Words underlined with solid line indicate insertions in existing enactments.

ACT

To amend the provisions of the Fuel Research Institute and Coal Act, 1963, so as to authorize the Minister of Economic Affairs to entrust the performance of functions and duties which are required to be or which may be performed in order to achieve the objects of the Fuel Research Institute of South Africa, to certain bodies, departments of State or persons; and to provide for matters connected therewith.

(Afrikaans text signed by the State President.)
(Assented to 2 July 1979.)

BE IT ENACTED by the State President, the Senate and the House of Assembly of the Republic of South Africa, as follows:—

Insertion of sections 5A, 5B and 5C in Act 35 of 1963.

1. The following sections are hereby inserted in the Fuel Research Institute and Coal Act, 1963, after section 5:

"Entrustment of certain functions and duties to certain bodies, departments of State or persons.

5A. (1) The Minister may by written notice entrust the performance of any function or duty which in terms of the provisions of this Act is required to be or which may be performed in order to achieve the objects of the institute, to any body established or constituted by or under any law or to any department of State or to any person in the service of such a body or department of State.

(2) The Minister may, in connection with the entrustment of the performance of any function or duty in terms of subsection (1), determine in a notice referred to in that subsection that any power conferred upon the board, the director of the institute or any member of the staff of the institute by or under this Act, may be exercised by any body, department of State or person referred to in subsection (1) and specified in the said notice.

Transfer of money.

5B. Notwithstanding the provisions of sections 6 (2) and 7 (5) the Minister may from time to time, after consultation with the board and with the concurrence of the Minister of Finance, direct that certain amounts of money be transferred from the capital fund referred to in section 6 (2) or from the moneys referred to in section 7 (5), as the case may be, to any body or department of State to which or any person to whom the performance of a function or duty has been entrusted in terms of section 5A (1), for the purposes of the defraying of expenditure incurred in the performance of any function or duty so entrusted.

OIL CRISIS

Grasping the nettle

In an uncharacteristically spontaneous and emotional series of speeches, President Jimmy Carter left the [illegible] of Camp David and the White House this week and took his warning directly to the American people: the energy crisis is sapping the national will.

In a 48-hours blitz on the public consciousness, he unveiled a $142 billion, decade-long drive to shift the US [illegible] away from Opec oil. At the same time he unmistakably fired the first shot [illegible] 1980 presidential campaign, and [illegible] the "voluntary" resignations of [illegible] cabinet and senior White House staff, as a clear symbol of his determination [illegible] his remaining days in office [illegible] his government.

But the world's markets have [illegible] Carter more harshly. Since the weekend the US dollar has dropped sharply against most major currencies [illegible] against sterling and [illegible] against the yen and Deutsch [illegible]. And [illegible] uneasiness on the currency markets [illegible] gold price has climbed [illegible] mark. Clearly, the [illegible] will not let Carter [illegible] going with the [illegible] policy, namely, full [illegible] prices.

One of the causes of [illegible] tion the plan [illegible] market [illegible] that it is difficult [illegible] American people [illegible] during their [illegible] pendence.

- Carter imposed immediate oil import quotas — fixing the [illegible] level this year at 8,2m barrels a day. [illegible] 200 000 barrels below the [illegible] promised the six other industrial [illegible] ago at the Tokyo Summit [illegible] 100 000 greater than [illegible] lately, giving Carter [illegible] the rest of the year.
- By 1990, Carter announced, [illegible] will reduce its oil imports by 4,5m barrels a day. On paper this is a big slice out of the 13m the US might have imported unchecked by then, but again, yearly quotas between now and then will be set by the White House.
- To replace this shortfall in oil imports, Carter will establish an Energy Security Corporation (ESC) which would sell up to $5 billion in "energy bonds" to the public to develop alternative fuel sources.
- A solar bank will be established with a goal of producing 20% of US energy needs from the sun by the year 2000.
- Using another $137 billion in estimated revenues from a "windfall profits tax" on the oil companies, the White House intends to nudge American utilities and manufacturers away from petroleum-fired plants to the alternative fuels that will be developed. Public transport will be upgraded, and petrol rationing will be used if necessary. Environmental laws are also likely to take second place to the need to build more gas and oil pipelines within the US.

Meanwhile, bond prices plunged sharply this week as money market analysts wondered how the $142 billion programme would be financed when only $5 billion of it would be in government guaranteed bonds. And stock prices matched the decline as the inflationary potential of super-costly alternatives to Opec oil (even at $25 a barrel) began to sink home.

Carter may have revived his personal fortunes with the voter, but the American dollar has a hard road ahead of it. So does Carter if he is to convince hard headed money managers that quotas work better than markets.

Financial Mail, July 20, 1979

Poems

Peter Horn

"Poems sincere to the point o

"Peter Horn is as vigorous anc
South Africa ... he not infrec
morable force or beauty". LION

"Peter Horn's poetry is prickl
reminders of the abyss ever li
His wise, cynical self-mockery
places him firmly among the si
lously shares our guilt." *Eas*

"Horn often manages to unite inner and outer South African landscapes to capture the spiritual centre of the forms suffering can take in this country." CHERRY CLAYTON, *Snarl*

"poems that redefine and deeply move" STEPHEN GRAY

"He can seize a detail and render it emblematic; write satire which bludgeons its subject in a satisfyingly thorough way". ROBERT GREIG, *To the Point*

"It is a beautiful and moving work which seems to have jumped Aragon's 'cage of words' and found the door of this 'world of black and white'" MARGUERITE EDMONDS, *New Nation*

(55)

FM 20/7/79

OECD GROWTH

Poorer prospects

This year's oil price increase has sentenced the Western industrial democracies to at least a year of very low growth, double digit inflation, and aggravated payment worries, the Organisation for Economic Co-operation and Development (OECD) warns in its half-yearly forecast issued in Paris this week.

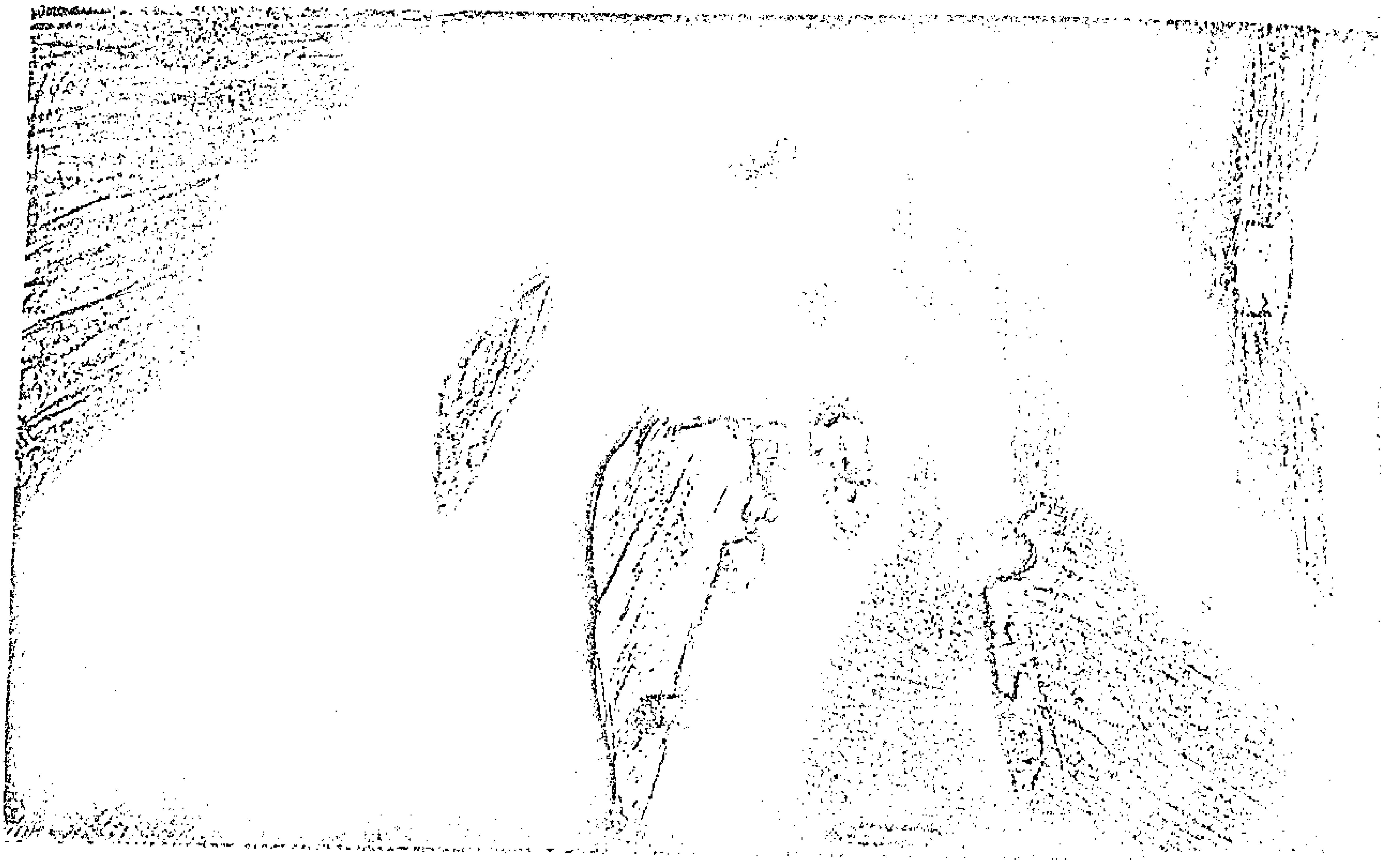
The OECD has shaved its forecast for overall average growth in its 24 Western industrial member countries to 2% during the next 12 months, compared with the 2,75% it predicted before last month's Opec meeting.

The US economy is expected to stagnate, with zero real growth between mid-1979 and mid-1980. But other Western countries should do better, averaging about 3% growth over the same period. Japan should enjoy 4,5%-5% growth during the coming 12 months.

On inflation, the OECD reckons prices will continue to rise by 10% on average in the West during the coming year — leaving little room for further expansionary action.

The OECD predicts the US current account deficit will snap back to between $15 billion and $16 billion over the coming year. Japan will see its 1978 surplus of $16 billion transformed into a $2 billion to $3 billion deficit, and Germany's 1978 surplus of $8,75 billion will also become a $2 billion deficit in the next 12 months.

The only policy recommendation the OECD makes is to grin and bear it. Deflationary action is clearly excluded by high inflation. Equally, deflationary action to offset the oil price will only generate recession.



(55) Fin 20/7/1979

Crude oil's vulgar fractions

Urgent action is needed to solve the growing problem of the "middle distillate bulge" in SA's oil equation.

Getting enough oil, and then paying for it are, of course, the main problems facing this country at present, but they are seriously aggravated by the imbalance in domestic demand between middle distillates (primarily dieseline, but also aviation fuel and kerosene) and gasoline (or petrol), which is a high distillate.

The reason for the imbalalance is the technical limitation of refineries to adapt their output to meet changing demands. In a given refinery, the percentage of dieselene, petrol and other products which can be extracted from a barrel of crude oil can be varied by no more than a couple of percentage points. Only with the installation of costly additional facilities can greater variations be achieved.

But demand, unfortunately, is a lot more variable. Since 1973, growth in demand for petrol, previously about 8% a year, has slowed to less than 1% annually in response to price increases, speed restrictions and reduced selling hours.

But according to former Economic Affairs Minister Chris Heunis, dieseline demand grew by 25% between 1973 and 1978 — an annual rate of 4,5%. Reason? The price was lower and commercial users faced less onerous restrictions on use.

The job of the refining process is to change the natural proportions in the oil to meet demand. This is done through primary distillation, followed by a variety of increasingly costly chemical processes such as catalytic cracking, visbreaking, de-asphalting and hydrocracking.

Most refineries in Europe do not have catalytic crackers because they can get close enough to market demand by selecting their crudes. (A light crude, such as comes from Qatar, yields a higher proportion of lighter fractions than a heavy crude).

So the typical Western European refining pattern is 17% gasolines, 33% middle distillates, 37% heavy fuel oils, and 13% other refinery lossess.

But in the US, where there is heavy demand for gasoline and an abundance of cheap natural gas, secondary processing facilities are used to produce a pattern of 42% gasolines, 29% middle distillates, 7% fuel oil and 22% other products and losses.

But even with secondary processing, much less variation is possible in middle distillates than in petrol. Fuel output can be reduced, and gasoline output increased, by considerably more than dieseline production can be raised.

Heunis . . . he faced a 25% increase in demand for dieseline

Accurate current figures for SA are not published, though the pattern here lies somewhere between those of Europe and the US.

An estimate published a couple of years ago was that the petrol demand would move from 31% in 1973 to 33% by 1980 and back to 32% by 1985, while the 1973 yield was 27%.

Middle distillates were expected to move steadily up from 31% in 1973 to 35% and then 38%, against a yield out of the barrel of 33%.

Something like R200m has been invested by the oil companies since 1973 in secondary processing to meet a trend which was apparent long before the present oil supply problems.

The situation was aggravated by the reopening of the Suez Canal in 1975, which resulted in a tremendous drop in the volume of shipping bunkering at SA ports. There was then a surplus of bunker fuel, which is a heavy oil.

Then the Iranian revolution posed new problems, as it cut SA off from a source of light crude oil to which its refineries were geared. (Iran produces both light and heavy crude).

One reason why it is difficult to make a decision to push ahead with alcohol fuels, which would be added to oil fuels to extend them, is that they would worsen the diesel/petrol imbalance. Ethanol mixes more readily with petrol than diesel, while methanol does not mix with dieseline at all: it has to be injected separately.

Originally, Sasol II would have had a similar drawback. It was designed to produce a high proportion of petrol. But MD Johan Stegmann has recently revealed that additional facilities have been introduced to the design to ensure that equal quantities of dieseline and petrol would be produced. There is to be a plant to convert creosote to dieseline.

While on the one hand steps are being taken to increase the technical capability to produce dieseline in the country, steps must also be taken in parallel to reduce dieseline consumption.

Which raises the question: why has the use of diesel passenger cars been allowed to proliferate?

Ken Maxwell, editor of the privately circulated *Motor Industry News Digest,* notes that the number of diesel cars sold in SA rose from 3 004 in 1977 (1,8% of the total market) to 8 737 last year (4,3%). Fortunately the first four months

Schalk van der Merwe . . . in the oil hot spot

of 1979 showed a decline compared with the same period of 1978, clearly reflecting an increased awareness of the problem among motorists.

On the other hand, sales of diesel pickups have continued to rise rapidly. In the first four months of 1978, 1 991 diesel pickups were sold (7,2% of the market) and in the same period of 1979 the figure rose to 3 633 (12,9%). There are six types of diesel car and three diesel pickup on the market.

Among the advantages of diesel vehicles are their lower consumption of fuel, and the longer lives their engines enjoy, so they have an obvious attraction when fuel prices are rising sharply.

Something must be done, too, about haulage permits. But surely the answer is not the 90% cut in temporary permits, a move which road hauliers claim could put thousands out of work.

Road hauliers, who account for 50% of all diesel fuel used by industry, have also had a 15% cut in their fuel allocation and, of course, are having to observe the lower speed limits.

But nothing has been done about the permit systems which force hauliers to make return trips without any freight aboard. At any given time an estimated 30% of trucks on the road are believed to be travelling empty.

Another anomaly is that trucks over a given mass are limited to making deliveries within a certain radius of their depot. To get round this, some industrialists until recently used fleets of pickups (exempted from the rule) to do the deliveries that a single truck could do. More fuel lost.

Now that has been stopped because such use of a pickup also requires a permit.

But people conveying goods for their own account may be granted permits.

Crude oil imports this year have been cut by an estimated 40%. It's a drop which has major implications for the economy. Clearly, with a decline of that magnitude, it is crucial to utilise available supplies in the most efficient manner.

This is the problem with which Commerce and Industries Minister Schalk van der Merwe must deal.

. Adler, Vol.2) would regard the nature of the
than the legal structure of apartheid as the root
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most 'western' societies. Both Adler and Savage,
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in the wider social structure if they are to be

The Options

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ion of medical care is in dispute, rather than all
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s conventionally been accepted by the majority of
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ng cost of medical care, particularly in the Unite
countries, has forced a reassessment of this
nists of all persuasions.

is argued by Rees (*27): If a good or service can
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h the market transactions without spilling over to
, and there are no economies of scale,[6] then
s expressed through their purchasing power can be
good is distributed through a free market so that
ce on their own, and no combination of buyers or
influence the price to their own advantage. In
no information constraints on buyers and sellers.
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of efficient allocation may also exist under other
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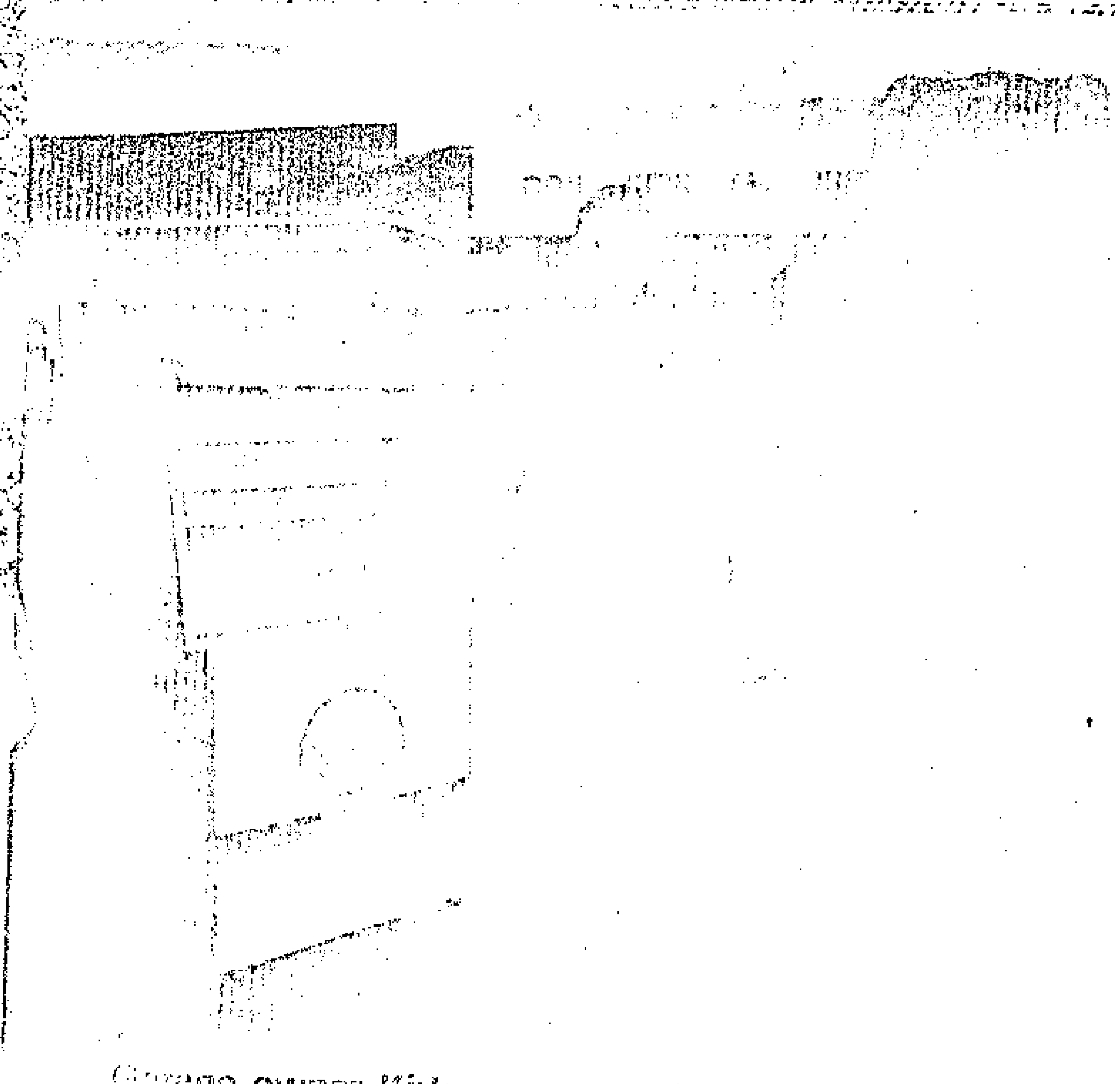
ormation transmission before an efficient distribu-



Garage owner Kirk ... everything from the cradle to the grave"

GARAGE TRADE

The fuel squeeze

The fuel crisis could cause hundreds of small garages to close down, says Theo Swart, president of the Motor Industries Federation. Those most in danger are the 20%-25% of the country's 5 000 garages which are dependent on fuel sales for the bulk of their turnover.

"Unless Government is prepared to offer some form of relief, garages will close — it is inevitable," says Swart. "Inventory costs are now around 26% higher than before the fuel price increase — yet station owners are ... to cover wages and overheads, says Swart.

Some garage owners cope by opening forecourt shops or resorting to gimmicky promotions. "A lot depends on the attitude of the operator," says Don Kirk, who runs a small station in Doornfontein, Johannesburg.

"I spend a lot of time on the forecourt talking to the motorists and telling them what I have for sale in the shop — and it works well." At one time Kirk advertised "everything from the cradle to the grave" and sure enough, motorists could buy disposable napkins or even coffins.

"This was a gimmick which worked, but when it comes to normal sales one must have an eye open for what the passing motorist is likely to require." At Kirk Motors one can have keys cut, LP gas cylinders filled, buy eggs and fresh vegetables and now he has gone into the one-day developing and printing business. He also keeps a large stock of car batteries, tyres and even car radios.

When weekend closing was announced as part of the fuel conservation measures, Kirk was delighted because it meant he could spend a full weekend with his family. But now his station is open on Saturdays and Sundays for permit holders.

"I miss the family, but it makes a substantial increase in turnover and that is what counts," says Kirk. Perhaps Kirk is luckier than most in that his station is in a "strategic" position and he picks up a lot of business on Friday afternoons when people on their way home from work fill up for the weekend, but his positive attitude no doubt helps.

The MIF is currently holding discussions at Government level to find ways to assist garages. But it says garage owners can do a lot to help themselves by cutting staff and using labour more efficiently.

The bigger garages, which supplement their fuel sales with workshop trade and sales of new and used cars, are better placed to weather the storm. Daytona Motors MD Hymie Garlick says his petrol sales are now a loss leader.

"New cars provide 65% of our turnover, used cars 15%, spares and service 15% and fuel 5%," says Garlick. "Though turnover from fuel has increased because of the higher price, the volume is actually down between 20% and 25%." But even Garlick and others like him will feel the pinch. Reduced motoring and slower speeds will lengthen the lives of cars, tyres and other components, and extend servicing frequencies.

Swart believes the government must act to allow service station operators a gross profit margin of 7% on fuel sales. "This could prevent many of them from going to the wall," he says.

Peter Horn

"Poems sincere to the point of pain" *Natal Witness*

"Peter Horn is as
South Africa ... he
morable force or be

"Peter Horn's poetr
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"It is a beautiful and moving work which seems to have jumped Aragon's 'cage of words' and found the door of this 'world of black and white'" MARGUERITE EDMONDS, *New Nation*

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OPEC SURPLUSES

Less than expected?

"The extent of the deflationary effect on Western economies of the latest Opec price hike will depend, in part, on the capacity of the international financial system to recycle the oil revenue surpluses," reports the Banque de Paris et des Pays-Bas (Paribas). In its July economic bulletin it forecasts an increase in OPEC revenue of $130 billion for the remainder of 1979 and 1980.

But it estimates that the size of the surplus will be considerably reduced by Opec's demand for imports. Between 1974 and 1979, "increased oil revenues for Opec states were immediately followed by a rise in imports which grew by an annual average rate of [illegible]

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TABLE II

	WHITE		ASIAN		Ma[illegible]			
	Male	Female	Male	Female	Ma[illegible]			
Rheumatic Heart Diseases (390-398)	115 1.2%	121 1.5%	28 2.5%	15 1.9%	1[illegible] 3[illegible]	[illegible]	[illegible]	[illegible]
Hypertensive Diseases (400-404)	212 2.2%	389 4.9%	115 10.1%	127 15.8%	1[illegible] 6[illegible]	[illegible]	[illegible]	[illegible]
Ischaemic Heart Diseases (410-414)	5737 58.8%	3118 39.3%	537 47.3%	246 30.6%	2[illegible]	[illegible]	[illegible]	[illegible]
Cerebrovascular Diseases (430-438)	1587 16.3%	2181 27.5%	27[illegible] 24.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Circulatory Diseases (390-458)	9752 100%	7926 100%	113[illegible] 10[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Motor Vehicle Accidents (E810-E819)	750 38.0%	287 42.4%	12[illegible] 36.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Suicide (E950-E959, E979) *	485 24.6%	104 15.4%	4[illegible] 12.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Homicide (E960-E969)	59 3.0%	41 6.1%	41 12.3%	2 1.9%	680 31.3%	167 25.6%	806 43.1%	89 27.5%
Total Accidents, Poisoning and Violence (E800-E999)	1973 100%	677 100%	333 100%	104 100%	2175 100%	652 100%	1868 100%	324 100%

* E979 "Suicide and self inflicted poisoning by motor vehicle exhaust gas" is a code used in South Africa which does not appear in I.C.D. (8th revision). See Ref. 13.

5/1 000 appear in italics in Table I. For
mortality, the Asian and 'coloured' mortality
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OIL RECYCLING

Backpedalling?

Lack of positive action by government to support SA's R50m-a-year oil recycling industry, as well as the imposition of the 16,8c/l state oil fund equalisation levy on regenerated oils, has until now destroyed incentives to salvage used oils.

This is the strong view of companies in the business, who see their efforts to achieve maximum utilisation of available resources severely handicapped by official inaction. The FM understands, however, that the levy, where it affects oil recyclers, is to be withdrawn from Wednesday. This can only benefit the industry which has long been plagued by lack of financial incentive to promote recycling of oil.

SA's seven regenerating plants, with a combined annual capacity of around 120 000 t, can cope with about 30% of annual lubricating oil needs of around 270 000 t. They are currently running at about 50% capacity due, mainly, to problems recovering used oil from consumers.

The industry approached the Department of Industries four years ago with its case for legislation. This was promised but to date nothing has been gazetted because of "technical difficulties." In the meantime, "thousands of tons of a vital raw material have literally gone up in smoke."

To add to the industry's problems, it also became subject to the 6,4c/l strategic oil fund levy when it was introduced to petroleum products in February. After urgent representation this was dropped on regenerated oils returned to the original user, but the levy (now boosted to 16,8c/l) was soon reinstated for no given reason, although the feeling is that this was due to pressure from major oil companies. "They probably felt regenerated oil would have a competitive edge over their products made from virgin oils," speculates one source.

According to Arie Hardam, marketing manager of Trek Beleggings' Chemico which, with 51 000 t capacity at two plants, is the biggest in the business, regenerated lubricating oils are about [illegible] cheaper than 'new' oil, and that without the levy, savings to consumers could be pushed to about [illegible] [illegible]

recycled 4,5 Ml since the plant, with a [illegible] annual capacity, was opened in 1976. Annual [illegible] [illegible]

the South African population from all causes of death. The proportional contribution of the seventeen major disease categories of the International Classification of Disease (8th revision) to the overall mortality of the various communities is summarised in Fig. 5. The whites show a typical 'developed' country spectrum of mortality with Infectious and Parasitic Diseases being of minor importance (2,0%) and Neoplasms (15,6%) and Diseases of the Circulatory system (50,5%) being of major importance. For urban Africans and 'coloureds', Infectious and Parasitic Diseases make an important contribution to the overall mortality (19,5% and 23,5% respectively), with diseases of the respiratory system and certain causes of perinatal mortality also bein
importance. Within the category of Infectious
diarrhoeal diseases and tuberculosis are the most
ality. The 'coloureds' experience an interesting
d' and 'underdeveloped' mortality with a high
s and diarrhoeal diseases in the young and circu-
life. What is also of interest is the relatively
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REFERENCES

1. Department of Statistics (1977). Census of Hospitals and Establishments for In-Patients. Report 20-06-01. Government Printer, Pretoria.

2. Department of Statistics (1977). Report on Deaths 1974. Report 07-03-10. Government Printer, Pretoria.

3. Department of Statistics (1976). Report on Bantu Deaths in Selected Magisterial Districts 1974. Report 07-03-08. Government Printer, Pretoria.

4. Department of Statistics (1976). South African Statistics 1976. Government Printer, Pretoria.

5. Department of Statistics (1974). Report on Bantu Deaths in Selected Magisterial Districts 1968 to 1971. Report 07-03-04. Government Printer, Pretoria.

6. South Africa. Act 58 of 1970.

7. Department of Bantu Administration and Development (1975). Report of the Department 1974/5. Report RP 114/1975. Government Printer, Pretoria.

8. Chiang, C.L. (1968). Introduction to Stochastic Processes in Biostatistics. Wiley, New York.

9. City of Cape Town (1977). Annual Report of the Medical Officer of Health 1975. p.110. Cape Town.

10. Department of Statistics (1976). Population Census 1970; Age, Marital Status and Type of Dwelling by District and Economic Region. Report 02-05-08. Government Printer, Pretoria.

11. Martins, J.H. (1975). Regional Population Estimates for 1974. University of South Africa, Bureau of Market Research. Research Report No. 46, Pretoria.

12. Knutzen, V.K., Bourne, D.E. (1977). The Reproductive Efficiency of the Xhosa. S.A. Med. J. 51, 392-394.

13. Department of Statistics (1971). Statistical Classification of Diseases, Injuries and Causes of Death. Manual 07-03-00. p.v. Government Printer, Pretoria.

14. Department of Health (1978). A Guide to the Health Act, No. 63e of 1977, p.17. Department of Health, Pretoria.

15. Department of Health (1978). Infant Mortality Rates in South Africa. Epidemiological Comments Dec. 1978, 1-21.

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ACKNOWLEDGEMENT

The writers wish to thank the Boar
Assurance Society for their generou

ENERGY

Oil plant

because of the increasing scarcity of fish meal.

Maize Board assistant manager Hennie Nel says there would be no problems if farmers did decide to devote 10% more of their land to sunflower.

"We have enough for home consumption and export," he says.

The Division of Agricultural Engineering says tractors fuelled with sunflower oil need no modifications and efficiency loss is negligible. In some tests minor adjustments were needed on the fuel pump, pollution was generally lower and in some tests the power-per-litre was higher than with diesel.

On the basis of these initial tests it should be possible to utilise sunflower oil to power locomotives, diesel trucks and cars with slight modifications.

Cape Town University researche already have an engine working sat factorily on a 50/50 mixture of diesel a ethanol. There is then, presumably, possibility that the same results could obtained by mixing sunflower oil w ethanol.

OIL

TM 27/7/79

(53)

Carter, SA and the '80's

President Carter's energy programme could not have been better designed to produce the opposite of his intentions.

His mishmash of controls, restrictions, subsidies and moral suasion has prompted *The Economist* to remark on the manner in which the "greatest free enterprise country has crippled cost-effective competition in its most important industry, with consequent disasters that are cascading around the world."

Carter's rhetoric, too tepid, as it always is, to move the American people, failed to fool the markets.

Gold climbed to new record heights well above $300 in response to his announced plans and, while his popularity with an American public desperate for signs of presidential vigour (ah, for that Kennedy "vigah") rose modestly, international finance felt differently, once more selling the dollar off sharply.

Carter appears to suffer from an almost neurotic fear of the market place, curious when it is remembered that as a peanut farmer (and as a president he makes a good one) he must have been aware of market forces and clearly profited by anticipating them — his disclosed net worth is almost $1m.

His present aversion to and apparent ignorance of markets recalls the official 1968 statement by the US government that gold would fall to "$6 per ounce" following the Washington Communique.

But that's history. What's important is what the Carter prescription of legislating levels of consumption and imports and its inevitable failure means for SA.

Oil prices are going to go higher yet. Alan Madian, a Washington economic adviser, has put it succinctly: "The recent price gyrations in the world petroleum market help predict the future. A global production shortfall of less than 4% (at most 2m barrels out of 60m barrels of daily production) threatened a price increase of 50% or more. Last year's demand increase was about the same as the estimated production shortfall. Despite high prices demand continues to grow."

Madian estimates, in a *Foreign Policy* article, that Opec countries have about 30 years of reserves at present levels of production, adding that current prices at these levels do not maximise income over the "life of their oil fields."

Thus a western economy practically built on cheap oil (it cost $2 a barrel in the late Sixties while Madian suggests that $40 is now quite feasible) is faced with the urgent need for massive structural changes.

And how does the leader of the western world react to this situation? It turns its back on the one force that could most effectively and rapidly allocate scarce resources to the urgent needs of society: the market.

Bureaucrats consistently under-estimate the ability of the private sector to adapt to market forces and, equally consistently, over-estimate their own ability to control and direct economic events.

But before they fail once again the bureaucrats are going to give it, as the Americans say, a good old college try and while they try there will be renewed flights from the dollar, new records for gold, a severe US recession and a slowdown in other western economies.

Europe will move to strengthen its fledgling European Monetary System as it attempts to distance itself from the pernicious effects of misguided US policy as these translate themselves in a weak and unstable dollar.

Profesor C W de Kiewiet remarked in 1941 that SA progresses economically by windfall. This has certainly been the case with Sasol, a state enterprise which even a Milton Friedman would concede has turned out miraculously well for SA.

By the early Eighties we should be relying on liquid fuels for energy to the extent of, say, 12%-13%. Our import bill will be cut by billions while long term planning (Sasol 2 and 3 will serve us for 70 years while sources of eternal nuclear energy will bolster us further) can take place in a framework where the energy equation is reasonably predictable.

Clearly, however, we will not escape the effects of the coming dislocation in the world economy which will result from the temporary US refusal to face reality and allow the pricing mechanism to ration fuel while at the same time it encourages exploration, production and substitution.

But, cushioned as we are by gold, self sufficient in food and increasingly energy independent, it seems fair to rate SA on relative terms as one of the better economic bets for the Eighties.

DISEASES OF THE DIGESTIVE SYSTEM

W M	W F	A M	A F	C M	C F	B M	B F
,17	0,08	0,10	0,21	0,78	0,29	0,49	0,48
,01	0,01	0,00	0,00	0,07	0,10	0,05	0,05
,02	0,01	0,03	0,01	0,04	0,03	0,05	0,05
,11	0,09	0,39	0,10	0,41	0,19	0,23	0,22
0,92	0,42	1,60	0,72	1,31	0,67	0,80	0,68
1,80	1,16	1,61	2,44	1,91	0,75	1,44	0,91
0,31	0,21	0,33	0,16	0,33	0,17	0,25	0,20
653	430	116	56	370	201	533	329

DISEASES OF THE GENITO-URINARY SYSTEM

W M	W F	A M	A F	C M	C F	B M	B F
,02	0,03	0,00	0,10	0,25	0,10	0,04	0,06
,01	0,01	0,02	0,00	0,12	0,14	0,02	0,04
0,02	0,01	0,04	0,04	0,02	0,04	0,03	0,02
0,02	0,05	0,06	0,09	0,17	0,13	0,06	0,08
0,23	0,19	0,44	0,37	0,36	0,36	0,34	0,25
1,25	1,09	1,07	1,83	1,57	1,10	0,73	0,56
0,13	0,15	0,11	0,12	0,15	0,14	0,10	0,08
276	303	38	42	169	165	203	130

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Boer sê hy't WNNR vertel van blomplan

WAT WOU! Hierdie sonneblombrandstof van die WNNR is geen deurbraak nie. Hy het twee jaar gelede al 'n ou dieselenjin met sonneblomolie laat loop. Só sê Johan Lemmer, 37, grondboontjieboer van Sterkrivier.

En nou het min. Hendrik Schoeman, wat vandeesweek die aankondiging oor sonnebomolie gedoen het, belowe om korrespondensie tussen die boer en homself na te slaan en dan erkenning aan hom te gee.

„Ek sal alles nagaan, en as dit so is, sal ek die ding met mnr. Lemmer regstel. Dan kan ek hom erkenning gee en sê baie dankie en dit ook so aankondig. As 'n man so 'n ding ontdek het, dan moet hy die eer daarvoor kry," het min. Schoeman aan RAPPORT gesê.

MNR. JOHAN LEMMER met die brief wat hy aan min. Schoeman geskryf het. Hy het twee jaar gelede al sonneblombrandstof ontdek, sê hy. (Foto: DENNIS GODDARD)

Mnr. Lemmer vertel dat hy as lid van die Oliesadekomitee van die Landbou-unie in 1977 baie nagedink het oor die groot sonneblomolie-oorskot van daardie jaar.

„Ek het daardie tyd baie gesukkel met 'n ou dieselenjin wat ek as kragopwekker gebruik het. Toe ek die ding se pomp regmaak, dink ek aan die moontlikheid van sonneblomolie as brandstof," vertel mnr. Lemmer.

Met „gebroke kennis van wetenskap wat ek nog van skooldae af onthou" het mnr. Lemmer toe sy proewe begin. Met 'n spuit waarmee beeste gewoonlik ingespuit word, het hy eers net 'n klein bietjie sonneblomolie met die diesel in die enjin gemeng.

Mettertyd het hy al hoe meer sonneblomolie bygevoeg, en in geen stadium het die masjien se brandstofverbruik toegeneem nie.

Op skoon sonneblomolie was daar 'n kragverlies van sowat 10 persent. Mnr. Lemmer sê dis moontlik weens swak klepstelling en omdat die masjien baie oud is.

„Ek het maande lank snags gewerk. Ek wou nie hê dat my bure sien waarmee ek besig is nie. Snags as die masjien so op die sonneblomolie geloop het, het die hele wêreld die ene pannekoek geruik!" vertel hy.

Nadat hy sowat 200 uur lank proewe gedoen het en byna niemand behalwe sy bankbestuurder daarvan vertel het nie, was mnr. Lemmer gereed om sy bevindinge aan die WNNR en ander instansies bekend te maak.

Hy het eers geprobeer om patentregte te verkry, maar moes dit laat vaar omdat hy „nie oor die nodige chemiese kennis beskik het" om presies uiteen te sit wat die chemiese bestanddele van sonneblomolie is nie.

... ment van Handel en Nywerheid. Daar kon ek niks uitvoer nie. Daarop is ek na die Brandstofnavorsingsinstituut in Pretoria. Hierna het ek my proewe herhaal en dieselfde resultate gekry."

Later is mnr. Lemmer met dié resulstate na onder meer die Departement van Landbou-Tegniese Dienste en die WNNR.

„Maar net waar ek gekom het, is ek aangekyk asof ek 'n ding in die duister beet het . . . of ek maar 'n bietjie mallerig is," sê mnr. Lemmer.

Ten einde raad het hy 'n brief aan min. Hendrik Schoeman geskryf. RAPPORT was vandeesweek saam toe mnr. Lemmer 'n afskrif van sy brief, gedateer 17 Januarie 1978, by min. Schoeman se kantoor gaan haal het.

In 'n lang naskrif in die brief, wat eintlik oor 'n ander saak gehandel het, het mnr. Lemmer sy proewe en resultate aan die Minister uiteengesit, en ook 'n onderhoud met min. Schoeman aangevra.

„Mnr. Schoeman se sekretaris het al die ander dinge in die brief beantwoord, maar geen woord oor die sonneblomolie gerep nie," sê mnr. Lemmer. „Ek het toe aanvaar dat hy seker ook maar soos al die ander mense dink ek is van lotjie getik."

Hy het toe maar sonneblomme en brandstof vergeet — totdat mnr. Schoeman vandeesweek die aankondiging oor sonneblomolie gedoen het.

„Die paar mense wat hiervan geweet het, het ná die minister se aankondiging aan my gesê: „Hier kom hulle nou met jou diesel-storie", sê mnr. Lemmer.

„Ek soek nie moeilikheid met min. Schoeman nie. Ek het baie agting vir hom. maar mense soos dié by die WNNR kom nou en sê hulle het gedink dit is 'n goeie idee om sulke proewe te doen. Wat wou! Ek het dit lank vóór hulle gedoen en dit trouens onder hul aandag gebring." sê mnr. Lemmer.

Society o

Negende Wêreldkongres van Sosiologie, Uppsala, Swede.
Verhandeling voorgelê in Werkgroep 6 en vergaderings bygewoon van die Raad van die Internasionale Sosiologiese Vereniging as die amptelike afgevaardigde van Suid-Afrika (Augustus).

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RAPPORT 22/7/79

,KYK ERNSTIG NA ENERGIE'

DIT is nou gebiedend noodsaaklik dat Suid-Afrika 'n omvattende en behoorlik gekoördineerde energiebeleid kry. Pres. Jimmy Carter het vandeesweek Amerika se energie-kaarte op die tafel gelê. En die vraag is nou: Hoe staan Suid-Afrika se sake?

Na verneem word, is dit ook 'n saak wat op die oomblik druk bespreek word deur die georganiseerde handel en nywerheid, en aanbevelings in hierdie verband aan die Regering is glad nie uitgesluit nie.

Hoewel Suid-Afrika vir sy totale energiebehoeftes vir sowat slegs 'n kwart van ingevoerde olie afhanklik is, het die onlangse verhoging in die olieprys nogtans 'n baie groot skok gekom. Verskeie voorstelle is gedoen vir die vervaardiging van alternatiewe brandstowwe soos etanol, metanol, en dies meer, maar vir die algemene publiek is dit in hierdie stadium nie baie duidelik waarom daar nie met hierdie projekte voortgegaan word en hoe dit in ons totale energiebehoeftes sal inskakel nie.

'n Ondersoek wat deur Rapport uitgevoer is, het aangetoon dat daar nie minder as 18 verskillende liggame en organisasies in Suid-Afrika is wat in een of ander vorm by die land se energieprobleme betrek is nie.

Dit is uitgesonderd die verskeie private maatskappye, landboukoöperasies en dies meer wat daarin belang stel om een of ander alternatiewe brandstof te vervaardig.

Hierdie liggame en organisasies sluit onder meer die nuut-gestigde Kabinetskomitee oor energiebeleid, die Energie-Beleidskomitee, die Departemente van Omgewing en Beplanning en Energie, die Departement van Handel, die Departement van Nywerhede, die WNNR, die Atoomkragraad, die Brandstofnavorsingsinstituut, Soekor, en dies meer in — om maar net 'n paar name te noem.

Dit is baie moeilik om agter die kap van die byl te kom, maar dit is baie duidelik dat die huidige organisatoriese opset vir energie in Suid-Afrika in hierdie stadium baie gefragmenteer is, wat feitlik enige effektiewe gekoördineerde optrede heeltemal uitskakel.

Die Energie-Beleidskomitee is in die lewe geroep om juis hierdie funksie te vervul — naamlik koördinasie op 'n nasionale vlak. Die enigste probleem is dat hierdie liggaam geen uitvoerende mag het nie en slegs in 'n raadgewende hoedanigheid optree.

Nog 'n baie belangrike punt is dat enige sentrale energieliggaam heeltemal vry moet wees van enige sektorale energiebelange. Die teenoorgestelde situasie bestaan by die Energie-Beleidskomitee wat in der waarheid 'n verteenwoordiger van al die staat se energiebelange is, maar waarop die private sektor nie verteenwoordig is nie.

Verder laat die huidige masjinerie ook nie regstreekse verteenwoordiging van die private sektor in die formulering van 'n energiebeleid toe nie, en dit is juis hierdie sektor wat 'n belangrike verbruiker van energie is.

Daar word in baie kringe gevoel dat dit nou hoog tyd geword het dat 'n Nasionale Energieraad in die lewe geroep moet word. Hierdie liggaam moet die nodige wetgewende magte hê en moet bestaan uit goedopgeleide energiedeskundiges wat heeltemal afsydig van enige Regeringsdepartement staan. Hierdie raad moet regstreeks aan die betrokke minister verslag doen en hy moet verwoordelik wees vir die uiteindelike besluite.

Dr. Hennie Reynders, direkteur van die Gefedereerde Kamer van Nywerhede, het aan Sake-RAPPORT gesê hy is ten gunste daarvan dat 'n vaste liggaam vir energiesake in die lewe geroep moet word. Hy is ook van mening dat daar vinnig 'n energiebeleid geformuleer moet word en dat hierdie beleid ook na buite bekend gemaak moet word. Hy sê in hierdie stadium is 'n groter mate van koördinering baie noodsaaklik.

„Ons kan sekerlik aanvaar dat 'n energiebeleid wel bestaan. Maar van buite af weet ons absoluut niks daarvan nie. Ten minste die riglyne van so 'n beleid behoort bekend gestel te word, al moet die detail weens strategiese redes geheim bly."

Die direkteur van die Afrikaanse Handelsinstituut, mnr. Fritz Stockenstroom het hom ook uitgespreek ten gunste van 'n omvattende energiebeleid.

Hy sê die energiekrisis het tot gevolg gehad dat hele nuwe siening van die probleem geneem moet word.

Dit is 'n omvattende, komplekse probleem en daar moet dringend gekyk word na die totale toevoer van energie in die toekoms. Dit op sigself vereis dat aksie op die kort, medium en lang termyn geneem moet word.

JAARVERSLAG 1978
SENTRUM VIR INTERGROEPSTUDIES

INLEIDING

Gedurende die eerste nege jaar van sy bestaan het die Sentrum vir Intergroepstudies gereeld 'n jaarverslag oor sy werksaamhede gepubliseer. Om die Sentrum se 10de verjaarsdag op 1 April 1978 te vier is die

r Uitb. 766

NOW IT'S SUNFLOWER POWER...

Breakthrough could make SA independent

55

24/7/79

Argus

Argus Correspondent

PRETORIA. — The Minister of Agriculture, Mr Hendrik Schoeman, described the use of sunflower seed oil to power diesel engines as a major breakthrough which would reduce the country's dependence on foreign crude oil.

He announced at a Press conference that research by the Department of Agricultural Technical Services on the use of sunflower oil could make the agricultural industry in South Africa self-sufficient.

Preliminary tests had shown that sunflower oil had great potential as a tractor fuel.

Answering questions after the Press conference, Mr Schoeman said no country would be able to boycott South Africa in the field of agriculture and food production.

'I cannot see the price of 53c a litre for sunflower seed oil rising at all if production of a high oil content sunflower can be increased.'

No modifications were made to the engines of the tractors used in a demonstration and one tractor had been running under a maximum work load for about 100 hours with no ill effects, he said.

Use land

'If every maize farmer, for example, were to use 10 percent of the land he is using for maize production to produce sunflowers, he would produce sufficient fuel to cultivate the remainder of his maize lands.

'South Africa can potentially produce sufficient sunflower oil to make an important contribution towards the supply of fuel to the industry.

Mr Hendrik Schoeman ... more money needed for research.

'This can be done without reducing the supply of sunflower oil required for human consumption,' he added.

Mr Schoeman also said that if there was enough sunflower oil available, South Africa could switch to sunflower powered diesel vehicles immediately.

The sunflower oil used in the demonstration tractors was exactly the same as that available in the supermarkets.

More money was needed for research to produce a high oil content sunflower.

The Council for Scientific and Industrial Research has been doing research on the sunflower oil for about a year. The Department of Agricultural Technical Research started experimenting about two weeks ago.

The sunflower-for-diesel project has boosted the morale of South Africa's farmers.

To provide the necessary incentive to farmers, Mr Schoeman said, the cost-price relationship must be improved at more or less the present sunflower price, by means of more research, and especially a crash breeding programme for improved sunflower cultivars with a higher oil yield.

The Government, it could be assumed, would waive the excise duty and development levy imposed on all oil fuels, he said.

Explaining the research work done by his staff, the head of the division of agricultural engineering of the Department of Agricultural Technical Services, Mr J J Bruwer, said test tractors had been run on pure sunflower oil with only minor adjustments to the fuel pump.

Pollution was much lower than in the case of diesel fuel.

Agriculture would resume its rightful place in the national economy, commented Mr Jaap Wilkens, president of the Transvaal Agricultural Union.

53 cents

The general manager of the Oilseed Control Board, Mr F W Ströh, said the estimated selling price of 53 cents a litre was calculated on the 15 percent level of capacity use of oil mills, representing a crop of approximately 250 000 ton.

If the area under sunflower would expand two- or three fold, as he envisaged — the prospect was that the sunflower fuel price could be dropped to the level of farm diesel fuel.

6.

Nkope has occasional fluting and bevelling which has been used to tie it to the eastern ... (Robinson, 1973: Table 2)

differences were found in the overall rate of expansion, with rates from Kwale to Silver Leaves expansion being much faster (Table 6) than from Urewe to Silver Leaves (Table 2).

frequency of inter-settlement contact would have increased and with it the probability of friction would have grown. The level of stress would have

not have a high relationship to either the Nkope-Cokomere axis or to Silver Leaves material and should be excluded from the eastern stream. Similarly,

Sunflower oil power for tractors

55 24/7/79

DD

PRETORIA — No country would be able to boycott South Africa in the field of fuel and food production, the Minister of Agriculture, Mr Hendrik Schoeman, said yesterday.

At a press conference here, he announced the use of sunflower oil as tractor fuel.

Describing the development as a major breakthrough, Mr Schoeman said research by the Department of Agricultural Technical Services on sunflower oil as a fuel for diesel tractors could make the agricultural industry in South Africa self - sufficient with tractor fuels.

"One of the tractors used for testing purposes has just completed a shift of 100 hours at full operating capacity. Tractors from a number of manufacturers are being tested."

Mr Schoeman said preliminary testing by the CSIR on alternative fuels for diesel engines and research by the agricultural - engineering division of the Department of Agricultural Technical Services had shown sunflower oil had great potential as a tractor fuel.

"The South African agricultural industry can potentially produce sufficient sunflower oil to make an important contribution towards the supply of fuel for the industry. This can be done without reducing the supply of sunflower oil required for human consumption.

"Were every maize farmer, for example, to use one-tenth of the land he is using for maize production at present, to produce sunflowers, he would produce sufficient fuel to cultivate the remainder of his maize land.

"Through the utilisation of land with high potential for the production of maize and other grain crops, and the application of improved cultivation methods, the level of production of these commodities could be maintained."

Mr Schoeman said that with the high cost of diesel fuel and possible price increases, production of sunflower oil for fuel could become a reality, particularly if the financial advantage of a by-product like fodder was considered.

"Seen against the background of a world-wide energy crisis, this achievement is of immense significance to South Africa.

"It could be of decisive importance in sustained food production should an oil boycott against South Africa become a reality.

"Although the standard tractors used in the research project have functioned well until now, I would like to stress that further research and development are imperative to make general utilisation of sunflower oil and of alternative fuels possible.

"The production and processing of additional sunflower seeds will have to be investigated before its use as fuel can become a practical reality." — SAPA.

Petrol crisis: SA could go it alone

RDM 24/7/79. 55

By JEREMY BROOKS and INGRID NORTON

OIL-BELEAGUERED South Africa has received the go-ahead on two fronts that could beat the energy crisis and make the country independent of possible fuel boycotts.

An enthusiastic Minister of Agriculture, Mr Hendrik Schoeman, predicted in Pretoria yesterday that sunflower oil may soon provide thousands of litres of fuel for farmers as an alternative to diesel.

And the Minister of Water Affairs, Mr Braam Raubenheimer, promised Transvaal farmers extra water supplies if they obtain permits to plant sugar cane to produce ethanol, a fuel additive.

Speaking at a Press conference Mr Schoeman hailed the results of a year's intensive research into the use of sunflower oil as tractor fuel. He said the breakthrough would protect South Africa from international oil or food boycotts.

"If every maize farmer used a 10th of the land he is using for maize production at present to produce ...

South Africa's fuel of the future? The Minister of Agriculture, Mr Hendrik Schoeman, displays the can of sunflower oil which fuels the tractor on which he is sitting. Picture: DAVID PUGHE-PARRY

Canadians use the most oil

C.T. 25/7/79

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OTTAWA. — The world's biggest energy consumers, used to abundant supplies at low prices, are about to face the crunch.

Not the Americans, but Canada's 23 million people, who outstrip the US in per head energy consumption by about 4,5 percent, according to International Energy Agency figures published here.

In terms of oil equivalent, every Canadian used 8,7 ton in 1977, the latest figures available, compared with 8,3 ton in the US.

That's more than double the oil used by the average West German or Briton and nearly three times the amount used by the average Japanese.

To be fair to the Canadians, they do use less petrol than the Americans, but more fuel oil for heating.

Pledge

Nonetheless, it's all oil, and the pledge of Prime Minister Joe Clark at the Tokyo economic summit last month to cut back imports and the rate of oil consumption is going to hurt.

Raising domestic prices, currently the lowest in the industrialized world, and enforcing stricter conservation measures will be among Mr Clark's chief concerns when he works out how to implement his summit commitments.

"It is clear that (oil) prices in Canada, are now seriously out of line with those in the US and even further out of line with those prevailing in the rest of the world," he said after the Tokyo talks.

Mr Clark said Canada would curb the growth rate of its oil consumption to one percent a year until 1985.

And they have good reasons for using a lot. Canada's climate is rough and cold, its distances are vast, and much of the excess energy use is accounted for by high heating and transport costs.

But Canadians pay about 85 US cents (about 73c) for an imperial gallon (4,5 ℓ) of petrol, compared with around one dollar in the US for a smaller American gallon (about 4 ℓ) — Sapa-AP

Iran's oil an easy target for saboteurs

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25/7/79

ABADAN — The warring factions that have turned Khuzestan province into a revolutionary battlefield have left Iran's major oil facilities easy targets for saboteurs.

Despite three successful sabotage attempts on pipelines in the region during the past two weeks, only skeleton security forces guard the facilities, which include the world's largest oil refinery at Abadan.

Problems

The few Iranian troops in the area are stretched thin, guarding the hostile Iraqi border nearby and attempting to keep rebellions Iranian Arabs under control.

Iran's naval chief, Rear Admiral Ahmad Madani, who is also Governor of Khuzestan, said in an interview on Iranian radio that the problems in the province had left him with little time to run the navy.

In the harshest crackdown so far against the mounting sabotage at the oil facilities, two men identified only as "counter-revolutionaries," were executed yesterday.

Source

Surrounded by a flimsy corrugated steel fence, the sprawling refinery looks strangely vulnerable. It is in the centre of this city of 400 000 people, more than half of them ethnic Arabs whose separatist feelings and resentment against the Khomeini government grows daily.

Visible just across the Shattt Arab river is the shoreline of historically hostile Iraq, source of many of the weapons being smuggled into Iran. A bomb tossed over the fence, or a single well-aimed mortar round presumably could touch off the massive oil storage tanks.

Yet the towers that dot the strategic corners of the zig-zag fence are empty. Trying to find an armed guard inside the rambling complex proved fruitless. In one recent attack on the oil facilities, saboteurs simply fired a rifle shot into a pipe, causing a fire and explosion that disrupted operations at the refinery.

Sunflower oil becomes a 'strategic product'

RSM. 25/7/79

Own Corespondent

CAPE TOWN. — A countrywide upsurge in sunflower production was forecast yesterday by experts in the oilseed industry.

One said in the long-term sunflower oil must now be seen as "an extremely important strategic product".

Mr F W Stroh, manager of the Oilseeds Control Board, said since the announcement on Monday by the Minister of Agriculture, Mr Hendrik Schoeman, that sunflower oil could be used as a diesel fuel-substitute in tractors, orders for sunflower seed had begun streaming into the board's offices in Pretoria.

Increased production, said Mr Stroh, should have the long-term effect of bringing the price of sunflower down to a competitive level with diesel. Some of the land normally put down to maize would probably now be put down to sunflower cultivation, he added. (The current price of sunflower oil is 16c more a litre than the price farmers pay for diesel).

Mr Schoeman, in his "flower-power" announcement in Pretoria, said research by the Department of Agricultural Technical Services on the use of sunflower oil as a fuel, could make the country's agricultural industry self-sufficient regarding tractor fuels.

A departmental spokesman said yesterday this had been "a tremendous breakthrough".

Consideration would now have to be given to the use of sunflower oil in diesel engines generally.

Until now sunflower oil had been used mainly in the production of margarine and for cooking. There had been over-production in recent years, to the extent that South Africa had exported some of her sunflower oil, at a slight loss.

The spokesman said the fuel-substitute breakthrough could not have come at a better time, as increased sunflower cultivation could also help offset the current protein shortage in production of rations for livestock, caused by the falling off of fishmeal supplies.

The residue after the oil had been extracted from the sunflowers was used in the production of oil-cake for cattle feed.

Official figures show sunflower production in the Republic has risen from 133 000 tons in 1971 to 440 000 tons last year. It is estimated that 450 000ha throughout the country have been planted with sunflowers.

70 limit may go — haulier

Own Correspondent

PORT ELIZABETH. — The executive director of the Professional Hauliers Association of South Africa, Mr Jack Webster, predicted yesterday that the 70km/h speed limit on metropolitan freeways would soon be increased to 80.

He claimed the various provincial administrations were dragging their feet on proposals to increase the axle loading of trucks which would lead to more efficient transport operations.

He was speaking at an energy conservation seminar in Port Elizabeth.

A flower power car

Own Correspondent

CAPE TOWN. — Mr Brem Jackson, the managing director of a diesel engineering firm at Paarden Eiland, yesterday ran his car — a well-known German make with a 2,4-litre diesel engine — on sunflower oil and declared it to be "working surprisingly well".

Mr Jackson said he had bought 40 litres of ordinary sunflower cooking oil and that he had so far run his car for about 8km on it.

"I find that the car runs quite normally with a minimum of problems — and there has been no loss of performance whatever.

"It's early days yet to say whether this could be a permanent proposition, but at least I've been able to satisfy myself that in an emergency one could use sunflower oil in a standard vehicle with a diesel engine."

Mr Jackson said he had decided to conduct the experiement on his own car after the Minister of Agriculture, Mr Hendrik Schoeman, had announced that a farm tractor had been operated successfully on sunflower oil.

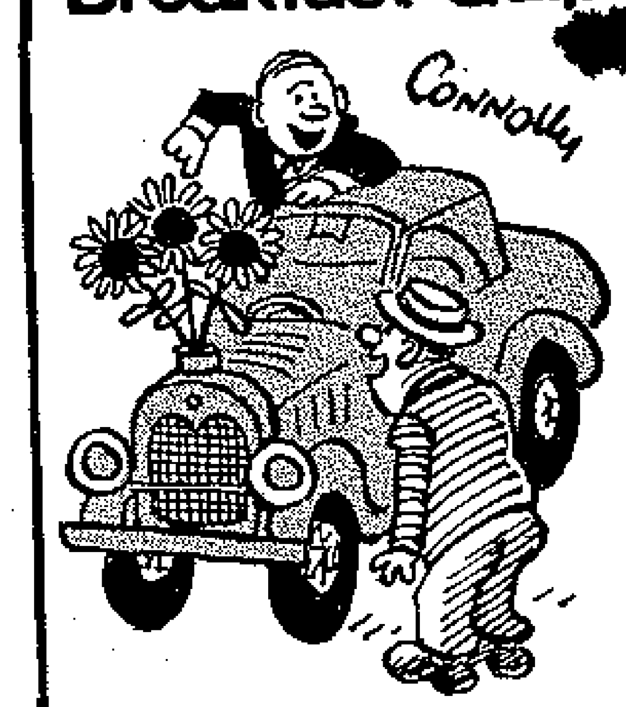
Meanwhile, farmers rushed to buy sunflower seed yesterday and to telephone the Oil Seed Control Board with inquiries.

"Our telephones have been ringing every three minutes all day," said Mr France Stroh, manager of the board.

Mr Stroh said there was no reason for the cost of edible oils to go up.

The Minister's prediction on Monday that the oil will provide thousands of litres of fuel for farmers came after a year's intensive research by the Deapartment of Agricultural Technical Services and the CSIR.

Breakfast Quip



"Sunflowers."

...in die stadsgebiede bevorder.

Die Direkteur is gekies as lid van die Raad van die Vereniging vir Sosiologie in Suidelike Afrika. Hy is ook 'n lid van die Suid-Afrikaanse Sosiologiese Vereniging en van die Internasionale Sosiologiese Vereniging. Hy is aangestel as die Suid-Afrikaanse afgevaardigde in die Raad van die Internasionale Sosiologiese Vereniging vir die tydperk 1978–1982.

WAARDERING EN DANK

Ek is altyd dankbaar vir die geleentheid wat die jaarverslag bied om my waardering te betuig aan lede van die Akademiese Advieskomitee en die Beheerraad vir hulle leiding, aanmoediging en belang in die aangeleenthede van die Sentrum.

Die Universiteit van Kaapstad het benewens 'n bydrae tot die bedryfskoste van die Sentrum, ook vir die Sentrum sedert sy stigting in kantoorruimte voorsien. Met die uitbreiding van personeel het ons die huisie op die laer

jaar lede van die Beheerraad was (* dui stigterslede aan):

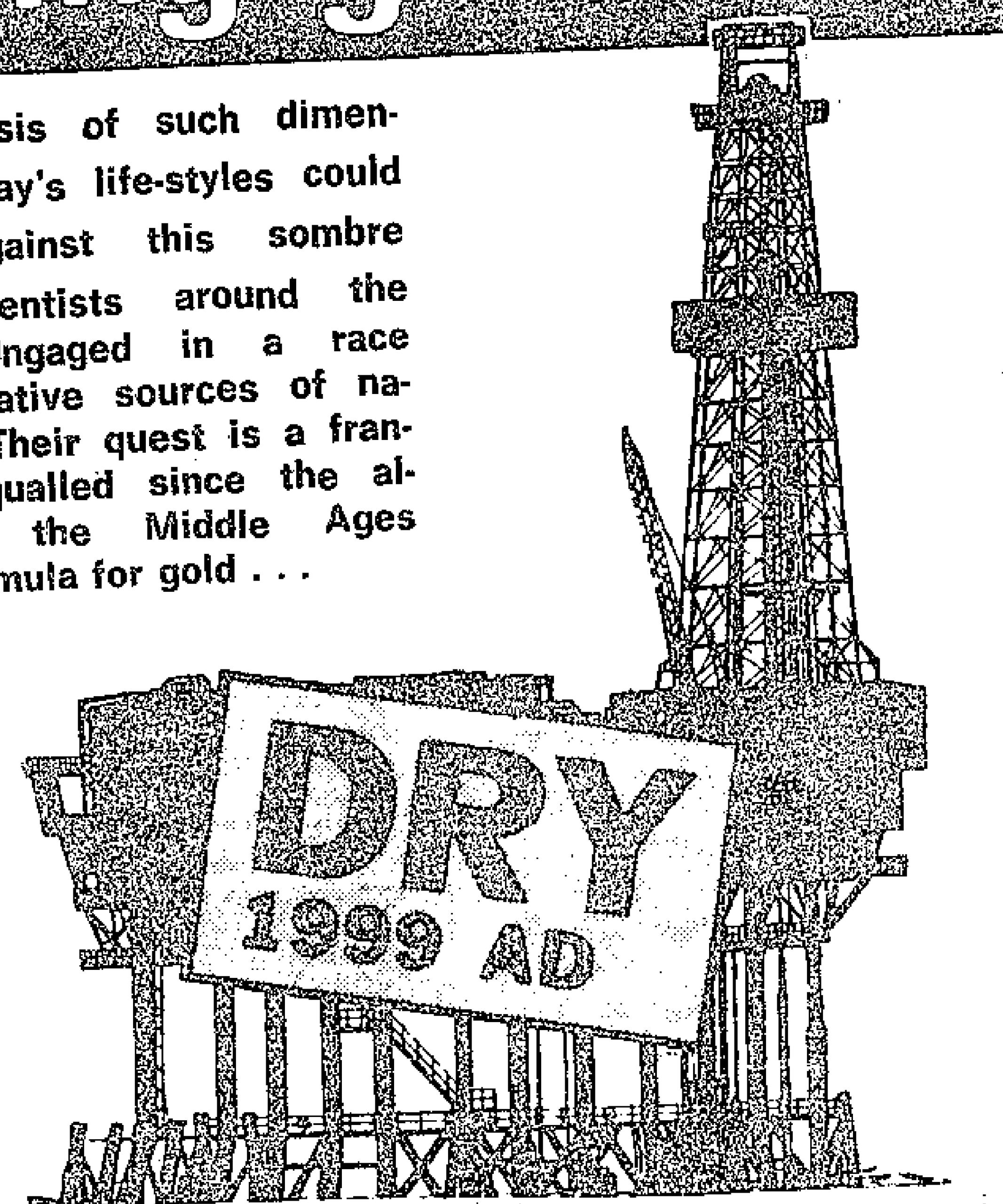
Professor E.V. Axelson
Professor J.F. Beekman
Professor J.F. Brock
Mnr C.S. Corder*
Professor W.H.B. Dean*
Dr J.P. Duminy*
Professor G.F.R. Ellis
Biskop A.W. Habelgaarn*
Mnr E.V.E. Howes
Professor M.F. Kaplan
Ds. W.A. Landman
Mnr G.K. Lindsay
Sir Richard Luyt
Professor S.J. Saunders
Professor H.W. van der Merwe
Mede-professor D.J. Welsh
Professor Monica Wilson

'If we use fuel to get power we are living on our capital and exhausting it rapidly. This barbarous method will have to be stopped in the interests of coming generations'

THE RACE IS ON TO FIND A WINNER IN THE POWER GAME

THE WEST'S leaders are engaged in a frantic bid to keep control of their oil-based economies. In Geneva, the 13 Ministers of the OPEC oil producing countries decided on their next price rise. Experts say that unless we can introduce massive and uncomfortable economies, we shall rush into an energy crisis of such dimensions that today's life-styles could disappear. Against this sombre backdrop, scientists around the world are engaged in a race to find alternative sources of natural energy. Their quest is a frantic one, unequalled since the alchemists of the Middle Ages sought te fohrmula for gold . . .

HOW THEY MAY POWER OUR FUTURE



THE YEAR is 1999. John Moema flicks the switch on his automatic garage doors powered by a forest of 300 ft windmills generating electricity from the coast.

He steps into his car powered by an extract of plants being farmed by the multi-thousand acre, and drives on to the computerised motorway system.

At the factory he notices it has become a still day. No matter. The generator will keep turning. When the 100ft blades of the windmills stop rotating there are always the wave-power collectors, bobbing round our shores in the sea and transmitting the motion into turbine power.

Scientific doodling? Far from it. In Britain and America more than 5 000 energy schemes are now being urgently pursued by scientists.

What are the major areas of research?

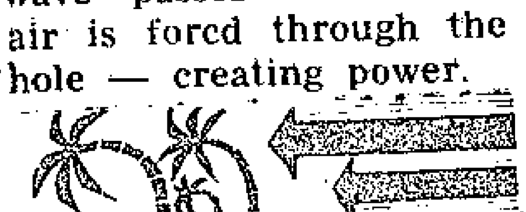
THE SEA: A California firm called Aerovironment is proposing to sink huge turbines off the Florida coast, their blades being rotated by the four-knot Gulf Stream current and connected to generators that pump power ashore by submarine cable.

Off the British South Coast, Cockerell's raft bobs cheekily in the Solent collecting the so-far unused and relentless power of the waves.

Cockerell is, of course, Sir Christopher Cockerell, inventor of the hovecraft and now immersed in the search for new enrgy.

Another water turbine device, under test in Loch Ness, is Salter's ducks, which are tethered in strips to absorb the sea's wasted energy for man's use.

Eleven nations, including Britain, are involved in testing yet another wave system, off the coast of Japan. This involves a vessel with an open bottom and a top sealed except for a hole. When the wave passes underneath, air is forced through the hole — creating power.



WIND: Like so many ancient concepts, modern man is looking at it with new respect. Windmills may be used on land or at sea. A prototype is about to be built in Britain and will probably be sited on a hilltop in Scotland.

"The potential for wind electricity at low cost is quite high," says Dr Jack Butterworth, assistant head of the Energy Technology Support Unit at Harwell, which oversees most of the experimental work in Britain.

BIO-CROPS: There are 11 separate projects here to create liquid fuels from plants to replace oil, probably by fermentation.

In California Nobel Prize-winning scientist Dr Melvin Calvin is experimenting with a scheme that would replace oil wells in the desert with fields of weeds.

Known as "Euphorbias", the Latex-producing weeds need little water and could be cultivated in the world's millions of arid square kilometres.

OCEAN WARMTH: The process relies on the dramatic differences in water temperatures at different depths.

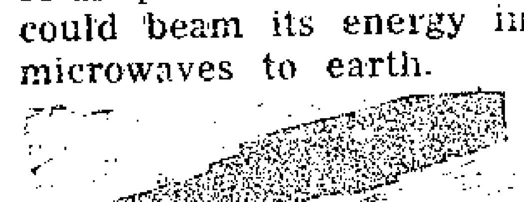
Lockheed are studying a project that uses the warmer water near the surface to heat liquid ammonia into gas, which would drive a turbine, and then draw up cold water from the ocean bed through long pipes to recool the gas into liquid.

Water provides other ingenious possibilities. Because it holds heat so well senior scientists such as Sir Ieuan Maddock, Chief Scientist to the Department of Industry, see the time when it will provide a positive reason for houses to have their own indoor heated swimming pools.

SUN: Solar energy cells are already in widespread experimental domestic use. They are viewed as a useful heating aid but unlikely to be anything more than a marginal aid to the nation's power problem in Britain. There is not enough sun.

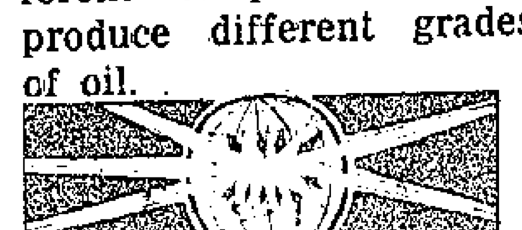
In Southern California construction is about to begin on a solar-tower. A computer will direct banks of mirrors to reflect concentrated sunlight on a steam boiler linked to a turbine. Results: electricity for several thousand homes.

A more exciting scheme being examnied involves towing into space a giant solar panel satellite that could beam its energy in microwaves to earth.



COAL: When the price of oil is double what it costs now, it will be worth our while converting our enormous stocks into oil.

From one ton of coal can be obtained almost half-a-ton of oil. The conversion involves heating the coal in white spirit to very high temperatures so that it dissolves different temperatures can produce different grades of oil.



EARTH: We are looking for ways of tapping the enormous heat inside the earth.

The earth gets about 25 degrees Centigrade hotter every kilometre down. In the tin-mining areas of Cornwall it has been found to increase by 40 degrees per kilometre.

Experiments are being carried out there with twin bore holes. Cold water is poured down one and hot water — or even steam — extracted from the other.

CAR ENGINES: The internal combustion engine will remain with us into the foreseeable future. The electric car is still a long way from the kind of efficiency modern users demand. But the external combustion engine is under renewed attention at Bath and Reading universities. A parson called Stirling thought of it in Scotland 150 years ago.

The idea is to have a sealed bag of gas which, when heated, will expand to drive a piston. The fuel can be anything that burns.

NUCLEAR POWER: Nuclear fission is already with us, with all its controversies. Nuclear fusion is under intense rsearch, but we will probably be into the Twenty-first Century before it can be put to use.

The idea is to bombard tiny gas pellets (perhaps with laser beams) to compress them so small that they release enormous energy.

The new power game is one of the most competitive races in modern history. And the most urgent.

Who will win? Says John Sawhill, former Director of America's Energy Administration: "We just don't know where the major breakthrough is going to come."

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GENERAL NEWS

Fuel: Don't be too hasty — Minister

RDM 27/7/79

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GROBLERSDAL. — The Minister of Mines, Environmental Planning and Energy, Mr F W de Klerk, yesterday appealed to all involved with investigating fuel alternatives not to form too hasty final conclusions.

Addressing the annual congress of the south-eastern Transvaal Regional Development Union, Mr De Klerk said those concerned with these investigations should take all accompanying factors into consideration in their discussions.

The Government was fully aware of the possibilities of ethanol and methanol and other products as sources of fuel, he said.

"However the Government is also aware of the technological and logistical problems that existed with their use."

The Government had been inundated with proposals and offers from people with an interest in one or other of these products.

Mr De Klerk said the Government would not stand in the way of anyone who wished to produce a fuel product within the ambit of existing laws and regulations.

"However, if Government aid, guarantees or even subsidies are required, the Government must obviously be given the opportunity of ensuring the practical and efficient execution of the scheme," he said.

Because of its coal resources and the historical development of these resources through the Sasol process, South Africa was in a favourable position in that it was dependent on imports for about only 25% of its energy requirements.

"This 25% of our energy requirements are needed for the country's all-important agricultural and road transport activities and for the general mobility of our people. For this reason the Government is doing everything in its power to reduce this percentage as much as possible."

In times of crisis, the obvious road to follow was to try to replace the imported product with an identical locally produced product so that it could fit in with the existing system and be used in existing machinery, the Minister said.

The Sasol process had been developed for this purpose. With the approved new Sasol developments, South Africa would be in a position to supply a part of her total requirements so that the country could at least keep going whatever happened, Mr De Klerk said. — Sapa.

Small investors grab a Sasol slice

SASOL announced yesterday that a stake of R525-million was being offered to the investing public — R490-million to institutional and corporate investors in a private placing and R35-million to the general public at 200c a share.

Sasol managing director Joe Stegmann said inquiries from small investors had been so persistent, since the intention to offer the public a stake in Sasol was first mooted, that the public's share of Sasol's massive R525-million capital-raising operation was to be increased by R10-million to R35-million.

The yield on the pitching price is 7%. This seems

street investors, and to cope with the possible needs of foreign investors — who will be allowed to come in at a discount through the financial rand market.

Mr Stegmann said yesterday:

"We took this decision in fairness to the public, despite the strong demand institutions have indicated for the private placing.

"It seems both issues will be well over-subscribed."

In the private placing, the minimum subscription is R100 000, but the public issue is being aimed at the smaller investor and application may be made for any number with a lower limit of 200 shares for R400.

In order to minimise the disruption a massive offer

Corporation 112 500 000 (30%).

Mr Stegmann said yesterday Sasol was expected to show pre-tax profits of about R140-million in the year to June 30 — up from R115-million last year and a faster rate of increase than the group is budgeting for in the long-term.

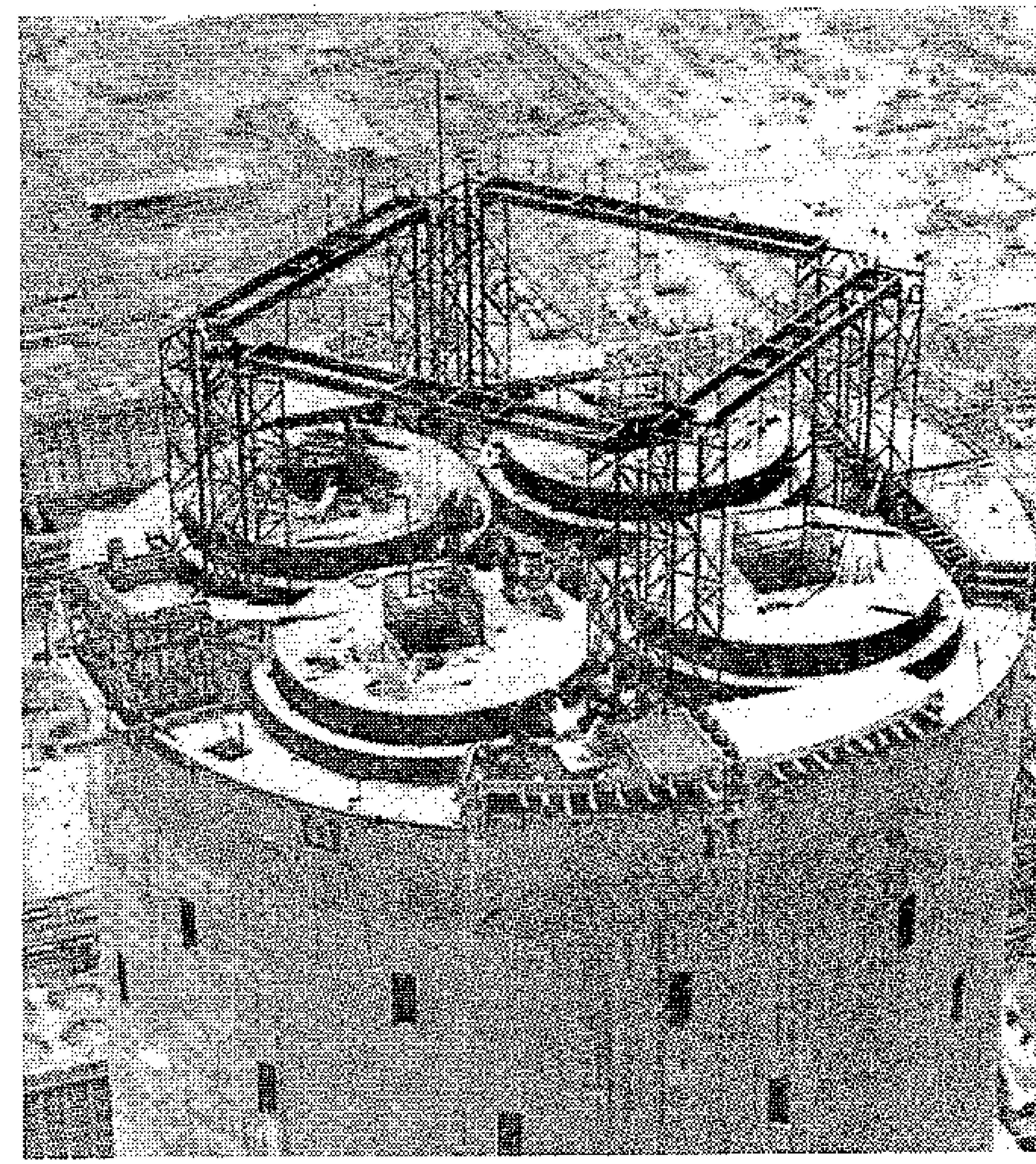
The growth in taxed profits was impaired last year by special write-offs which held attributable profits at R83-million.

Mr Stegmann said Sasol I, the listed company's only source of revenue at this stage, was benefiting not only from the higher prices, but from increased throughput at the group's plants.

He was confident that Sasol I would continue to operate efficiently.

But the real growth would come from Sasol II and Sasol III.

These would be brought in to Sasol, the listed company, when they reached minimum profitability targets and subscribers to the original issue would get further opportunities to participate in these vast energy projects by way of rights issues.



● The 250-metre tower at Sasol II . . . the symbol of Sasol's aspirations.

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29/7/79. Sund Times (55)

State backs Sasol's issue

JOE STEGMANN ... Government assurance

By STEPHEN ORPEN

Public's stake will grow in eighties

GOVERNMENT is effectively guaranteeing both a return of 7% — twice covered — and a 12% a year growth in profits in Sasol's gargantuan R525-million share issue.

Investors lucky enough to get scrip may bask in the knowledge that they virtually have a "licence to print money."

That may be an exaggeration. But certainly over the long-term there is not going to be much to beat this issue.

In an exclusive interview, Sasol chief executive Joe Stegmann revealed that market tests had shown that Sasol could have garnered much more than the R490-million now being asked through the private placing of shares.

Garnered

Mr Stegmann explained that Government had given the assurance that if the costs and prices of Sasol's products did not broadly follow the assumptions made for the oil-from-coal industry, the 3,6c a litre protection for the domestic industry on all its white products (including petrol, diesel and kerosene fuels) would be adjusted as necessary to protect the Sasol group's profitability and investors' returns.

Contributions to the so-called Equalisation Fund, designed to cushion the country against the high and fluctuating prices of its oil imports, are now substantially above the 3,6c per litre protection for the import replacement industry.

With high fixed costs but low variables, and Pretoria's agreement that the prices of Sasol's products cannot fall, it seems virtually certain that the profitability from Sasol's three huge plants will not only continue to improve once they are all on stream.

Profitability is likely to grow at an accelerating pace, at least for some years after Sasol 111 comes in around the mid-80s.

Not least, from the outside investor's standpoint, his exposure will be limited to 50% of any of the shareholdings in Sasol's emerging operations until these are showing acceptable returns.

Sufficient

Meanwhile, the structuring of the public share spread is designed to ensure that Sasol 1 will provide sufficient profit for the promised per share earnings and dividends.

Other key points which emerged from the interview with Stegmann included:

- The State's share in the Sasol empire will initially decrease as a result of the public offer and private placement. But it will increase again fast once Sasol II and Sasol 111 are profitable.

At this stage, the relatively huge proportion of funding outside the share capital — substantially through export credits and loans — will be converted to shares which will initially be taken up by Pretoria and the Industrial Development Corporation (IDC).

Reduced

- The State's and IDC's shareholdings will then be reduced again as the private sector and the public are offerred more shares, almost certainly totalling more than R2 000-million in value, in stages, as market conditions permit.
- The current offer is being confined to ordinary shares, and does not include prefs or debentures, as market tests suggested these would not be popular given their early convertability and the fact that Sasol wants to end with an all-ordinaries share capital.
- Overseas investment, through the financial rand, in the current issue is being limited to the R35-million portion (previously to have been R25-million) on public offer.

The placement to "large and medium size institutions and companies in all sectors "has been reduced from R500-million to R490-million to accommodate the larger public offer.

- Sasol 111 would have cost at least R500-million more if it had not been tagged on to Sasol 11, thus saving much new infrastructure and related costs.
- The full prospectus for the private placing will be published on Wednesday August 15. This will reflect a placing of some 245-million ordinary shares at an issue price of R2 each.

Because of the sheer magnitude of the offer, with its possible threat to the stock and money markets, payment for the shares privately placed will be in four tranches.

There will be 40% subscription on application, 10% next January, 30% on July 1 next year and 20% in January 1981.

Minimum

The private placing opens on August 15 and closes on September 5. Applications may only be for "units" of R10 000 each, with a minimum of 10 units (R100 000).

Payment may only be in the form R4 000 per unit on application; R1 000 per unit on January 2 next year, R3 000 per unit on July 1, 1980 and R2 000 per unit on January 2, 1981.

- The offer to the public of 17,5-million, R2 shares will open on September 28. The minimum subscription will be for 200 shares (R400), with payment in full on application. The issuing houses will underwrite the issue in full.
- The structure of the Sasol Group after the listing will be headed by Sasol Ltd in which the State, the IDC and a company called Konoil will hold 30%, worth R225-million, and the public 70%, worth R525-million.

Sasol Ltd will have a 50% share stake in Sasol 11 and in Sasol 111, each stake worth R50-million. The remaining 50% in each case will be held by the State-IDC-Konoil consortium. Sasol 1 will be 100% owned by Sasol Ltd.

Loans

Of the total funding of R2 503-million for Sasol 11, some 20%, or R492-million has or will be provided by export credits and loans, compared with some R655-million from the same sources for the R3 276-million for Sasol 111.

Sasol 111 will get the R525-million raised by the current share issues and the rest of its requirements, like those for Sasol 11, will come from parliamentary appropriations and the State Oil Fund.

So a total of some R5 100-million will be provided other than by share capital at this stage. And at least R1 147-million will need to be converted to ordinary shares once the second and third Sasol operations are comfortably in the black.

4 SUNDAY TIMES, July 29 1979 237 55

Americans seek Sasol link

By RICHARD WALKER
New York

THE breakthrough first purchase of South Africa's oil-from-coal technology could come any day, now that the Carter Administration has quietly cleared a path through the political minefield.

One large company, Texas Eastern Corporation, is already discussing a possible contract with Sasol officials.

And at least two others are known to be very interested, according to Department of Energy sources.

With the 12-year R76.5-billion programme to develop synthetic fuels seemingly sure to be endorsed, industry sources see Sasol certain to clinch some profitable and image-boosting business fast.

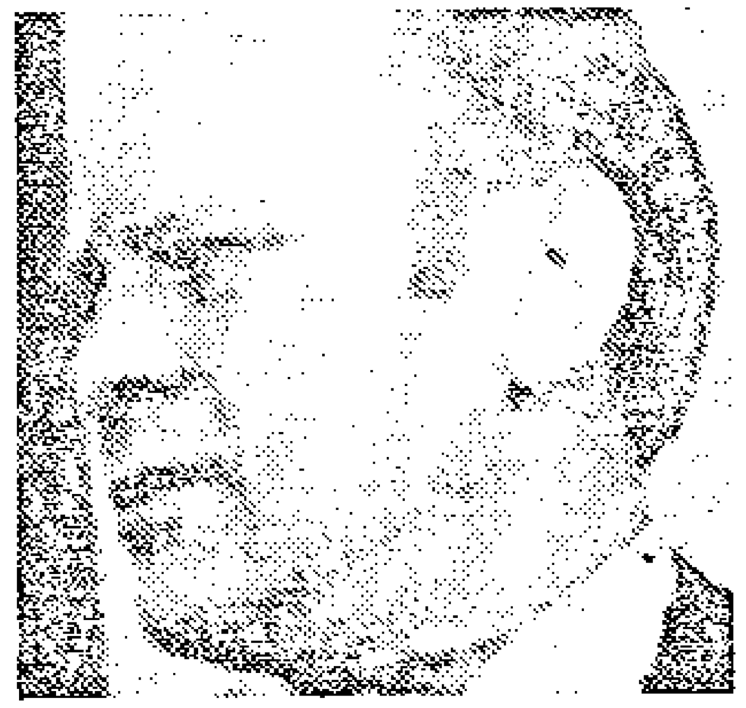
It was at a private White House meeting in January 1974 that Dr Connie Mulder offered Vice President Gerald Ford South Africa's "assistance" in the field.

Five years of effort to turn the technology to financial and diplomatic advantage only began to bear fruit this year as the US confronted its energy crunch.

Prodded by Congressional and industry lobbies, the Energy Department acted through Under-Secretary John Deutch to work out a compromise with the State Department, which had resolutely opposed any government-to-government deal.

"With the current state of relations and the sensitivity of the situation in Southern Africa, we just did not think it was an appropriate time for that kind of deal," a State Department official argued.

CONNIE MULDER
Private meeting



GERALD FORD
Offered help

Under the compromise, the Energy Department is now authorised to purchase a "data package" on the operation of the Sasol plant.

Though Sasol managing director Johannes Stegmann has stressed the unique and secret technology in the Sasol synthol process, Energy Department sources say rather that "the information we would like to obtain is the operating experience".

Their instructions are tight — "we will not in any circumstances enter into any kind of agreement with the South African government, and this includes Sasol.

"We will not enter into a lease agreement, nor a royalty arrangement — just an outright purchase."

Heading the queue of potential buyers is Texas Eastern, a big gas pipeline operator.

It has twice had officials in South Africa this year.

Its chief spokesman, Mr Fred Winchlep, acknowledged that it is right now "discussing the possibility of contracting for the right to use that process with officials of Sasol".

Fluor Corporation is also enthusiastic.

In Congress, the mainspring has been Pennsylvania Democrat William Morehead, chairman of the House Banking sub-committee.

Three months ago he was the first to be notified that the State and Energy Departments were working out a "reasonable arrangement for having US corporations discuss matters with the South African corporation".

In a private report, two Morehead aides who toured South Africa assert that Sasol II confirms that costs can be less and "income per ton of coal can be higher" than most American experts believe.

Here the bickering begins. Other experts dispute this.

Environmentalists, too, are against it.

Tack on the anti-apartheid lobby, too, since it would be sure to home in on such a project.

According to figures published in the US, South Africa expects to produce Sasol II oil at just over R11 a barrel.

The cost in the US, without the Republic's low-cost fuel and power, would come close to three times this — well above the present Opec oil price-range.

Meanwhile, South Africa's best argument remains its simplest.

"They are the only ones with a track record in the field," one industry source summed up.

Detainee was kept nak[ed]

Daily News

Parliamentary Correspondent

Mrs Helen Suzman, the official Opposition's chief spokesman on police matters, clashed sharply with the Minister of Justice, Mr J. T. Kruger, yesterday over the alleged maltreatment in detention of Mr. Peter Jones, the man who was detained with Stephen Biko.

Speaking in committee during the debate on the Police Vote, Mrs Suzman said Mr Jones had been kept naked and not allowed to bath during the two months he was detained at the Algoa Park police station, Port Elizabeth, under Section Six of the Terrorism Act.

He was allowe donly one blanket and got no exercise.

Mrs Suzman also said Mr Jones had visible injuries following interrogations by the "bully boy" security police at Sanlam Building in Port Elizabeth.

Asked by Mr Kruger whether she had seen the injuries, Mrs Suzman said she had all the information on affidavit and she indicated that it was Mr Jones' intention to sue the Minister for damages.

Replying to the debate, Mr Kruger admitted that Mr Jones had been kept naked in his cell but said this had only occured after he had tried to commit suicide.

The Minister also warned Mrs Suzman not to have anything to do with Mr Jones because he was using her.

He said Mr Jones had been regularly visited by magistrates but had never made any complaints to them.

ANC ... Swazi...

MBABANE — Two former Soweto men convicted in Swaziland this week of carrying weapons of war claimed they crossed into the Kingdom from South Africa to escape pursuing South African security forces.

Abel Xakaxa (19) and Jerry Seleki (23) pleaded guilty before Mbabane resident magistrate, Mr Paul Shilubane to possessing the weapons in the Piggs Peak area on April 14.

Xakaxa, who was ... and Xakaxa told the ... border patrol at 10 pm ... ca News Service.

Speed clamp may ease in 3 weeks

NM 31/7/79 (55)

PRETORIA — The Minister of Industries, Dr. Schalk van der Merwe, will decide in the next three weeks whether to lift the 70km/h speed limit.

Last night he said there were indications the country's petrol position was more favourable than it had been six weeks ago when the speed clamp was ordered.

A "considerable saving" had resulted from the lower speed limit, he said, but circumstances had changed and he was now more optimistic about the fuel position.

Dr. van der Merwe said he had been inundated with requests from organisations and individuals to lift the speed limit although it had been admitted there was a considerable saving.

Other factors

The Department of Industries was considering the saving compared with other factors such as the loss of productivity, motorist irritation and the design of heavy vehicles to function better at 80km/h.

The opinion of other sectors and especially organised agriculture still had to be collated before a final decision could be taken.

The Government had not been over-hasty in setting the 70km/h speed limit, because the decision was taken on the basis of available facts on saving.

When the decision was taken, it was necessary that everything possible had to be done to save fuel, because of the crisis situation in which the country found itself.

A considerable saving had resulted from the lower speed limit, but circumstances had subsequently changed and he was now more optimistic.

Tests had shown that while the new speed limit could save fuel for hauliers, the longer travelling time in many cases meant more vehicles had to be used and that meant an increase in diesel oil consumption, the Professional Hauliers' Association and the National Association of Private Transport Operators said in Johannesburg yesterday.

Saving

The associations said tests were conducted by their members on routes with a high percentage of freeways. They had shown there could be a saving of up to 8 percent depending on the operation.

But there was a time increase of between 12 and 24 percent. This resulted in a "shortfall in the work done by vehicles on these services per day and in many cases means that the 70km/h would necessitate additional vehicles being operated with a consequential increase in the number of litres of diesel oil consumed." — (Sapa.)

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Nkope has occasional fluting and bevelling which has been used to tie it to the eastern stream, but as this feature was not common (Robinson, 1973; Table 2)

Simulation 2. Kwale ⟶ Silver Leaves

RESULTS

Simulation 1. The discontinuous spread model produced a faster rate of expansion than the wave of advance model. Rates of less than one kilometer per year were generated by the wave of advance model (Table 1) and these were an order of magnitude lower than the rates from the discontinuous spread model (Table 2). The rate of spread for a culture in the discontinuous spread model was similar to the rate generated by the wave of advance model (Table 3). Different input populations had little affect on the rates for the wave of advance model (Table 4) but did affect the internal culture ... The differences

frequency of inter-settlement conta

probability of friction would have

Nigeria to nationalise BP?

1/8/79 Post 65

LAGOS — The Nigerian Government intends to nationalise British Petroleum (BP) interests in the Shell-BP Nigeria oil company, according to persistent reports in Lagos this week.

The reports said that BP officials would be informed of the move soon.

Shell-BP is the largest oil company operating in Nigeria, currently producing about half of Nigeria's daily average of 2,4-million barrels per day.

Earlier this month the federal government upped the Nigerian national oil companies participation in oil company's operating here from 55 percent to 60 percent.

Oil company sources said that they were unaware of the reported move, although there have been rumours during the past week that the government was considering some kind of action against British interests prior to this week's Commonwealth conference in Lusaka, where the Zimbabwe Rhodesia issue will be high on the agenda.

Observers also noted that BP has entered a controversial "swap" deal with its South African affiliate.

Nigeria has consistently and strongly condemned the so-called internal settlement in Salisbury and has publicly warned Britain against recognition or lifting of sanctions against Bishop Abel Muzorewa's government.

At a state banquet for visiting Australian Prime Minister Malcolm Fraser, head of state General Olusegun Obasanjo said that if the British Government was convinced that the internal settlement constitution was unjust and inadequate "then Lusaka is the place to bring about adequate and acceptable new constitution proposals." — AFP.

NM 2/4/79

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Ethanol cars go on show

Mercury Correspondent

JOHANNESBURG — The production of ethanol fuel could be multiplied many times by "genetic engineering" of some of the biological organisms involved, according to Dr. D. R. Woods, professor of microbiology at Rhodes University in Grahamstown.

It could also make it economic to produce ethanol from vegetable matter which could not be used at present, he told a symposium on energy, organised by Volkswagen of South Africa, in Pretoria yesterday.

The world must change from using finite resources for fuel production, like oil and coal that would eventually run out, to using renewable materials. South Africa had the resources, know-how and labour required to embark on an extensive ethanol project.

From the economic point of view it was feasible, and from the socio-political aspect, in providing much-needed jobs, it was essential.

Brazil had more than 2 000 000 vehicles operating on a mixture of 80 percent petrol and 20 percent ethanol. No significant problems had been experienced, said Professor H. Heitland of Volkswagen Brazil.

Volkswagen cars and light commercials using pure ethanol, pure methanol, a diesel-methanol mixture and electric power, were demonstrated at the symposium.

JAARVERSLAG

1978

SENTRUM VIR INTERGROEPSTUDIES

(Geregistreer as The Abe Bailey Institute of Inter-Racial Studies Limited (Beperk deur Garansie))

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INLEIDING

Gedurende die eerste nege jaar van sy bestaan het die Sentrum vir Intergroepstudies gereeld 'n jaarverslag oor sy werksaamhede gepubliseer. Om die Sentrum se 10de verjaarsdag op 1 April 1978 te vier is die jaarverslag in 1977 vervang deur 'n Oorsig oor die Eerste Tien Jaar.

DIE OORSPRONG EN DOELSTELLINGS VAN DIE SENTRUM

Die Sentrum word grootliks gefinansier deur die Abe Bailey-Trust wat ingevolge die testament van Sir Abe Bailey gestig is. Dit is geregistreer as The Abe Bailey Institute of Inter-Racial Studies Limited (Beperk deur Garansie) - 'n maatskappy beperk deur garansie en sonder 'n aandele-kapitaal kragtens die Maatskappywet 1973 (Wet Nr. 61 van 1973).

FUEL CONSUMPTION

The brake is on

(55) FM 3/8/79

Oil company returns for June indicate substantial fuel savings in the first fortnight of government's intensified conservation measures. According to a government spokesman, petrol consumption is once again back to 1973 levels, reflecting the combined effect of the 70 km/h restriction in metropolitan zones and the price deterrent.

But according to the oil office at the Department of Commerce, Pretoria is not attaching too much weight to the figures. They reflect less than a month's consumption, and there is evidence that large consumers of gas oil (diesel) bought heavily ahead of implementation of the tighter savings measures. This is reflected in meagre deliveries to their storage depots in ensuing periods.

Gas oil remains a serious problem. The next week or two is going to be crucial for the 400 000 commercial consumers of diesel. If an analysis of July consumption shows they are not achieving the voluntary savings they pledged to government, the oil companies will be instructed to implement physical cutbacks in line with these undertakings. It is understood that the "allocation" scheme, worked out jointly by the companies and the oil office, is just about ready for implementation. The method of measuring savings will be to compare July 1979 consumption with July 1978, July 1973 and June 1979 to obtain a seasonally adjusted figure.

An *FM* survey this week indicates that fuel consumption is still well below pre-crisis levels.

Many filling station managers report a substantial drop in the volume of petrol sales. There was a surge in sales ahead of the June 11 price hike, followed, not surprisingly, by a slack period of about a week. Since then sales have picked up again but have not reached previous levels.

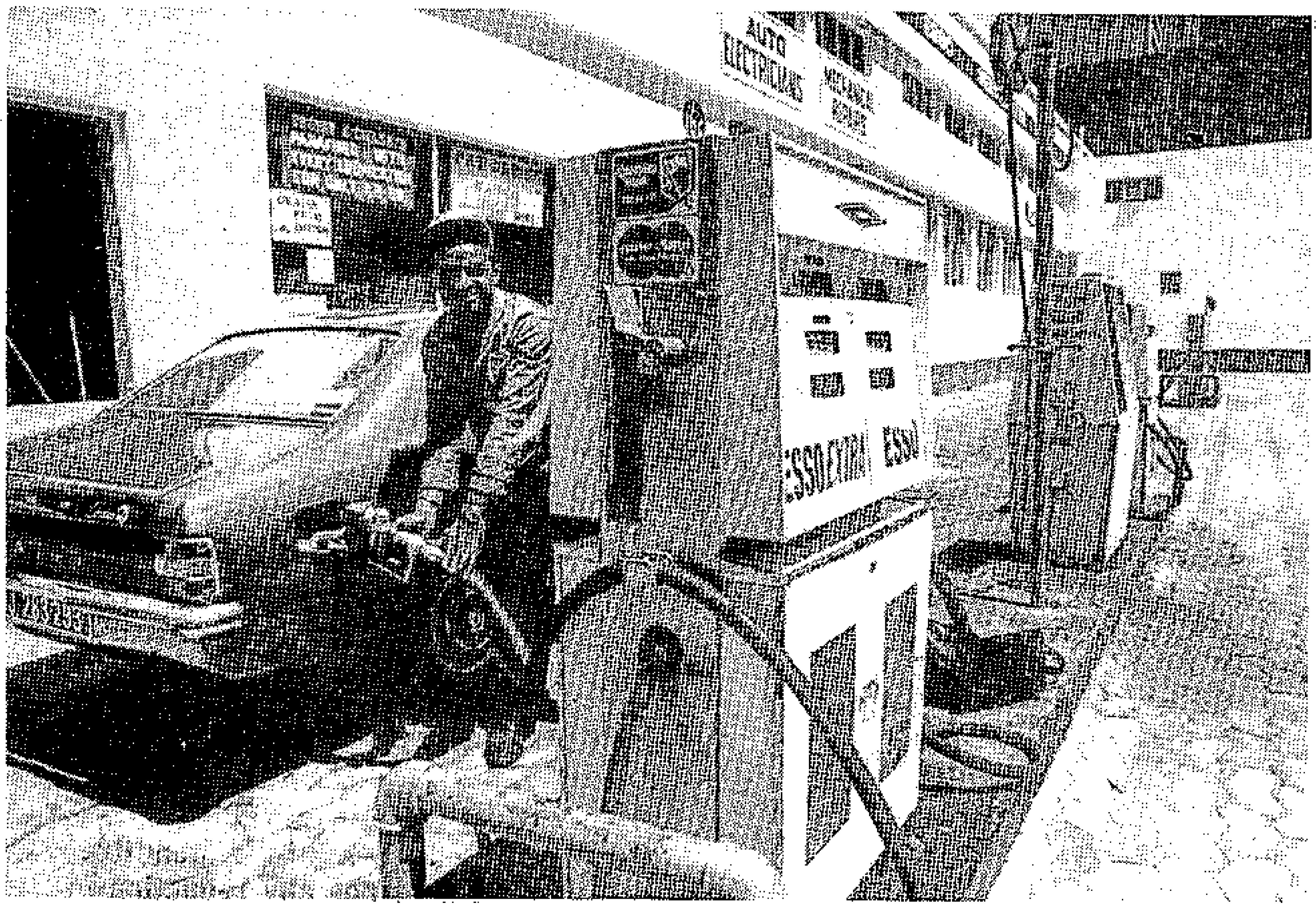
Garages in main centres report turnover down by as much as 30%, with most doing between 10% and 20% less business. But many feel motorists are still adjusting to the new price and that sales have not yet settled sufficiently to pass judgment on its effect.

Service stations attached to shopping complexes have apparently suffered badly, as a result of the ban on Saturday sales. In contrast, those on main routes are picking up extra business on Friday afternoons, and a few report increased sales.

Oil users themselves boast substantial savings. The SAR's road transport service, which uses almost 1% of the country's petrol, is meeting its targetted reduction of 15%. SAA, which accounts for about 3,5% of SA's liquid fuel, has limited scope for reducing consumption, but is saving about 1%, mainly by cutting down aircraft speeds.

Railways (5,5% of total demand) are not saving, but this is due to increased traffic. Explains a SAR spokesman: "Rail is a more efficient user of fuel than road transport. Our contribution to saving is to encourage switching from road to rail transport."

Premier Milling, the largest transport user after the Railways, is aiming for a fuel cut of 20%. In the first quarter of this year, it reduced consumption by 8% over the comparable period in 1978. But, cautions Premier's Willem van der Klis, "fuel conservation must be seen in the light of increased production requirements."



Filling up . . . but less often

How Opec made SA get off its energy backside

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4/8/

The Opec stranglehold on most of the world's oil reserves looks likely to boomerang on them as the move to find alternative fuels accelerates.

That was the overiding impression to emerge from the energy symposium organised by Volkswagen of South Africa in Pretoria .

Prof R. Dutkiewicz, head of the Energy Research Institute at the University of Cape Town, summed up the West's attitude to the Arabs' noose best when he said tongue-in-cheek, but straight-faced: "Some acknowledgments need to be made here today and first and foremost we need to acknowledge our indebtedness to the Opec countries who are responsible for the research we are doing in this country.

"They made us get off our backsides."

Some of what we heard was old hat, but clothed now with an authoritative cap cut by the distinguished academics who delivered the four papers.

They transformed much that has previously been speculation into fact; science fiction into reality; supposition into accomplishment; and not so much what "can be done" as what "we have already done."

Sharing the platform with Prof Dutkiewicz were Prof David Woods of Rhodes University, a world authority on microbiology; Prof H. Heitland, a German who is the head of research at Volkswagen in Brazil and a world authority on alternative fuels; and Mr J.D. van Wyk of the Council for Scientific and Industrial Research who is an authority on electric vehicles.

Under discussion were five main topics:

1. Ethanol — an alcohol-based fuel derived from natural renewable vegetable resources like bagasse (crushed sugar cane), wood pulp, beet and — in Brazil — the starch-rich cassava root that is also called manioc, a prolific tropical plant that is indigenous to the South American country. It used to be called wood alcohol in the good old days of bootlegging.

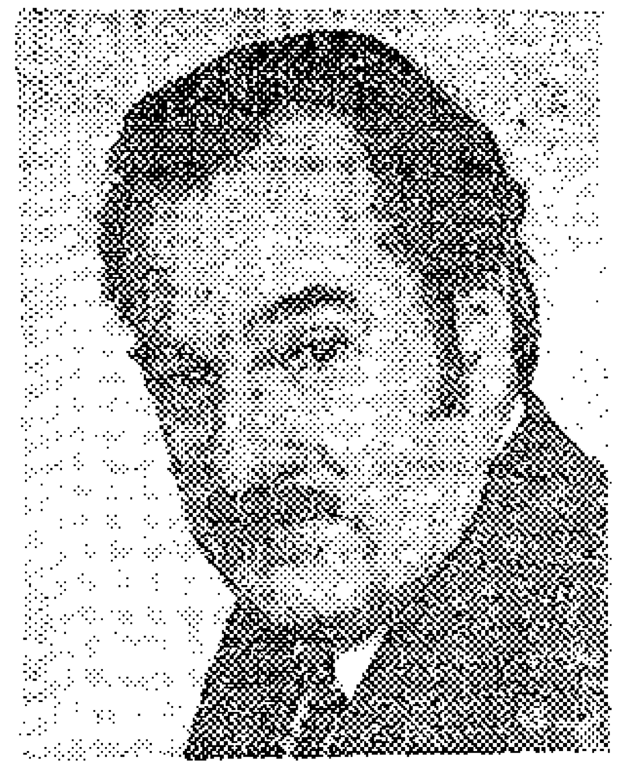
2. Methanol, another alcohol-based fuel which is refined from coal or natural gas — and that includes the toxic gases

PROF R. K. DUTKIEWICZ . . . head of the Energy Research Institute at UCT

PROF DAVID WOODS . . . head of the Department of Microbiology at Rhodes University.

PROF H. HEITLAND . . . world authority and head of research at Volkswagen of Brazil.

PETER SEARLE . . . managing director of Volkswagen of South Africa.



MR J. D. VAN WYK . . . chairman of the Electric Vehicle Committee at the CSIR

given off at the municipal rubbish dump.

3. Other alternative fuels, including methane, hydrogen, synthetic gasoline and synthetic diesel oil, liquified petroleum gas and electricity.

4. The feasibility of tomorrow's electric vehicles being introduced on South Africa's roads today

And 5. Alcohol-based fuels are already being used in cars in Brazil, the world's most advanced country in producing ethanol from biomass, another sugar cane by-product.

Some of the main points to emerge from the symposium included:

● An ethanol-powered car has already been developed and South Africa has the resources, know-how and labour to embark on a project to produce the ethanol required to drive an ethanol-powered car.

● Electric cars could soon be gliding silently around South Africa's densely populated metropolitan roads without Escom having to generate any more power to accommodate them.

● There is no reason why electric vehicles shouldn't be on South Africa's roads within a year, provided somebody is prepared to supply the financial muscle to back mass production, though that was disputed by the managing director of Volkswagen South Africa, Mr Peter Searle, who maintained there was still a long way to go and much work to be done before the electric vehicle became a viable mass production proposition.

● Batteries are available right now to provide the necessary energy to power electric vehicles.

● When more exotic batteries become available, the range of an electric car will become comparable to a conventional car with a standard fuel tank.

● Electric vehicles will cost substantially more than petrol-driven cars — between 20 and 60 per cent depending on various cost factors — but primarily because of higher material costs.

However, the increased life of an electric car will be a compensating factor. They will have an overall life expectancy of 15 years — much higher than most of today's cars.

● There are more efficient alternatives to the Sasol oil from coal process, although South Africa is now acknowledged as the world leader in this technology and has decided to go the Sasol route becase of its huge R1 060 million investment in Sasol I and II and there will probably be a Sasol III, IV and even V.

The expansion of the Sasol process will probably work in tandem with the development of electric vehicles and alcohol fuels with methanol, for instance, cheaper than Sasol-produced petrol.

A 1,6-litre Passat converted to 100 per cent methanol use — requiring only minor engine surgery by fitting bigger jets to the carburettor — recently travelled from Cape Town to the Reef.

Its fuel consumption was 16 litres per 100km, roughly double the consumption of petrol, but methanol cost between 13 and 19c a litre compared with the real cost of petrol which was between 26 and 38c excluding tax.

● Hydrogen may be a fuel for the future, but not immediately. Not enough research has yet been done and so far there has been no real breakthrough on the hydrogen front.

● South Africa hasn't got a petrol problem — it's got a diesel problem because it is not able to produce sufficient diesel with our refining process.

We actually have too much petrol and not enough diesel.

One of the reasons for that is the fact South Africa's petrol-diesel usage is roughly 50-50, whereas in most other Western countries it is only 27 per cent diesel and 73 per cent petrol.

● A car's engine doesn't know the difference between methanol and ethanol. They are very similar except that ethanol has a higher calorific value (combustion point) than methanol.

Prof Dutkiewicz and his team at UCT's Energy Research Institute are now testing 100 per cent methanol engines in cars and trucks.

Tests so far indicate a low pollution level and that they are more efficient than petrol and as efficient as diesel.

And they are also working on a 100 per cent methanol engine with a high compression ratio.

● The flower power from sunflower oil got a flat thumbs down from the academic researchers who said it was laughable and certainly not sound engineering to claim flower power was a viable fuel alternative after only 100 hours of testing.

One physicist at the symposium told me privately it was all very well to run a tractor on sunflower oil for 100 hours, but who was to say the engine wouldn't seize after 200 hours.

No self-respecting researcher would make startling claims after such a paltry test period.

In the United States, for instance, it was standard procedure to test any new principle for 1 700 hours before saying whether or not it would work.

Listen to Prof Dutkiewicz on the subject: "There is nothing at the moment that is going to make fantastic changes to our present way of transportation. Anything that is discovered would take at least 15 years from 'invention' to mass production."

Daily Dispatch Motoring Editor DAVID DENISON attended an energy symposium in Pretoria addressed by world authorities on alternative fuels. This is his report . . .

Exit the flower power scene.

● South Africa's first priority in the energy field is to produce more diesel and secondly to have cars running on 100 per cent methanol.

● Prof Dutkiewicz also exploded the myth that motor manufacturers and oil companies are protecting their interests by buying up the patents of alternatives to the internal combustion engine.

Warning against a lot of hot air being bandied about on fuel alternatives, he dismissed as so much "hogwash" the bleat of those who claimed their fantastic discoveries had been turned down by the oil companies and motor manufacturers.

"Don't believe a word of it," he said.

● South Africa will always be able to import some crude "because money talks" and with gold riding the crest of a wave South Africa is in a strong bargaining position.

● There are 30 ethanol filling stations in Brazil right now. The cost of a litre of ethanol there is 26c (US currency). Diesel costs 33c and petrol 57c.

● The Brazilian government has earmarked $5 billion for ethanol development.

● Prof Woods said South Africa had the resources, know-how and labour to embark on a project to produce ethanol.

From an economic point of view it was feasible and from the socio-political aspect in providing jobs it was essential.

Expanding on what he called the "hang up" over using agricultural products to produce fuel, Prof Woods said he failed to understand that point of view considering South Africa already encouraged the mass production of a noxious weed — tobacco.

So why not agricultural products to produce alcohol "which in any case will do you a lot less harm than tobacco."

(Obviously he was speaking in relative terms).

Prof Woods also dismissed some of the other objections against ethanol hinting some were spurious — without actually saying so — and emphasised two major factors favouring ethanol production: the fact there are long-term finite sources which are renewable; the fact that the industry would be based on labour-intensive agricultural production rather than capital-intensive projects such as Sasol I and II.

● Prof Heitland told the symposium Brazil was producing 2 000 000 billion litres of alcohol for vehicle fuel a year and that would be increased to 10 000 000 billion by 1985.

Another pertinent point he made was that alcohol fuels can be used in both today's and tomorrow's cars without any major modifications.

He said methanol could be used, either in a blend or pure form, in Otto, diesel, turbo-charged, Sterling, steam and gas turbine engines.

And it can also be used in electric cars equipped with fuel cells.

● Opening the "in-nings", VW South Africa's managing director, Mr Peter Searle, said the in-tention of the symposium was not to conjure up Uto-pian visions for the solu-tion of South Africa's energy problems, but to detail what had been es-tablished through research and development.

"We expect motor vehicles to change sub-stantially over the next decade, but they will re-main familiar in one fun-damental aspect — they will still be powered by the reciprocating piston engine.

"This belief is not based on a lack of activity in the search for alternative power units — there may be some of them such as the electric vehicle which will find a place alongside the internal combustion engine — but our research has led us to the convic-tion that for at least the next 10-year period, if not longer, the internal com-bustion engine can best satisfy the many and varied demands which will be made of the automobile power unit.

"Fuel consumption will act as the major parameter in engine design rather than engine performance"

Probe of huge oil company profits

Sun. Times 5/8/79

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ENORMOUS profits for the second quarter of this year have been chalked up by US petroleum companies, particularly the four partners of Aramco, the Arab American Oil Company.

By JIM RHODES

So high have profits risen, in fact, that the oil companies have been publicly criticised by the White House, and the Department of Justice is conducting an investigation into the Aramco pricing policy.

Standard Oil of California reported a huge 61% gain for the quarter ending June 31. This represents earnings of $256-million.

Mobil Oil's $293-million represented a 38% gain on the previous quarter — itself up on last year.

The most staggering figure is Ashland Oil's $395,4-million increase over the quarter. This is 809% up on the earlier figure, but analysts say it is mainly the result of sales of assets.

What has aroused the Justice Department's interest, however, is not the healthy size of the profits. In question is the prospective earnings of the four Aramco partners — Exxon, Mobil, Texaco and Standard Oil of California.

Exxon's second quarter profits have actually been modest in comparison to some of the others. They were 26% up, earning $830-million.

However, since the companies have been buying Saudi Arabian oil at as much as $4 a barrel less than the price set by Opec at its June 25 meeting, their before tax profits could reach as high as $19-million a day, analysts say.

After tax, this could net the companies $7-billion a year combined. This compares to the $5,8-billion the four netted in 1978.

Government officials say privately that the Justice Department probe will focus on why the four have not passed along the price savings to consumers and whether there is some legal way to compel them to do so.

At his Press conference, President Carter also strongly urged public support for a "windfall profits tax" measure that just cleared the House of Representatives and faces concentrated opposition in the Senate.

Mr Carter said he is counting on collecting nearly all of the $140-billion the government wants to spend on developing synthetic fuels from taxes on unearned oil company profits.

JAARVERSLAG

1978

SENTRUM VIR INTERGROEPSTUDIES

(Geregistreer as The Abe Bailey Institute of Inter-Racial Studies Limited (Beperk deur Garansie))

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INLEIDING

urende die eerste nege jaar van sy bestaan het die trum vir Intergroepstudies gereeld 'n jaarverslag oor werksaamhede gepubliseer. Om die Sentrum se 10de jaarsdag op 1 April 1978 te vier is die Jaarverslag 977 vervang deur 'n Oorsig oor die Eerste Tien Jaar.

DIE OORSPRONG EN DOELSTELLINGS VAN DIE SENTRUM

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55 SP 5/8/79

Oil: the world has just kept taking...

The price of petrol and other petroleum products have risen sharply. This is because, we are told, there is a shortage of petrol. But many people do not understand why there should be this shortage. In this article, finance editor JEAN MOON discusses the current world-wide oil crisis.

WHILE South Africa has made huge steps towards producing its own petrol from coal and even from plant life, it, along with the rest of the world, still has to rely to a vast extent on petroleum products for most of its energy requirements.

Petrol is produced from crude oil, which, like all minerals, took millions of years to form below ground.

Reservoirs of crude oil are thought to have been formed as a result of the remains of sea life sinking to the bottom of some primeval ocean and buried by sediment. Time and pressure turned these fishy remains into the sticky black liquid known as petroleum.

But like all other resources mined from beneath the ground, the pumping of crude oil is regarded as a "robber industry", meaning that once all traces of that particular mineral have been extracted, it may not be replaced for millions of years, if ever.

As far as oil is concerned, mankind has been extracting this once relatively cheap form of fuel since the beginning of the century. As the need for more grew, more oil was extracted.

But up until about 1975, it had escaped the attention of most people outside the industry, that reservoirs of oil were being seriously depleted.

Once people became aware of this, oil producing exporting countries (OPEC) began to charge more for their product, much to the dismay of the rest of the world.

Although some countries had access to oil of their own, they could not produce it on the scale required. Also recovery costs were often higher than the cost of importing it from the Middle East.

Even though prices have risen, oil and petrol continue to be the major sources of energy for vehicles, industry and domestic uses.

While these oil producing countries, mostly located in the barren regions of the Middle East, were becoming increasingly worried that their only source of wealth was drying up, leaving them with no other natural resources, little was done to control the situation until the Shah of Iran was exiled from his country.

Iran, one of the major suppliers of oil to the world, had, until then, been on good terms with South Africa, meaning South Africa had little difficulty obtaining enough oil to meet its needs.

But once the Ayatollah Khomeini ousted the Shah, supplies of oil to the West, including South Africa, were seriously interrupted. The Ayatollah brought to the notice of the world that if oil consumption continued to increase at the rate it was, there would none left by the end of this century — only some 20 years away.

The result was that at the beginning of this year Iran and the other OPEC countries severely restricted their supply of oil to the rest of the world.

OPEC of course is not the only supplier of oil. But production in other parts of the world is small by comparison. Added to this are severe geographical and political factors which prevent these sources replacing the Middle East as the world's supplier of petroleum.

South Africa's biggest problem in laying its hands on dependable oil supplies from the Middle East is political. There are more and more countries in the world today who are decidely guarded in their dealing with South Africa because of the political backlash that might follow if they are seen to co-operate too closely.

This has meant that South Africa has had to try to find "secondary" suppliers, those who buy oil, ostensibly for their own use, and then sell it to South Africa on the quiet at grossly inflated prices.

This is the crux of South Africa's own petrol crisis. It explains why petrol has become so costly and why it has to be conserved through controlled traffic speeds, and also why every product that in any way depends on oil for its manufacture or transport has become so expensive recently.

But, all is not entirely grim for South Africa.

Because of its vast store of natural resources, South Africa, unlike just about any other country in the world, can produce a viable petrol substitute from substances other than crude oil.

It is true that present earnings from the current high gold price go a long way towards paying the very high prices being demanded for oil.

But South Africa's fuel needs still outstrip the present oil supply. The only way to meet these needs therefore is for it to manufacture its own petrol-like substances, and for some years now it has been using a process for producing a motor fuel from coal.

It has been able to do this so successfully at Sasol I and Sasol II that yet a third Sasol plant is planned, and some foreign countries are said to be anxious now to obtain our secrets regarding producing oil from coal.

But few countries have such huge coal resources as South Africa does, meaning that even if they did embark on Sasol-like projects, they would not be that much better off than they are now.

Besides huge coal reserves, our fertile soil can produce more plant life than is necessary to feed the population. Extensive investigation into the production of liquid fuel from maize and sugar cane is currently underway, and so far ethanol and even alcohol have been found to be viable substitutes, especially when mixed with diesel.

It can be seen that in a few years time, South Africa need have no real fuel shortage. But in the meantime, we have to put up with the irritation of low speed limits in order to conserve fuel, and may soon have to endure rationing.

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Energy in SA 'assured'

Argus 8/8/7[illegible]

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Tygerberg Bureau

GIVEN timely and visionary planning and sufficient capital the future of South Africa's energy appears assured, Professor R K Dutkiewicz, Professor of Mechanical Engineering and Energy Research at the University of Cape Town, said in Bellville yesterday.

Professor R K Dutkiewicz

Addressing delegates to a regional congress of the Chambers of Commerce of the Western Cape, Professor Dutkiewicz said it was likely that South Africa could become more reliant on its indigenous energy sources than [illegible] countries. Its energy costs could also remain cheaper for a longer time than in most countries.

COAL

He said that to achieve this 'utopia' the mining and exploitation of coal, especially poor quality coal, had to be improved.

Describing South Africa's future energy picture, Professor Dutkiewicz said coal would be used for industrial application, power generation, chemical production and the production of transport fuel.

In the transport sector, he said, public transport would have to be greatly improved to wean people away from the private car.

HYDROGEN

'The fuel for transport will, in the long run be hydrogen but in the meantime it will remain a liquid fuel with a petrol-alcohol blend being used initially, giving way in time to pure alcohol.'

It was probable that electric vehicles would become more popular but would be used mainly for town delivery and possibly for a family's second car.

He said electricity would continue to be generated mainly from coal although nuclear power would make a significant contribution towards the beginning of the next century.

Hydro-electric power would grow in importance.

SOLAR ENERGY

Professor Dutkiewicz said solar energy would slowly become more attractive. At first it would be used for low temperature applications such as domestic hot water and in industry.

'For all this to be achieved without periodic energy shortages, which are the typical hiccups of

Prudhoe oil a hot number for icy Alaska

Star 8/8/79 351 55

The Star Bureau

NEW YORK — Alaska has discovered the same truth about oil as the Arab states have done — it yields money in undreamed of quantities.

A decade after the Prudhoe Bay oilfield revolutionised life in Alaska and two years after the Trans-Alaska pipeline system loaded the first tanker at Valdez, the state's government now finds it is rolling in oil money.

A forecast of oil-related state income for the year 1980 was made on June 1, and by July 10 it was out of date. The forecast had to be raised by 614m dollars, a 77 percent increase.

Last winter and spring, the legislature produced a state spending budget of 1 100m dollars. The state will, however, collect 2 000m dollars in taxes from all sources.

When all contingencies are met, including the required set-aside-for-a rainy-day cache of 228m dollars, the state will have a surplus of 500m dollars.

The first oil well was brought in at Prudhoe Bay, and in the international oil economy of that time the oil was hardly worth sending to market.

The oil was in the north, on the shore of the ice-jammed Arctic Ocean. Oil was selling at five dollars a barrel or less, delivered from Saudi Arabia.

When Opec raised oil prices in 1973, it gave Prudhoe Bay's oil a new value and justified spending 10 000m dollars on the pipeline and related equipment to get the oil to market.

Surging oil prices ever since have assured Alaska a big share of the US market. To meet it, Alaska raised its own well-head price from nine dollars to 13,1 dollars a barrel and the operating companies have undertaken to squeeze 300 000 barrels a day through the pipeline by using special pumps.

Oil deliveries to the tankers will climb to 1,5m barrels a day by December, from the present 1,2m — giving frigid Alaska the same kind of oil bonanzas the Arabs have long been used to.

or A. Paul Hare — Professor J.H. van Rooyen — r Ross
trud Heydorn — Mev. S. Walters
A. Jacobs — Professor F.A.H. Wilson
M. Jimba
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Star 10/8/79 (55)

Huge oil slicks threaten ruin to Texas coast

Own Correspondent

NEW YORK — The world's worst oil slicks are brooding off the Texas coastline — threatening ruin for American wildlife and tourist and fishing industries along hundreds of kilometres.

The black gas has crept 500 nautical miles across the Gulf of Mexico from a runaway well spewing more than 3½-million litres of crude oil a day.

Mr Roger Meacham, an Environmental Protection Agency official, warned that it was impossible to predict how far the oil, carried by currents swinging around the Gulf and up the Atlantic seaboard, would invade.

RISKED LIVES

Oceanographers think Louisiana and Mississippi shores are safe, but Mr Meacham admitted that Florida, more than 1 000 miles away, was a "distinctly possible" victim.

Texas oil firebuster Mr Red Adair and his team have risked their lives in weeks in fruitless efforts to cap the well.

Petroleon Mexicanos began drilling two new wells to try to tame the flow. This operation is expected to take another month to complete and already 245-million litres of oil have poured into the sea.

Mexican authorities have spread a boom, sprayed detergent and sucked a small amount of oil into tankers, hoping that fires and the weather would take care of the rest.

But the detergent spray used to break up and sink millions of litres is said to have fused an ecological time bomb.

Surface slicks, some of them 80 miles long and 10 miles wide, are the visible menace. But 12 m beneath the waves — well under the booms — are millions of oil balls ranging from marble to tennis-ball size.

The most popular beach in Texas, at South Padre Island, is strewn with the balls.

As tourists who had not cancelled holiday bookings on the island made the best of befouled beaches, another slick was spotted more than 60 miles up the coast near Corpus Christi.

Nearby, at peaceful Laguna Madre, breeding ground for shrimp, turtles and brown pelicans — an endangered species — Coast Guard men and volunteers have rigged a boom, moved turtles and pelicans and dug up turtle eggs buried deep in the sand to transfer them to safer areas.

"This could just wipe out virtually everything that flies, swims or crawls on the Gulf coast," an expert from the Parks and Wildlife Department said.

Republiek van [illegible]
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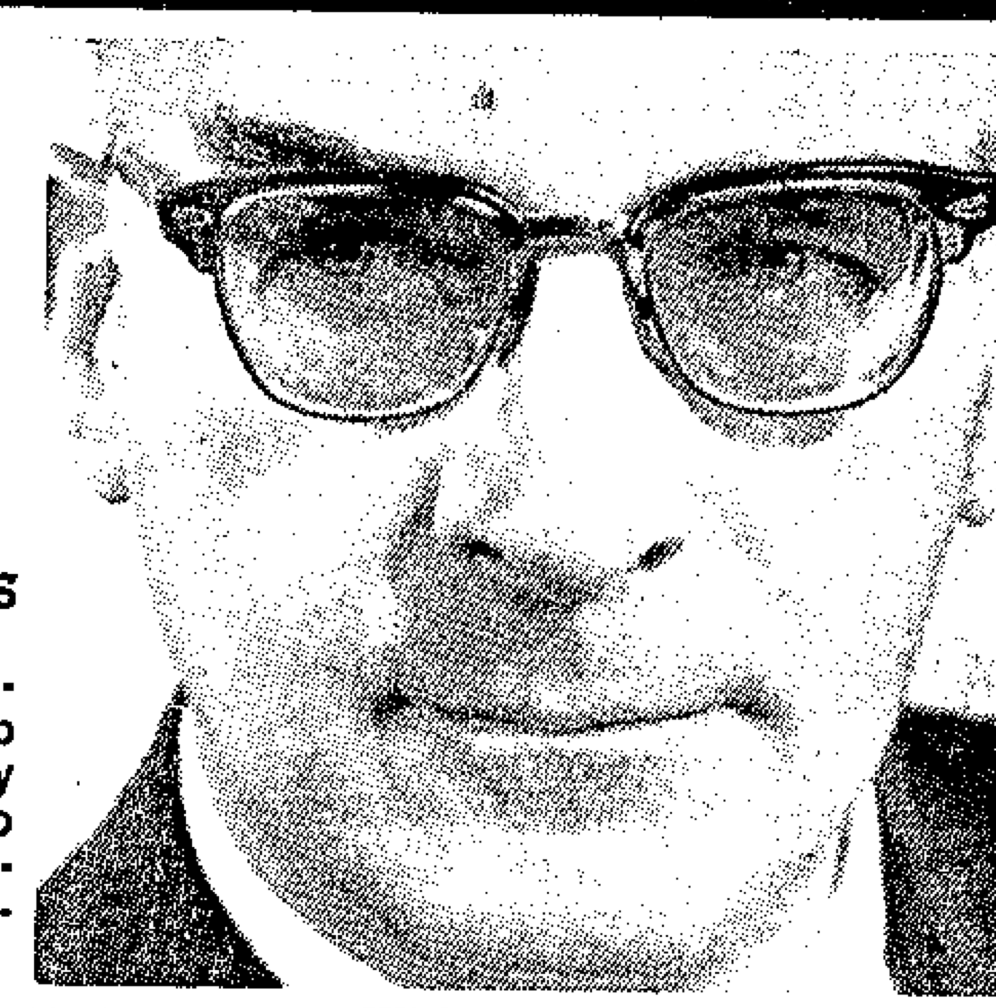
Sun. Times 12/8/79 (55)

Oil bungle

THE South African Government has mismanaged the oil crisis — a situation which has now led to fuel shortages, soaring petrol prices and the 70 km/h speed limit.

Expert 'glad that Heunis has gone'

By EUGENE HUGO



DR FRANS QUASS
A drive is needed to get on top of the energy crisis and to consolidate research and resources

This accusation comes from Dr Frans Quass, director of Soekor, member of the Prime Minister's Scientific Advisory Council and one of the country's top experts on energy.

He added, in an interview with the Sunday Times, that he was pleased that Mr Chris Heunis — the former Minister of Economic Affairs who was recently given the Transport portfolio — is now "out of it".

"South Africa seems to be meandering without proper direction through the energy situation," said Dr Quass. "There is an extreme lack of co-ordination in Government circles."

He criticised the "execessive secrecy" surrounding energy affairs.

He called for the Government to consolidate all planning and research resources under one Minister of Energy to get on top of the crisis.

Spelling out what was wrong with the Government's approach, he said "bad management" had been further aggravated by two main factors:

- The fragmentation of energy matters in many State departments and institutions with a minimum of collaboration and much contradiction.
- The fragmentation of fuel research in a "strange" range of mainly unco-ordinated institutes and laboratories.

In addition there was the "strangest contradictory situation" in the country: the Government's inexplicable resistance to methanol and ethanol on the basis of Mr Heunis's claim that arable land had to be used for necessary food production. This was in the face of an embarrassment of surpluses.

The Minister of Agriculture had recently dramatically announced sunflower oil as an effective fuel — "but what is more necessary for our underprivileged people than the food content in this product?"

To the surprise of the ethanol/methanol lobby, the Government had suddenly announced a fuel-from-cassava project on the Makatini Flats in Natal ahead of any final discussions on alternative fuels strategy.

Tests

Then there was the "non-application and lack of interest" in the findings of the Fuel Research Institute, which in its annual report in 1941 had stated that tests of alcohol-petrol mixtures (containing up to 20 per cent alcohol) in standard cars indicated negligible differences in fuel consumption.

"Shades of the present ethanol/methanol controversy?" suggested Dr Quass, saying that a partial explanation was that the FRI was financed by the coal industry and the Government and ... "no man can serve two masters".

As an example of contradictory approaches to energy, Dr Quass quoted the Department of Energy and Planning's pessimism over long-range coal resources while the then Minister of Mines, Mr Fanie Botha had totally different ideas.

Other criticisms were:

- Sasol II and III were sited in the wrong place from the point of view of labour, transport, homelands consolidation and strategic considerations.
- South Africa continued exporting coal needed for the manufacture of iron and steel when resources of this particular type of fuel were exhaustible.
- Soekor had never got adequate moral support.

Referring to coal exports, Dr Quass quoted from the 1979 edition of "World Coal": "Present sources of bland coking coal in the Witbank area of the Republic of South Africa are rapidly becoming exhausted and by 1980 will not meet the requirements of Iscor's three steelworks.

"New sources being developed by a number of coal mining companies supplying Iscor do not have the potential to meet the shortfall which will arise at that time."

Dr Quass, who confesses to being nervous over the implications of nuclear fuel, said significant gas discoveries had been made by Soekor. On the West coast there was a gas discovery where the pressure was so high it could not be properly tested.

And the Kudu well at the mouth of the Orange River had been described by two American authorities as a giant field. "Kudu could supply enough fuel for a Koeberg II instead of using nuclear fuel," he said.

He said he agreed with energy expert Dr Nico Stutterheim that methanol was one of the cheapest basic fuels; that with the encouragement of the State the private sector should produce methanol, subject only to equal excise duty; that the country's energy affairs were surrounded by excessive secrecy.

Gas find

Dr Quass said if Soekor manufactured methanol from its 1969 gas find at Plettenberg Bay it could produce 1 000 tons of methanol a day for 15 years which would save the State R52-million a year in foreign exchange as long as the oil price remained linked to the dollar.

Finally Dr Quass had a few words for the prophets of doom:

- The world as a whole was not threatened by immediate oil starvation and that it had reasonable oil supplies for at least until the middle of the next century.
- South Africa could suffer serious oil supply embarrassment through political pressure.
- But South Africa had resources of coal, including that needed for the production of oil-from-coal, if the mining industry swiftly and effectively halted its wasteful stoping methods.

Civil engineers feel the bite of fuel prices

Star 15/8/79 (55)

By Stephen Suckley

Another sector of the economy which is feeling the ripple effects of the rise in the price of fuel is the civil engineering industry.

The tempo of construction output at present is satisfactory although many contractors remain under-employed.

But the South African Federation of Civil Engineering Contractors says while the better order intake over the past 12 months has halted the considerable slowdown which was experienced in the industry during 1976, it has not resulted in a significant recovery in the industry.

TURNOVER

Turnover is running at about R100m a month and the industry's workforce has risen about five percent over last year's 90 000 employees. A peak was attained in 1976 when 135 000 were employed in the industry.

The federation is, however, fairly pessimistic following the latest round of petrol price increases which is expected to cost the industry R75m over a full year.

MARKED

This is having a serious effect on construction costs, particularly in work such as earthworks and roads which is fuel intensive.

Increased fuel costs have pushed up plant hire rates and the amounts charged by cartage contractors are having a marked effect on the cost of sand, stone and other materials used in the industry.

Taking a longer-term view, the federation is more optimistic albeit a little cautious.

The better demand and higher prices over the past year have made for a slightly better outlook.

MIXED BAG

Taking the country as a whole conditions provide a mixed bag at present. Conditions in the coastal areas are quiet but in the Orange Free State Goldfields, business is good.

In Natal work is fairly short, according to contractors, and in the Transvaal — which accounts for more than half the civil engineering work in the country — the level of activity is satisfactory.

navorsings-Fellows het aansienlik tot die Sentrum se program bygedra: dr Sheila T. van der Horst, afgetrede mede-professor van Ekonomie, U.K., en professor J.L.

Professor M.F.Kaplan
Ds. W.A. Landman
Mnr G.K. Lindsay
Sir Richard Luyt
Professor S.J. Saunders
Professor H.W. van der Merwe
Mede-professor D.J. Welsh
Professor Monica Wilson

Mennonite Central Committee se Konferensie oor: 'Die Rol van Geskiedkundige Vredeskerke', Gaborone, Botswana. Verhandeling voorgelê oor: 'The Role of Churches in Promoting Justice in Southern Africa' (Oktober).

Konferensie van die Afrikaanse Calvinis… Potchefstroom (Oktober).

(c) Deelname aan Welsyns- Professionele e… Organisasies

Die Direkteur het aktief gebly in die Suid-… Instituut vir Rasse-Verhoudinge as 'n lid va… Distrikskomitee, die Nasionale Uitvoerende K… die Raad.

Hy is Voorsitter van die Quaker Service Fund… die diensafdeling van die Godsdienstige Vriendekring (Quakers), wat gemeenskapsontwikkeling op die platteland en in die stadsgebiede bevorder.

Die Direkteur is gekies as lid van die Raad van die Vereniging vir Sosiologie in Suidelike Afrika. Hy is ook 'n lid van die Suid-Afrikaanse Sosiologiese Vereniging en van die Internasionale Sosiologiese Vereniging. Hy is aangestel as die Suid-Afrikaanse afgevaardigde in die Raad van die Internasionale Sosiologiese Vereniging vir die tydperk 1978-1982.

WAARDERING EN DANK

Ek is altyd dankbaar vir die geleentheid wat die jaarverslag bied om my waardering te betuig aan lede van die Akademiese Advieskomitee en die Beheerraad vir hulle leiding, aanmoediging en belang in die aangeleenthede van die Sentrum.

Die Universiteit van Kaapstad het benewens 'n bydrae tot die bedryfskoste van die Sentrum, ook vir die Sentrum sedert sy stigting in kantoorruimte voorsien. Met die uitbreiding van personeel het ons die huisie op die laer

c) Ander lede:

Mnr K. Bosman	Mnr H.W. Middelmann
Professor A. Cupido	Eerw. M.T.L. Moletsane
Mnr N. Daniels	Professor A.D. Muller
Mnr Achmat Davids	Sheik A. Najaar
Professor R.J. Davies	Mnr Victor Norton
Professor J.J. Degenaar	Professor N.J.J. Olivier
Mnr René de Villiers	Mnr L. Phillips
Dr I.D. du Plessis	Professor H.P. Pollak
Professor J.J.F. Durand	Mnr W.J. September
Professor J.B. du Toit	Mnr Franklin Sonn
Mnr A. Flederman	Mnr P.M. Sonn
Professor R.F. Fuggle	Regter J.H. Steyn

SA diesel shortage could be beaten

Star 17/8/79

55

The shortage of diesel oil in South Africa since the Iran revolution is likely to be overcome with new refining methods.

This follows the announcement by the Minister of Trade and Industries, Dr Schalk van der Merwe, that through a "technological breakthrough" South African refineries would soon refine more diesel fuel from every barrel of crude oil.

Serious shortages of diesel fuel have plagued road transport in South Africa since early this year when supplies of Iran oil, for which local refineries were designed, were cut off.

The principal research officer at the University of Cape Town's Energy Research Institute, Dr Kevin Bennett, said today the "breakthrough" probably meant merely that expensive hydro-crackers would be installed at South African refineries to give a greater range of petroleum products, including diesel fuel.

huidige ampsdraer is Biskop A.W. Habelgaarn. Terwyl geen verpligtinge aan lede opgelê word nie, word hulle geraadpleeg in verband met sake wat die Sentrum se program raak.

NAVORSING

Gedurende die verslagjaar het die navorsing van die Sentrum die volgende behels:

A. Mobiliteit en Politieke Verandering in Suid-Afrika

Hierdie projek is 'n paar jaar gelede aangepak. 'n Ondersoek onder die kleurling bevolking van die Kaapse Skiereiland is onderneem. 'n Aantal tydelike navorsings-

Friends (Quakers) en van die American Friends Service Committee deurgebring. Hy het 'n aantal konferensies in verskillende dele van die land bygewoon, baie vergaderings toegespreek en senior beamptes van die Carnegie Corporation, van Community Relations Services van die Departement van Justisie van die Amerikaanse regering, van die American Friends Service Committee en kollegas verbonde aan verskeie universiteite besoek.

Gedurende Augustus en September het die Direkteur Engeland, Nederland, Switzerland, Swede, Israel en Zambië besoek. Hy het vooraanstaande joernaliste, Suid-Afrikaanse diplomate, senior amptenare van die Suid-Afrika-Stigting en verskeie regerings betrokke by Suid-Afrikaanse belange ontmoet. Hy het besprekings gevoer met stigtings, trusts en opvoedkundige verenigings. As gevolg van sy besoek aan Nederland het hy 'n toelae vir die Konstruktiewe Program ontvang van die Algemeen Diakonaal Bureau van die Gereformeerde Kerken in Holland.

Professor J.L. Boshoff, ere-Fellow van die Konstruktiewe Program, het met 'n aantal instansies, wat universiteite in Natal en Transvaal insluit, en met verskeie handels- en industriële firmas in Natal, kontak opgebou.

(b) Konferensies

Gedurende 1978 het die Direkteur die volgende konferensies bygewoon:

Jaarlikse Konferensie, Nasionale Uitvoerende Komitee- en Raadsvergadering van die Suid-Afrikaanse Instituut vir Rasseverhoudinge, Kaapstad (Januarie).

Suid-Afrikaanse Jaarlikse Vergadering van die Religious Society of Friends, Stutterheim (April).

Negende Wêreldkongres van Sosiologie, Uppsala, Swede. Verhandeling voorgelê in Werkgroep 6 en vergaderings bygewoon van die Raad van die Internasionale Sosiologiese Vereniging as die amptelike afgevaardigde van Suid-Afrika (Augustus).

Star

17/8/79

(55)

Koeberg will be safe, says Minister

Pretoria Bureau

The type of nuclear power station being built at Koeberg was the safest that modern technology had devised, the Minister of Environmental Planning and Energy, Mr de Klerk, said yesterday.

Addressing the annual banquet of the Natal Chamber of Industries, Mr de Klerk said every precaution against accidents and environmental pollution had been incorporated in the power station.

Only when economic and other considerations clearly indicated that further nuclear power stations should be built would this be done, he said.

Mr de Klerk said South Africa was in a relatively favourable position despite a world-wide physical shortage of oil. This was because 77 percent of its primary energy needs was met by indigenous coal, as well as a small amount of hydro power, and 23 percent was met by imported oil.

HARDSHIP

He said the loss of imported oil to South Africa would cause hardship but the effect would not be catastrophic. Indications were that in the longer term, with the development of locally produced fuels, South Africa would be less dependent on imported fuel.

Mr de Klerk said South Africa, in its need for an energy policy, was not floundering without direction.

"In developing the guidelines of an energy policy it is important to realise that the correct choice on many energy issues cannot be made immediately nor all at one time," Mr de Klerk said.

"Geological resources, oil availability, environmental constraints, technological advances and other uncertainties preclude a country from adopting a single set of inflexible programmes."

He said the development of the energy economy was an ongoing process, determined to a large extent by the innumerable decisions of consumers and producers, guided largely by normal commercial principles.

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Professor J.J. Degenaar

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... moet
... se 'n senior lektor van Unisa se SBL ... bl. 7

DIE Kellogg-reaktore by Sasol se aanleg op Sasolburg, waar die kosbare voggies op die oomblik uit sintesegas vervaardig word.

SASOL-PETROL KAN LAND-VOL LOOP

55
RAPP
19/8/79

Deur WILLEM LAUBSCHER

SASOL-PETROL landwyd te koop! Dit lyk na die volgende logiese stap noudat aandele ter waarde van R525 miljoen in die Sasol-projekte aan instellings (R490 miljoen) en die publiek (R35 miljoen) aangebied word. Die prospektus vir die aanbod aan die instellings is juis vandeesweek gepubliseer. Die publiek s'n kom volgende maand.

'n Mens kan aanvaar dat Jan Publiek wat in die Boland of in Suidwes of in die Verre Noord-Transvaal of Natal Sasol-aandele opneem, tereg sal begin wonder waarom hy dan nie sy eie petrol te koop kan kry nie. En 'n mens kan aanvaar dat op hoë vlak nou in hierdie trant gedink en gewerk word.

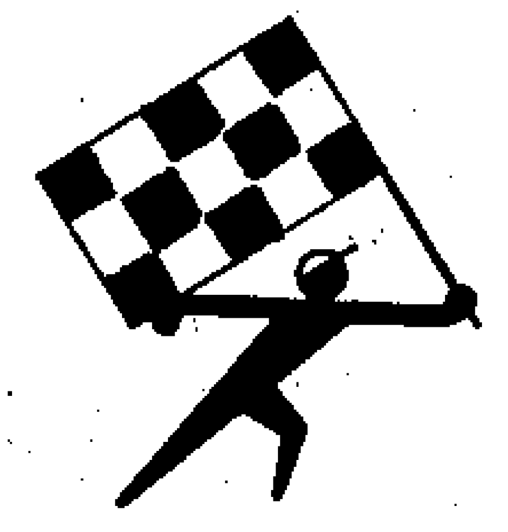
Op die oomblik word Sasol se petrol nog net in die hartland van Suid-Afrika verkoop, dws. die Witwatersrand en die Vaal-Driehoek. Trouens, die lyn van Sasol- verkope kan rofweg só getrek word: Tot by Bethal in die ooste, noord tot so entjie van Pretoria af, wes tot by Potchefstroom en suid tot by Bloemfontein.

Sasol doen natuurlik reeds jare lank sy eie bemarking. Maar daar bestaan nog geen volwaardige Sasol-vulstasies soos wat ons by die ander soorte petrol gewoond is nie. Die posisie is dat van die ander petrolmaatskappye volgens ooreenkoms Sasol-pompe by hul vulstasies aanhou.

Nou is dit seker logies om te aanvaar dat Sasol, met sy komende produksievermeerdering, daaraan sal begin dink om mettertyd self sy petrol restreeks aan die publiek te bemark.

Dit beteken dan eie vulstasies. Met die bedeling tot dusver was so iets nie moontlik nie. Maar noudat Sasol hier van Oktober af op die Johannesburgse Effektebeurs genoteer sal wees met aandeelhouers oor die hele land versprei, is dit logies dat aandeelhouers graag hul eie produk sal wil ondersteun, soos wat aandeelhouers van Trek darem graag sy motor by die geel en swart pomp wil volmaak.

Dis ook nie dat Sasol nie al klaar aan die res van die land buite sy bestaande verkoopgebied begin dink het nie. Sy TV-advertensie,



wat Suid-Afrika se inheemse branstof onder die aandag bring, met eers die volmaak van 'n motor by die blou pomp en dan later die Sasol-werke op die foto, is al 'n hele ruk aan die gang.

Voorspooksels kan soms verspot wees. Maar as 'n man sou sê dat bogenoemde dinge 'n storm in die petroltenk kan veroorsaak, sou jy dit bra rustig stel.

●In vandeesweek se prospektus aan die instellings projekteer Sasol sy belaste wins vir die boekjaar tot Junie 1980 op R94 miljoen. Sou Sasol oorgaan tot landwye bemarking (of dan sover landwyd as wat dit ekonomies reverdigbaar is) kan hierdie winssyfer nogal 'n merkbare verandering ondergaan. Hoeveel sou 'n man nie in hierdie stadium kan voorspel nie. Dit hang van te veel dinge af.

The high cost of energy

Special Correspondent

WHAT are the developing countries to do in the face of soaring oil costs? This was the basic question preoccupying a high-powered conference on energy held in London recently.

An impressive list of experts, in which the developing countries were represented just as strongly as the industrial powers, struggled to come up with the best long-term strategy.

Speaker after speaker emphasised that the world had reached a turning point. Oil, which had been an artificially cheap source of energy for the past 40 years or so, was already scarce and expensive and certain to become more so.

The developing world uses only 20 percent of the world's conventional energy though it holds 75 percent of the world's population. Projections show that its share of the cake will fall further as competition intensifies for scarce sources of energy, particularly of oil.

Already developing countries are being asked to pay such a high price for their fuel that their balance of payments and foreign exchange burdens are unbearable.

THE POOR

Many speakers agreed that this situation could seriously affect the growth rates of developing countries in coming decades. The opportunities for energy conservation among the poorer nations is minimal. Less than 20 percent of imported oil is used on transport, and a still smaller proportion in private cars. Very little fuel is used in heating or even refrigeration in hot countries.

The use of oil derivatives is largely by the poorest section of the rural community for cooking and lighting, and to a lesser extent to assist agriculture in powering pumps and driving tractors.

Lack of oil will also lead to further exploitation of alternative sources of power by deforestation in the search for firewood, a problem that has already reached alarming proportions in many African countries.

Dr. David Wasawo, of the Economic Commission for Africa, pointed out that the situation has already been reached in which the firewood under the pot has become more expensive than the food inside it.

T. L. Sankar of the Government of India Planning Commission said that the possibility of developing countries cutting back on their oil requirements is minimal and that very few countries had coal reserves or other sources of fuel. Nor was increased electrical power from hydro-electric sources the complete answer, because hydro-electricity is very capital-intensive.

Electricity is useful in providing power to industry, urban areas and mechanical work on stationary equipment, but the big need for power for developing countries in the future will be for transport and agricultural tractors.

A whole session at the conference dealt with the nuclear solution. But here the overwhelming weight of opinion was that nuclear power was of very little value to developing countries. It had all the disadvantages of producing electricity by hydro-electric power and more.

It involved huge capital costs and expensive infrastructure and could only be used where demand for power was concentrated.

Scarcely any African countries could afford the capital costs involved in a nuclear programme, nor could they maintain the highly trained scientists and technicians needed to provide the necessary back-up.

Dr. Jose Goldenberg of the University of Sao Paulo, Brazil, pointed out that almost all the leading developing nations that had gone nuclear with some enthusiasm, including Argentina, Brazil, India, Iran, Korea and Mexico, had since had second thoughts after realising that nuclear energy was not a universal panacea.

Another problem is the sheer scale of plant required to make the generation of electricity economic.

Efraim Friedman, of the World Bank, said that the cost of nuclear plant had increased to such an extent that it is simply out of the reach of most developing countries.

HAZARDS

Other speakers emphasised the safety hazards, the dangers of nuclear weapons proliferation and the need for international inspection. Only a few speakers suggested that the nuclear option should be kept open in case the developed countries made some major technical and cost breakthroughs in the future.

The conference then considered the mass of new technologies currently being canvassed to produce power. Here it was generally accepted that no single new technology was mature enough to be universally acceptable and economic.

Other experts suggested solar pumps, solar water heaters, river turbines, and wind power, but none of these was considered capable of making more than a marginal contribution in the immediate future.

JAARVERSLAG 1978

DIE OORSPRONG EN DOELSTELLINGS VAN DIE SENTRUM

Die Sentrum word grootliks gefinansier deur die Abe Bailey-Trust wat ingevolge die testament van Sir Abe Bailey gestig is. Dit is geregistreer as The Abe Bailey Institute of Inter-Racial Studies Limited (Beperk deur Garansie) - 'n maatskappy beperk deur garansie en sonder 'n aandele-kapitaal kragtens die Maatskappywet 1973 (Wet Nr. 61 van 1973).

55

29/8/79
DD

Border towns battle with energy crisis

EAST LONDON — Small Border towns which are battling with the increased cost of diesel power are thinking of switching to Escom — and one is considering a hydro-electric scheme.

Electricity tariffs in some towns have nearly doubled since the last diesel price hike.

Small-town municipalities, fearful of losing populations because of soaring electricity accounts, reason that Escom power would be cheaper in the long run than their own power generated by diesel plants.

The Tarkastad Municipality's diesel account has risen 162 per cent since December.

The Town Clerk of Tarkastad, Mr P. A. van Rensburg, said the municipality's diesel account would be R130 000 this year — compared with R50 000 last year. Electricity tariffs had increased by an average of 89 per cent.

There were 35 vacant houses in the town.

The municipality was negotiating for Escom power, but at present it would mean a saving of only a few cents a unit. Diesel power was costing 19c a unit.

"We are thus between the devil and the deep blue sea," Mr Van Rensburg said.

The Town Clerk of Maclear, Mr P. J. van Coller, said an engineer was working on a solution to the town's energy problem. Either Maclear would build a hydro-electric plant or it would opt for Escom power.

He said the capital outlay for a hydro-electric scheme would be high, but it might provide very cheap electricity.

The Town Clerk of Dordrecht, Miss J. M. Brits, said the town would have Escom power in February next year. At present, householders paid 16c a unit. — DDR

JAARVERSLAG

1978

SENTRUM VIR INTERGROEPSTUDIES
(Geregistreer as The Abe Bailey Institute of Inter-Racial Studies Limited (Beperk deur Garansie))

Posadres:
p/a Die Universiteit van Kaapstad
Rondebosch
Republiek van Suid-Afrika
7700

Kantooradres:
Leslie Social Sciences Building
University Avenue
Groote Schuur Campus

Telefoon: 65-4145; 69-8531 Uitb. 766

INLEIDING

Gedurende die eerste nege jaar van sy bestaan het die Sentrum vir Intergroepstudies gereeld 'n jaarverslag oor sy werksaamhede gepubliseer. Om die Sentrum se 10de verjaarsdag op 1 April 1978 te vier is die jaarverslag in 1977 vervang deur 'n Oorsig oor die Eerste Tien Jaar.

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'S.A. could do without oil imports' claim

NM 23/8/79

(55)

Science Correspondent

SOUTH AFRICA can become almost independent of overseas oil supplies — but without guidelines from the Government, private enterprise is unable to act to achieve this.

This was one of the messages which emerged clearly at yesterday's energy symposium held in Pietermaritzburg by the Agricultural Scientific Association of Natal.

Natal alone could supply 40 percent of the country's liquid-fuel needs from sugar cane, said Mr. A. J. Ardington, chairman of the South African Cane Growers' Association. The cost of the ethanol so produced would compare favourably with petrol.

"But the sugar industry still awaits a statement of liquid-energy policy from the Government. Business will not invest until a lead is forthcoming," he said.

Edge

Ethanol had the edge over all other alternatives for conventional fuel, said Professor P. Meiring, of the University of Natal's agricultural engineering department.

"Diesel fuel will be with us for a long time to come, but ethanol supplementation research should be pursued vigorously and without delay.

"I said this over two years ago but little has been done. We need a definite statement from the authorities that ethanol has the go-ahead, plus a real commitment and funding from the private sector," said Prof. Meiring.

Professor E. T. Woodburn, head of the department of chemical engineering at the University of Natal, said that without causing too much disruption to the sugar industry, cane could contribute 1 000 000 tons of fuel a year.

Inject

At the same time, this contribution would inject R127 million annually into the sugar industry.

The raw-material cost of the mixture of fuel he proposed would be 12c a litre and would comprise only one-third petrol.

Present reported claims about the potential of the root crop cassava in the Makhatini Flats of northern Natal made no sense at all, said Mr. W. J. Hefer of Anglo-American Corporation.

But the crop, grown on land unsuitable for sugar cane, still offered a means of producing food and energy.

Distilleries should be built which could deal with both cane and cassava, and the latter could play a tremendous role in the development of marginal areas, he said.

IN

Gedurende die eerste neg
Sentrum vir Intergroepstu
sy werksaamhede gepublise
verjaarsdag op 1 April 19
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DIE OORSPRONG EN DOEL

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Nr. 61 van 1973).

DD 28/8/79

Call for state lead in fuel production

55 DD 28/8/79

DURBAN — South Africa could become almost independent of overseas oil supplies, but without guidelines from the government, private enterprise is unable to act to achieve this state.

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Natal alone could supply 40 per cent of the Republic's liquid fuel needs from sugar cane, said Mr A. J. Ardington, chairman of the South African Cane Growers' Association.

The cost of the ethanol so produced would compare favourably with petrol.

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At the same time, this contribution would inject R127 million annually into the sugar industry.

Present reported claims about the potential of the root crop cassava in the Makhatini Flats of Northern Natal made no sense at all, said Mr W. J. Hefer, of the Anglo American Corporation.

But the crop, grown on land unsuitable for sugar cane, still offered a means of producing food and energy and 10 000 barrels of alcohol a day could be produced from it.

Distilleries should be built which could deal with both cane and cassava, and the latter could play a tremendous role in the development of marginal areas, he said. — DDC

Oil price forces Kenya to go begging

Star 29/8/79

55

NAIROBI — "The Arabs tried to make slaves out of us 500 years ago," a Kenyan journalist said recently, "and now they're trying to do it again."

His hyperbole was aimed at oil price increases and their likely effect on Kenya's economy. In eight months, two increases by the oil producing countries have nearly doubled the price of a barrel of oil delivered from the Persian Gulf to Kenya's port city of Mombasa.

The new costs mean that one third of Kenya's foreign exchange earnings must now be spent on oil, thus deferring badly needed rural development projects.

A Government economist pointed to new statistics that predict a 2 500-million dollar budget deficit over the next five years and a decline in per capita income. "We are more than worried," he said. "Say what you want, it's bad."

Energy

The economist estimated that about 30 percent of the programmes in a new four-year plan would have to be scrapped.

Because of a quadrupling of prices by the Organisation of Petroleum Exporting Countries in 1973, the third four-year development plan, published that year, was also out of date before the ink was dry. Only about 40 percent of the projects outlined in the third plan, most of which dealt with agricultural development, were ever realised.

Like most sub-Saharan countries, Nigeria being the outstanding exception, Kenya imports all of its oil, the source of 80 percent of its energy. This year Kenya will use 12-million barrels, up six percent over last year.

Also like most African countries, Kenya spends more than it earns. Because of unseasonal rains and a drop in world prices, a sharp decline in income from coffee and tea cut foreign exchange earnings by 40 percent.

While income went down, spending on defence and energy went up. In one year, Kenya's balance of payments fell from a R243-million surplus to a R178-million dollar deficit.

"The balance of payments gap is going to get a lot worse," says an American economist here. "Money they would have been putting into development they're now going to use to pay the Arabs."

The effect of oil price increases on tourism, Kenya's other major earner of foreign exchange, is no more encouraging. Higher oil prices mean fewer travellers, higher air fares and increased costs for going on safari.

Lacking coal or oil deposits, Kenya must import some 90 percent of its energy needs. Only 20 percent of the oil Kenya imports is used in private cars. The rest is absorbed by essential services, transportation of goods and by industry and the armed forces.

Kenya has taken some measures to conserve foreign exchange and to cut fuel consumption. Foreigners are forbidden to buy plane tickets with local currency, all importers must deposit a fee of from 40 percent to 150 percent of the value of the goods to be brought in, and vehicle registration fees have been raised proportionately.

But Western economists here say Kenya could be doing more, particularly by passing more of the energy costs along to the consumer. Although the price of crude oil has gone up almost 90 percent since the beginning of the year, the price of petrol in Kenya has gone up only 20 percent.

Budget

An economist points to a pervasive faith shared by many government officials that, as long as the country remains politically stable and run along capitalist lines, Western nations will bail it out financially.

Kenya receives more than R170 000-million in aid each year from the US, Britain, West Germany and the Scandinavian countries, and loans from the International Bank for reconstruction and development, the International Monetary Fund and many nations.

But in April Kenya was forced for the first time since independence to go to the European commercial market to close the gap on a more than R1 700-million annuol budget.

An agreement to borrow R170-million from a consortium of European and Japanese banks at an interest rate of 14 percent was signed last month.—New York Times News Service.

Die hoofdoel van die Sentrum is om navorsing na die onderlinge groepsverhoudinge in Suid-Afrika te bevorder en te lei, in die besonder oor verhoudinge tussen rasse- en taalgroepe.

AKADEMIESE ADVIESKOMITEE EN RAAD VAN BEHEER

Die program van die Sentrum staan onder die toesig van 'n Akademiese Advieskomitee wat in 1978 bestaan het uit die Direkteur (Voorsitter), die Prinsipaal van die Universiteit van Kaapstad, Sir Richard Luyt, die Adjunk ...
professor M.F. Kaplan, prof...

kampus, waar ons gedurende die laaste vyf jaar gehuisves was, ontgroei. Daarom is ek besonder dankbaar vir die ekstra ruimte wat ons nuwe kantoor in die Leslie Social Sciences Building op die Groote Schuur Campus aanbied.

Ek wil weereens die Carnegie Corporation en die Algemeen Diakonaal Bureau van die Gereformeerde Kerken van Nederland bedank vir hulle gulle ondersteuning van die Konstruktiewe Program wat ons in staat gestel het om meer personeel aan te stel en om publikasies en werkgroepe te

Sasol in deal to market its secrets in US

By Jean Moon

An agreement has been reached for the future marketing and use of Sasol's coal conversion technology in the United States.

A joint announcement by Dr Johannes Stegmann, managing director of Sasol, and Mr Charles Cannon, president of Fluor Engineering and Constructors, says Fluor and Sasol will perform overall consulting services, conduct feasibility studies and prepare basic design packages for potential users in the US.

The companies will also provide such other technical services as required during the engineering, construction and initial operation of the facilities.

Mr Cannon says the move should make a significant contribution to the development of the US synthetic liquid fuel programme.

As yet no one in the US has taken a decision to build plants based on Sasol's technology. Feasibility studies of the application under US conditions would first have to be conducted, for which Sasol will receive appropriate remuneration.

REQUEST

Houston-based Texas Eastern Corp has decided to request Sasol to proceed with such an evaluation in co-operation with Fluor.

The technology is not sold. Before any plant raised on Sasol's technology can be built in the US, a licence and a secrecy agreement will have to be entered into on terms that will be commercially favourable to Sasol.

Many obstacles must be overcome before any American company is in a position to commit itself to proceed with the design and construction of a full-scale commercial synthetic fuel plant in the US.

While the deal is not likely to have any immediate impact on Sasol's profits, earnings will be generated once Sasol-type plants are eventually built in the US.

Waterberg plant out of question, says Stegmann

Talk that a fourth Sasol may be planned for the Waterberg area was squashed yesterday by Dr J A Stegmann, managing director of Sasol. He said the area could not be considered for the development.

Speaking at the opening of South Africa's 24th Holiday Inn at Secunda he said the establishment of a Sasol in this area would take much longer than time would allow and would cost too much.

Before such a development could take place, drastic measures in design and planning would be required to obtain enough water to provide for the oil-from-coal process on an economical scale.

In addition, Sasol was a capital-intensive industry and the creation of jobs for people from the homelands was a factor in deciding on the situation for Sasol 2 and 3.

The Sasol 2 project was already 80 percent complete and production would start next year, with full production achieved in 1982.

Sasol 3, situated a kilometre from Sasol 2, was making excellent progress and site preparation was about 50 percent complete, said Dr Stegmann. The Sasol 2 and 3 projects would eventually represent a capital investment of more than R5 700m.

Dr Stegmann said Sasol was in the fortunate position where corporate philosophy had made it possible for it to invite equity participation by the public on conditions that would be fully competitive with the rest of the private sector.

The pursuit of excellence in all Sasol's activities had contributed greatly towards the profit history and technological expertise for which Sasol had become known, said Dr Stegmann.

If an undertaking had a strong profit incentive while operating in a competitive market, it contributed greatly towards enhanced performance at all levels of the organisation, he added.

JAARVERSLAG

1978

SENTRUM VIR INTERGROEPSTUDIES

(Geregistreer as The Abe Bailey Institute of Inter-Racial Studies Limited (Beperk deur Garansie))

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INLEIDING

Gedurende die eerste nege jaar van sy bestaan het die Sentrum vir Intergroepstudies gereeld 'n jaarverslag oor sy werksaamhede gepubliseer. Om die Sentrum se 10de verjaarsdag op 1 April 1978 te vier is die jaarverslag in 1977 vervang deur 'n Oorsig oor die Eerste Tien Jaar.

DIE OORSPRONG EN DOELSTELLINGS VAN DIE SENTRUM

Die Sentrum word grootliks gefinansier deur die Abe Bailey-Trust wat ingevolge die testament van Sir Abe Bailey gestig is. Dit is geregistreer as The Abe Bailey Institute of Inter-Racial Studies Limited (Beperk deur Garansie) – 'n maatskappy beperk deur garansie en sonder 'n aandele-kapitaal kragtens die Maatskappywet 1973 (Wet Nr. 61 van 1973).

Petrol supplies assured

32/3/79 (55) 55 D

EAST LONDON — Farmers will get the petrol they need, but as the fuel situation is still serious, they should try save 15 to 20 per cent, they were told yesterday.

Delegates of the Cape Province Agricultural Union were given this assurance by the director of the South African Agricultural Union, Mr Chris Cilliers, at their annual congress yesterday.

He said there were too many rumours going around about a 20 per cent fuel cut for farmers. If there was to be a fuel cut for farmers, he said, it certainly would not be as high as 20 per cent. — DDR

Cheaper power is needed say farmers

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55 DD 30/8/79

EAST LONDON — There was an urgent need for cheap electricity to the farming community, especially in the light of the fuel crisis and the scarce and expensive diesel fuel. This was the general feeling at yesterday's session of the Cape Province Agricultural Union's annual congress.

The question of cheaper electricity than the current expensive Escom power to the farming community was discussed when four motions to that effect were introduced.

The South African Agricultural Union has already drawn up a document in this regard and will present it for discussion to the Minister of Economic Affairs in the near future.

Yesterday's motions by the Midlands Agricultural Union, the Karoo Union, the Southern Cape Union, the Eastern Province Coastal Union and the Northern Cape Union regarding the question of cheaper electricity to the farmer were passed.

The Midlands and Karoo Unions asked that the provision of electricity to rural areas be expedited and that the high extension fees payable by consumers be investigated in order to supply electricity to farmers at economic tariffs. The Southern Cape Agricultural Union asked that congress request the government to make available funds for the financing of power-lines to farms which were not served by Escom.

The Eastern Province Coastal Agricultural Union introduced a motion whereby congress requested that a more uniform national tariff for the main classes of consumer be introduced as a matter of urgency and that this be done on the basis that distribution costs were also pooled or partly pooled.

The Northern Cape Agricultural Union introduced a motion that congress requests that the possibility be investigated that the surcharge which Escom presently collects from the consumer in order to obtain capital, which previously had been acquired by means of foreign loans, also be regarded as a loan to Escom and that the South African Agricultural Union discuss as soon as possible with the Minister concerned its views and comment on the report by the Board of Trade and Industry regarding Escom.

Mr S. J. van der Merwe of the Karoo Union said in introducing his motion that they wanted a better distribution of the tariff and a more realistic electricity price. He said that if farmers had a more realistic distribution of electricity costs it would have a positive effect on the job opportunities available in rural areas. It would also serve as a counter to the depopulation of the rural areas.

Mr Van der Merwe said that cheaper electricity to the farmer would also mean electricity for his labourers which would be welcomed by them. From a defence point of view it was also important that electricity be made cheaper. The rural areas could be more easily defended if there was a better distribution of electricity in the rural areas.

Mr W. D. Meyer of the Coastal Agricultural Union said that all the talk about the high Escom tariffs would not help. As long as the present policy stayed the farmers would pay through their necks for electricity. He said that with the present Escom policy there was discrimination against the farmer and the small towns. Diesel, the only other alternative to Escom power became more and more scarce and expensive. The best alternative was that Escom provided a cheaper tariff. It was not only in the interest of the farmer but also in the interests of the whole country.—DDR

FUEL FM 31/8/79 272 55

Blossom combustion

Zimbabwe-Rhodesia, short on capital but long on necessity, may leap ahead of SA in developing "green petrol" — alternative fuels such as ethanol from sugar cane or sunflower seed oil.

The feature of the past two years has been the dropping of grandiose oil-from-coal schemes in which the Industrial Development Corporation invested considerable research effort only to conclude that it was not economically viable, and its replacement with more modest methods of diversifying out of conventional liquid fuel.

One is a plant to produce ethanol from sugar in the Zimbabwe-Rhodesia lowveld. The plan is expected to provide Z-R with 15% of its motor spirit requirements by early 1980. This will subsequently be raised to 20%, which is the limit to which motor spirit can be diluted with ethanol. Thereafter, the country will have to develop a different combustion engine if still greater use is to be made of this source of fuel. So long as the sugar price is depressed, ethanol is an attractive proposition but it is not seen as being anything like a permanent solution. Eventually, Z-R plans to produce methanol from coal though this, too, is likely to be delayed until economic sanctions have been lifted.

Sunflower oil

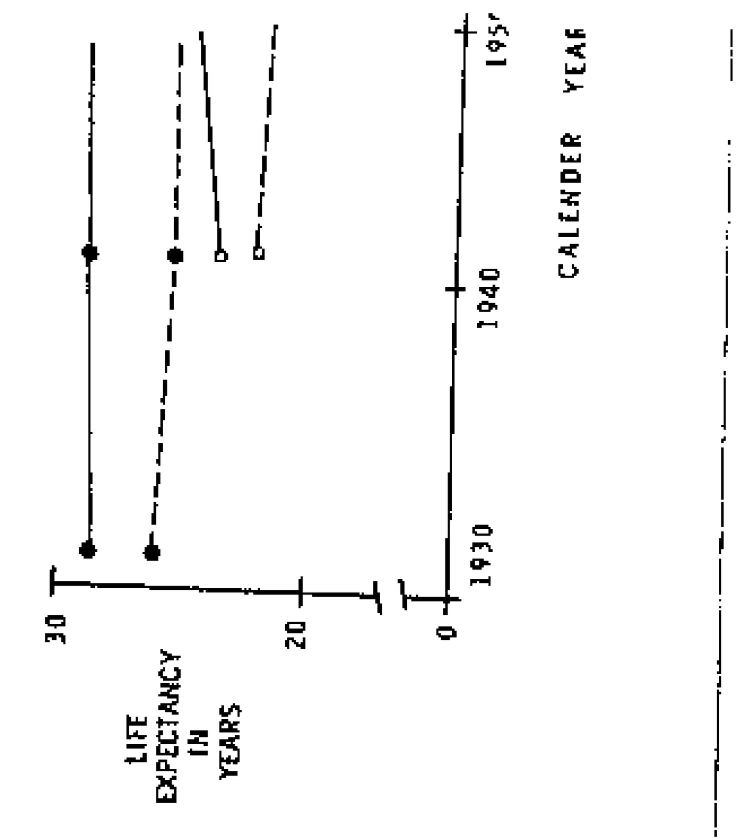
Also under study is the use of sunflower oil to power tractors in an estate close to Salisbury. A government team of agriculturalists and engineers has been experimenting in running tractors on sunflower oil or on a mixture of sunflower oil and diesel fuel.

John Spear, who leads the project, says that the sunflower option has only become viable in recent months following oil price rises.

It would need something like 100 000 hectares under sunflower or soya bean cultivation to produce sufficient oil to replace the diesel fuel currently powering the country's estimated 20 000 farm tractors.

Z-R officials say there is enormous scope for increasing sunflower oil output by peasant farmers "if the price is realistic". In recent years, sunflower hectarage in the tribal trust lands has fallen from 56 000 ha to only 18 000 ha reflecting over-production and reduced prices. It has been calculated that, if sunflower oil is used, it could secure the equivalent of 1 000 litres of usable tractor fuel simply by combining 60 litres of tractor fuel with the necessary vegetable oils. The official paper says also that very few commercial farmers would be unable to produce 5 ha of sunflowers each year in order to provide fuel for one tractor.

Spear believes that provided farmers are given the go-ahead in the very near future, it would be possible to produce about 25% of the agricultural sector's diesel requirements from vegetable oils in the coming growing season. But, as planting is only a couple of months away, this looks unlikely especially as other experts are urging caution on the grounds that more research and tests are necessary before such a fullscale commitment can be agreed.



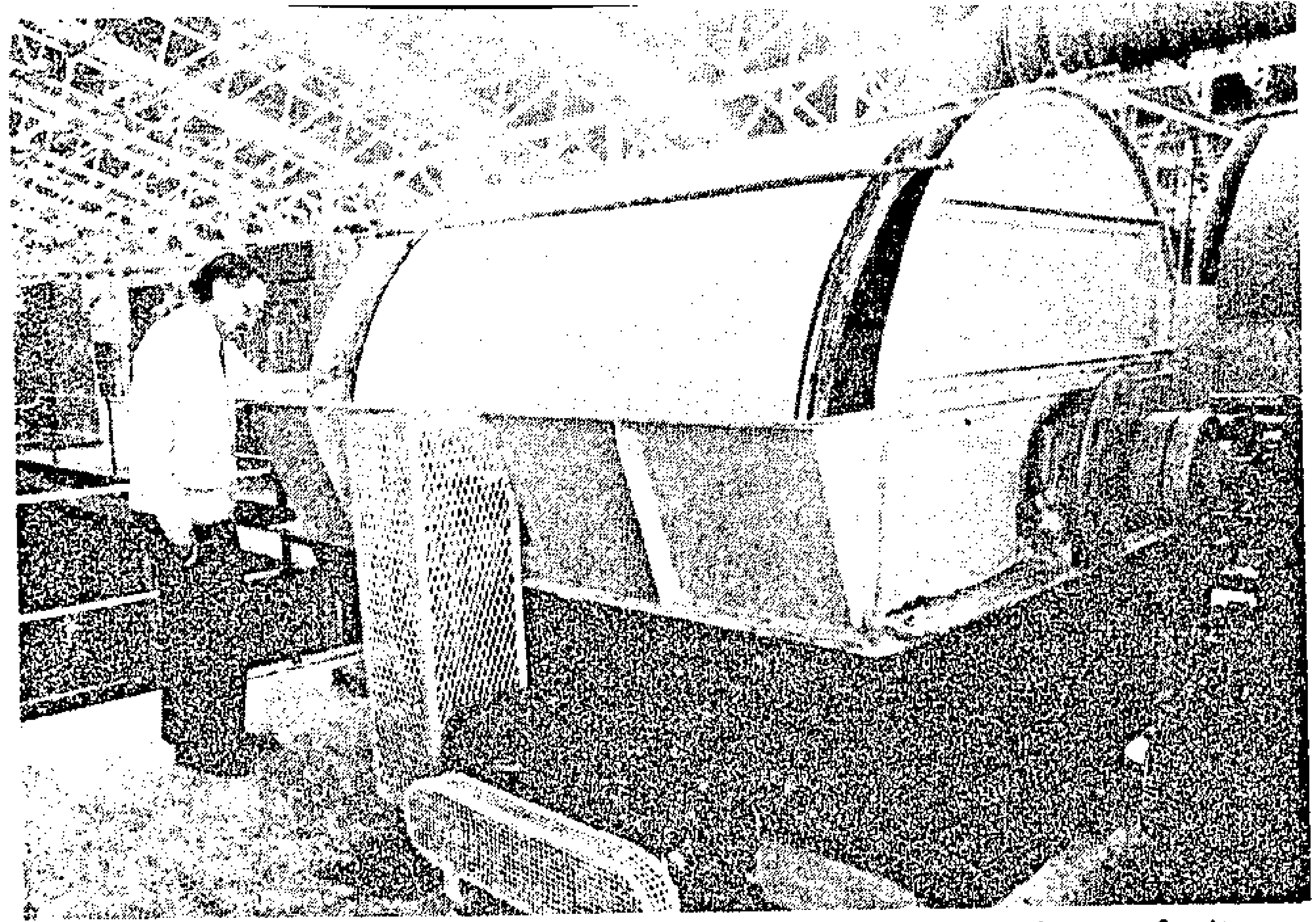
PART 2 1974

INTRODUCTION

In South Africa the analysis of mortality data is of particular importance since, apart from the notification of certain predominantly infectious diseases and a recently instituted collection of hospital ...

... several years. The 1974 report was the latest available at the commencement of this study. There are two series,[2] one for whites, Asians and 'coloureds' which covers the whole country, and one for Africans for selected magisterial districts which comprise the main urban areas.[3]

In 1974, there were 34 974 white, 4 795 Asian and 24 479 'coloured' deaths in a population of 4 155 000 whites, 709 000 Asians and 2 368 000 'coloureds',[4] death registration is virtually complete. The estimated total African population for the whole country for 1974 was 17 772 000.[4] On the basis of a crude death rate in 1970 of 10,3 per thousand for Africans for the country as a whole,[5] one would expect 183 000 deaths. Since the Births, Marriages and Deaths Registration Amendment Act of 1970,[6] the registration of African deaths is done by the Department of Bantu Administration and Development or its successors. In 1974, the Bantu Reference Bureau registered about 130 000 deaths.[7] The published report for the selected urban areas accounts for 31 410 deaths. Thus, about 100 000 residual deaths 'are not categorically divided in urban or



Producing uranium yellow cake . . . soon the US will be crying out for it

with a good deal of caution on both the demand and supply sides of the uranium equation. And they feel that an 18-month time lag estimate may be too short.

Among the cautious is the London-based Uranium Institute, (UI) whose members represent producers and consumers throughout the non-communist world.

At its April meeting in Sydney — before Three Mile Island hit the headlines — the UI accepted a report estimating that, at least until 1990, uranium supply and demand would remain in balance. That report obviously took no account of any reactor construction delays following Three Mile Island.

As the UI pointed out, both producers and consumers need to know with reasonable certainty both the demand and supply situation. And until 1985, because of planning and construction lead times, there is little uncertainty on upper demand limits. Until then, demand will be effectively determined by enrichment contracts rather than by changes in reactor-related requirements.

Thereafter, as new reactors come on stream and as the surplus of enrichment capacity over reactor consumption narrows, demand should correspond more closely with the current requirements of the power generating utilities.

The UI makes no projection of uranium prices. But, extending its argument, uranium consumption is highly price inelastic. Once a reactor is feeding power to the grid, it has to buy fuel rods at almost any price.

Even with the uncertainties on supply increasing the further one looks into the future, the US, as the world's main supplier (about 60%) of enriched uranium has considerable flexibility through varying the efficiencies of its enrichment plants. According to the UI, a supply/demand balance can be achieved throughout the Eighties on the basis that US enrichment facilities operate at their generally current 0,25% tails assay. (That means residues from enrichment plants have a 0,25% uranium content).

Thus, goes the UI's argument, by extracting more uranium at the enrichment stage — meaning a lower tails assay — until 1990 even if new production facilities (mines) come on stream slowly and reactor demand accelerates, supply/demand balance remains attainable.

This may be labouring the point, but if UI's estimates are correct, there should be no difficulties in supplying any likely uranium demand for the next 10 years.

According to latest estimates by Nuexco, which do take into account post-Three Mile Island reactor construction delays, the US will be the world's largest uranium user through the Eighties. Thus developments in the US will be overwhelmingly important as far as demand is concerned.

Unlike oil, the US currently produces more uranium than it uses, with this likely to persist until the mid-Eighties. But the US is a high cost producer with relatively marginal mines, so once it becomes a net importer, control of the uranium price could slip from the US to the major producers. That should lead to a major improvement in prices and could lead to a partially offsetting increase — new US mine production.

One argument goes, however, that if foreigners want to break into the US market on a large scale, they may have to hold prices back to inhibit new mine establishment in the US.

Just how critical this could be is borne out by Nuexco's latest estimates of free-world assured resources. These show the US with 708 000 t of a free-world total of 2,2 Mt at prices up to $50/lb.

What about the nearer term? The heyday of readily available consumer loans for mine developments seems to be over, at least for the present. There are, for example, unconfirmed reports that Nufcor is having difficulty tying up consumer loan related sales contracts for Afrikander Lease, while Western Areas, for one reason or another, has hardly started down the road to consumer financing of its proposed developments.

Another factor springs from the ramifications of the Westinghouse anti-trust case. A preliminary injunction obtained by Westinghouse has resulted in the Tennessee Valley Authority withholding payment to Canadian producer Rio Algom for the initial 0.5m lb of the 17m lb contracted for delivery until 1990.

Escrow account

TVA has paid the money into an escrow account in the US, but that is hardly satisfactory for Rio Algom. Unless an early settlement is reached, the Canadian producer could cease deliveries to TVA and try to sell elsewhere. To put the potentially disruptive effect of such a switch in perspective, annual deliveries under the contract are equivalent to around 2% of current free-world consumption. That may sound small, but the effect is that an amount equivalent to about 40% of Vaal Reefs' expanded output could be trying to find an outlet on an increasingly over-supplied spot market. And there are other "uranium cartel" members who will not be prepared to allow transfer of uranium to take place in the US with the risk that payment is frozen in that country.

In real terms, in contrast to crude oil, uranium prices have not advanced for over three years. Unlike oil, with production peaking and the world over an Opec barrel, uranium reserves are plentiful.

On that basis, consumers at present have a strong bargaining position with producers seeking firm supply contracts. Prices will increase, but it seems unreasonable to predict that they will be dragged upwards on oil's coat tails. Equally, it is not difficult to predict price rises at a rate sufficient simply to ensure balanced supplies reaching the market.

With oil, where world stocks are measured in weeks of consumption. For uranium, the excess of enrichment capacity over current and near-term consumption is such that consumers have stocks equivalent to almost twice current annual consumption — a situation likely to persist for the next 10 years.

Thus, even if it were possible, withholding supplies from the market need have little impact on prices. And the producers would probably cave in before the consumers.

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be accounted for by the ends it is expected to achieve.

URANIUM

(55) FM 31/8/79

No near-term price explosion

Last week, with his announcement that his administration would not immediately deregulate domestic oil and gas prices, President Carter set the gold market alight. Effectively it meant that US oil and gas producers would have little incentive to increase production, thus increasing the country's reliance on other energy sources and/or foreign supplies.

Also, despite the strengthening of the anti-nuclear lobby's hand by Three Mile Island, Carter has re-iterated that the US, which already derives 13% of its power from nuclear reactors, will lean increasingly on the atom for its energy needs. Couple that with the fact that, despite possible nuclear construction delays in the US, oil-lacking European and Pacific Basin countries are accelerating their nuclear construction programmes, and the stage is set for a further round of sharp uranium price increases. Or is it?

This year, several analysts have predicted that uranium prices are set for large near-term price hikes, quoting figures to show that uranium prices have followed oil prices with an approximately 18-month lag. Thus, the argument goes, by the middle of next year, uranium prices should reflect this year's Opec hikes, with price estimates of anything up to \$120/lb compared with Nuexco's current \$42,70 quote.

However, a growing number of analysts read the bones differently. Their views, if not downright pessimistic are tempered

Truck speed limits 'waste time, fuel'

Argus 3/9/79

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A SURVEY of 60 companies operating 2 000 heavy trucks comparing performances between the 80 and 70 km/h limits show the 70 km/h limit to be a waste of time, money and fuel.

This information was passed on to the Government authorities this week by Mr Jack Webster director of the Professional Hauliers' Association, in light of the new speed limit regulations which come into force today.

Moreover, figures covering the last six months of 1978 with the first six months of this year, when speed limits for vehicles over 9 000 kg were changed from 90 km/h to 80 km/h, indicate that hauliers reduced their fuel consumptions and wastage by considerable amounts, prior to the introduction of the 70 limit.

CONSUMPTION

The survey showed that fuel consumption was 0,8 percent worse at 70 and the litres per ton per kilometre, which Mr Webster says is the only true measure of fuel utilisation in trucking, was 5,3 percent worse at 70. The time loss, and therefore productivity, showed a decrease of between 12 and 24 percent.

By contrast, the 80 km/h limit, introduced on January 1 on all national roads, showed a fuel saving of 9,6 percent. Truckers reduced their fuel consumption by 7,8 percent and their litres/ton/km by 3,4 percent.

They covered 1,2 percent fewer kilometres, reduced their empty leg distances by 7 percent which gave a 2,25 percent saving on waste travelling overall.

They also carried 3,4 percent more goods than during the previous six months.

With these figures has gone out an urgent request to the government to reconsider its decision on maintaining the 70 km/h limit in the main metropolitan areas, where the hauliers are worst affected.

9 000 kg

Earlier, the PHA made representations to the government to make the speed limit for vehicles over 9 000 kg 80 km/h throughout the country.

Unless the limit could be upped, hauliers would be forced to buy more vehicles to increase their productivity, and this would lead, together with the other factors, to greater consumption of fuel, not less, they pointed out.

The Minister announced last week that speed limits in the main metropolitan areas on the Reef, Durban, Cape Town and Port Elizabeth would remain 70, while in other areas they would return to 90 km/h.

CRITICISM

It was a decision which was met with stern criticism by the AA and other motoring organisations, whose surveys indicated that the 70 limit was counter-productive, and the 80 limit would be preferable 'if any limit was considered necessary.'

The Cape Provincial Road Department, meanwhile, said the new signs would be erected by today.

The limits affecting the main highways out of the Cape — the Worcester highway and the Somerset West highway — would change from 70 to 90 at Exit 15, near Koelenhof, the turn-off to Stellenbosch and Klipheuwel, and Exit 18, 1½ km past the Stellenbosch turn-off.

The N7 limit change would stay the same — just past Bloubergstrand.

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The Natal Mercury

TUESDAY, SEPTEMBER 4, 1979 55

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THE SASOL DEAL

AT THIS stage we cannot get over-excited about the deal which Sasol has just concluded for marketing its oil-from-coal technology in the United States. We would like to know more about what this country will be receiving in exchange.

When it first became known that America might seek this vital South African expertise to help it beat the oil crisis, we commented that quite apart from any economic price South Africa might contemplate she should also be considering a political price.

We are still not unmindful of the fact that the American overtures began after Washington decided somewhat patronisingly to "allow" American firms to seek the Sasol technology. Nor can we overlook that this condescending gesture came from an Administration which has consistently denied South Africa strategic and other commodities which are important to her survival.

Of course we do not know the exact nature of the deal between Sasol and the American firm Fluor Engineers and Constructors Incorporated. However, as it is not customary to exact political prices from private enterprise it must be assumed that South Africa's reward from the agreement will be mainly royalties and other payments.

One can only hope that the South African Government has not let a valuable political card slip from its hand, for it is inconceivable that Pretoria should part with technology for one of the country's most precious assets — one which has put it streets ahead of other Western nations in the move away from crude oil to alternative energy sources — without thought of using it as a bargaining counter.

The trouble is that the Government seems in two minds about attaching strings to its strategic goods, although nobody thinks twice about denying South Africa its needs for survival. While the Minister of Mines and Labour has warned that South Africa would use her command of strategic minerals to ensure her survival in a "hostile world," the Minister of Foreign Affairs has ruled out any idea of mineral cartels.

Can we really afford to be so generous? If we are going to market a valuable technology that many nations are desperately anxious to possess, then at least we should quietly make it known to them that some form of reciprocity will be expected.

4. How does the answer to 3. change if the R70 000 is now a deductible loss, which can be set off against the taxable income from other sources of R50 000? Draw up the income statement assuming the deferral method is used.

5. Further to Note 4, assume now that the company has a set profit before depreciation of R60 000 in 19.8.

Draw up the income statement for the 19.8 financial year under a) liability method

b) deferral method

Assume the tax rate remains 42%

the cost of raising the necessary funds has to be taken into account. The funds themselves are already justified by comparison with the alternative methods of provision, but there are additional costs involved in raising them: interest on loans, or administrative and incentive costs of raising taxation. These are normally insignificant for any given project, but may affect the overall amounts available for the health budget.

Where the methods of providing a given service use the same kinds of resources in different proportions, the decision-making can be simplified by means of Linear Programming, though health service choices cannot usually be presented in the simplified way required by this method.

2. CHOICE OF PROGRAMMES

...udgeting

Programme budgeting, also known as budgeting by objectives, involves the presentation of expenditure data according to the objectives to which it is directed. Thus, projects to combat TB would be grouped together, geriatric problems, sanitation programmes, etc.

This is necessary:

(a) to know the cost of pursuing each objective;

(b) to group together activities with the same objectives which can be compared by cost-effectiveness analysis;

(c) to know the effectiveness of a given amou... on different objectives, so that choices ... terms of the alternatives we might afford ... day care centres, so many child welfare cl...

Financial statistics are not traditionally arranged ... categories such as 'salaries', 'transport', 'medicin... tion, e.g. between expenditure on different disease ... cannot be made.

The grouping of expenditure into programmes is an ar... mist in the U.K. Department of ...

... make a h... ...ical matters and matters ... in the health services. From one poi... question whether to treat schizophrenics in hosp... community is a technical one. Which is the chea... whatever are the society's requirements for the t... group? But community care originally became fas... good thing in itself. The practitioners are ver... the medical and economic arguments when it suits ... politicians and administrators equally so when it... but the economist's concern is to keep them separ...

Programme budgeting, then, entails the attempt at thi... ing out from the multiplicity of decisions those whic... the basis of administrative or economic, together wit... criteria, and those in which the role of the public t...

RHENIUM

Irritating platinum

Some oil companies, unhappy with the rocketing price of platinum, which is currently trading at around $430 in the free market, are believed to be showing increasing interest in boosting the amount of rhenium they use in oil refining re-

—salisbury—

forming catalysts at the expense of the precious metal.

Traders in London cite this as the principal reason for the sharp climb in the price of rhenium, a metal produced as a by-product of molybdenum, which now stands at around $2 500/kg, compared to around half that level at the start of the year. But in kilo terms the free market platinum price stands at $13 800 and the Rustenburg/Impala producer price at $12 200.

Over the years there has been a steady shift away from the mono-metallic platinum catalyst in the oil industry towards bi-metallic reforming catalysts. But some detect that platinum prices, enhanced by the metal's increasing industrial, jewellery and investment roles, not to mention Soviet supply problems, are now encouraging oil companies to proportionately increase the amount of rhenium they use. Two companies, for instance, which are believed to have been showing an interest in the metal in recent months are Chevron and United Oil.

To the extent that the oil companies continue to replace platinum with rhenium they are reducing the US' strategic dependence on SA platinum imports, especially as the US itself, in the form of such companies as Molycorp and Kennecott-Garfield, possesses over half the world's productive capacity of rhenium.

World rhenium production — another major producer is West Germany — amounts to a mere 5t-6t yearly, but a high percentage of the rhenium (and platinum) used catalytically in the oil industry can be recycled. So current purchases are aimed at making-up losses in current refining capacity and for use in a new capacity. However, though output is small, some analysts believe it is possible to adjust the level quite speedily should demand rocket — and that would keep the lid on prices and thus maintain the metal's attraction.

It is also possible to use rhenium in the three-way catalytic converter to break down car exhaust emission, the device which has done so much to boost platinum demand in recent years as US anti-pollution laws have been stepped up. However, experts point out that it is not such an efficient reducer of poisonous nitrous oxide fumes, though it could be increasingly eyed by the car industry.

At the moment the US imports around 800 000 oz of platinum a year, about 15% of which goes into the manufacture of oil industry catalysts and 50% into the automobile industry. Rhenium is no total substitute for that metal — both have to be used together in either application — but some suspect its increased utilisation may prove to be at least an irritant to platinum producers, especially at a time when they are mulling over expansion plans.

OIL FROM COAL

New SA process

FM 7/9/79

(55)

The Pretoria-based Fuel Research Institute of SA has successfully concluded laboratory-scale experiments on a new coal liquefaction process, which could turn out to be a valuable complement to Sasol's Fischer-Tropsch technology, says Institute research chemist Dr David Grey. The next stage is to set up a "bench scale pilot plant", to see whether the new method can be operated successfully as a larger scale continuous process. Rockwell International, the aerospace group, already operates a 1 t/h pilot plant in California.

The new process, technically designated "hydropyrolysis", comprises the heating of coal and hydrogen to a temperature of 400-700°C at a pressure of 100-200 atmospheres. Under these conditions, a useful proportion of the coal is converted to liquid hydrocarbons, mostly "aromatics" (ring compounds) such as benzene, toluene and xylene. These aromatics can be refined very much like natural crude oil, and provide high-octane motor fuel, so furnishing an attractive means of upgrading the octane number of Sasol petrol.

When the new process is commercially proven, the full-scale plant could be sensibly integrated with Sasol, especially as hydropyrolysis could use coal "fines" presently only useable by Sasol for steam-raising. The hydrogen required could be obtained by gasification of additional coal, treatment of the char left as a by-product, or by the "steam reforming" of by-product methane.

Hydropyrolysis has more favourable thermodynamics (heat balance) than the Sasol process. The yield of liquid hydrocarbons ranges from 20% of the dry ash-free mass of the coal (with low-grade coals) to a healthy 52% in the case of high-quality coal (with a high proportion of volatile constituents).

the cost of raising the necessary funds has to be taken into account. The funds themselves are already justified by comparison with the alternative methods of provision, but there are additional costs involved in raising them: interest on loans, or administrative and incentive costs of raising taxation. These are normally insignificant for any given project, but may affect the overall amounts available for the health budget.

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2. CHOICE OF PROGRAMMES

So far, we have discussed methods of choosing
objective. But what tools are available to a
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to be given to particular diseases or age grou
more to child welfare clinics or care of the aged?

Overall criteria are needed, and they have to be expressed in such a way that they can guide these detailed questions. Essentially, the problem is not only to relate resources used to objectives achieved, to relate the various objectives to each other.

There are various means of doing this; but all of them require that expenditure be accounted for by the ends it is expected to achieve.

2.1 Programme Budgeting

Programme budgeting, also known as budgeting by objectives, involves presentation of expenditure data according to the objectives to which is directed. Thus, projects to combat TB would be grouped together, geriatric problems, sanitation programmes, etc.

This is necessary:

(a) to know the cost of pursuing each objective;

(b) to group together activities with the same objectives which can be compared by cost-effectiveness analysis;

(c) to know the effectiveness of a given amount of money when spent on different objectives, so that choices can be formulated in terms of the alternatives we might afford - so many geriatric day care centres, so many child welfare clinics, etc.

nancial statistics are not traditionally arranged on this basis but in
egories such as 'salaries', 'transport', 'medicines', etc. A separa-
, e.g. between expenditure on different disease groups or age groups
t be made.

rouping of expenditure into programmes is an art. Pole, an econo-
in the U.K. Department of Health, writes:

ogramme structure should, in my view, be mainly determined
the decisions to the taking of which one wishes it to con-
ibute... One might suggest that where decisions are primarily
atter of political or moral judgement - of determining basic
iorities - one would want the activities to be compared to
side in different programmes - the mentally handicapped against
alcoholics; but where it is a more technical question of
particular objectives can best be achieved - drug therapy
inst behavioural therapy - one would want the activities to
This distinc-
lder vintage -
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separation, sorting out from the multiplicity of decisions those which can be made on the basis of administrative or economic, together with medical-technical criteria, and those in which the role of the public through political

Arm en ryk wil petrol bespaar

55
RAPPORT
9/9/79

DIE meeste mense, ryk of arm, wil brandstof bespaar teen 'n gemiddelde van 2,3 liter uit elke 10 liter wat vroeër gebruik is.

Op die vraag: „Is u persoonlik van plan om voortaan te besnoei op die hoeveelheid motorbrandstof (petrol/diesel) wat u gebruik?" het nege uit elke tien respondente (89,6 persent) ja gesê. Net 2,4 persent het nee geantwoord, terwyl die res nie motors bestuur of besit nie.

Op die vraag hoeveel hulle wil bespaar, is die volgende antwoorde verkry:

Een uit tien liter — 19,5 persent
Twee uit tien liter — 32,9
Drie uit tien liter — 31,5
Meer as drie uit tien — 11,8
Beoogde besparing nie aangedui nie — 4,2

Die spaarvoorneme by die lae, gemiddelde en hoë inkomstegroepe lyk onderskeidelik so: 2,5 liter; 2,32 liter; 2,19 liter.

Besparingsmetodes is so aangedui: beter beplanning van motorritte (76,6 persent); uitskakeling/vermindering van plesierritte (68,5); meer bus ry (12,4); meer stap (10,1); by 'n saamryklub aansluit (9,3), meer trein ry (8,0); ligter motor aanskaf (7,6); fiets aanskaf of meer gebruik (7,0); ontslae raak van tweede of derde motor (2,9); motorfiets aanskaf of meer gebruik (2,6); motor goed instel (1,7); bestuurstegniek verbeter (1,7); hou by 70 km/h of stadiger ry (1,5); ander (4,5).

UNDERGROUND HAULAGE

Going loco?

(55) AN 7/9/79 (210)

Things are moving underground. The trouble is, too much moves under diesel power. Several gold mine managements are pushing for replacement of diesel haulage underground with battery-powered vehicles. Motivation is not so much cost saving as the fear shared by government and mining industry alike that a physical shortage of dieseline could cripple production. The mining houses themselves display a remarkable diversity of approach, ranging from enthusiasm for saving scarce fuel to hard-bitten scepticism about some of the practical problems involved in a switch.

Some mines (like Anglo American's Western Deep Levels) went electric years ago for sound operating reasons. But there are fiery mines where the presence of methane excludes the use of battery-powered units, because these cannot be flame-proofed as effectively as diesels. Anglo American started going electric even before the recent dieseline scare, says electrical engineer Andy Johnstone: the mining industry overseas has been switching to batteries for some time now, and manufacturers have tended to discontinue diesel lines, so that spares are now hard to get.

Anglo's Free State mines have a total of 215 battery-powered units on order, an illustration of the urgency of the programme. Rand Mines has 50 battery units on order to replace diesel, and main haulages have had "stick locos" powered by overhead cables in use for years. Even at Harmony, which is a fiery mine, there is hope of changing to batteries.

Mistrust

Although General Mining is using batteries in certain selected applications, mistrust of their current technical capabilities precludes a general replacement programme. But the group is working with suppliers to improve performance. Union Corporation, too, is only replacing diesels as they wear out, but has used batteries from the beginning at Impala and will use them at Beisa and other new mines.

Bob Robinson, GFSA's group consulting mechanical and electrical engineer, is no longer enthusiastic about a general switch as battery costs have "increased enormously," while there is a real problem with standards of maintenance underground. Anglo and GFSA in particular, feel that batteries have a shortened life underground, and some houses believe that high temperature (around 40°C) weaken performance.

But one battery manufacturer says that batteries have greater capacity at high temperatures and no greater tendency to over-discharge. Rather, the fault lies with dismally low standards of maintenance and supervision underground. "Batteries are at present subjected to every imaginable form of mishandling," says the manufacturer. Only through an improvement in this area, can electric vehicles realise their full potential for lower operating costs than diesels, to justify their higher capital costs. The maintenance problem seems to vindicate the current caution of the more conservative mining groups.

55 13/9/79

SA 'could become net exporter of energy'

By Jean Moon

Forecasts by the Stellenbosch teams show only a moderate improvement in economic conditions in 1980 before the business cycle swings down again in 1981.

The public sector's real investment in economic infra-structure and provision of economic services rose at an annual rate of 13 percent between 1970 and 1976 after the 40 percent of the 1960s. This caused a pressure on domestic resources and rising inflation during those years.

The team feels the public sector's claim on resources should become relatively smaller in the future with the attendant benefits to price stability and the current account of the balance of payments. The need for imported capital should diminish.

The undertaking of Sasol 3 over the next three years combined with the expected tardiness of private sector fixed investment in 1980 is likely to lengthen the time before attaining a better balance between public and private sector investment.

But this country's rich endowment of uranium and coal together with the second and third oil-from-coal plant, could make South Africa a net energy exporter by the mid 1980s.

Despite South Africa's relatively poor economic growth performance the Government has preferred to reduce its real spending while cutting taxes to enable the private sector to generate economic growth.

From 1974 to 1976 the real consumption expenditure by general government rose by an average of 10.5 percent a year, and in 1977 and 1978 by about one percent a year.

In this SA Wheat Board laboratory, a sample of dough is tested for its various properties.

Higher diesel costs hit wheat areas

~~S Wheat~~ 55

STAR 13.9.1979

13/9/79

(55)

Hannes Ferguson on
FARMING

The State's favourite chickens are now coming home to roost.

When diesel fuel prices had to be adjusted after successive rises in the price of crude, during the last two years, the rise in terms of cents a litre was made the same.

The percentage rise, however, was much steeper with farm diesel than in the case of petrol, because of the lower level of the farm diesel price. The latter rose by 145 percent, petrol rose only 85 percent.

Farmers have warned that total fuel costs for every unit of farm produce was the figure that mattered not the rise in cents a litre, and that an increase of 145 percent in the fuel costs of a ton of wheat or other farm products would turn out to be highly inflationary. The differential treatment, to the disadvantage of the farmer, would ultimately have to be paid for by the consumer.

Disapproved

Nobody would listen. But now it has actually happened that way. Almost half of the 34 percent rise in the producer price of wheat, which was recently announced, can be attributed to the rise in the

actual yield. The reverse happens in above average years.

This has given rise to demands by farmers that income stability, rather than price stability, should be the guiding principle in price policy.

Backlog

For cost increases the farmer is, moreover, not automatically compensated. Since 1970-71 the price of farm inputs — fertilisers, implements, seed, etc — has risen by 144 percent, while the price of wheat has risen only by 82 percent. An ominous backlog has developed even in the last 24 months the total cost level has risen by 35 percent.

The producer price increase of 34 percent thus still leaves a backlog equal to the full cost rise between 1970-71 and ... top of this.

we would have to pay some R12 to R18 a ton more for imports than we pay for our own wheat.

Ahead there is only scanty prospect of improving yields and covering, in the long term, the needs of a growing population.

So, from the production side, there is little for the consumer's comfort. The price aspect, however, looks more encouraging.

In South Africa, the control system also is a considerable plus for the consumer. In the US, when the price of wheat is high, the value of the wheat in a loaf of bread will be around 13 percent of the price of the loaf. When wheat prices are low, the value of wheat in a loaf will be only 8 percent. The bread price, however, will not come down so that what the farmer loses the consumer will not gain.

In South Africa the value of the wheat in a loaf is 39 percent of the value of the loaf. Milling takes a 12,5 percent slice, baking 24,1 percent. Transport and delivery take a cut of 17,2 percent, the Control Board's expenses amount to only 0,3 percent and the retailer works on the princely margin of 6,6 percent.

Attitude

Millers and bakers are not exactly starved to death, but their margin is controlled at pensate for the error, the Government will have to increase its consumer subsidy for brown bread to 50 percent — 16 out of 32 cents — if the price of brown bread is to be kept the same. But how long will the subsidy last?

The signs do not look too good. Free market fundamentalists have always disapproved of subsidies in principle, and they may win again.

The general picture of the wheat industry, moreover, is not reassuring. The traditional wheat growing areas, the Western Cape regions of the Ruens (Caledon, Bredasdorp) and the Swartland (Malmesbury, Moorreesburg, Piketberg) cannot expand their wheat production, neither horizontally nor vertically.

The Ruens were forced to diversify, mainly into barley and lambs.

The Swartland lost the soil improvement formerly obtained from lupins, when the latter were driven from the fields by a leaf disease.

To obtain price stability, cost increases are carefully monitored, while the yield per ha is supposed to be a figure corresponding to a long-term average. In a dry year the farmer loses through having his cost per ton calculated through dividing his total cost per ha by the assumed long-term average yield, not his lower ... the last two years have been bad, especially in the Swartland.

In the face of limitations of soil and climate, the farmer just cannot absorb the heavy cost increases, such as the 145 percent rise in fuel prices — which were 10 percent of total costs two years ago.

In the Northern provinces, the wheat planted on the irrigation plots of the Vaalhorts, Loskop and Hartbeestpoort Dam schemes could have provided some stability, but owing to low wheat prices Loskop is already switching to cotton.

Prospect

The two other wheat areas, the Free State and the Springbok Flats, are substantial producers in good years, but the yield is erratic. This year the Flats are right down. The Free State has had copious rain and looks forward to a bumper crop, but, as in the Flats the dreaded crater wheat disease makes serious inroads. No remedy has yet been found.

This year there will be a small export surplus, around 300 000 tons — thanks to the Free State rains. The net realisation for exported wheat will be around R130 a ton, as against the South African producer price of R185 a ton. On the other hand, if we were to import wheat, ... about 15 percent of investment. There is no fat profit in milling or baking any more, so large milling companies like Tiger Oats and Premier Milling seek compensation by moving into feed production.

From there, they go into eggs with pork marked as a product for future expansion.

Still, the Wheat Board's attitude to millers and bakers is most positive. It has one of the finest milling and baking laboratories in the world. New wheat strains are regularly tested for yield and milling and baking properties. Flour is tested, so are methods of baking and various types of dough. Pasta for macaroni is included; so are the qualities of bread. The housewife is not forgotten.

Barley is investigated for all qualities important to breweries.

On the board itself, the producer majority has worked closely with the millers, the bakers, the trade and the consumer. Together they have built one of South Africa's most successful control systems.

Extending its interest beyond our borders, the board is co-operating successfully with black states, doing useful work in economic development by sponsoring bakers, millers and other industries in the black states.

with selected major categories of disease. Clearly, this is an entirely hypothetical situation. However, these competing risks life tables not only provide an indication of the relative importance of various disease categories to both the overall mortality experience and also to expectation of life of the three communities, but also, since there is an approximately linear relationship between the reduction of mortality and the percentage increase in life expectancy, any improvement will give rise to a proportional improvement in the expectation of life. Thus, if the mortality associated with any of the diseases included in Fig. 6 are reduced by 50%, then the increase in the expectation of life will be 50% of the improvements indicated.

With the exception of Neoplastic Diseases and Diseases of the Circulatory System in men, the 'coloured' community stand to gain most from measures directed at the control of any of the selected diseases included in Fig.6. Of particular importance are the Infectious and Parasitic Diseases, diseases which are frequently amenable to the implementation of relatively simple methods of prevention.

REFERENCES

1. Department of Statistics (1977). Census of Hospitals and Establishments for In-Patients. Report 20-06-01. Government Printer, Pretoria.

2. Department of Statistics (1977). Report on Deaths 1974. Report 07-03-10. Government Printer, Pretoria.

3. Department of Statistics (1976). Report on Bantu Deaths in Selected Magisterial Districts 1974. Report 07-03-08. Government Printer, Pretoria.

4. Department of Statistics (1976). South African Statistics 1976. Government Printer, Pretoria.

5. Department of Statistics (1974). Report on Bantu Deaths in Selected Magisterial Districts 1968 to 1971. Report 07-03-04. Government Printer, Pretoria.

6. South Africa. Act 58 of 1970.

7. Department of Bantu Administration and Development (1975). Report of the Department 1974/5. Report RP 114/1975. Government Printer, Pretoria.

8. Chiang, C.L. (1968). Introduction to Stochastic Processes in Biostatistics. Wiley, New York.

9. City [illegible]ape Town (1977). Annual Report of the Medical Officer of Heal[illegible] 7[illegible]. p.110. Cape Town.

10. Depa[illegible] Statistics (1976). Population Census 1970; Age, Marital Status and Type of Dwelling by District and Economic Regio[illegible] Report 02-05-08. Government Printer, Pretoria.

11. Martins, J.H. (1975). Regional Population Estimates for 1974. University of South Africa, Bureau of Market Research. Research Report No. 46, Pretoria.

1[illegible] [illegible]en, V.K., Bourne, D.E. (1977). The Reproductive Efficiency [illegible] [illegible]osa. S.A. Med. J. 51, 392-394.

[illegible]epartment of Statistics (1971). Statistical Classification of Diseases, Injuries and Causes of Death. Manual 07-03-00. p.v. Government Printer, Pretoria.

14. Department of Health (1978). A Guide to the Health Act, No. 63e 1977, p.17. Department of Health, Pretoria.

15. Department of Health (1978). Infant Mortality Rates in South Af[illegible] Epidemiological Comments Dec. 1978, 1-21.

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Dutch delay oil sanctions

Own Correspondent

THE HAGUE. — Immediate, unilateral oil sanctions against South Africa were rejected yesterday by Dutch Foreign Minister Dr Chris van der Klaauw as a "useless blow in the air", but he agreed to seek support for an oil embargo and to report to parliament on his progress before June 1 next year.

During the first round of the Foreign Affairs debate in the Hague, the Christian Democratic Appeal (CDA), Labour Party and Radical Party all came out in favour of sanctions to force South Africa to drop its apartheid policies.

Between them, these parties command more than two thirds of the seats in the Dutch second chamber, or lower house.

The CDA is not ready, however, to go ahead with immediate sanctions and favours postponement of their introduction until next year.

Dr Van der Klaauw has accepted the request that he discuss oil sanctions with his EEC colleagues, but he insisted the political decision on whether to introduce sanctions would have to be taken in the light of the promised report.

Under heavy pressure from opposition members, including Labour Party Foreign Affairs spokesman Mr Relus ter Beek, the Foreign Minister insisted time and again that he considered independent Dutch action a pointless gesture.

"I want to leave no doubt — and I say with the utmost emphasis — that the government regards this policy (apartheid) to be totally unacceptable on moral grounds," he said. "But the Dutch policy must be directed: That is to say, it must be aimed at the dismembering of apartheid."

He reaffirmed his commitment to international sanctions against South Africa and said the Netherlands had an obligation to take a lead because of the traditional links between the two countries.

The two-day debate has shown that the Christian Democrat-Liberal coalition government is far behind MPs in its condemnation of South Africa's policies.

There was clear pressure from the house for a government move towards tougher action on South Africa.

The CDA motion tabled at the beginning of the debate was a compromise between the progressive and conservative elements within the party.

Though it took the pressure off until June, the gradual escalation of anti-South African feeling is likely to bring the house to an even tougher stand by that time.

POLITICAL comment in this issue by Allister Sparks, Benjamin Pogrund, Chris Day; newsbills by Peter Bunkell; headlines and subediting by Mike Stent; cartoons by Bob Connolly; all of 171 Main Street, Johannesburg.

Rising demand leaves Escom powerless

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STAR 17/9/79

Pretoria Bureau

Escom cannot meet the demand for electricity which has followed the recent increases in the price of diesel fuel.

The commission has been inundated with requests from rural municipalities and farming communities, but delays of at least a year can be expected before these can be met.

The Minister of Industries, Commerce and Consumer Affairs, Dr van der Merwe, said in Pretoria that Escom was suffering from a shortage of skilled labour.

In a three-month period 1 920 requests for electricity had been received by one Escom branch, Dr van der Merwe said.

"Although Escom is it is realised that it will very sympathetic towards these applicants and while benefit national and financial interests for the consumer to switch to electricity not generated by diesel fuel, delays of a year or more are inevitable."

Escom was short of trained and skilled construction personnel and planners as well as material and had limited funds.

"It can hardly cope with the normal demand for electricity and will find it impossible to comply within a short space of time with the abnormally high number of requests from the farming community and municipalities."

Dr van der Merwe said Escom was at present mustering its manpower and material on a national basis to try to reduce expected delays.

He appealed to new and prospective applicants to show understanding in a situation for which neither the Government not Escom could be blamed and for which a solution could not be found overnight.

STUFFED CABBAGE SALAD — May Bennett, Ridgeworth

1 fresh green medium size cabbage
onions
carrots
tomatoes
fresh pineapple
radishes

French dressing:
Blend together 6 T salad oil and 2 T lemon juice.

---oOo---

SPRING GREEN SALAD — May Bennett, Ridgeworth

1 medium size lettuce
2 onions
parsley
1 cucumber
mint (fresh)
scallions

Wash and shred the lettuce, chop onions finely and parsley; ew pieces for garnishing. Wash cucumber peel and cube. lions, and cut tops off leaving a short piece of the t on. Toss the lettuce, parsley, cucumber, onion and together, salt and pepper. Pour over a little French and serve in a glass bowl. Garnish with a few sprigs nd parsley.

---oOo---

GREEN BEAN SALAD — Mrs Futter, East London

iced green beans
d onions
1 d salt, level
2 cups water

beans (sliced) with salt and onions till cooked, then pour off the water.

Sauce:
1 1/2 cups sugar
1 d curry powder
1 heaped T flour
1/2 bottle vinegar

Mix the curry powder, flour with a little water. Mix well, so that no lumps form, and then add the sugar and vinegar, boil up and stir all the time, then add the cooked beans and onions, bring to boil again. Bottle.

---oOo---

APPLE TUNA TOSS SALAD

1 medium head lettuce, torn in bite-size pieces (4 cups)
2 cups diced apple
1 11 oz can (1 1/3 cups) mandarin orange sections, drained
1 6 1/2 or 7 oz can tuna, drained and broken in large chunks
1/3 cup coarsely chopped walnuts
1/2 cup mayonnaise or salad dressing
2 t soya sauce
1 t lemon juice

In a large salad bowl, combine lettuce, apple, orange sections, tuna and nuts; toss together. Combine mayonnaise, soya sauce and lemon juice; mix well. To serve, add dressing to salad; toss gently. Makes 4 - 6 servings.

---oOo---

Petrol dealers in revolt over oil rebate

55

Argus 20/9/79.

By Geoff Dekenah

PETROL dealers throughout the country are on the verge of a national revolt following the news which leaked out today that the Government in effect granted the oil companies a two cent excise duty rebate in April.

MOCK CRAB

Ellie Lotter, Bellville

1 large tomato
1/2 cup grated cheese
2 beaten eggs

1 T butter
1 t grated onion
salt and pepper to taste

Peel and slice the tomato. Melt butter in a pan and fry tomato to a pulp. Stir in the grated cheese and onion, then the beaten eggs

stirring until disolved. Place on medium heat and bring to boil, add the coconut and boil for a further 5 minutes. Remove from heat and place in a pan of cold water, add colouring and flavouring and beat until thick. Set in an 8" papered, buttered square pan as this is a soft type of coconut ice. The Malays usually set this coconut ice in little greased kadoesies (folded papercones). The delicious brightly coloured coconut ice is generally tinted pink or green.

---oOo---

ROLLS

Janine Brown, Brackenfell

1 egg
1 1/2 t salt
1 cup water
1/6 cup margari

3 1/4 cups cake flo

Dissolve yeast
minutes. Beat,
and butter, bea
stand till doub
buttered baking
375°F for 10 -

POTATO CAKES

Mix 4 cups grated raw potatoes with 1/2 a cup milk, 2 beaten eggs, 3 T flour, salt, pepper and 2 T grated onion; fry in hot oil.

---oOo---

BULLY BEEF BRAWN

Maureen Johnston, East London

1 tin corned beef
2 cups boiling water
Worcester sauce

2 T gelatine
1 hard boiled egg

Remove corned beef from tin and cut up into small pieces. Place in a pot with boiling water. Bring to the boil for 7 minutes. Season
iled egg
set in

in and return to pan. Chop onions, fry in 50 g butter till soft, add paprika and garlic seasoning. Add to cauliflower and mix carefully. Put in a dish, top with diced pepper and tomato. Cover with crumbs, cheese and rest of butter. Heat under grill till golden brown. Garnish with parsley.

---oOo---

Petrol dealers have borne the brunt of the 15c-a-litre June increase and limited hours legislation which has produced cash-flow problems, increased daily cash losses and eroded profit margins.

Added to this, their workshop turnovers have dropped with the petrol sales — about 25 percent — and consequently they have suffered a general gross profit drop.

Action

Representations made to the authorities have so far fallen on deaf ears, and dealers are rumoured to be planning disruptive action to draw the attention of the authorities to their plight if they don't get action by tomorrow.

Mr Steve Barnard, chairman of the Motor Industries Federation service section for the Western Province, said his branch was meeting today to discuss action. Government departments were supposed to have investigated their plight but 'months go by and we hear nothing.'

Sale refusal

One method being mooted to attract attention is a plan to close all service stations on random days on which they will refuse to sell petrol.

This would mean that the public would be unable to buy fuel at any service station in the Western Cape on say a Wednesday this week, or a Thursday next week, without earlier warning.

Millions

'What the Government does not realise is that the petrol industry is now the biggest cash business in the country,' one dealer said.

'The daily cash throughput in Cape Town's service stations alone amounts to millions. By the time the dealers have paid their rent, the bank overdrafts they need to pay the oil companies cash in advance for their product, their staff to serve the petrol and their electricity overheads, there is nothing left at all.

'The oil companies don't underwrite the driveway

(Continued on Page 3, col 4)

Dealers

(Continued from Page 1)

losses. We have to absorb them.'

Senator Owen Horwood, the Minister of Finance, transferred two cents a litre from the customs and excise duties to the State Equalisation Fund in April, the Minister of Industry and Consumer Affairs, Dr Schalk van der Merwe, told The Argus political correspondent in Pretoria yesterday.

This meant that excise duty was in effect, being rebated to the oil companies. The Equalisation Fund is used to stabilise the fluctuations in the spot market oil prices being paid by oil companies for crude oil.

Dr van der Merwe said this action by Senator Horwood had in fact prevented a price increase next month. Dr van der Merwe said there was no prospect of a decrease in the price of petrol 'at the present moment.'

R29,5m plan for fuel from SA city refuse

55 RDM

20/9/79

By JEREMY BROOKS

AN AMBITIOUS R29,5-million project to manufacture an alternative fuel, ethanol, from refuse gathered in the main city centres has been formulated by a South African company.

Hessy Africa (Pty) Ltd has already approached the Government and 60 municipalities, including Johannesburg, Bloemfontein, Cape Town and Pretoria, for reaction to their scheme.

The company claims that the scheme, besides solving "acute" refuse and fuel problems, will create jobs for 2 720 unskilled workers.

Managing director Mr J A Venter has outlined the project in a memorandum sent to the Minister of Trade and Consumer Affairs, Dr Schalk van der Merwe.

The memorandum has been forwarded to the Minister of Energy, Mr F W de Klerk, who will give it attention at the "earliest possible moment", a spokesman for his department said yesterday.

The company estimates that neighbouring farms producing additional raw material for the ethanol plants in the form of cassava could employ as many as 18 000 workers.

Hessy Africa maintains it could process 2 533 tons of refuse daily, producing 253 300l of ethanol, worth R50 660 at 20c a litre. It would produce other by-products, such as animal feeds.

The company's general manager, Mr C J H Kruger, says the idea of producing ethanol from waste products is not new.

"It was done in Germany during the war and there is no reason why it could not be done in South Africa today.

"Municipalities across the country are spending millions every year covering up refuse, when it could be a valuable raw material."

Ethanol is already produced on a large scale in Brazil, which is now the world leader in this field. Its petrol mixtures contain 20% ethanol and diesel mixtures as much as 50%.

Hessy Africa says ethanol production is not essential to the profitability of the project. Animal feed production alone would provide ample profits.

The company estimates that one ethanol plant could yield a gross profit of R607 030 a month. Initial capital cost of establishing a plant would be around R3-million.

"We will wait until the contracts with the municipalities have been tied up, guaranteeing our source of supply, before the company goes public," Mr Kruger said.

Analyses of local refuse samples by a French organisation had yielded promising results.

He said that only 18 months would be needed for construction of the first ethanol plant before beginning production.

(55) Star 20/9/79 (14)

Brazil: a second look at gasohol

OIL 2

By Michael Sieniawski

Brazil, the first country to introduce gasohol on a national scale, is the object of much worldwide interes from countries looking for alternative ways to power their cars.

But these countries also should look to Brazil for another side of the gasohol picture: It is a very expensive proposition — especially for less well-developed countries.

Brazil's national alcohol programme was inaugurated three years ago when the government decreed financial incentives for construction and expansion of distilleries to produce alcohol from sugar cane.

Brazil is one of the largest growers of sugar cane, although manioc, potatoes, beets, babassu and other crops also can be used.

The hope is to increase existing production of less than 450-million litres to 1 260-million litres by 1985. This will require new investments well in excess of R4,300-million in new plants and equipment, and some 1,6-million additional hectares or an estimated 2 percent of the country's arable land in new plantings. It will also necessitate more than a million more farm hands.

The use of mechanised farm equipment and such biological soil inoculants as Agrispon, which increases the yield per hectare, would be helpful if Brazil could afford them.

Even with alcohol production at 1 260-million litres in 1985, it will reduce the present oil consumption only by approximately eight percent.

At present alcohol is widely used up to 15 percent in mixture with gasoline. There are plans to increase this to 20 percent — the maximum recommended without making motor adjustments.

Plans also include converting 1,7-million cars entirely to alcohol by 1985, of which 500 000 would be used cars converted at relatively low costs of R170 to R340. The other 1,2-million cars would be built with alcohol fuel motors by auto manufacturers in Brazil. New alcohol engines cost approximately the same as standard ones.

Pollution-free

One million care are produced annually with an estimated 7-million on the roads today. Motor vehicles of all types account for all oil consumed in approximately half of Brazil.

Although alcohol provides only 80 percent of the power of petrol it has the great advantage of being almost free of pollution.

But it is not free of price increases. The Government constantly raises prices in an effort to curtail consumption. The last prevailing prices at petrol stations, probably already raised again by now, were just more than a dollar a gallon for alcohol, 1,50 dollars for gasohol and 75 cents for diesel. However, these prices reflect more the government pricing policy rather than real costs.

Brazilian experts say the realistic solution to substantial natural oil substitution is in methane derived from coal, methanol from wood and particularly oil from shale deposits.

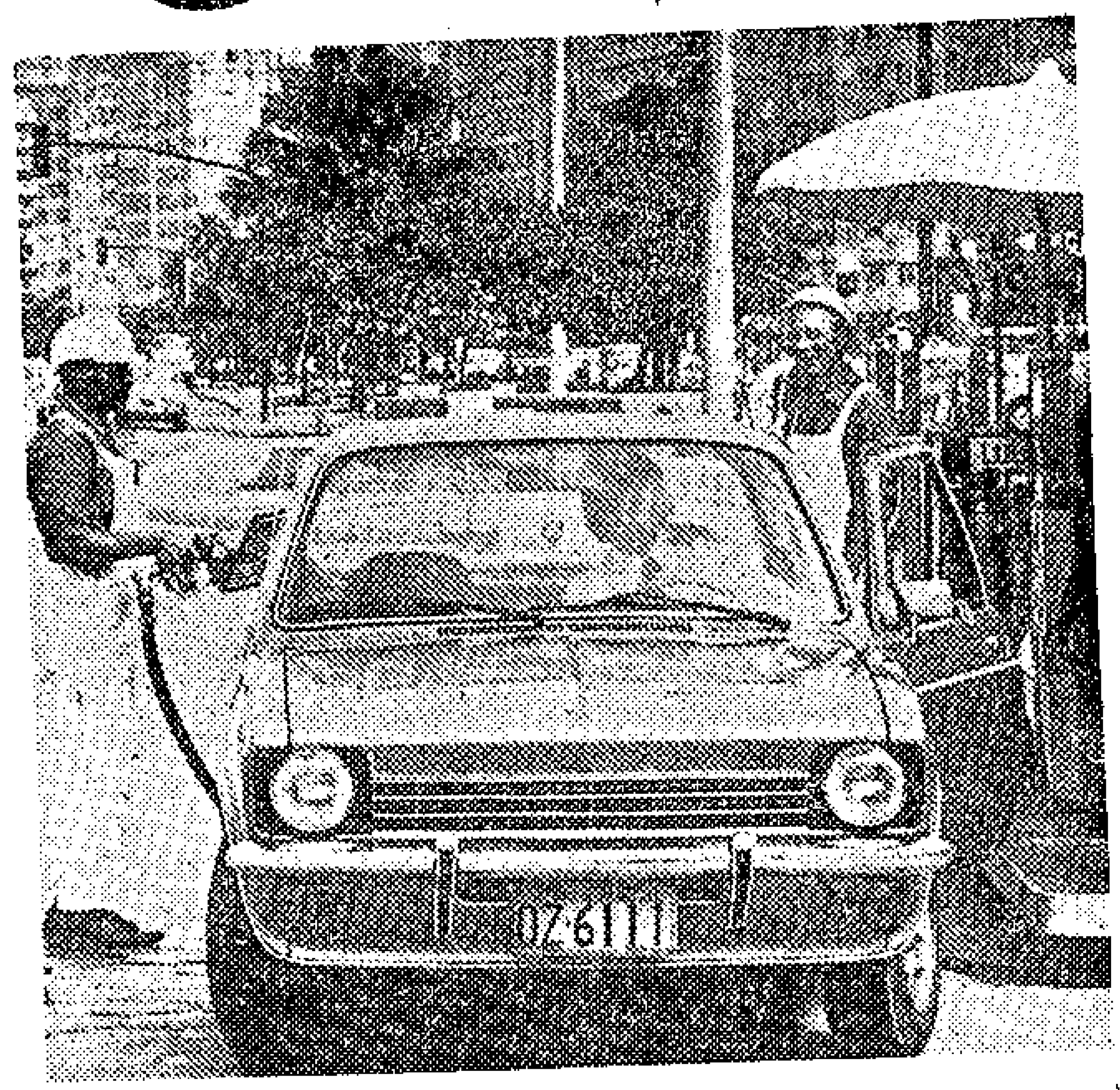
All three exist in great abundance, in Brazil.

Although these are costly to produce and require heavy plant investments, it is believed that with technological improvements initial high costs gradually will be reduced.

Meanwhile, Brazil faces serious balance-of-payments problems to meet the continuous rising oil prices. Brazil has little probability of finding new oil reserves to augment present oil production of less than 20 percent of its needs.

Its foreign debt rapidly is reaching R43 000-million the largest of any developing country, which will require more than R6 800-million to service this year.

Brazil will be obliged to resort again to large borrowings abroad or draw down substantially its foreign exchange reserves of more than R9 500-million at last year-end, thus weakening its credit worthiness and making many foreign bankers with large loans to Brazil increasingly concerned. — Christian Science Monitor News Service.



If it's gasohol in Rio de Janeiro, it's expensive.

OIL 3

Tanzania aid plea snubbed

By David Martin

DAR ES SALAAM— When President Julius Nyerere told his Ministers and other senior officials a few days ago to start riding bicycles to work, it was more from concern at Tanzania's shrinking foreign reserves than his Ministers' "pot bellies," to use his phrase.

All but four of his 29 Cabinet Ministers were young enough to use bicycles for their day-to-day duties, he said: "If you cannot use such means of transport today, what are you going to use after oil wells dry up?" he asked his large, applauding audience, as officials shuffled in embarrassment.

Tanzania's soaring oil import bill will absorb about half the country's export earnings this year. President Nyerere's remarks acknowledge just how difficult things will be for Tanzanians for at least two years. Increases in oil prices and disastrous floods are partly responsible but the major cause is the war in Uganda.

Last October Tanzania, classified by the United Nations as one of the world's 25 poorest nations, was riding on an unaccustomed economic high. Foreign reserves stood at about R115-million, enough to cover four months' imports.

Two good crop years — after three disastrous drought years — had left a cereal reserve of one year in stock. Commerce and industry were prospering from relaxed import controls.

Then, on October 30, Uganda's now deposed and exiled tyrant, Idi Amin, invaded Tanzania, annexing the country's north-western Kagera salient.

The unaccustomed high gave Tanzania enough padding to carry it through the six-month war with Amin. Imports were mainly restricted to arms. Local factories turned machines to making uniforms and boots for the troops.

Today, 10 months after the invasion, Tanzania's economy is at its lowest ebb since independence in 1961. "What we need now is a Marshall Plan," observed one senior Tanzanian economist.

In June the Tanzanians put out a desperate plea to the nine main Western aid donors. They needed, a confidential Tanzanian Treasury document said, "exceptional assistance" totalling R320-million in grants.

The nine countries Tanzania approached were Britain, Canada, Denmark, Japan, the Netherlands, Norway, Sweden, West Germany and the United States, all of them glad to see Amin go.

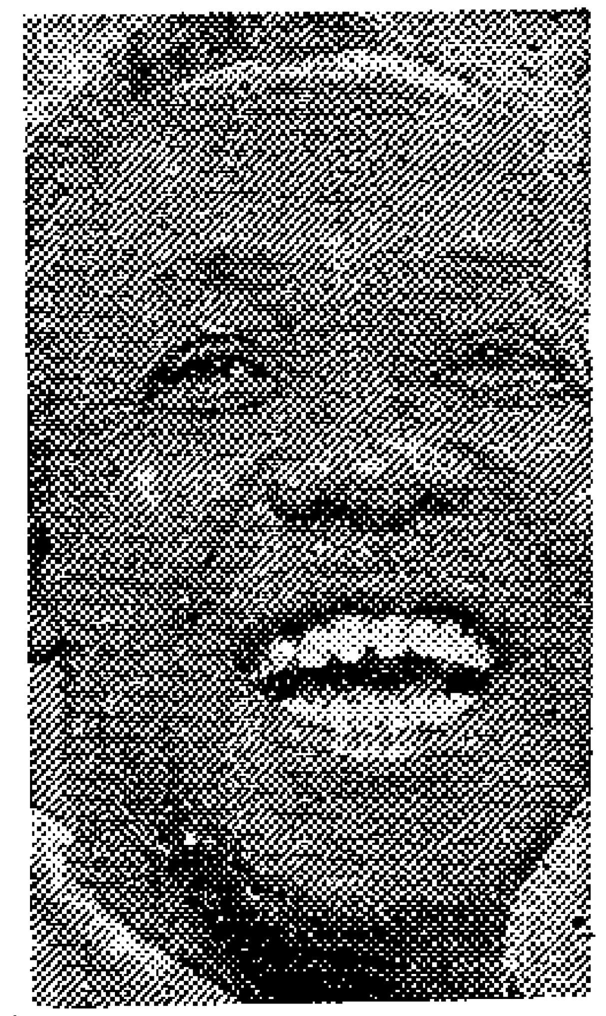
But the Tanzanian appeal was greeted by a stony silence. A little import support was forthcoming but no additional grants. "We cannot be seen to be retrospectively financing the war," a British official said.

By pegging their economic difficulties to the cost of the war the Tanzanian Treasury appears to have made a diplomatic blunder. Had it simply argued an economic case, without mentioning the war, donors might have found it easier to give additional aid or to help mobilise a banking consortium.

The direct cost of the war is put at R430-million; indirect costs, including industrial dislocation and the diversion of transport, could at least double that.

Public signs of the cost of the war are becoming more conspicuous. The arrival of a bulk tanker to unload at the Dar es Salaam oil terminal is now a major story in the official local Press.

Long queues of buses and trucks line up at filling stations for fuel, and no petrol is on sale from 9 pm on Thursday to 6 am on Monday, to try to curb sales without introducing rationing.



President Nyerere — told his Ministers to get on their bicycles.

Government development expenditure has been slashed, hitting school development programmes. Tanzania will feel the effect of the Uganda war for many years. — Observer Foreign News Service.

May Bennett, Ridgeworth

ENERGY m21/9/79 (55)

Sooty Cinderella

Despite the soaring oil price and the world's relatively large coal reserves, there is, outside SA, still no great enthusiasm for switching to coal, lamented speakers at Wits University's Senate Special Lectures this week. George Clark, General Mining's General Manager, Industries, noted that even such coal-rich countries as the UK and Germany burned significantly less in 1978 than 10 years previously: in that decade world energy consumption increased 46%, from 4 592 Mt of oil equivalent to 6 684 Mt, while coal usage went from 1 554 Mt to 1 811 Mt, an increase of only 16,5%. "The West has been dangerously slow in turning to its fuel of last resort," says Clark.

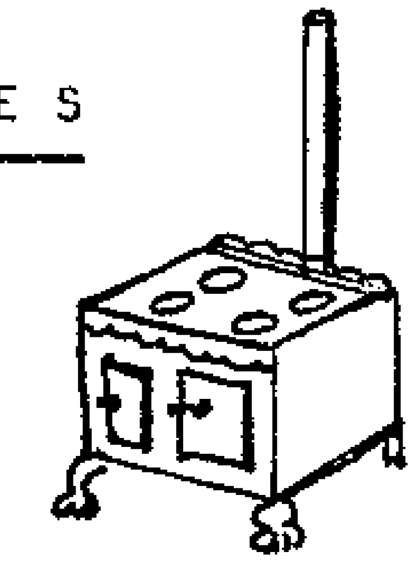
Linkage

Ross Norton, AECI's energy and feedstocks co-ordinator, argued that the explanation for coal's poor performance was to be found in the linkage between oil prices and the cost of capital goods in industrial countries. Although capital goods prices lag some 12-18 months behind oil prices, there is a strong correlation between the two, attributable to the high energy content of materials like steel.

And, as "synfuel" plants for coal liquefaction have a very high capital cost, the situation remains one of a cat chasing its own tail, at least so long as action is left to private enterprise and the profit motive. This vicious circle (which engineers would call a feedback loop) can only be broken, says Norton, through vigorous intervention by government (as in SA). Norton's remedies are:

- Governments should offer subsidies or loans at low interest rates for synfuels projects.
- There should be tax concessions for coal-derived fuels and chemical products.
- Governments should undertake to buy the total output of synfuels plants at guaranteed prices.

O L D F A M I L Y O R V I N T A G E R E C I P E S



1820 and All That!

FRENCH PANCAKES - 1902

2 eggs
2 ozs butter
2 ozs sifted flour
2 ozs flour
1/2 pt of new milk

Beat eggs thoroughly, add butter and beat to a cream, stir in sugar and flour, and when well mixed add the milk. Beat well for a couple of minutes. Pour on to buttered plates and bake in a quick oven for 20 minutes. Serve with a cut of lemon and sifted sugar, or pile on a hot plate, with a layer of preserve or marmalade between them. Time, 26 minutes, average cost, 6 d, seasonable at any time.

---oOo---

SPATCHCOCK - 1900

1 young fowl
brown bread crumbs
herbs
parsley
onion

Cut the fowl through the back bone, and open out flat. Brush with melted butter. Sprinkle with salt and pepper, chopped onion and chopped parsley on both sides. Sprinkle with mixed herbs. Grill till 1/2 done, then cover with breadcrumbs and continue cooking till well done. Serve with a sharp sauce.

---oOo---

PLUM PUDDING

May Bennett, Ridgeworth

2 cups flour
1 t baking powder
1 large cup brown sugar
1 cup currants
3 beaten eggs
1/4 t ground spice
1 small cup chopped raisins
1/2 grated beef suet
1/2 pt milk
1/2 t salt
a little mixed peel finely cut

Mix all ingredients together well. Tie in a pudding cloth, and boil for three hours. Serve with hot nutmeg sauce. This recipe was used for Christmas dinner in 1916 by my mother and gran, who says "we used 1 cup of flour and 1 cup of stale breadcrumbs instead of 2 cups of flour. Very successful".

---oOo---

MUTTON, ROAST SHOULDER OF 1900

shoulder of mutton
dripping
salt
flour

Put the joint to a bright clear fire, floured well. Baste continbut those for 'Coloureds'** and Asians are available only from 1938 onwards. Information about African deaths occurring in the principal municipalities are available from 1949 onwards; there is still no information on African deaths outside these areas. Deaths of military personnel outside South Africa have been published separately.[6]

Complete censuses were held in South Africa during 1911, 1921, 1936, 1946, 1951, 1960 and 1970; for whites only they were also performed in 1918, 1926, 1931, and 1941. Life tables are available for the complete census years.[7]

The causes of death have been classified according to the International Classification of Disease (I.C.D.). There have been many revisions of the I.C.D. during the period of this study, from the third revision which was used in 1922 to the eighth revision which has been used since 1968. Between 1939 and 1962, mortality data was only published according to an intermediate list.

A geographical analysis of deaths has been published since 1938.[4,5] Details are provided for race, magisterial district, urban and rural areas, place of residence and place of death. There is no information about sex, age or cause of death.

early intervals
en selected in
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h certificates
of census and

** The nomenclature employed in describing components of the South African social formation is bedevilled by a system of ethnic terminology which is frequently not merely inaccurate and of little analytical value, but it is also offensive to those South Africans to whom such labels are appended. In line with the terminology of modern historical writings on South Africa, one has to reject the use of the term coloured as being of little use in characterising a section of the population. Its basis as an ethnic category is a highly dubious one, as the criteria are so ill-defined. It would appear that the only workable definition of 'coloured' lies not in the area of objective 'racial' character but within the South African ...

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holdings in RMB to around 20%. And it should improve RMB's off-shore contacts.

One of the bank's more important overseas contacts seems to be the Berliner Handels- und Frankfurter bank. According to reports, RMB recently held negotiations with the West German bank, but Rupert is tight-lipped about the outcome and what was discussed.

FUEL SUPPLIES

Be prepared

55

FM 21/9/79

Commerce and Industry Minister Schalk van der Merwe had neither good nor bad news for oil consumers when pressed for concessions at the National Party congress in Pretoria this week.

First he told a Germiston delegate that the mixed 70-90 km/h speed restrictions would have to remain in force for the foreseeable future. He would not elaborate except to say it had been a decision of the full Cabinet and if that appeared to be autocratic, too bad. In view of the continuing oil squeeze it was better to have impaired productivity than no oil at all. He said the supply situation continued to outweigh short-term set-backs to the productive sector.

Senior government officials confirm that although there has been a marginal improvement in conditions on international spot markets (largely due to the fact that northern hemisphere consuming nations have just about completed their winter inventories), prices paid by SA are still around US$32-33 despite an easier supply situation.

They rule out the possibility of price reductions before the end of the year, by which time Opec posted prices would probably be increased for 1980.

It is understood that the full extent of the 16,75c a litre State oil fund levy is still going into the Equalisation Fund, as well as an additional two cents a litre representing a portion of excise duty surrendered by the Treasury in April this year in an attempt to stabilise prices.

It is clear that government plans to strengthen the fund in anticipation of further turbulence on the spot market. With some luck, however, attempts by SA oil ... contracts could well succeed before then.

Meanwhile, oil company returns of diesel consumption show that in July there was a moderate fall in the offtake of the country's estimated 400 000 consumers in the productive sector. While this is encouraging, say officials, it is too early to say whether the trend will develop in order to bring about an improved balance in the pattern of consumption of petrol and diesel.

This was why Minister Van der Merwe had to reject a motion at the congress calling on government for additional tax relief on the price of gas oil. Farmers using diesel for productive purposes receive a rebate of 12,25c a litre, representing excise and general sales tax.

Shell warns fuel users: "You'll suffer restrictions for years"

Sun. Tribune 23/9/79

55

By Finance Reporter

SHELL HAS issued a strong warning to energy consumers that they face insecure fuel supplies and the "threat of uncomfortably restricted availability" for some years ahead.

The company — the second biggest energy group in the world — says in a new briefing service report that energy demand over the next 20 years can be met only by a combination of conservation effort, continued oil exploitation and the development of every new source of energy available.

"This is a challenge to governments, to companies, to technical skills and man's innovation. Success will depend also on huge capital investment."

In a new projection of energy supply and demand balances, Shell estimates that demand in non-Communist countries could rise from its present level, equivalent to just under 95 m barrels a day of oil, to perhaps about 165 m b/d of oil equivalent by the year 2000.

Even assuming that about 25m barrels a day of oil equivalent (b/doe) could be lopped from this demand by conservation measures — efficiency improvements which could be achieved without affecting living standards — the energy industry would still have to provide an extra 50m b/doe by 2000, more than two-thirds of which would have to come from non-oil sources. Reviewing the various energy forms, Shell states that:

"Oil will continue to dominate world energy supply. Given new supplies from expensive recovery methods, shale oil, tar sands and substantial future discoveries, oil was likely to be available in today's volumes until well into the next century.

"Natural gas supplies should increase until well beyond the end of the century. Shell estimates that 20 to 30 new liquefied natural gas export projects will be on stream by 2000 in addition to the new plants now perational or in preparation.

"Coal use should also increase. Technically and economically recoverable reserves could last for hundreds of years, sustaining a substantial international coal trade.

"Nuclear energy, in spite of uncertainties, must meet an increasing share of world energy needs say Shell. The accident at Harrisburg, Pennsylvania, had underlined that there was a 'no-risk future,' although it did indicate that in spite of human and equipment failure, hazards could be contained. If the world did not develop its nuclear industry the result would be 'constraints on energy use, further reduction in economic growth and consequential increases in unemployment'.

"Alternative energy sources, like hydro electricity, solar and tidal wind power, and biomass, would all make valuable local contributions to supply but they were unlikely to make a significant impact within the next two decades."

Pointing to the rising costs of developing new energy sources, Shell said that 10 years ago the group's capital expenditure of R1 103 thousand million was 40 percent greater than its net income. Although by 1978 the group's net income had risen by more than two and a half times (to R2 thousand million), capital expenditure had quadrupled to R4,37 thousand million.

In the US two new studies of oil supplies have concluded that while the world will probably avoid a repeat of the recent supply crisis over the next 18 months, the outlook beyond that is not very good.

"Barring unforeseen negative developments, a continued improvement in the near-term world oil supply and demand balance can be anticipated," says a study by the Petroleum Industry Research Foundation of New York. "In 1981 the market outlook becomes potentially more troublesome," it adds. The opinion echoes the conclusions in a recent study by the U.S. Central Intelligence Agency. — Financial Times News Service.

Sun Tribune
23/9/79

55

KOEBERG FIRM IN N-CRACKS SCARE

by TONY SPENCER-SMITH

THE Atomic Energy Board and the Minister of Industrial Affairs, Dr Schalk van der Merwe, are to investigate claims by French union leaders that cracks were found in components during construction of a nuclear reactor there.

The reactor is being built by Framatome, the French company contracted to build the nuclear reactors at the giant Koeberg

The reactor is being built by Framatome, the French company contracted to build the nuclear reactors at the giant Koeberg plant near Cape Town.

At a Press conference in Paris on Friday, the French nuclear industry union leaders threatened to strike unless the French Government stopped three new nuclear power plants from going into operation until checks had been made.

They said cracks 5 millimetres to 6 millimetres wide and 6 millimetres deep were found in the steam-generating vessels and tubes of the reactor, and claimed defects in the steel alloy used in the construction could lead to a disaster worse than the accident at the Three Mile Island plant in America recently.

The State-owned Electricite de France (EDF) has closed part of the nuclear power station at Bugey for "minor repairs" and it will reopen in a few days.

John Baggeley reports from Paris that trade unions have charged that the authorities controlling plants hushed up the discovery of dangerous cracks.

The socialist newspaper Le Matin published a report suggesting there had been a cover-up by EDF, the Industry Minister and the Nuclear Information Ministry.

The first fault was found by a workman soldering a special band on to a 50 centimetre plaque forming the base of a temperature transformer. This resulted in new controls, which led to other cracks being discovered in tubes leading to and from the heart of the reactor.

But EDF described the faults as superficial and said they involved no operational risks.

But EDF described the faults as superficial and said they involved no operational risks.

Authority to load enriched uranium into certain types of nuclear power stations had been suspended for at least a few weeks, probably for checks.

Dr Wynand de Villiers, president of the Atomic Energy Board, said defects in steam-generating vessels could lead to serious problems in a nuclear reactor.

He said the steam-generating systems for Koeberg were no being built in France.

"The vessels contain the coolant of the nuclear core," he said. "If you lose coolant, you get overheating."

Dr de Villiers said the board's quality control experts would look into the matter carefully.

"If steam-generator components are found to be defective they will be rejected."

Dr Schalk van der Merwe said that if the French had found cracks "of course this is something which must be gone into immediately."

"At the moment I have not been officially informed about this. It is not something to panic about, but the whole matter will have to be looked into."

Members of the council of the Stop Koeberg Campaign said their campaign would be lent fresh impetus by the news from France.

French nuclear firms tight-lipped

55/13 STAR 24/9/79

Own Correspondent

PARIS — The two French companies involved in South Africa's Koeberg nuclear plant were tight-lipped today over the seriousness of the cracks in vital parts of nuclear plants being built in France — and over what this might mean to South Africa.

Sofinel, the subsidiary of Electricite de France the State company for which the nuclear plants are being built, passed the buck to Framatone which takes the vital parts for the South African plant.

Framatone refused to answer any questions about the cracks, or about their impact on progress and the safety of Koeberg, merely stressing that: "A message has gone to Johannesburg with all the details."

But today, the pro-government newspaper Le Figaro suggested that the weekend closure of reactor No 5 at Bugey nuclear plant seemed to reinforce worries about safety and to boost doubts now felt in South Africa.

Framatone is obviously concerned about potential problems arising from the charges of lack of safety made by trade unions who have forecast a worse disaster than that at America's Three Mile Island.

There is increasing pressure for a moratorium on France's nuclear programme.

Not only is Framatone involved in South Africa and also the major force behind France's own programme, but agreement for it to supply China with two 900 000 kw plants worth about R418-million each has been signed.

Making the most of what we've got

NM 25/9/79 (55)

THE Fuel Research Institute of South Africa is one of the organisations which has contributed to the achievement that 75 percent of South Africa's energy comes from coal.

Dr. D. Clark, head of the institute's engineering division, says the institute's research programme mirrors a part of the wise direction of the country's energy policy.

"We are moving towards maximum use of indigenous resources in order to minimise dependence on costly and strategically insecure crude oil.

"The growth of Sasol, the magnification of the use of producer gas, the possibilities of ethanol and methanol, and fertiliser production from coal are all examples of this trend.

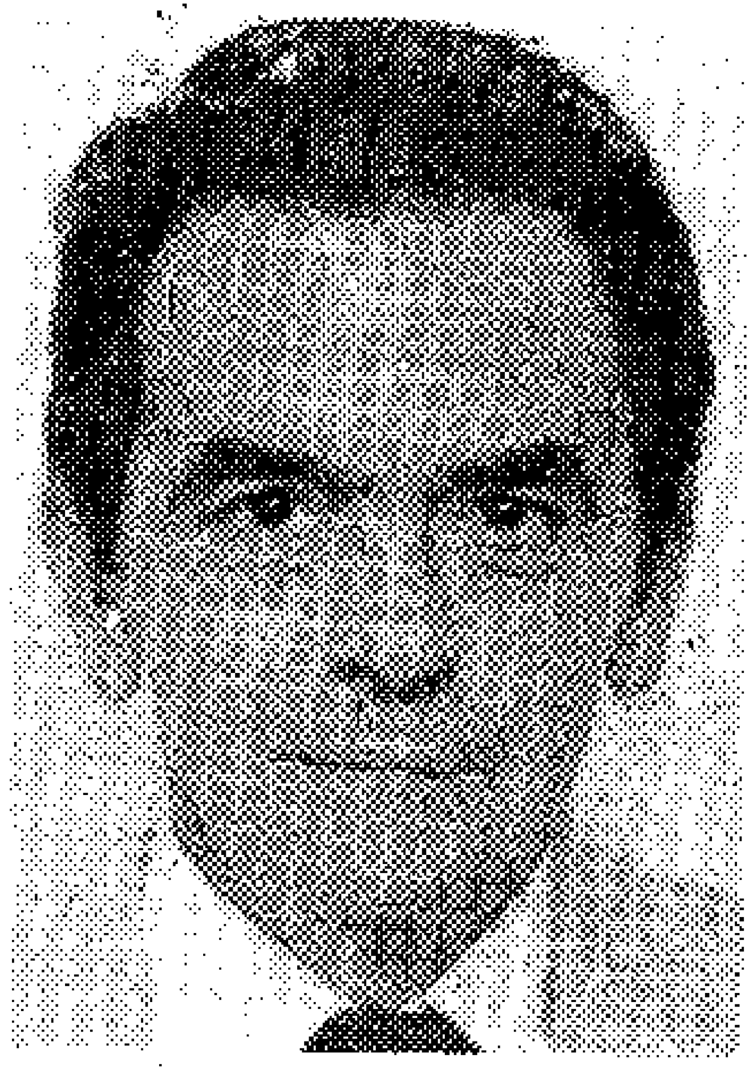
"The institute's work is aimed at the problems of today and at providing the knowledge which will be required later.

"Also, it is our intention to provide guidance on efficiency. One of the greatest contributions we can make is to show how all types of energy may be used more efficiently."

The institute is financed equally by a coal levy and a contribution from the Government. Most of its work is concerned with coal.

It operates modern well-equipped laboratories and a pilot plans site where larger scale work is carried out.

The institute's three technical divisions are:



Dr. D. Clark

SURVEY DIVISION

The Survey Division operates a large coal analytical laboratory in Pretoria and a smaller one at Richards Bay. It is equipped for the evaluation of core samples from drilling operations, and all such results must be lodged with the institute on a confidential basis to maintain an up to date data bank of the country's coal resources. Based on the division's sampling analysis and testing, coal export grading certificates are issued.

ENGINEERING DIVISION

In the coal preparation field the institute has a large multi-purpose pilot plant in addition to its laboratory facilities. Its research into the upgrading of fine coal by dense medium separation has already been the basis of commercial plant design. The section carries out acceptance tests on all new commercial plant and is currently engaged on a survey of the operational standards of existing plants.

The combustion section operates a modern chain grate stoker fired test boiler, in which valuable research has already been carried out into phosphatic deposits. Currently, research is aimed at alleviating problems caused by the necessity to burn coal of smaller size and lower quality.

This work is being backed by a basic investigation into the combustion characteristics of South African coals.

The diesel engine test section has, for some years, worked on test bed studies of dual fuel operation. This technique is aimed at replacement of part of the valuable dieseline with ethanol, methanol or petrol. The secondary fuel is injected via the air inlet of the engine. Very good results have been obtained and the work is now being extended to a practical engine.

CHEMISTRY DIVISION

The main work of this division is long-term research into the conversion of coal into liquid products.

One project is the fluidised bed carbonisation of coal by which coal is pyrolysed at low temperature in order to maximise the yield of liquid products.

In the hydropyrolysis of coal, the coal is rapidly heated in the presence of hydrogen under pressure. Results have been promising and suggest that this could supplement other routes to liquid fuels from coal. At the moment the research is on semi-continuous bench scale, but it is intended to use a continuous technique.

Another approach being researched is the super critical extraction of coal, using a series of solvents of the donor and non-donor type at their critical temperatures, with and without hydrogen and catalyst.

The chemistry division maintains a specialised analytical facility aimed at the evaluation of coal liquids and related materials.

Firms knew of nuclear faults

ESCOM and the Atomic Energy Board had been informed "some time ago" of defects during the manufacture of a reactor pressure vessel for the Koeberg Nuclear power station, an Escom spokesman told Sapa in Johannesburg yesterday.

The statement follows Press reports that cracks found in metals used in French nuclear reactors — similar to those used in Koeberg — had been found by the first construction firm working on the Koeberg plant.

The reports said the cracks could lead to the worst disaster since the Three Mile Island accident in America last year.

They also quoted the president of the South African Atomic Energy Board, Dr J W L de Villiers, as saying he could not comment on whether the cracks would delay Koeberg.

"Defects have occurred in some pipe branch connections and arise from welding metallurgy problems during manufacture," the statement said.

The spokesman said the defects — "in the parent metal which is covered by a layer of stainless steel" — were located by improved ultrasonic testing techniques.

"Investigation of these problems is well in hand and remedial actions are already under consideration.

"The quality assurance organisation of Escom and the licensing branch of the Atomic Energy Board have had direct access to the manufacturing works, and are fully informed on the work being undertaken," the statement said.

The statement said reports in the Press that cracking in steam generators were found, were "misinterpretations" of the actual defects. — Sapa.

JAARVERSLAG

1978

SENTRUM VIR INTERGROEPSTUDIES

(Geregistreer as The Abe Bailey Institute of Inter-Racial Studies Limited (Beperk deur Garansie))

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INLEIDING

Gedurende die eerste nege jaar van sy bestaan het die Sentrum vir Intergroepstudies gereeld 'n jaarverslag oor sy werksaamhede gepubliseer. Om die Sentrum se 10de verjaarsdag op 1 April 1978 te vier is die jaarverslag in 1977 vervang deur 'n Oorsig oor die Eerste Tien Jaar.

DIE OORSPRONG EN DOELSTELLINGS VAN DIE SENTRUM

Die Sentrum word grootliks gefinansier deur die Abe Bailey-Trust wat ingevolge die testament van Sir Abe Bailey gestig is. Dit is geregistreer as The Abe Bailey Institute of Inter-Racial Studies Limited (Beperk deur Garansie) - 'n maatskappy beperk deur garansie en sonder 'n aandele-kapitaal kragtens die Maatskappywet 1973 (Wet Nr. 61 van 1973).

Alternative fuels

Sugar men in a unique position

We can help

THE South African sugar industry is uniquely placed to make a significant contribution to solving the energy crisis and balance of payments problems caused by the rising cost of imported oil.

Ethanol which is easily produced from sugarcane is a versatile chemical feedstock as well as an attractive liquid fuel.

Produced from renewable raw materials it has an assured future in the energy scenario as the price of fossil feedstocks rises and shortages develop.

The South African sugar industry has many advantages including a climate which permits a long harvesting season. This maximises the utilisation of capital installations, minimises costs and assures regular supply throughout the year.

Yield

The yield of cane is stable each year which also assures stable production of ethanol.

The established infrastructure will assure a minimum lead time and efficient conversion.

There is no other agricultural feedstock which could offer these advantages.

The existing sugar industry has well-established process and engineering services which would achieve ethanol production in backend distilleries with the same level of expertise and efficiency as in the present production of sugar.

In addition to all these advantages the high-yielding cane growing areas could produce as much as 8 000 litres a hectare a year.

A further advantage is that the sugar industry consumes external fuel at a rate which is far below its standing in the national agricultural economy.

Liquid

On average about three litres of liquid fuel are used in the mechanical activity necessary to produce and transport a ton of cane and its sugar products and while most process industries make use of coal and Escom power, the sugar industry burns renewable bagasse for generating process heat and electricity.

Ethanol has a future role as a feedstock for chemicals produced via the ethylene route including plastics such as PVC but, like petrochemical production this is likely to begin as a diversification from the basic fuel production.

International energy strategists predict that alcohols will have their main application in a bridging period as an extender of petroleum.

When this is phased out — presumably by some alternative breakthrough — ethanol will still have an assured role as a chemical feedstock.

Ethanol as a fuel has many attractive properties which have until recently been suppressed by the powerful oil lobby which has monopolised the liquid fuel research scene for half a century.

The hard realities of the energy crisis and the viability of alcohol fuel, demonstrated in Brazil on a gigantic scale since the introduction of a national alcohol programme at the end of 1975, have forced a more objective attitude to ethanol as a fuel.

In fact, oil companies are beginning to see ethanol in a positive light as an extender of petrol and diesel fuels which will keep liquid fuel engines running longer and extend the demand for liquid fuels — including petroleum — and increase the life span of oil refineries and liquid fuel distribution facilities.

Models

Vehicle manufacturers are equally concerned with extending the life of current generation models to give more time for an efficient and well-researched transition to new generation alternatives.

Although neat ethanol has a heating value which is one-third less than that of average petrol it burns more efficiently and is converted more efficiently into work on the wheel.

In practice the use of an ethanol blend — usually up to 20 percent — will give no detectable increase in fuel consumption.

Specially modified high compression engines running on neat ethanol are far more efficient than their petrol equivalents and so in practice very little — if any — increase in fuel consumption is experienced.

According to Professor H. Heitland who heads VW's energy technology research unit in Brazil, the neat ethanol engines have efficiencies of near 30 percent above that of their petrol counterparts and this largely offsets the lower heating value of the ethanol.

The Volkswagen 1,6ℓ Boxer engine is fitted with neat ethanol injection and transistorised ignition and was introduced at a recent symposium in Pretoria.

This is a second generation neat ethanol engine. It is designed for high fuel economy.

Neat ethanol engines are designed for compression ratios of 11 to 13:1 and this is made possible through another important attribute of ethanol: its high antiknock value.

This means that low grade — cheap — petrol can be upgraded to premium octane rating by adding 10 percent or so of ethanol and this can be achieved without the use of lead additives.

This is of particular value in the U.S. where toxic lead products in the exhaust fumes are a health hazard.

Exhaust

The use of catalytic exhaust converters increases fuel consumption by as much as 30 percent.

By comparison then, the use of an ethanol blend achieves an adequate octane rating and low exhaust toxicity and an improved fuel economy.

A 10 percent ethanol blend generally known as "gasohol" is enjoying increased popularity in the U.S. and by February this year had extended its sales through 600 service stations.

Sasol

(55)
25/9/79

We're very fortunate

By J. A. STEGMANN, managing director of Sasol

LONG before the 1973-74 oil crisis, South Africa was aware of the importance of achieving a minimum dependence on crude oil. The decision to build the first Sasol was taken in 1950.

Today it is accepted by major industrialised countries that increasing independence from imported petroleum is a prerequisite for their continued prosperity and sovereignty.

South Africa placed itself in the forefront in the pursuit of greater self-sufficiency when the Government decided, in 1974, to proceed with Sasol II.

The threatening shortage of crude oil which faces the world during this last decade of the 20th Century, is of such importance that we in South Africa must make a careful assessment of all the practical measures that can be taken towards greater self-sufficiency in liquid fuels.

Energy

I say this in spite of the fact that oil constitutes only 22 percent of our total energy consumption. We are also the only country, so far, to have taken active steps towards producing a significant proportion of our liquid fuels from indigenous non-petroleum sources.

At the beginning of this century coal supplied approximately 96 percent of the world's energy needs.

By the beginning of World War II, the contribution made by coal decreased to 70 percent and that of oil increased to 18 percent.

In 1977 oil and natural gas provided respectively 42 percent and 18 percent of the free world's energy needs and coal only 21 percent.

The years 1985 to 1990 are seen by oil experts as the watershed-period so far as the balance between supply and demand of crude oil is concerned.

To avoid serious shortages of crude oil in the 1990s, the persistent increase in the contribution of this source towards the total energy requirements of the world would not only have to be halted, but reversed.

This in turn would require a sharp increase in the relative contribution of nuclear energy at a rate which may be impossible to achieve in practice.

The reason for this is that decisions on new projects are being delayed and hampered by groups opposed to nuclear energy.

The reluctance to proceed with projects for the production of liquid fuels from coal and shale in countries which have large reserves of these materials, makes it unlikely that much more than about 1 percent of the world's energy demands will be met from this source by 1990.

Coal

Moreover, unless a drastic change occurs, the percentage contribution of coal will tend to decrease even further during the next decade.

The spectacular economic growth and prosperity of Western industrialised countries was largely made possible by the ready availability of increasing quantities of crude oil as a primary source of energy at low cost.

Against this background therefore, a shift from petroleum back to coal would be an unnatural step requiring major structural adjustments which would be difficult to implement.

We are fortunate in South Africa that crude oil has not dominated our industrial development.

All indications are therefore that oil will, in the coming years, become a sought-after commodity, even if Iran resumes production at previous levels.

Increasing scarcity of crude oil during the last decade of this century can be expected to go hand in hand with a general pattern of price increases, though oil prices may display relative stability for short periods of time when short-term production capacity may exceed demand.

Reserves

The situation may improve if Mexican petroleum reserves prove to be really extensive.

As recently as 1969 the price of Persian Gulf crude oil was approximately 30 dollars a barrel. In October 1973, barely four years later, the spot price increased overnight from 30 dollars to more than 17 dollars although Opec shortly afterwards pegged the price at 11,04 dollars.

A small number of industrialised countries, which are strong in exports, managed to accommodate the new price levels in their domestic economies.

The higher oil prices however, had a detrimental effect on the economies of other consuming countries and particularly on the so-called developing countries.

Balance of payment problems and increased rates of inflation depressed real economic growth rates to an unacceptable level in a world which was having to cope with an ever-increasing population.

South Africa has coped well with the tremendous increase in oil prices since 1973.

The real growth rate in GDP did of course decrease from an average of 4,9 percent during the period 1955 to 1973, to 1,6 percent during the period 1974 to 1977.

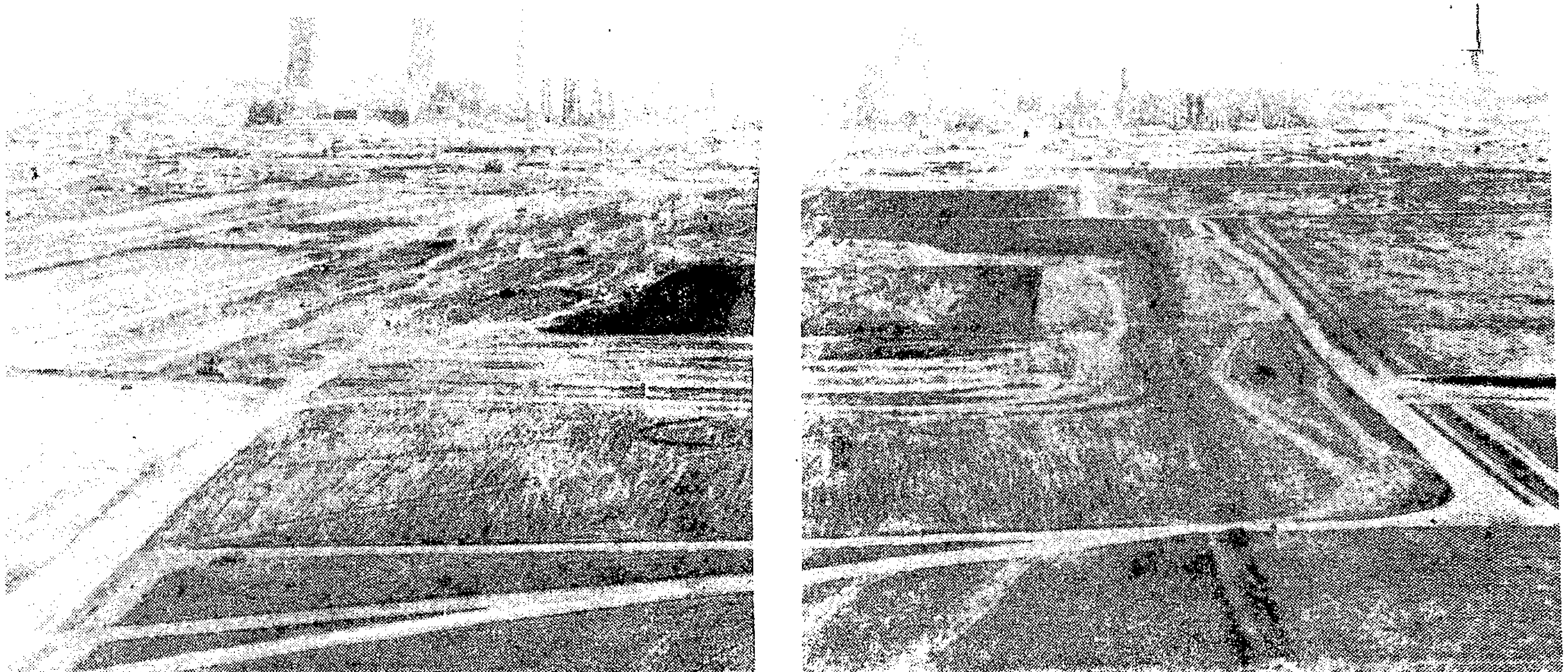
Foreign exchange required for oil imports also increased but we have now succeeded to reverse the initial shortfall in the current account and to show a substantial surplus.

An economic revival was also experienced much sooner in South Africa than in most other industrialised countries, in spite of the fact that the economic recession which followed on the 1973 oil crisis, started at a later stage in this country than elsewhere.

I mention these facts because of their importance in evaluating the effects of the latest price increases on the nationl economy and assessing our ability to respond effectively to the new situation.

Oil imports constitute only 3 percent of the country's GDP, thanks to our relatively low consumption of oil and greater use of coal.

I am optimistic, about the country's ability to adapt itself to the new increased oil price levels and to make the necessary *structural* adjustments.



SASOL II nears completion in the background while civil construction work for Sasol III goes ahead in the foreground.

THE capital cost of Sasol II and its mine will be R2 458 million on completion. This sum does not include township development, housing, interest during construction and working capital.

The cost of housing and township development at Secunda will be R69 million. This sum has been provided from Sasol's own funds.

It is expected that when the first phase of Sasol II is in producti[…] an accepta[…] vestment. […] price for cr[…] to rise, […] Sasol will […]

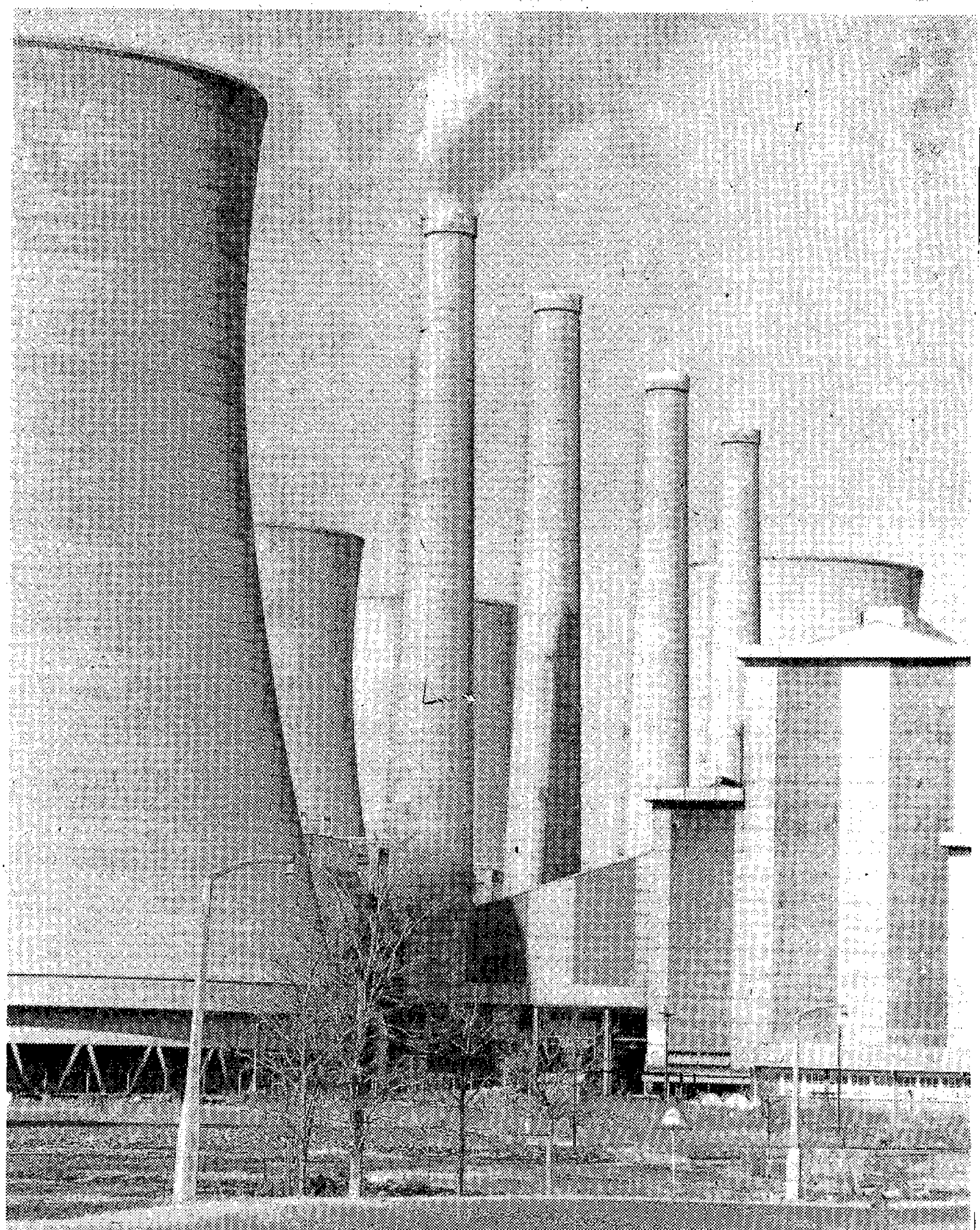
From th[…] been Sasol[…] port local […] struction w[…]

Preferen[…] given to […] manufactu[…] tractors wh[…] justified […] economica[…]

Escom

How we beat the crisis

. . . and how we'll cope in the future



ESCOM is fitting anti-pollution devices to all its power station chimneys. These trap and extract fly-ash in the flue gases. Here three out of four chimneys at the Highveld power station have been completed and the difference in smoke emission can be seen clearly.

'HE energy crisis which ollowed the first oil embargo in the early 1970s, caused a sudden interest in the generation of electricity, according to Mr Jan Smith, general manager of the Electricity Supply Commission.

Mr. Smith says that this emergency prompted a new look at electricity as one of the world's important sources of energy.

For Escom the situation was of greater significance. It coincided with the drying up of funds in overseas money markets for the corporation's capital expansion programme.

"Hence, towards the middle of the present decade, we found ourselves with a vast programme which was vital to the country with insufficient finance to continue.

"The obvious solution was to cut down the expansion and curtail the growth in demand for electricity.

"But this would have been a grossly irresponsible act on the part of Escom."

Mr. Smith says that sufficient electricity supplies are vital for economic growth.

To have soothed the public and the authorities into accepting such a short-sighted solution would have had disastrous effects.

The results would have been infinitely worse than the higher prices the consumer is having to pay for electricity today.

"If Escom had opted for the short-sighted solution in 1975, the consumer's tariff holiday would be over now. The country would be running short of electricity supplies. The cost of power would have been prohibitively expensive.

"When the price of petrol went up by 15 cents a litre, electricity again emerged as a viable solution to the country's fuel problems. Electric transport systems again became topical.

"But, what is significant today is that the country has sufficient supplies of electricity and Escom can cope with the additional demand being made on it."

Hotting up the pace at Kriel

ESCOM has accelerated the construction programme of Kriel, one of its Eastern Transvaal power stations, by nine months to keep pace with the rapid increase in the demand for electricity.

The first two of six 500 MW sets were commissioned at intervals of 12 months each. But since then it was estimated that the remaining four sets would have to be switched on within nine months of each other to ensure that the national power grid could keep up to date with the ever-growing need for power supplies.

By 1980, about 15 000 MW will be needed for consumption in South Africa and some of its neighbouring States. At present Escom has a generating capacity of some 14 400 MW.

With the acceleration of the construction programme at Kriel, Escom will be able to meet this demand by the end of the year. The last of the six sets will be commissioned in December. The power station will then reach its full generating capacity of 3 000 MW.

At the moment, Escom's construction programme provides for an additional capacity of 10 544 MW.

The new projects now under construction, with their ultimate full capacities, include the coal-fired power stations Kriel (3 000 MW), Matla and Duvha (3 600 MW each), the hydro-electric Drakensberg pumped storage scheme (1 000 MW) and the Koeberg nuclear power station (1 844 MW).

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PRESS STATEMENT ISSUED BY DR. THE HONOURABLE S.W. VAN DER MERWE, MINISTER OF INDUSTRIES AND OF COMMERCE AND CONSUMER AFFAIRS 25/9/79

FUEL CONSERVATION MEASURES

Where I issue this Press Statement on a topical matter such as fuel conservation which has a wide impact on almost all sections of the community, I trust that our media will publish it in full.

As I have already announced, the supply of petroleum products to South Africa is constantly kept under consideration in order to determine whether the fuel conservation measures should not be adapted to serve South Africa's best interests as a whole.

According to the latest information at the Government's disposal there has been a further moderate improvement in South Africa's fuel supply situation which warrants a revision of the existing as well as the anticipated further fuel con= servation measures. In this connection I wish to emphasise that only a moderate improvement in the country's fuel supply situation has occurred if compared with conditions which prevailed at the time of the introduction of more stringent conservation measures early in June this year. There still exists a large measure of uncertainty with regard to the country's fuel supply position in the long term, particularly in view of the fact that at this stage South Africa is still dependent on the open market for such a large portion of its

crude/...

crude oil supplies. No justification, therefore, exists for any substantial relaxation of our fuel conservation efforts and a revision of the measures is only justified on account of the detrimental effect of the more stringent measures on productivity in general as well as the Government's overall objective of promoting economic growth. At the latest meeting of the Economic Advisory Council of the Prime Minister renewed emphasis was placed on these objectives with a view to creating job opportunities for the large number of unemployed persons in the country and to combatting inflation.

As far as the speed limit of 70 km/h in certain Magisterial Districts is concerned, tests carried out by various organi= sations, proved beyond doubt that a considerable saving is being achieved at the lower speed limit of 70 km/h, compared with 90 km/h in respect of light motor vehicles. Owners of light motor vehicles, therefore, must still bear this aspect in mind.

In the case of heavy vehicles the position differed considerably in respect of the various types of vehicles and the same distinct savings tendency as in the case of lighter vehicles is not noticeable.

Against this, evidence exists that the lower speed limit detri= mentally affects productivity in the production and transport sectors in particular. Thus, for example, members of the Federation of Road Transport Associations experienced a loss of time of between 12 and 24 percent as a result of the reduction of the speed limit to 70 km/h. Statistics submitted by the

Post/...

Post Office, at my request, show that, during June, July and August, compared with April and May the Post Office had to use approximately 2,4 percent more vehicles on the Reef in order to render its services, whilst the larger number of vehicles travelled 1,4 percent less kilometres in total. The Federated Chamber of Industries and "Die Afrikaanse Handelsinstituut", during surveys carried out amongst their members, have found that considerably more time was taken up by deliveries, which resulted in increases in the costs attached to transport as a result of extra overtime wages and additional delivery rounds.

The heavy commercial vehicles which are marketed by members of the National Association of Automobile Manufacturers of South Africa (NAAMSA) are designed to give optimum operating efficiency at a higher speed than 70 km/h. The vehicles concerned, therefore, cannot be driven in the higher and more economical gears, which contributes to an increase in their consumption of diesel oil.

Although it has never been the Government's policy to use the price of fuel as a conservation measure the recent sharp increases in the prices of fuel which had to be introduced as an inevitable result of the substantial premium prices which have to be paid on the open market for crude oil, have in them= selves had the effect to prompt consumers of fuel for economic considerations to introduce measures aimed at greater efficiency in the use of fuel. A major portion of the fuel savings achieved since June this year must undoubtedly also be ascribed to this factor.

In/...

In view of all these considerations I have decided to withdraw the 70 km/h speed limit in those Magisterial Districts where it is still applicable with effect from 28 September 1979. The higher speed limit of 90 km/h in respect of light motor vehicles and 80 km/h in the case of heavy motor vehicles will, therefore, be applicable in the relevant Magisterial Districts with effect from that date.

However, in this connection I wish to emphasise that the public will now have to appreciate that fuel conservation and the maintenance of the speed limits will have to become part and parcel of our everyday living. Consequently it will depend on the co-operation received from the public regarding strict compliance with the speed limits as to whether it would become necessary for us to re-introduce the 70 km/h speed limit.

I have also received strong representations in connection with the detrimental effect which the closure of filling stations on Fridays at 18h00 allegedly has on productivity because employees have to purchase their fuel requirements during normal working hours, as well as in regard to the wastage of fuel as a result of the long queues of motor vehicles which pile up at filling stations to take in fuel on Friday after= noons and that consideration should be given to the extension of the selling hours of filling stations on Fridays.

After consultation with the garage industry, it was clear that it would be unpractical to keep filling stations open for longer hours on Friday afternoons. Apart from the additional

costs/...

costs and security risks for filling stations which such an extension would bring about, it would also create transport problems for pump attendants and expose them to robbery of their weekly wages by undesirable elements if they were to return later to their homes.

On account of all these considerations, as well as the detri= mental effect which the closure of filling stations has on their other economic activities, the garage industry has put forward strong representations that the Government should rather consider to allow the selling of fuel on Saturday mornings. These representations also enjoy the support of the motorist organisations.

In considering these representations, cognisance was also taken of the detrimental effects which the present selling hours have on the accommodation and tourist industries, as well as of the fact that the high prices of fuel in themselves already make a contribution towards curtailing unnecessary journeys. On account hereof, as well as in view of the Government's overall objective to stimulate economic activities in the country, I have decided that, with effect from 29 September 1979, fuel may also be sold on Saturdays from 07h00 to 12h00.

As was announced by my predecessor on 7 June 1979, my Department of Commerce and Consumer Affairs, in collaboration with the various oil companies, has devised a system with a view to a compulsory reduction in diesel oil and petrol con= sumption by bulk users.

This/...

This system has not yet been put into final operation. In view of the present supply position, and the savings which are already being effected on a voluntary basis as well as by the increased fuel prices, I have now decided to keep the implementation of the abovementioned system in abeyance for the time being.

Depending on the devèlopment of the country's crude oil supply position and the extent of voluntary savings which can be effected by bulk consumers of fuel, the situation will constantly be kept under surveillance. In this connection I must emphasise that, having regard to the fact that diesel oil in particular can only be obtained in a certain fixed ratio from the refining of a barrel of crude oil, it is absolutely essential that consumers of diesel oil must do everything in their power to achieve the maximum possible saving of this scarce commodity.

Another aspect to which I would like to refer, is the fact that, some time ago, the Government decided in principle to make available a certain amount of money for the introduction of a comprehensive publicity campaign to conserve fuel. In this connection the Government has already received the valuable co-operation of the SABC's Radio and Television Services, the oil companies, organised agriculture, mining, industry, commerce, transport and various other bodies in the country in respect of positive publicity aimed at promoting the saving of fuel. I wish to express my sincere thanks to all these groups. The Government will obviously continue to support all these and similar efforts, but it will

not/...

not now introduce a separate and comprehensive publicity programme for the saving of fuel. The funds which were initially earmarked for this purpose, can be appropriated for other priority projects.

Our Traffic Authorities also deserve a special word of thanks for the manner in which they are assisting with the implemen= tation of the speed limits.

In conclusion, I wish to express my sincerest appreciation towards the public for their kind co-operation in our fuel conservation efforts. I trust that we can also rely on their continued support in future.

ISSUED BY THE INFORMATION SERVICE OF SOUTH AFRICA AT THE REQUEST OF THE MINISTRY OF INDUSTRIES AND OF COMMERCE AND CONSUMER AFFAIRS.

PRETORIA

25 SEPTEMBER 1979

French submit plans for Koeberg flaws

(55)

STAR 25/9/79

French plans to repair the faulty parts being manufactured for the Koeberg nuclear power station are being examined by South African Atomic Energy Board officials.

The defective parts have already been investigated and remedial action is under consideration, a spokesman for Escom said today.

"Both Escom and the Atomic Energy Board were told some time ago of defects during the manufacture of a reactor pressure vessel for Koeberg," said the spokesman.

"The defects, in the parent metal which is covered by a layer of stainless steel, were found by ultrasonic testing techniques.'

"The quality assurance organisation of Escom and the licensing branch of the Atomic Energy Board are being kept fully informed of the remedial work being undertaken," the spokesman said.

He was commenting on reports from France that cracks found in metals in French nuclear reactors — similar to those used in Koeberg — had been found by the firm working on the Koeberg plant.

Dr J W L de Villiers, president of the Atomic Energy Board, said at the weekend that he could not comment on whether the discovery of the cracks would hold up the building of Koeberg.

Nuclear industry union leaders in France said the cracks found in France could lead to a disaster "worse than" the accident at Three Mile Island in America last March.

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25/9/79

Coal

THIS article was contributed by the Chamber of Mines

Keeping the home fires burning . . .

SOUTH AFRICA has 61 000 million tons of recoverable reserves of coal, according to a current estimate by a mining industry expert.

Coal in the Republic has traditionally been important domestically because it has provided about 75 percent of the country's total energy requirements, making South Africa much less dependent on oil than most countires.

Coal has now become infinitely more important since the Arab oil-jack in 1974 and the oil price rises since then.

Total coal production in 1978 increased by 5,8 percent from 85,4 million metric tons to 90,4 million metric tons and total revenue increased by 15,8 percent to R874,4 million.

Coal exports totalled 15,4 million metric tons, an increase of 21,2 percent.

Export revenue increased by 30,8 percent to R325,1 Million.

Local sales of coal amounted to 70,3 million metric tons, a decline of 2,8 percent, reflecting slack conditions in the economy.

All available evidence indicates that the demand for the Republic's coal will continue to increase, particularly for export, and for the country's power stations and oil-from-coal plants.

Although the country has not been in the export business long, already South African coal has become a valuable supplementary energy resource for some of the major industrialized countries.

South Africa is, for example, at present becoming the European Economic Community's biggest foreign supplier of coal after Poland.

The expansion of the Republic's coal export industry may be gauged by the fact that from 900 tons in 1960 and just over 1 000 000 tons in 1969, the country is now exporting some 20 million tons annually and it is planned over the next five or six years to bring this up to 44 million tons, a maximum laid down by the Government.

Fortunately, South Africa's energy is based on its large low-grade coalfields, while exports require a higher calorific value coal of which there are also adequate reserves.

The Republic's electric power comes mainly from 18 coal-fired power stations that consume 40 million tons of coal a year, most of them situated adjacent to the power stations so the coal is conveyed economically from the mine directly into the furnaces.

It is expected that electricity generated in South Africa will be 90 percent coal-based until at least the end of the century. Between now and then capacity will be doubled.

What are destined to be the two biggest coal-fired power stations in the world, Duvha and Matla in the Eastern Transvaal, each with an output of 3 600 megawatts, are at present under construction.

In the past few years eight major new collieries have appeared on the scene with ultimate plant output of 56,8 million tons a year.

The additional production from these collieries will be spread between Sasol II oil-from-coal plant which alone will consume an additional 14 million tons a year from about 1981; for new power stations; and to provide blend coking for Iscor and steam coal for export and the domestic market.

An important factor of the coal-mining industry in recent years has been the spectacular change to mechanised mining methods.

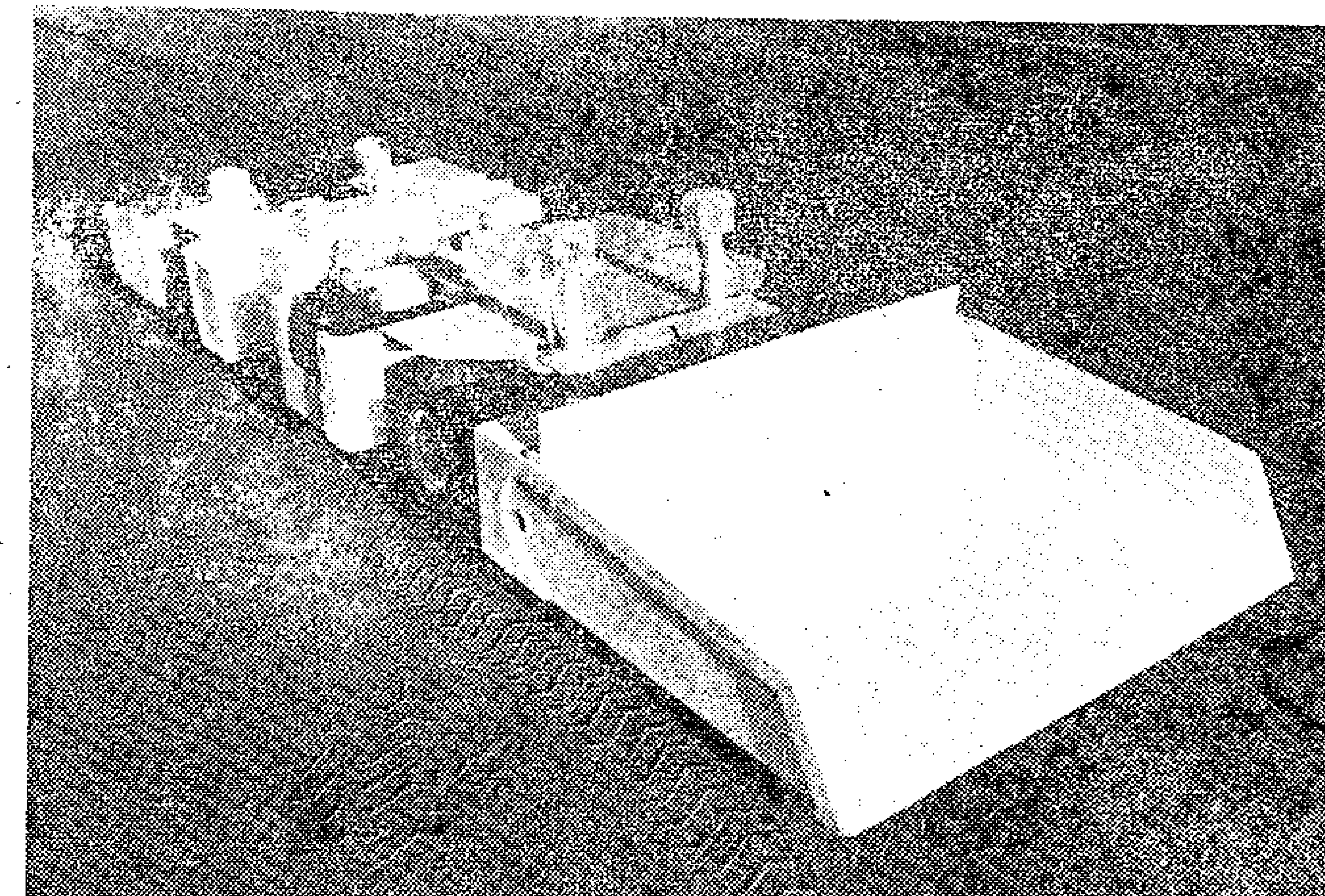
Mechanisation has taken many forms but about 90 percent of mechanised coal mining is performed by mechanical loaders, continuous miners, surface strip mining and longwall mining.

The traditional method of coal mining followed in South Africa was the bord and pillar method, as it required relatively little capital outlay, while unsophisticated labour could be easily trained in its techniques.

But this method of leaving pillars of coal behind to support the roof is obvious-

machinery and adapting imported equipment to local conditions, and in the application of computers for simulation models used in mine planning and for assessing the country's total coal reserves.

Some of the research has been prompted by the different conditions obtaining in South Africa.



A PYOTT-BOONE battery-powered low-seam coal scoop has been delivered to Anglo Americans' Springfield Colliery near Grootvlei in the Southern Transvaal by Coalequip (Pty.) Ltd. It has a lifting capacity of 13 180 kg.

POST MOTORING

55 25/9/79 Post

Diesel—a future alternative?

Motoring Editor

"STILL having your love affair with diesels, I see" a colleague said to me in the office the other day. Well, sort of . . . though you can go off things.

Driving a diesel car during the last few weeks has been a bit of an up and down relationship. Bad enough trying to find an open filling station but one with a diesel pump . . . ? Against that was the fact that with a full tank I could easily settle for a week's motoring without the need to refuel.

There is also the reward of the sheer pleasure of driving diesel. Without the normal acceleration of a petrol driven car you must keep on your toes and make a much better reading of the right position at the right time. You have to take a bit more care and thought, perhaps even become a safer driver.

Starting contemporary diesel cars is now no hassle: turn on the ignition to a first stage and when the warning light goes out (never more than 20 seconds even on the coldest day) switch on — and away. Acceleration is best described as leisurely but in all other respects a diesel car is well turned out.

Of course, not everybody would want to drive diesel for the rest of their lives. And there is no doubting the massive commercial pressures being exerted behind the scenes to influence Government policy in most of the developed nations.

Apart from British Leyland, the only major European manufacturer not to offer a diesel car at the moment is Renault.

And while General Motors are going great guns with their diesels in US — turbocharged — Ford are taking another tack with what they call the ProCo engine and which they claim will rival diesels for economy. ProCo it stands for Programmed Combustion — uses petrol and is aimed for production in the early '80s.

The new engine has a combustion bowl set in the crown of each piston. Fuel is injected directly from above where it mixes with a blend of air and recycled exhaust gas. But the nub of ProCo operation lies in its central control system which varies the timing of the economical use of the fuel both in town and on motorways.

Laboratory research into the engine is now complete and the project has been handed over to Ford's production engine group. The key words seem to be "squish" — the pattern of gas stirring caused by the upward motion of the piston — and "swirl" — rotational movement of the air/gas mix as it is drawn through a conventional inlet valve. The target is a 20 per cent fuel improvement.

That seems to be the way Ford are putting their money — something of an each-way bet is emerging. Almost within days of Audi/NSU announcing that they were following General Motors and shelving the Wankel twin-rotary engine, Ford broke the news that it was negotiating at deal with Toyo Kogyo (i.e. Mazda to us) which would give them a 20 per cent stake in the Japanese company.

manufacturers in the world have been concentrating their engineering efforts, exhaust emission standards, safety regulations, fuel economy, and noise requirements — and have had to invest an enormous amount to comply with them," said Yamamoto. "We at Toyo Kogyo had already invested for the production facility of the rotary engine in 1973.

"I believe that the rotary engine has a great potential to meet both social requirements and diversified market needs into the eighties. We will be bringing out a new generation of the rotary engine and a new generation of the automotive packages that go with them."

Brave words — confidently spoken. But all that might still be a bit far off.

MORE TIPS FROM PAGE 4

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SPRING GREEN SALAD

1 medium size lettuce
2 onions
parsley
1 cucumber
mint (fresh)
scallions

Wash and shred the lettuce, chop onions finely and parsley; keep a few pieces for garnishing. Wash cucumber peel and cube. Wash scallions, and cut tops off leaving a short piece of the green left on. Toss the lettuce, parsley, cucumber, onion and scallions together, salt and pepper. Pour over a little French dressing and serve in a glass bowl. Garnish with a few sprigs of mint and parsley.

May Bennett, Ridgeworth

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the carrots,
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eapple and add
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Ridgeworth

STUFFED CABBAGE SALAD — May Bennett, Ridgeworth

1 fresh green medium size cabbage
onions
carrots
tomatoes
fresh pineapple
radishes

Cut the centre from the cabbage, leaving the outer leaves to form a bowl. Wash well. Chop onion. Peel and cube the carrots and pineapple. Cube tomatoes. Thinly slice some of the inner leaves of the cabbage leaving the stalks. Place the carrots, pineapple, tomatoes, sliced cabbage and the finely chopped onion in a bowl adding any juice from the tomatoes, pineapple and add salt and black pepper to taste. Toss well, then pile the salad into the cabb
bowl of mayon
roses, cut ac
iced water un

GERMAN POTATO

boiled potato
cooked bacon
mayonnaise

Cube the pota
with the pota
salt and pepp

EGG SALAD

hard boiled e
salanaise

Cut eggs in
down. Pour ov

CHICKEN AND CU

1 cup cooked chicken, diced
4 T finely chopped walnuts
French dressing/mayonnaise
lettuce
1 cup cucumber, peeled and diced
1 cup cooked green peas

Marinade chicken, cucumber, nuts and peas with French dressing. Serve on lettuce with mayonnaise. Cover with greaseproof paper and refridgerate until ready for use.

French dressing:
Blend together 6 T salad oil and 2 T lemon juice.

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SPRING GREEN SALAD — May Bennett, Ridgeworth

1 medium size lettuce
2 onions
parsley
1 cucumber
mint (fresh)
scallions

Wash and shred the lettuce, chop onions finely and parsley; keep a few pieces for garnishing. Wash cucumber peel and cube. Wash scallions, and cut tops off leaving a short piece of the green left on. Toss the lettuce, parsley, cucumber, onion and scallions together, salt and pepper. Pour over a little French dressing and serve in a glass bowl. Garnish with a few sprigs of mint and parsley.

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r and vinegar,
cooked beans

oarsely chopped walnuts
ayonnaise or salad
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sauce
juice

In a large salad bowl, com e, orange sections, tuna and nuts; toss together. Combine mayonnaise, soya sauce and lemon juice; mix well. To serve, add dressing to salad; toss gently. Makes 4 - 6 servings.

---oOo---

And Mazda are well into the Wankel having taken out a licence in 1961 and started full scale research and development in 1963. Rotary production began in 1967 and the company has since built more than one million rotary powered vehicles.

Rotaries took a hammering in the wake of the 1973-74 fuel crisis but Toyo Kogyo stuck to its guns and are now seeing some signs that the corner might be turned. They claim that they have solved the unreliability problem that dogged the ill-fated NSU RO80 and to have improved low and medium speed torque.

DRAWBACK

But perhaps the biggest drawback has been that of poor fuel economy which Toyo Kogyo have not entirely solved but have found part of an answer. "Our new strategy is to develop a unique, distinctive package exclusively designed for the rotary engine," Mr Kenichi Yamamoto, director of TK's research and development said recently.

"Simple structure, effective layout, aerodynamics, performance and handling must all be brought together to produce a car that is fun to drive and offers the most desirable value for money," he said. The present offering in this category is the RX-7 sports car at present being launched in Europe after an impressive start in the United States.

"In the past decade, most of the automotive

gine after starting. It just wastes your money. It can even harm the engine as the oil has not had a chance to circulate and lubricate all the moving parts.

AVOID UNNECESSARY SHORT JOURNEYS

Those short car journeys which seem to make owning a car so convenient are actually the most expensive trips you make.

Since they are usually finished before the engine has warmed up properly, it means that the cost of the fuel you use is much greater.

The answer to this waste of your money is to plan your trips by car so that several short trips are combined into one.

AVOID FAST GETAWAYS

It takes a lot of extra energy to increase your car's acceleration rate quickly. Besides pouring petrol through the engine, a fast getaway increases wear on your rear tyres and puts a strain on your transmission.

Gradual acceleration in city driving is not only safer, it saves you money too.

Koeberg on stream in 1982

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WITH the coming on line of the Koeberg nuclear power station at Duynefontein in the Western Cape in 1982, nuclear energy will start playing its role in supplying the national grid with electricity.

By 1985, some 12 000 GWh will be sent out annually by Koeberg — almost 10 percent of the total in the grid.

By the year 2000, the figure for nuclear power is predicted to reach some [illegible]3 000 to 60 000 GWh, fully [illegible] percent of the total. Extrapolating to the year 2020, this percentage could rise to 25 or more.

In anticipation of nuclear energy being harnessed worldwide to an ever greater extent, South Africa has embarked on an intensive search for new deposits of uranium.

Should the demand arise, the Republic could in the mid-1980s be in a position to produce about 11 000 tons of uranium a year, a production figure it should be able to maintain well into the next century.

Current annual earnings from uranium sales at present stand at some R500 million.

To complement the increased production of uranium, extraction metallurgy techniques have been continuously refined to ensure the greatest possible beneficiation of uranium ore.

Following the incorporation of ferric and pressure leach processes, as well as other new techniques, the percentage of uranium recovered is expected to exceed 90 percent.

Dr. J. W. L. de Villiers, president of the Atomic Energy Board, said recently that if South Africa uses its energy resources efficiently, it will be able to provide adequately for its own electricity needs well into the next century.

If economically justifiable, it will be feasible to erect nuclear power stations in the Eastern Cape Province and in Natal.

"We must use our resources in a complementary way," he said, adding that nuclear energy should play a very important role in South Africa's future electricity generation.

Considerable research has gone into the development of fast breeder reactors.

A 1 200 MW prototype commercial reactor is at present under construction in France, and it is quite possible that power stations based on the fast breeder reactor will in the not-too-distant future come into their own.

The main attraction of fast breeder reactors is their low consumption of natural uranium in comparison with current commercial reactor types.

They will use only 1 or 2 percent of the uranium required by the current types when producing the same amounts of energy.

South Africa may also introduce fast breeder reactors in the future if they are economically justifiable and can be built and operated with adequate safety.

Looking further into the future, one must take into account the great likelihood of a breakthrough in fusion technology.

Such an achievement would revolutionise the nuclear power industry and would place almost unlimited resources for electricity generation at the disposal of mankind.

In spite of the opposition from some quarters to nuclear power, Dr. de Villiers is convinced that it is the cleanest and least polluting form of energy.

The amount of radio[illegible] activity reaching the en[illegible]vironment from a conven[illegible]tional coal-fired power sta[illegible]tion is many times greater than that from an equivalent nuclear station.

It is a simple fact that no one has yet died as a direct result of radiation arising from nuclear power generation.

This potentially enormous source of energy is being safely harnessed for the betterment of man's natural environment and hence for the enhancement of economic and industrial development throughout the world.

DR. J. P. HUGO, deputy president of the Atomic Energy Board, contributed this article

US synfuel needs may let Sasol cash in

STAR 25/9/79

52

By John D'Oliveira, The Star Bureau

WASHINGTON — Top Sasol executives have completed a significant visit to Washington which has clearly improved Sasol's chances of cashing in on the United States determination to develop a massive synthetic fuel industry by the 'eighties.

General manager Johannes Stegmann and research and development manager Jan Hoogendoorn left Washington at the weekend after "positive" discussions with United States politicians, officials and individuals interested in what has been called here the "synfuel" programme.

They came to Washington at the invitation of the House of Representatives banking, finance and urban affairs committee's sub-committee on economic stability.

POSITIVE

Mr Stegmann said he had found the discussions stimulating and positive, and that the interest in synthetic fuels was high. "Much depends on whether legislation now in the pipeline can offer a suitable economic and administrative framework for synthetic fuel plants.

"If the appropriate legislative framework can be established, we are confident that between Sasol and the Fluor Corporation we offer a unique package — because we have the only proven process in the world for going from coal to a range of petroleum products."

Mr Stegmann said the legislation now in the United States pipeline included measures which would offer economic support for synthetic fuel production and others which would speed up the process by which plants are certified and licensed for production.

COOLNESS

While Mr Stegmann declined to comment any further, the visit is highly interesting because it is the product of increasing congressional interest in Sasol — despite the Carter Administration's coolness on using South African expertise (and paying for it) in the United States synfuel programme.

Economic stabilisation subcommittee officials have said that as far as they can recall, the visit was the first to be arranged as a result of direct Congressional action.

Fuel move boosts hopes of tourism

55
STAR
26/9/79

By Kevin Murray

Travel agents and members of the hotel industry believe the lifting of speed restrictions and the sale of petrol on Saturdays will provide a much-needed boost to tourism in South Africa.

"This is wonderful news," commented the executive director of the Federated Hotels Association of South Africa, Mr S W Schoombie.

"We have been severely hampered by the low speed limit, the dry weekends and the price of fuel. To have two out of three of our major worries lifted is delightful news."

Mr Schoombie said all the weekend resort hotels out of reach of a tankful of petrol would welcome the news.

It would also increase the commercial traveller trade, as most salesmen were cutting short their journeys to get home before weekends.

Mr Winston Coetzer, director of consumer operations for Holiday Inns, said: "This is fantastic. It will really put back the occupancies we lost when the low limits and weekend restrictions were brought in.

"It will give the tourist industry a big boost."

Johannesburg travel agents said they expected more people to travel now, and did not see the fuel price as being enough by itself to restrict increased travel.

But South African Airways and commuter airlines in South Africa do not expect to lose much traffic to cars.

Since the introduction of the 70 km /limit and the higher fuel price, passenger figures have increased dramatically, and many airlines are buying new aircraft to cope with demand.

Motor spokesmen said the higher petrol price of 54,2c a litre on the Rand should have a tempering effect on increased weekend holiday travel, but Saturday morning fuel was a shot in the arm.

● Johannesburg's Traffic Department will be putting up the new speed limit signs on the Rand Airport Road and the motorways, the only roads affected by the new speed limits, on Friday.

"We hope to get the Gazette tomorrow and will start putting the signs up on Friday," said Mr A J du Plessis, deputy chief traffic officer (logistics), today.

"We will be manning our usual speed checks throughout the city," he said when asked if the department was going to crack down on motorists who tried to jump the gun and start travelling at 90 km/h today.

Truckers cheer new limit

Truck operators at a meeting in Randburg yesterday afternoon cheered when it was announced that the 70 km/h speed limit would be raised to 90 km/h on Friday.

The announcement was made by Mr Jack Webster at the second annual meeting of the National Association of Private Transport Operators, which now has 125 members in South Africa.

"We will no longer be bogged down by the speed limit," Mr Webster said.

In a letter asking for the abolition of the 70 km/h limit, the Federation of Road Transport Associations had said a survey among operators had shown improved fuel consumption, but this saving was not possible if the 70 km/h limit was retained.

The cost of crawling at 70km/h

RDM 27/9/79

55

By BRIAN O'FLAHERTY and GERALD REILLY

SOUTH AFRICA was yesterday counting the cost of the 16-week long 70km/h crawl which the official PFP spokesman on transport, Mr Rupert Lorimer, says "must have cost the country millions of rands".

The speed limit — introduced by the Government in June — hit commerce, industry, tourism and the consumer across the board.

Surveys submitted to the Government show that the 70km/h limit caused substantial losses in productivity and manpower hours.

According to the surveys which were submitted by key bodies in commerce and industry:

- The Road Hauliers Federation found that there was a loss of working time of between 12% and 24%.
- The Post Office used 2,4% more vehicles in June, July and August than in April and May.
- The Federated Chamber of Industries and the Afrikaanse Handelsinstituut also made productivity surveys in which they found that more time was needed at the lower limit to make the same number of deliveries.

The Rand Daily Mail also established yesterday that during the 70km/h speed limit days:

- Johannesburg motorists picked up 20,9% or 3 367 more speeding tickets than in a similar period when they were "whizzing" down highways at 80km/h or 90km/h.
- A leading hotel chain lost 4% to 5% on its roadside hotels after the shock fuel prices, speed limits and weekend closing of garages came into effect.
- The shortage of skilled labour — particularly in the

- The shortage of skilled labour — particularly in the building and manufacturing industries — was accentuated while specially trained people were on the road.

The Secretary for Commerce, Mr Tjaart van der Walt, said in Pretoria yesterday the surveys were part of the background against which the Minister of Industries and Commerce, Dr Schalk van der Merwe, decided to raise the limit to 90km/h.

Mr Lorimer said the 70km/h limit had "proved to be an ill-advised and costly exercise.

"Lowering the speed limits without any tests being done — either as far as fuel usage or its effects — must have cost the country millions.

"One hopes in future the Government will not take action of this kind without investigating the implications. The Government had to go through this face-saving charade before it restored limits.

"There is doubt in my mind the saving in fuel has not been due to any great degree because of the limits but to the economic aspect (fuel price) which have put a natural break on consumption. It is an absolute bungle from start to finish."

The Chief Provincial Traffic Inspector, Mr J van der Veen, said in Pretoria that he did not intend erecting 90km/h signs when the new limit came into operation. "Everybody knows it is now 90 km/h except in the municipal areas, and in a few other restricted areas. We might erect 90 signs at border posts, how-

SA is selling petrol to African lands

Post 27/9/79 55

SOUTH AFRICA is currently exporting petrol to some African countries, the Minister of Industrial Affairs, Dr Schalk van der Merwe announced yesterday.

He did not identify the countries where the fuel was being sold, but he underlined that South Africa was making a profit from the transactions.

The reason for South Africa exporting petrol is because of over-production and increased diesel consumption. The profits from these sales in Africa are being used to buy new reserves of crude," he said.

"It is a difficult position," said Dr van der Merwe. "The Government does not want to waste superfluous pertol, but at the same time, we want to be fair to the public."

● It was announced this week that the speed limit had been raised from tomorrow and petrol would be sold on Saturday mornings. The limit now reverts to the old 90 km/h. Garages open on Saturdays from 7 am to midday.

Consumers warn on more for petrol

Post 27/9/79

55

By IKE MOTSAPI

THE Consumer Council has announced that it would oppose any increase in the price of petrol which could be brought about by pressures for an increased retail margin on petrol sales.

The council's director, Mr Johann Verheem, said that while he had sympathy for independent filling station owners, many of whose profits declined during the past years, the pressure to increase the retail margin of petrol sales was brought about by too many filling stations.

The filling stations mushroomed everywhere and "there was no reason to penalise the consumer in order to rectify the situation."

During January last year, the Minister of Economic Affairs, Mr Chris Heunis said no further permits would be issued for the establishment of new filling stations until 1980.

He also warned that he had told oil companies to use permits already issued to them to set up filling stations.

This warning had been "greatly ignored."

Mr Verheem said: "I therefore believe that if a higher margin has now become essential, the consumer cannot be expected to contribute towards it."

He warned that the consumer groups under his council would oppose any measures aimed at increasing the price of petrol.

24/9/79

Star

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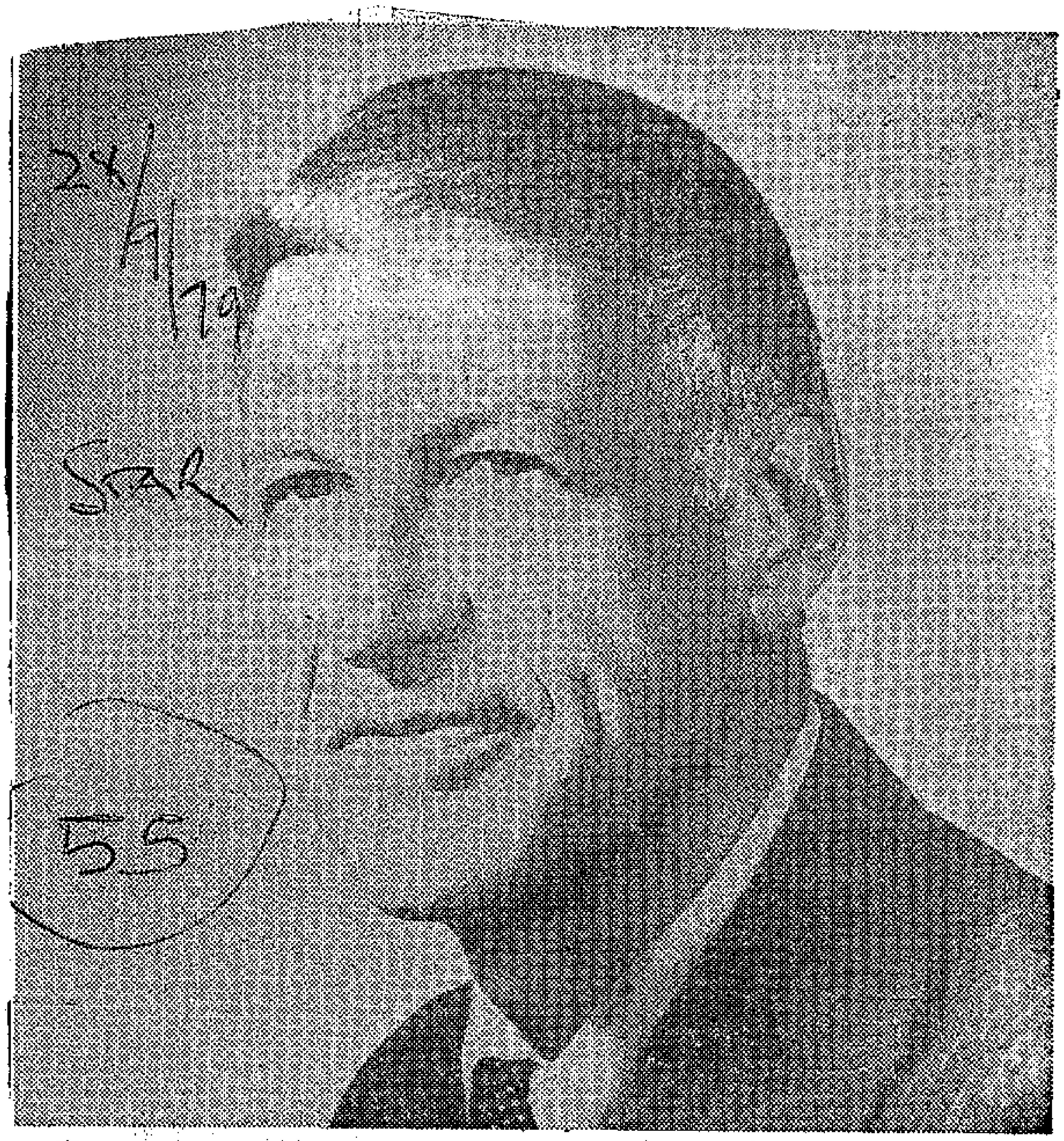


George M Low ... Moon programme success can be repeated with energy crisis.

Moon project chief's solution to energy crisis

The man who managed the successful moon programme a decade ago, GEORGE M LOW, says that the United States can indeed master the new challenge of meeting its energy needs, and outlines his recipe for success. Mr Low is now president of the Rensselaer Polytechnic Institute.

Ten years ago, technology triumphed. Men walked on the moon. Thousands of people had been dedicated to achieving the impossible, and they did it. They believed in America and its potential for unlimited accomplishment.

Five years ago, in celebrating the fifth anniversary of that first moon landing, I viewed the future with optimism. I saw Apollo in the forefront of the thrust for a new and better world — the symbol of hope for the human species.

better than we already have; but at best, this only puts a temporary plateau in the rising demand curve. We must lessen our dependence on oil that comes from often unstable foreign sources.

In the near future, there are really only two solutions: coal (including synthetic fuels) and nuclear. Both can be in plentiful supply, but both have potential environmental problems.

With coal, as with any other fossil fuel, we know little about the possible hazard of a carbon dioxide buildup in the atmosphere, which could cause the earth's temperature to increase in a runaway fashion.

PEANUT CRISPS - Biscuits | Mrs V. Eyles, Pinelands

1/4 lb margarine
1 cup brown sugar } blend together
1 egg

Add 1 cup flour, 1 cup Jungle oats, 1 cup cornflakes, 1 cup salted peanuts, 1/2 t bicarb, 1/2 t baking powder.
Mix well. Roll into walnut size balls. Place well apart on baking sheet. Flatten slightly with a fork. Bake at 350°F for about 10 minutes.

GINGER BISCU

3 lbs flour (
500 g syrup
500 g margari
1 pkt bicarb
salt

Sift flour,
sugar; allow
ingredients a
Add. Allow t
with thumb.

GINGER NUT BI

2 1/2 oz marg
3 oz golden sy
1/2 level t mi
1 level t bica

Melt margarine
spice and ging
bicarb combine
Stand on butte
just above cen

COCOANUT FINGE

1/2 lb butter/
2 small cups f
2 t baking pow

Mix altogether. Mixture rather crumbly. Press into tin 15 x 10.
Bake at 325°F for 1/2 hour. Cool slightly.

Pour over:
Mix 2 cups icing sugar, 1 T cocoa, 1 t vanilla essence. Mix with a little boiling water - mix well. Pour over biscuits, let it set, then cut.

---oOo---

KOEKSUSTERS | S. ron Y...ng, Rondebosch

1 cup flour | salt
2 t baking powder | 2 d margarine
± 1/2 cup milk to make scone dough

1. Sieve flour, salt and baking powder
2. Rub in butter
3. Add liquid to make scone dough
4. Make into koeksuster shapes
5. Cook in deep fat
6. Put straight into iced syrup

Cream butter and sugar, add flour and essence. Bake in 325°F oven. Cut into fingers.

---oOo---

Today, I wonder. Was Apollo a great beginning of a new age, or a grand finale of an era of science and technology and economic growth?

The signals are not good: Inflation is rampant, and a recession is imminent; the dollar no longer is a stable world currency, and for the first time in 100 years we are incurring huge trade deficits; innovation is faltering and productivity is lagging; instead of generating our wealth first, and then distributing it, we are seeking to distribute wealth we have not yet earned. The long lines at the petrol pumps integrate these factors into a result that affects us all.

We are in a period of transition.

Where will we be five years from now, at Apollo's 15th anniversary?

If we continue on our present course, today's petrol lines will be tomorrow's brownouts and blackouts, lasting days or even weeks. With limited electric power, we will suffer inefficiencies foreign to our way of life: Transportation systems will fail, elevators won't work, furnaces won't start and water won't run. The spiral of inflation, recession and unemployment will continue.

There is an alternative to this depressing picture, but it requires quick and decisive action, such as our response to Sputnik in 1957. Perhaps those long lines at the petrol pumps can be our new Sputnik, a catalyst to which we will react.

A meaningful reaction, one that begins to cure many of our ills, should yield highly interelated results:

- An increase in productive capacity.
- A workable energy policy.
- A decrease in non-productive government spending.

A strong productive system generates economic growth while increasing real per capita income. This is the only way to improve the quality of life. Yet, the growth in our productive capacity (and in productivity) has been nearly at a standstill. Business lacks the necessary economic incentives. Government rules and regulations cut too deeply into potential profits. New techologies are not being developed at a sufficient rate.

What is needed?

First, economic conditions and a tax structure that provide the opportunity for a reasonable return on investment. Given such incentives, business will add new capacity and invest in research, development, plants and equipment toward new ventures. Today it often is most profitable for business to buy existing capacity through acquisition than to add new capacity.

Second, a recognition that finite risks are natural and necessary if we are to make progress; we need to slow down the application of some of the rules and regulations we have demanded in the name of a risk-free world. (We cannot solve all of our problems at the same time.)

Third, a statement of policy — a national commitment — recognising that research, development, technology and innovation are essential if we are to grow economically, compete internationally and meet our domestic societal needs. From such a policy would flow a variety of incentives for investment in new ventures.

Now let me turn to the question of energy. The simple fact is that there is no easy solution. Alternative energy sources, such as fusion and solar, will not have a significant impact in this century. Conservation is important, and we can do even

With nuclear power, we have not yet agreed on a solution for the waste disposal problem. In my view, we should pursue both alternatives — coal and nuclear — so that if we approach insurmountable hurdles in one, we still can rely on the other. (Note that I have not addressed the question of nuclear power plant safety. As an engineer, I have confidence that any problems that may now exist can be solved.)

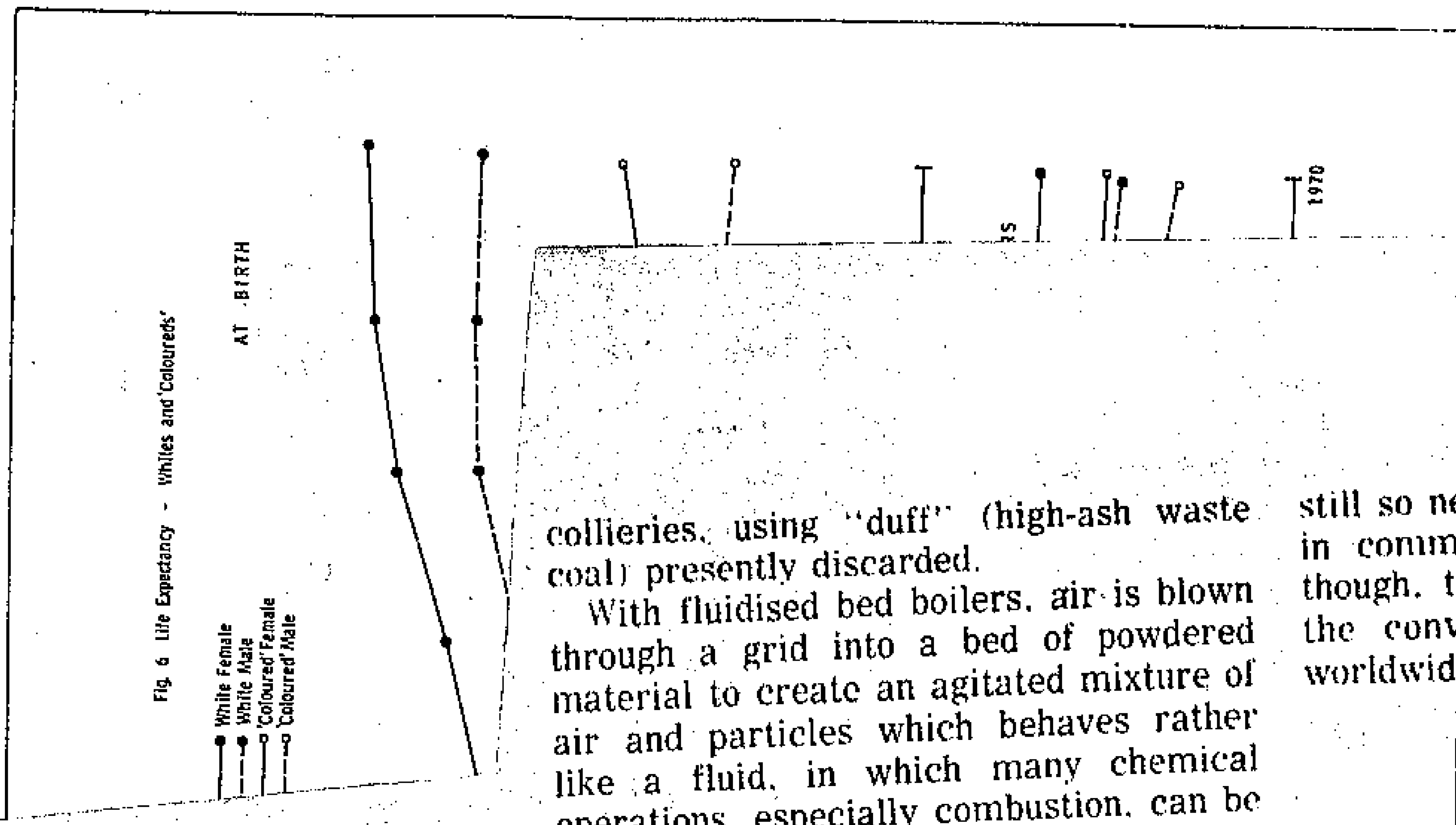
If we do well in the growth of our productive system and in solving the energy crisis, the third area — the reduction of non-productive government spending — should take care of itself.

In the time span since Apollo, transfer payments, or payments to individuals, have grown at twice the rate of the gross national product and now are approaching an astounding 50 percent of the Federal budget. As more capacity is added, and more jobs are provided, as wages are meaningfully tied to productivity, the need for these payments will diminish.

These goals can be accomplished only through a strong government-business partnership. The government must remove the current disincentives and add proper incentives for the American business system to function as it should. Business, for its part, must add the capacity and produce the energy to stimulate the economy and to provide jobs.

In Apollo, we responded to a challenge with a simply stated goal (land men on the moon), a clear-cut timetable (before the end of the decade), and strong leadership from the top (a national commitment). We now face a much more serious challenge — our survival as a leader among nations.

Are we still able to respond? I think we are. — Christian Science Monitor News Service.



ENERGY

Boiling up

55

FM 5/10/79

The fluidised bed boiler has arrived in SA, introduced by Foster Wheeler one of the big three in boiler manufacture in the US. Fluidised beds represent one of the most promising areas of coal technology, holding out the hope of higher operating efficiency, reduced pollution and the ability to burn currently useless high ash coals.

Mervin Gaylard, local Equipment Division Manager, explains that the new line of boilers is intended for steam-raising, rather than power generation, although the American parent, Foster Wheeler Energy Corporation, is already offering fluidised bed generation equipment in the US.

The new range of boilers will be manufactured locally, furnishing a capacity up to a maximum of 300 000kg per hour of steam. One promising application could be to generate steam for local collieries, using "duff" (high-ash waste coal) presently discarded.

With fluidised bed boilers, air is blown through a grid into a bed of powdered material to create an agitated mixture of air and particles which behaves rather like a fluid, in which many chemical operations, especially combustion, can be carried out very efficiently. Foster Wheeler's boilers, claims Gaylard, offer the following major advantages: ● They can burn coal with ash content up to 55%. (Remember that the Petrick Commission said that only coal of up to 35% ash content had any commercial usefulness.)

● Pollution from the sulphur content of coal can be completely eliminated through adding limestone to the fluidised bed, while the emission of nitrogen oxides is much reduced.

● Slagging problems are avoided, as the bed operates well below the fusion temperature of the coal ash.

● Fluidised beds have a smaller furnace zone, and more efficient heat transfer, as the boiler tubes are immersed in the bed itself. And the even temperatures encountered impose less demand on the strength of furnace materials, which do not need to be engineered to withstand occasional "hot spots".

However, Cape Town University's energy professor Richard Dutkiewicz cautions that fluidised bed equipment is still so new that it is not yet fully proven in commercial applications. He agrees, though, that it will eventually supersede the conventional power station boiler worldwide.

PART 2 1974

INTRODUCTION

In South Africa the analysis of mortality data is c
since, apart from the notification of certain predo
diseases and a recently instituted collection of ho
tics[1], (primarily for national accounts purposes), r
collated on a routine basis at national level.[14]
mortality statistics have already been mentioned. H
limitations are accepted, and when it is appreciated
provides only one aspect of the overall health-disea
community, then the analysis of routinely collected
deaths occurring in a defined population provides im
the planning, implementation, surveillance and evalu
services.

SOURCES OF DATA

Information about the number of deaths occurring in
cause, age and sex is published annually by the Depa
These reports appear after a delay of several years.
was the latest available at the commencement of this
two series[2], one for whites, Asians and 'coloureds' wh
country,[2] and one for Africans for selected magister
comprise the main urban areas.[3]

In 1974, there were 34 974 white, 4 795 Asian and 24 ... 'coloured'
deaths in a population of 4 155 000 whites, 709 000 Asians and 2 368 000 'coloureds',[4] death registration is virtually complete. The estimated total African population for the whole country for 1974 was 17 772 000.[4] On the basis of a crude death rate in 1970 of 10,3 per thousand for Africans for the country as a whole,[5] one would expect 183 000 deaths. Since the Births, Marriages and Deaths Registration Amendment Act of 1970,[6] the registration of African deaths is done by the Department of Bantu Administration and Development or its successors. In 1974, the Bantu Reference Bureau registered about 130 000 deaths.[7] The published report for the selected urban areas accounts for 31 410 deaths. Thus, about 100 000 residual deaths 'are not categorically divided in urban or

TABLE I

MORTALITY RATES FOR THE 17 MAJOR DIVISIONS OF THE ICD (8th REVISION)

(Note: There are no tables for divisions V, XI, XII, XIII because of the small numbers in each of these categories).

I INFECTIVE AND PARASITIC DISEASES

	W		A		C		B	
	M	F	M	F	M	F	M	F
0-1	1,99	2,2	9,81	6,60	55,55	51,04	29,36	27,05
1-4	0,16	0,13	0,76	0,79	8,27	7,48	3,56	3,42
5-24	0,02	0,02	0,07	0,08	0,21	0,21	0,20	0,22
25-44	0,06	0,03	0,17	0,20	1,14	0,78	0,36	0,45
45-64	0,25	0,13	0,75	0,45	3,30	1,37	2,15	1,27
65+	1,04	0,72	1,61	1,98	5,48	2,78	5,45	2,93
ALL	0,19	0,15	0,56	0,45	3,33	2,69	1,66	1,61
NO.	399	315	198	159	3792	3146	3472	2593

II NEOPLASMS

	W		A		C		B	
								F
[illegible]								0,06
[illegible]								0,04
[illegible]								0,04
[illegible]								0,[illegible]
[illegible]								1,9[illegible]
[illegible]								4,1
[illegible]								0,4[illegible]
[illegible]								71[illegible]

III

	W		A		C		B	
								F
0-1								1,96
1-4								1,29
5-24								0,02
25-44								0,07
45-64				[illegible]	0,28	0,42	0,24	0,61
65+	0,39	0,59	1,61	2,59	0,81	1,28	1,04	1,44
ALL	0,05	0,08	0,12	0,18	0,28	0,26	0,22	0,33
No.	114	173	43	63	316	307	455	530

ALTERNATIVE ENERGY

55 PM 12/10/79

Tailor-made bugs

A **"super-bug"** being developed at Rhodes University could eventually help to reduce SA's energy problems. Microbiology Professor David Woods is using ultra-sophisticated scientific techniques to change the hereditary characteristics of useful micro-organisms like yeasts, so as to improve their capacity to convert plant material into alcohol and other valuable chemicals.

The trouble with naturally occurring yeasts, explains Woods, is that they can convert the relatively simple glucose molecule into alcohol (extracting energy for themselves in the process), but are defeated by more complicated energy-rich substances like starch or cellulose (the basic fibre which makes up the bulk of plant material). That's why brewing requires malt, which contains an enzyme (biological catalyst) called amylase to break down the starch in grain to glucose.

Now, development in understanding bacterial genetics has made it possible to transfer the actual hereditary material from one "bug" to another. So, it is theoretically possible to set the goal of a "gene transplant" from other organisms into, say, yeast, so as to confer on the genetically modified yeast the capacity to produce enzymes capable of breaking down starch or cellulose.

Woods emphasises the considerable difficulty of this goal. But difficult though it is, the eventual results (if it could be achieved) would be tremendous. A super-bug of this sort could convert to alcohol not just the small proportion of the plant content comprising currently fermentable material, but the bulk of the plant, stalks and all. The result — vastly increased potential for ethyl alcohol (ethanol) production, for use as a petrol substitute.

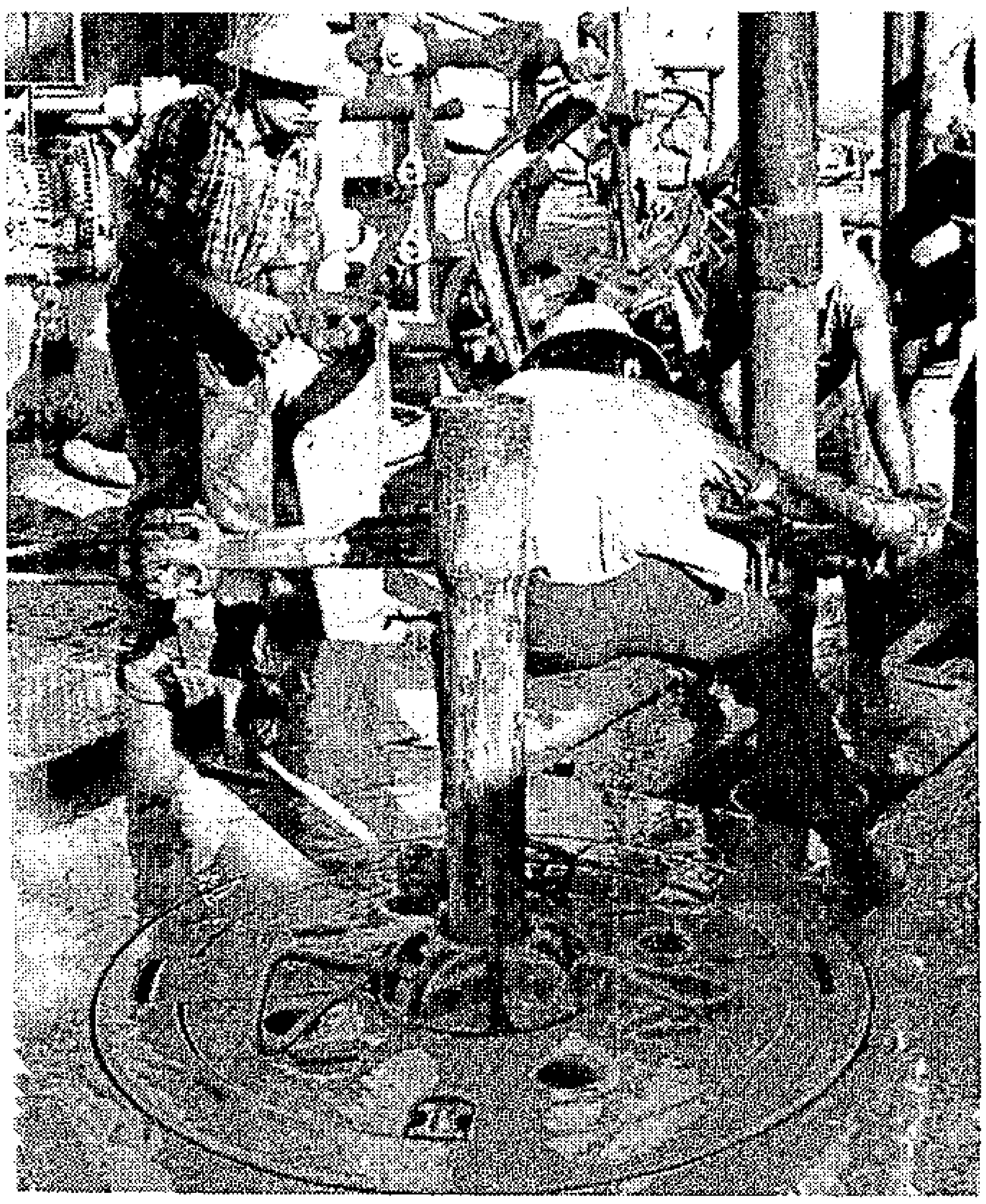
SA's major ethyl alcohol producer, Sentrachem, has lent its considerable weight to Woods's research, through financing a five-man research group in his laboratories. But no amount of money can short-circuit the inherent problems of tailoring living organisms in this way, so that genetic engineering is definitely part of the long haul in energy research.

The scientific complexities of this type of research have already driven one important overseas energy company to throw in the towel. Gulf Oil has handed over to the University of Arkansas Foundation its results to date (along with patents, equipment and key personnel) from a project to use microbiological techniques to convert cellulose to ethyl alcohol, acknowledging that immediate commercial prospects are grim.

When the petrol dries up — put a gopher in your tank

(55)

RDM. 16/10/79



A sight of the past . . . oil drillers or farmers?

Nobel Prize-winning chemist, Melvin Calvin, believes America can solve its gas problem by growing it. His experiments with the oil of a Southwestern scrub plant have yielded a crude for about R17 per barrel. He says crop oil can eventually be produced far more cheaply than fossil fuel. TOM TIEDE reports from southern California

DR MELVIN Calvin got the idea appropriately enough. He was stranded in a gasoline line during the 1973 Arab oil embargo, and, disgusted, he formed a hypothesis: since most fuels come from the energies of dead plants, why can't they also be extracted from live ones?

And so the good doctor, a Nobel Prize-winning chemist at the University of California, began a little known experiment that may be the most innovative approach to the energy crisis yet proposed. He suggests the nation and the world grow barrels of oil on massive "petroleum plantations."

No giggles. Dr Calvin is already raising prototype oil on various plots throughout southern California. This is not imitation oil, he says. It's real crude: black, gloppy, and with a caloric value of 17 000 Btu per pound. Moreover, its cost — around R17 a barrel — is now competitive with the world rate.

The "weed" that Dr Calvin is working with is called Euphorbia Lathyris, or "gopher plant". It's a scrub that grows in wild profusion across the deep Southwest. It's an ugly duckling member of the poinsettia family, and it has at least 2 000 relatives. It grows tall and angular as do stalks of corn.

To be sure, Dr Calvin's notion is not yet ready for gas tanks. Oil crops, if they come at all, are years away from wise reality. But Dr Calvin and his associates are convinced the plan is fundamentally marketable. One day, they insist, the fields of America may bloom with petroleum as well as grain.

And the sooner the better, Dr Calvin adds. He has charts which indicate the world's subterranean oil supply will be gone in 20 years. Coal supplies are much more plentiful, he admits, but turning coal into oil creates a byproduct known as benzopyrene, a substance that is known to be carcinogenic.

And even if benzopyrene is removed in coal liquefication, a very expensive procedure, the burning of fossil fuels increases the world's already excessive supply of carbon dioxide. Dr Calvin says when carbon dioxide collects, it prevents heat from leaving the earth — a process with catastrophic implications.

So, conceivably, petroleum plantations would help alleviate two world dilemmas. They would constitute an eternally renewable fuel resource, and the crops would not pollute. Besides, Dr Calvin says the fuel would be the simplest form of energy; matter of fact, it can be grown from ordinary weeds.

The oil of the E Lathyris is produced by photosynthesis, the devotion to which produced Dr Calvin's Nobel Prize. The chemist says photosynthesis separates hydrogen and water in the plant, and produces carbohydrates. In time the carbohydrates are reduced to hydrocarbons, or, in effect, petroleum.

In the plant the petroleum is actually a thick latex, something like that given off by rubber trees. During experiments, Dr Calvin extracts the latex chemically and then mixes it with other elements to create crude. Dr Calvin says it costs about R8,50 to grow a barrel of the oil, and the same amount for processing.

When Dr Calvin began growing the oil, three years ago, the cost was of course much higher than Arabian fossil fuel. Now, with world cutbacks and surcharges, some Arab oil is selling for more than the E lathyris kind. Eventually, Dr Calvin says crop oil can be produced far more cheaply th[an] fossilised fuel.

The cost will shrink, Dr Calvin explains, as research expands. He says larger plants can be developed by genetic engineering, and more efficient processing will come with mechanical imagination. Rubber trees of yesterday, for example, produced 225 kg per hectare, but the trees of today can get up to 9 000.

Dr Calvin says he is trying to convince industry that it should invest in the research. He wants oil companies to begin planting E Lathyris of their own, on the vast amounts of suitable land they own. He'd also like increased federal assistance; the Department of Energy now grants him $100 000 (about R85 000) a year.

And, as it happens, Dr Calvin is not the only one pushing the research. The idea of petroleum plantations originated in 1937 with the Italian Fuel Commission in Ethiopia. Today there are oil crop experiments in Australia, and Dr Calvin says he knows of two companies growing petroleum plants in Brazil.

Dr Calvin believes every nation could profit from plant oil. In particular the poor ones with no fossil fuel resources. The E Lathyris, to cite just one oil plant, grows in semi-arid soil, needing as little as seven inches of annual rain; thus it will prosper in countryside that is not fit for food production.

Dr Calvin has located 103 500 ha that could be cultivated in the western US alone. And right now the E Lathyris yields 10 barrels of oil an acre. Ergo, the potential: if the plantations were in seed the nation could harvest 256 million barrels this year, says Dr Calvin, and that would be only the beginning. — NEA.

NG PRACTICE
new plant for R60 000
provided at 12½% p.a.
lowance is granted for
20% on the reducing
19.6 and 42% in 19.7,
5 000 and R50 000
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ting
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ded 31 December 19.7,

Atomic Board appointments

RDM 19/10/7? (55)

THE Minister of Mines, Mr F W de Klerk, announced in Pretoria yesterday appointments to the Atomic Energy Board

The following members, who represent various sectors of the [illegible], have been appointed under the chairmanship of Dr J W L de Villiers:

Mr J J Kitshoff — chairman of the Industrial Development Corporation, who will also preside at board meetings in the absence of the chairman.

Dr C V D M Brink — president, Council for Scientific and Industrial Research; Mr J M Christopher — director of companies; Dr J P Coetzee — director, SA Iron and Steel Corporation; Mr D A Etheredge — chairman, Nuclear Fuels Corporation of South Africa (Pty) Limited; Dr B G Fourie — Secretary for Foreign Affairs.

Dr C J F Human — managing director, Federale Volksbeleggings, Beperk; Mr G A Mac Millan — chairman, Palabora Mining Company Limited; Mr J H Smith — chairman-designate, Electricity Supply Commission; Professor H W Snyman — president, South African Medical and Dental Council and Mr W P Viljoen — Secretary of Mines. — Sapa.

A		C		B	
M	F	M	F	M	F
40,44	27,11	133,70	119,02	91,30	88,18
2,42	2,39	17,22	16,21	10,23	9,93
1,31	0,74	2,26	1,25	1.64	1,12
4,33	2,48	8,80	4,96	4,78	3,70
26,27	18,72	24,27	17,87	18,06	15,57
92,20	82,93	96,90	71,79	53,38	45,89
8,03	5,51	14,62	11,00	8,77	8,13
2828	1967	16632	12847	18348	13062

XVI SYMPTOMS AND ILL-DEFINED CONDITIONS

	W		A		C		B	
	M	F	M	F	M	F	M	F
0-1	0,51	0,54	2,10	1,24	7,00	6,86	19,69	19,83
1-4	0,04	0,04	0,21	0,35	0,75	0,77	2,58	2,48
5-24	0,01	0,01	0,09	0,06	0,08	0,03	0,21	0,23
25-44	0,05	0,05	0,28	0,17	0,42	0,31	0,72	0,78
45-64	0,44	0,18	1,73	1,04	1,73	1,02	3,80	3,64
65+	1,84	1,95	8,32	6,56	8,55	5,71	14,69	14,84
ALL	0,22	0,23	0,56	0,38	0,83	0,65	1,80	1,96
NO.	463	485	199	134	943	761	3765	3145

XVII ACCIDENTS, POISONINGS AND VIOLENCE (EXTERNAL CAUSE)

	W		A		C		B	
	M	F	M	F	M	F	M	F
0-1	0,85	0,69	0,70	0,31	1,18	1,24	0,32	0,19
1-4	0,49	0,21	0,31	0,27	0,63	0,61	0,21	0,20
5-24	0,71	0,22	0,68	0,20	1,40	0,38	0,68	0,12
25-44	1,18	0,30	1,43	0,37	3,32	0,70	1,22	0,26
45-64	1,25	0,42	1,55	0,40	2,89	0,76	1,10	0,31
65+	1,26	0,71	1,34	0,91	2,19	0,90	1,02	0,53
ALL	0,95	0,33	0,95	0,29	1,91	0,56	0,89	0,20
NO.	1973	677	333	104	2175	652	1868	324

processes is essential; and the division will have to be more fine the more discriminating public decisions can be.[10]

The results of programme budgeting may be valuable in themselves, although the mere procedure does not necessarily ensure that better decisions will be made. Their potential is realised only if there follows an assessment of the value of expenditure in each programme.

2.2 Programme Evaluation

Methods of evaluation range from simple procedures for looking at costs, where the conclusions are left largely to intuition, to highly complicated processes which present more or less clear-cut solutions. For these more precise methods, most of the value judgements have to be made explicitly in advance. Some points on the spectrum between these two extremes are analysed below.

2.3 ...king at Expend...

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on ... things. Our judgement will depend on what we consider the benefits of expenditure under each programme to be, a process which cost-benefit analysis seeks to formalise (see below). For example, if it can be shown that expenditure on preventive medicine constitutes approximately 2% of all expenditure on health,[11] it may be felt that the benefits from this kind of provision warrant an increase in the share of the budget allocated to it.

Unfortunately, such intuitive processes can pick out only the grossest incongruities which are recognised by all, whatever criteria of 'value' are used. The optimum level of expenditure on a particular objective is, from the point of view of intuitive judgement, highly uncertain, because of the wide variation in benefits attributable to a particular type of spend-

ing. This is partly due to a deficiency in information on the resu... the programmes which can be resolved by recourse to appropriate data... Nevertheless, there will also be differences of judgement which cann... be resolved without prior agreement on the relative valuation of dif... benefits which have to be fed into the analysis; and in the intuiti... process, these two factors may not be differentiated.

A very large proportion of decisions are now taken with no further a... than this. Any further steps involve a way of systematically valui... benefits of different programmes to render them comparable to one an...

2.4 An Informal Method for Setting Objectives

The following method for guiding the choice of priorities has been described by John Bryant.[12] It has been used by medical and nur... students in Thailand, and one of its advantages is that it can b...us... where no numerical data is avail...

		...erity	Community concern	Vulnerability to management
Large & poorly spaced families	++++	++++	+++	++
Inadequate ante-natal & obstetric care	++++	++	++	+++
Malnutrition	+++	+++	++	++
Need for medical care	++	++	++++	++
Specific diseases:				
V.D.	++	++	++	++
Dental problems	++++	+	++	++
TB	+++	+++	+++	++
Common cold*	++++	+	+	-
Yaws*	-	++	+++	++++

* Added to test scoring method

Energy crisis 'will peak in 5 years'

55

THE WORLD energy problem will reach a climax within the next five years, a period too short for technology to influence the situation.

The director for the Institute of Energy Studies at the Rand Afrikaans University, Professor D J Kotze, said this in an address to the annual congress of the Building Industries Federation of South Africa (Bifsa) in Johannesburg yesterday.

Prof Kotze said the true energy crisis differed from the oil crises of 1973 and 1979 in that it was not politically inspired, but at root an imbalance between world demand and supply of energy.

No country could isolate itself from its repercussions, he said.

In contrast to the rest of the world, South Africa faced an oil rather than an energy crisis, as coal provided about 80% of her energy requirements.

In addition, South Africa was one of only a few countries in the world which had succeeded in drastically curtailing consumer demand for oil since the first oil crisis of October 1973, Prof Kotze said.

South Africa had almost completed its programme for stockpiling crude oil prior to the drastic increases in world prices.

"The reduction of our dependence on imported crude oil has not been equalled anywhere in the world," he said.

"Furthermore, a significant portion of our local oil demand will be satisfied from indigenous coal when all three Sasols are in production by 1984," he said.

It was obvious the world was heading for a crisis and that man had very little control over the inherent factors leading to this situation.

"It is obvious that the price will be paid in terms of economic development. Most countries will experience chronic balance of payment deficits, external trade will decrease and unemployment become rampant, with consequent economic and social regression," Prof Kotze said.

Dr T L Webb, director of the National Building Research Institute, proposed that the building industry embark on a programme of educational and promotional action to meet the energy challenge. — Sapa.

the cost of raising the necessary funds has to be taken into account. The funds themselves are already justified by comparison with the alternative methods of provision, but there are additional costs involved in raising them: interest on loans, or administrative and incentive costs of raising taxation. These are normally insignificant for any given project, but may affect the overall amounts available for the health budget.

Where the methods of providing a given service use the same kinds of resources in different proportions, the decision-making can be simplified by means of Linear Programming, though health service choices cannot

in the simplified way required by this method.

Sasol II is '80% complete'

SASOL II is 80% complete and the first two of 36 gasifiers at the Secunda plant have been successfully commissioned, Sasol has announced in a statement.

Seven more gasifiers were ready for commissioning and several supporting units had been partly commissioned.

The second Sasol plant is to start production in the second quarter of next year.

Meanwhile, good progress was being made in ground and civil construction work at Sasol III, the statement said. — Sapa.

RAMMES

ussed methods of choosing means to obtain a given t tools are available to aid the choice of objectan anything be said on the question of the priority cular diseases or age groups, whether to allocate e clinics or care of the aged?

needed, and they have to be expressed in such a ide these detailed questions. Essentially, the to relate resources used to objectives achieved, but s objectives to each other.

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Programme budgeting, also known as budgeting by objectives, involves the presentation of expenditure data according to the objectives to which it is directed. Thus, projects to combat TB would be grouped together, geriatric problems, sanitation programmes, etc.

This is necessary:

(a) to know the cost of pursuing each objective;

(b) to group together activities with the same objectives which can be compared by cost-effectiveness analysis;

(c) to know the effectiveness of a given amount of money when spent on different objectives, so that choices can be formulated in terms of the alternatives we might afford - so many geriatric day care centres, so many child welfare clinics, etc.

Financial statistics are not traditionally arranged on this basis but in categories such as 'salaries', 'transport', 'medicines', etc. A separation, e.g. between expenditure on different disease groups or age groups cannot be made.

The grouping of expenditure into programmes is an art. Pole, an economist in the U.K. Department of Health, writes:

> "Programme structure should, in my view, be mainly determined by the decisions to the taking of which one wishes it to contribute... One might suggest that where decisions are primarily a matter of political or moral judgement - of determining basic priorities - one would want the activities to be compared to reside in different programmes - the mentally handicapped against the alcoholics; but where it is a more technical question of how particular objectives can best be achieved - drug therapy against behavioural therapy - one would want the activities to be compared to be within a particular programme. This distinction ties up with an economic jargon of slightly older vintage - that of cost-benefit and cost-effectiveness; and through that to the main stream of neoclassical welfare economics, which attempts to make a distinction between the choice of the composition of the basket of outputs and the choice of the set of resources from which each output is to be produced. The former is, in a broad sense, a question of tastes, values, or utilities; the latter is a question of techniques".

He adds:

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Programme budgeting, then, entails the attempt at this separation, sorting out from the multiplicity of decisions those which can be made on the basis of administrative or economic, together with medical-technical criteria, and those in which the role of the public through political

ONION RINGS

May Bennett, Ridgeworth

Peel and slice large onions, and separate the rings. Heat a pan; add oil. Dip the rings in milk and then coat with flour, and fry till brown in the hot oil. Drain the oil off on a paper towel, and season with salt and pepper.

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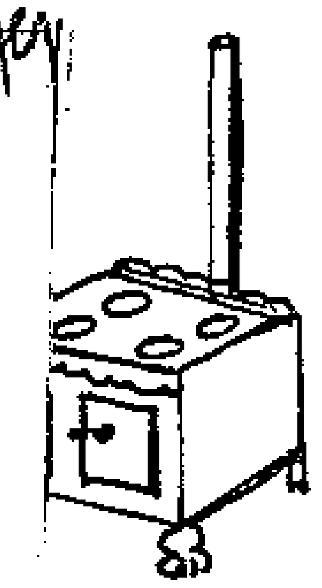

NEW YORK—The United States backed off yesterday from implications that it had confirmed South Africa's development of a nuclear weapon, as a secondary row brewed between the US and the United Nations African bloc.

The United States is still trying to solve the mystery of whether a brilliant flash of light spotted last September 22 indicated that South Africa had become a nuclear power.

High US officials, including the Secretary of State Mr Cyrus Vance, said candidly yesterday they did not have confirmation that South Africa had detonated a nuclear explosion.

But Mr Vance told a Press conference that any development of nuclear weapons by South Africa would be "a destabilising and dangerous step forward."

WEST BLAMED

Some members of the African UN bloc, led by Nigeria, have embraced the State Department statement as proof that South Africa has acquired nuclear strike capability.

They claimed major Western governments were responsible, as suppliers of materials and technology and criticised the morality of the US Government for withholding news of the suspected blast, since it allegedly occurred on September 22.

A top United Nations spokesman emphasised here today that contrary to the African claims, "what we have are indications which are unconfirmed."

The UN General Assembly yesterday instructed the Secretary-General, Dr Kurt Waldheim, to look into the US report.

THREAT TO PEACE

The Assembly approved the request without a vote, after its president, Mr Salim Ahmed Salim of Tanzania, had told members that if the report were validated, the development "would clearly constitute a serious threat to peace and security in Africa."

The Foreign Minister, Mr Pik Botha, reiterated, in an interview with American ABC Television that he had no knowledge of South Africa's exploding a nuclear device.

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ONION RINGS

May Bennett, Ridgeworth

...and separate the rings. Heat a pan; ...t with flour, and fry ...

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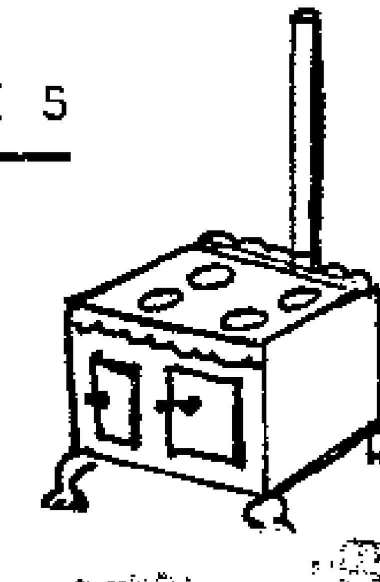
1820 and All That!



FRENCH PANCAKES - 1902

SPATCHCOCK - ...

1 young fowl	parsley
brown bread crumbs	onion
herbs	

Cut the fowl through the back bone, and open out flat. Brush with melted butter. Sprinkle with salt and pepper, chopped onion and chopped parsley on both sides. Sprinkle with mixed herbs. Grill till 1/2 done, then cover with breadcrumbs and continue cooking till well done. Serve with a sharp sauce.

---oOo---

PLUM PUDDING

May Bennett, Ridgeworth

2 cups flour	1 small cup chopped raisins
1 t baking powder	1/2 grated beef suet
1 large cup brown sugar	1/2 pt milk
1 cup currants	1/2 t salt
3 beaten eggs	a little mixed peel finely cut
1/4 t ground spice	

Mix all ingredients together well. Tie in a pudding cloth, and boil for three hours. Serve with hot nutmeg sauce. This recipe was used for Christmas dinner in 1916 by my mother and gran, who says "we used 1 cup of flour and 1 cup of stale breadcrumbs instead of 2 cups of flour. Very successful".

---oOo---

MUTTON, ROAST SHOULDER OF 1900

shoulder of mutton	salt
dripping	flour

Put the joint to a bright clear fire, floured well. Baste contin-

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Jan 31/10

53

N-blast claim: official was 'too eager'

Own Correspondent

WASHINGTON — State Department spokesman Mr Hodding Carter yesterday conceded that at least one United States official may have been "overeager" in identifying South Africa as responsible for the claimed nuclear blast in the southern seas on September 22.

Mr Carter said this at a State Department briefing in reply to the question: "You have been publically very careful in not identifying the national source. In one background briefing last week, one US official was not as scrupulous. Is there any reason now that causes this Government to have any more doubts than it had last week?"

Mr Carter replied: "No. I imagine the problem of overeagerness will be with us always. The evidence remains as tenuous and fragile as it always was."

He said the Administration had been extremely careful in not attempting to identify the national source, for "what remains a matter about which we only have indications."

Questioned if the US Government had asked the French or Russians whether their satellites picked up similar signals, Mr Carter said: "We have done virtually all the obvious things, including consulting with those who might be able to shed light on the subject."

Mr Carter refused to give details of US monitoring efforts. He had been asked if US intelligence agencies had requested commercial air and sea carriers to look for radioactivity.

Tass yesterday denied the South African theory that the blast might have been a result of an accident on a Soviet submarine.

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Where the methods of providing a given service use the same kinds of resources in different proportions, the decision-making can be simplified by means of Linear Programming, though health service choices cannot usually be presented in the simplified way required by this method.

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There are various means of doing this; but all of them require that expenditure be accounted for by the ends it is expected to achieve.

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New British oil from coal process

16 53 RDM

By NEIL BEHRMANN

LONDON. — The British National Coal Board is currently experimenting with a Method which if successful, could produce more oil from a ton of coal than the process at both Sasol I and Sasol II.

At the coal research establishment near Cheltenham, the director, Dr David Dainton said the method was the "supercritical gas solvent extraction process".

He claimed that this method was a novel one, unique to the United Kingdom. He said that if the process proves viable, then more oil products will be gleaned from coal liquefacation in the UK than from projects in South Africa, United States, Germany, Japan and elsewhere.

Coal is composed chiefly of carbon and contains some hydrogen, oxygen and small amounts of nitrogen and sulphur. He said that oils and gasses on the other hand are comparatively free of mineral matter and contain a high proportion of hydrogen. In essence, coal can be converted to oil by removing the mineral matter and increasing the proportion of hydrogen to carbon.

Dr Dainton said that at Sasol the coal is gasified by burning coal with oxygen and the extract is then broken down into hydrogen and carbon monoxide.

This is the "synthesis process" where the gas through a catalyst is then converted into liquid fuels.

At Sasol I, a version of this method, the Arge process, leads to a range of paraffine products, which include waxes.

He said that South Africa virtually dominated the world markets with these waxes, which are needed in the motor industry.

The other version, synthol at Sasol II, however, leads to lighter oil products with a greater proportion of petrol.

Though the methods are suitable for South African conditions, considering the lower oil costs, Dr Dainton does not consider it feasible for the United Kingdom. Since the UK will be self sufficient in oil, the coal board has enough time to research into other methods — at least until the 1990's when North Sea oil production begins to run down.

Dr Dainton's team basically want to yield more oil products. For example they do not want some of the energy to create waxes, because there is more than sufficient around.

So there are two projects on the go and two pilot plants each taking 25 tons of coal a day are planned for the mid nineties. If the requirement becomes more urgent, the plans can be instituted earlier — around 1990.

But the novel British method at the research centre, is the "supercritical gas solvent extraction process".

Here the coal becomes soluble in gas at very high supercritical temperatures and pressure. The coal is then liquified, and through the hydrocracker process, light oils are produced.

Dr Dainton estimates that it would be nearly twice Opec oil prices to produce oil from coal in the UK — though changing conditions make estimation difficult.

But he told me that the National Coal Board actually forecast the coming oil crisis as far back as 1971 — on their political views on the middle east at the time. He says there is no urgency for a coal liquefacation process in Britain for the moment, because of North Sea Oil.

But certainly, the coal board is looking to the future.

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sources in different proportions, the decision-making can be simplified by means of Linear Programming, though health service choices cannot usually be presented in the simplified way required by this method.

Church plea to shut oil tap to SA

Own Correspondent

THE HAGUE. — Almost 500 Dutch churchmen, including a number of prominent theologians, have signed an appeal to parliament to "close the oil tap to South Africa".

A half-page newspaper advertisement which was placed yesterday by the Kairos Action Group of Christians Against Apartheid lists the churchmen's names in seven columns of fine print.

The appeal, directed at Members of Parliament, is clearly timed to increase the pro-sanctions pressure in time for next week's oil sanctions debate in The Hague.

The message which the churchmen have signed says that pressure from outside has changed the face of apartheid in South Africa.

"But the system will not change so long as the West rates profits above injustice. Attempts to bring changes through peaceful means have failed.

"We have knocked at a closed door for more than half a century," the message says.

The advert claims it is Holland's responsibility to set an international example by cutting off its supply of oil and oil products to South Africa.

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by 1970, this figure had decreased to 15,7%, indicating that the whites had improved disproportionately to the 'coloureds'. Similarly, for children 1 to 4 years of age, during the period 1941 to 1970, the white mortality experience as a percentage of the 'coloureds' had decreased from 15,2% to 7,1%. It should be noted that the 0 year age specific death rates are higher than the corresponding IMRs. This is because the denominator for the former is the number of live births whilst for the latter it is the mid-year populations under one year of age.

Fig. 4 provides an indication of the proportional contribution of selected causes of death to the overall mortality experience of the white, 'coloured' and African communities.

During the period 1929 to 1970, the whites have shown a changing spectrum of mortality which is classically associated with an improving health status. Infectious diseases have become less important and the major causes of death are increasingly related to Cardiovascular and Neoplastic diseases. The

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classification which have taken place since 1929, it is not possible to examine the temporal changes of mortality rates in greater detail. Disease categories with rates greater than 5/1 000 appear in italics in Table II. It will be noted that the mortality experiences of the 'coloureds'

BUSINESS MAIL

SA heads for top spot in coal

RDM 16/11/79 55

Financial Reporter

SOUTH Africa is currently the second largest exporter of steam coal in the world, but should take over the No 1 spot by the mid-1980s, according to Professor M D G Salamon, research adviser to the Chamber of Mines.

Opening an Ingersoll-Rand manufacturing plant at Alrode, Alberton, for battery-operated coal scoops yesterday, Professor Salamon said coal production was expected to grow by about 50% to 1984 when the expansion rate would moderate.

Exports were currently limited to 26-million tons a year, but by 1983, this figure would have increased to about 44-million tons as facilities at Richards Bay were expanded.

Early indications of 1979 production levels suggested that the figure would be significantly higher than last year's 90 358 000 tons. Of the 1978 total, 85 687 000 tons were sold for more than R874-million and exports were 15-million tons worth R325-million.

In the first six months of this year, sales reached 48-million tons valued at R520-million and exports were 10-million tons worth R216-million.

Total sales for the year of bituminous and anthracite coal were expected to be 100-million tons and exports 22 500 000 tons.

With reserves estimated at 90-million tons and the Sasol projects, "South Africa has the capacity to become one of the few energy surplus countries, earning more from exports of coal and uranium than it has to spend on imports of oil".

Professor Salamon said that total mineral sales in 1979 would increase to between R8 000-million and R9 000-million compared with about R6 600-million last year.

In the last three years, South Africa's total mineral sales increased by 8,1%, 23% and 24% respectively. In the first eight months of this year, the value of sales increased by 41,6% over the same period in 1978.

The most important rise had been in gold with a 44,7% increase in the value of sales, followed by silver at 53,9%, diamonds at 48,5%, antimony concentrates at 124,4%, coal at 26,5%, copper at 42,3%, fluorspar at 33,5%, iron ore at 29,0% and manganese at 50,2%.

(iv) Proportional Mortality, accounted for by specific conditions.

(v) Expectation of Life. This was calculated both at birth (e_o) and at 45 years of age (e_{45}) for both males and females. It expresses the average number of additional years an individual would be expected to live beyond birth and 45 years.

For Africans, the proportional mortality was the only index calculated.

RESULTS

The infant mortality rates (IMR) and standardised mortality rates (SMR) for whites and 'coloureds' are provided in Fig. 2 and Fig. 3. Whilst the whites have experienced a steady decline in both of these indices since 1929, the 'coloureds' after an initial decrease, show a comparatively static IMR since 1950 and an increase in their SMR since 1960.

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in the mortality experience of younger age groups will give rise to a corresponding increase in mortality amongst elderly persons. Thus, although it is to be expected that for both whites and 'coloureds' the mortality rates for persons over the age of 65 years have shown a rising trend, it is of some concern that the mortality rates have also increased between 1960 and 1970 for 'coloureds' in the 25-44 and 45-64 years age groups.

The imbalance between the age specific mortality rates of whites and 'coloureds' has improved or remained constant for persons between the ages of 5 and 64. However, for children less than 5 years of age, the gap between whites and 'coloureds' is widening. In 1941, white children under one year old experienced 28,0% of the mortality of 'coloured' children;

processes is essential; and the division will have to be more fine the more discriminating public decisions can be.[10]

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2.2 Programme Evaluation

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2.3 Looking at Expenditu...

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Unfortunately, such intuitive processes can pick out only the grossest incongruities which are recognised by all, whatever criteria of 'value' are used. The optimum level of expenditure on a particular objective is, from the point of view of intuitive judgement, highly uncertain, because of the wide variation in benefits attributable to a particular type of spend-

ing. This is partly due to a deficiency in information on the results of the programmes which can be resolved by recourse to appropriate data. Nevertheless, there will also be differences of judgement which cannot be resolved without prior agreement on the relative valuation of different benefits which have to be fed into the analysis; and in the intuitive process, these two factors may not be differentiated.

A very large proportion of decisions are now taken with no further analysis than this. Any further steps involve a way of systematically valuing the benefits of different programmes to render them comparable to one another.

2.4 An Informal Method for Setting Objectives

The following method for guiding the choice of priorities has been

Specific diseases:					
V.D.	++	++	++	++	16
Dental problems	++++	+	++	++	16
TB	+++	+++	+++	++	54
Common cold*	++++	+	+	-	0
Yaws*	-	++	+++	++++	0

* Added to test scoring method

Another fuel price rise is on the cards

RDM 20/11/79

By GERALD REILLY
Pretoria Bureau

SOUTH Africa faces the threat of another rise in fuel prices early next year.

There are three reasons for the likelihood of an increase. They are: Pressure on the Government from the Motor Industries Federation for higher margins for petrol retailers; a rush by US firms to buy oil on the spot market; and the meeting of the Organisation of Petroleum Exporting Countries in Caracas early next month.

Reports from London say the big oil interests expect a sharp rise in the price of crude on the Rotterdam and other spot markets following the cut-off of Iranian supplies to the US.

They expect a "frantic" rush by US oil companies for supplies on the spot market.

South Africa buys the bulk of its oil on the spot market. A rise in the Opec ceiling price might not affect the spot market price, but heavy US buying is certain to.

Spot market prices have already risen to more than $40 a barrel.

A Government source in Pretoria said yesterday a further Opec price rise was more than a possibility. The price situation, he stressed, was volatile and fluid.

Opec, the source said, is under strong pressure to raise the ceiling price.

Lybia, Nigeria and Algeria have already ignored the Opec ceiling price of $23,50 a barrel, and are selling at prices around $30.

Meanwhile, the president of the Motor Industries Federation, Mr Theo Swart, said petrol conservation measures this year had played havoc with petrol retailers' profits.

The measures included the speed limit reduction, restricted selling hours, and a 15c a litre price increase.

Mr Swart pointed out that these had a dramatic effect on petrol sales and estimated demand had dropped by between 20 and 25%.

Gross profit from petrol sales, he claimed, had shrunk from 7% to 4,8%.

"We have pointed out in our submissions to the Government that there can be few, if any, other businesses in this country earning a gross 4,8%."

Mr Swart said there would be many casualties, particularly among smaller operators, unless the gross return was restored to 7%.

Some garages had been forced to close, and others would follow unless the profitability of selling petrol was restored.

The Government, Mr Swart said, had admitted the seriousness of the problem.

A breakdown of the 54,2c a litre on the rand shows that nearly 30c goes to the Government.

Wholesale cost is 18,999c a litre, transport takes 3,5c, equalisation fund 16,75c, customs and excise 10,341c, retail sellers' profit 2,51c and GST 2,1c.

The Motor Industry claims that any increase granted to retailers should not come from an increased price, but from the Government's huge take from the retail price.

Petrol has been increased in price on three occasions this year — on January 1 from 30,1c a litre to 33,3c, on February 23 from 33,3c to 39,3c, and in June from 39,3c to 54,2c.

„Kernbom vir Yanks dalk 'n blitsbreker'

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327

Van Ons Politieke Redaksie

DIT sal hoogs onverstandig van Suid-Afrika wees om nou 'n kerntoestel, hetsy 'n kernbom of kernkop vir 'n geleide projektiel, te vervaardig en af te vuur. Daarom kan die vae beskuldiging van die Amerikaanse departement van buitelandse sake nie in 'n ernstige lig beskou word nie.

Só sê twee deskundiges met wie RAPPORT gesels het oor die aankondiging in Amerika dat 'n kerntoestel naby Suid-Afrika moes ontplof het.

Prof. Mike Louw, wat 'n rukkie gelede uitgetree het as direkteur van die Instituut van Strategiese Studies sê dit is eenvoudig ondenkbaar dat Suid-Afrika so iets sal doen. Die hele beskuldiging is vir hom totaal onsinnig.

Hy weet nie wat Suid-Afrika met 'n kernbom sal maak skrikgemaak het, en of dit die Amerikaanse departement van buitelandse sake is wat 'n gerug die wêreld ingestuur het nie. Wat hom betref, kan hy nie ernstige aandag aan die beskuldiging gee nie.

Op 'n vraag oor wat die gevolge vir Suid-Afrika op die internasionale politieke terrein sou wees as die bewerings waar blyk te wees, het prof. Louw gesê hy kan hoegenaamd geen voorstelling daarvan maak nie.

Hy weet nie wat Suid-Afrika met 'n kernbom sal maak nie. „Dit is buite die perke van moontlikhede. Suid-Afrika soek vriende in Afrika en die ontploffing van so 'n bom sal presies die teenoorgestelde uitwerking hê.

„Dink enige mens mnr. P. W. Botha sou so dom wees om so 'n skrikmaakmiddel te gebruik wanneer hy besig is om toenadering en samewerking in Suider-Afrika te soek? Wat sou hy daarby baat?

„Buitendien, as ons 'n bom het, hoe en waar sou hy gebruik word?" het prof. Louw gevra.

Hy het gesê Suid-Afrika beskik nie oor 'n lanseerstelsel nie. Die land het nie 'n geskikte missiel om so 'n bom te dra nie, en die land se bomwerpers is te verouderd om daarvoor gebruik te word.

Hy kan ook nie sien teen watter land of stad dit gebruik gaan word nie. Die grootste deel van die stede in Afrika bestaan uit enkelverdiepinggeboue en in die meeste lande is die nywerheidsontwikkeling te gering.

„Dis onsin. Ek kan nie glo ons sal 'n ding bou wat ons nie kan gebruik nie," het hy gesê.

Mnr. John Barratt, van die SA Instituut van Internasionale Aangeleenthede, het gesê hy dink ook die gerug is onsinnig. Selfs al sou Suid-Afrika in staat wees om 'n kernbom te kan maak, sou die land nooit genoeg kan maak om die arsenale van die erkeende kernmoondhede te neutraliseer nie.

Indien dit wel waar sou wees — en hy probeer geensins voorgee dat die gerug enige waarheid bevat nie — sou die reaksie van die kant van Amerika en Wes-Europa baie sterk wees, want die lande is bitter gekant teen voorsiening en verspreiding van kernwapens.

In Afrika sou die geroep om Suid-Afrika se isolasie soveel groter word — só ook die agterdog teen Suid-Afrika. Beroepe om sanksies in te stel, sou toeneem en die land se posisie sou net moeiliker word.

As Suid-Afrika 'n kernwapen afvuur, dink hy nie Rusland of Amerika sal kernprojektiele in buurstate teen Suid-Afrika oprig nie, want albei lande beskik oor langafstandprojektiele wat uit daardie lande op Suid-Afrika gerig sal kan word. En hulle sal dit doen, net soos hulle nou kernwapens op mekaar gerig hou, het mnr. Barratt gesê.

VSA-AMBASSADES SPIOENEER

Van Ons Washingtonse Kantoor

AMERIKA gebruik van sy buitelandse ambassades in sy wêreldwye spioenasie-netwerk vir die naspoor van kernontploffings. Dit is buiten sy omvattende en noukeurige toerusting in onder meer sy satelliete en vliegtuie.

Dit blyk uit beriggewing rondom die Amerikaanse insinuasie dat Suid-Afrika 'n kerntoets uitgevoer het.

Die New York Times het in 'n hoofberig besonderhede verstrek oor Amerika se wêreldwye netwerk

Daarin word gesê dat net een tipe versameltoestel inligting van 'n ontploffing opgepik het. Ander toestelle het egter nie die moontlike ontploffing geregistreer nie — „en dit is 'n raaisel vir die administrasie".

Die berig lui dat Amerika in sy spioenasie-netwerk onder meer gebruik maak van toestelle wat klankgolwe opspoor, instrumente wat seismiese skokgolwe in die aarde opvang, toestelle wat die ligbol- en elektro-magnetiese uitstraling van 'n ontploffing registreer en instrumente wat radio-aktiewe oorblyfsels opvang.

„Sommige van hierdie instrumente is in grondstasies soos ambassades gemonteer. Ander word deur satelliete of vliegtuie gedra. Die U-2 het filters wat radio-aktiewe oorblyfsels optel," word in die berig gesê.

XV CERTAIN C

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5-24	-	-				0,01	0,04	0,04	0,02	0,04	0,03	0,02
25-44	-	-				0,05	0,06	0,09	0,17	0,13	0,06	0,08
45-65	-	-	-	-	-	0,19	0,44	0,37	0,36	0,36	0,34	0,25
65+	-	-	-	-	-	1,09	1,07	1,83	1,57	1,10	0,73	0,56
ALL	0,25	0,17	0,48	0,32	0,83	0,15	0,11	0,12	0,15	0,14	0,10	0,08
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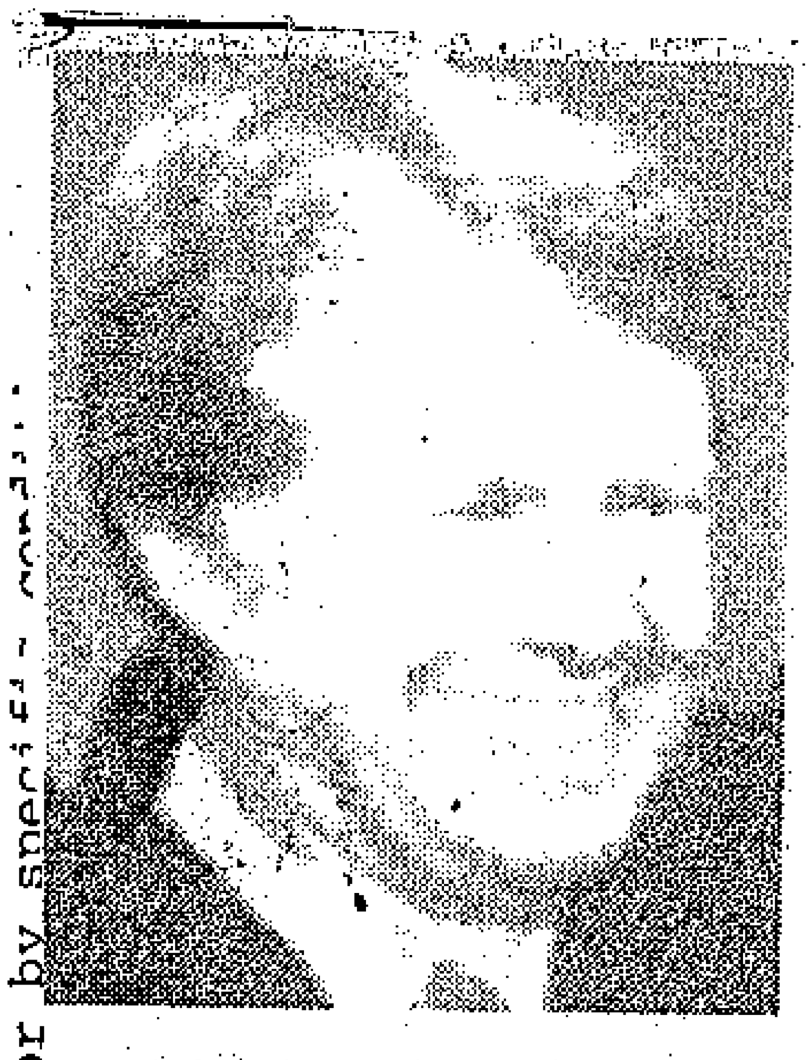

PRES. CARTER (links) is dadelik van die ontploffing in kennis gestel. Min. Pik Botha (regs) sê hy weet niks van kernbomtoetse deur SA nie.

RAPPORT 28/10/79

~~327~~

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AS DIT NIE S.A. WAS, WIE HET DAN BOM LAAT ONTPLOF?

Van FRANZ KEMP

WASHINGTON

DIS nou 'n vraag van wie die kernbom laat ontplof het en nie soseer of dit wel gebeur het nie. Dalk was dit 'n ongeluk aan boord van 'n Russiese duikboot. Die SA Vloot ondersoek dié moontlikheid.

Amerika se insinuasie dat Suid-Afrika in die nag van 22 September 'n kernbom suid van die land oor die Atlantiese of die Indiese Oseaan afgevuur het, het ontwikkel in 'n al hoe groter raaisel. Die New York Times het gister gewonder of die raaisel ooit opgeklaar sal word.

Nuwe feite wat deur Amerika verstrek is, laat min twyfel dat so 'n ontploffing wel gebeur het. Toe die nuus Donderdagaand hier breek, is eers gepraat van 'n enkele ligflits wat deur 'n opsporingsapparaat waargeneem is. Daar is selfs gesê dat dit weerlig kon gewees het.

Agterna is nader besonderhede verstrek: 'n Amerikaanse Vela-satelliet het op Saterdag, 22 September, om ongeveer 3 vm. (SA tyd) twee helder flitse of trillings waargeneem terwyl hy sowat 60 000 myl bo die suide van Afrika was.

Die tydsduur en opeenvolging is kenmerkend vir 'n atoomontploffing. Na raming was die krag van die ontploffing gelyk aan dié van 2 500 tot 3 000 ton TNT.

Die ligflitse is waargeneem iewers oor 'n groot gebied

* VERVOLG OP BL. 8 *

SA 'kernbom' kon skip wees

DIE SA Vloot ondersoek die moontlikheid dat die vermeende kernontploffing van 22 September veroorsaak is deur 'n ongeluk aan boord van 'n Russiese kernduikboot, berig Sapa.

Dit verbaas nom dat hierdie moontlikheid sover oor die hoof gesien is, sê die Hoof van die Vloot, vise-adml. J. C. Walters.

Dis algemene kennis dat 'n Russiese kernduikboot van die Eggoklas in September in die omstreke van die seeroete om die Kaap was, sê adml. Walters.

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by 1970, this figure h... improved dispropo... 1 to 4 years of a... experience as a p... 7,1%. It should... higher than the c... the former is the ... mid-year populations un...

Fig. 4 provides ... causes of death ... and African comm...

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What is of part... 'coloureds' is ... developed and t... Table II which ... contributing to form of cause specific ... though cardiovascular diseases are consistently responsible for a fairly small proportion of the overall mortality of the 'coloureds', Table I indicates that the actual rates for cardiovascular diseases have been fairly similar for both whites and 'coloureds' since 1941.

Clearly, the broad diagnostic categories used in this analysis conceal a certain amount of information. However, because of the changes in disease classification which have taken place since 1929, it is not possible to examine the temporal changes of mortality rates in greater detail. Disease categories with rates greater than 5/1 000 appear in italics in Table II. It will be noted that the mortality experiences of the 'coloureds'

... the age of 65 years have shown a rising trend, it is of some concern that the mortality rates have also increased between 1960 and 1970 for 'coloureds' in the 25-44 and 45-64 years age groups.

The imbalance between the age specific mortality rates of whites and 'coloureds' has improved or remained constant for persons between the ages of 5 and 64. However, for children less than 5 years of age, the gap between whites and 'coloureds' is widening. In 1941, white children under one year old experienced 28,0% of the mortality of 'coloured' children;

Wanneer ons die wording van Afrikaans suiwer wetenskaplik aan die hand van bronnemateriaal bestudeer, blyk dit dat Afrikaans sy Germaanse struktuur behou het, hoewel vreemde sprekers en vreemde tale 'n veelvuldige invloed uitgeoefen het. By so 'n bestudering kan ons geen bewyse vir 'n Kreools-Portugese substraat vind nie, en nog minder vir 'n skielike vereenvoudiging. Afrikaans het dus nòg uit 'n Pidgin nòg uit 'n vorm van Kreools-Portugees ontwikkel. In 'n vereenvoudigingsproses van omtrent 150 jaar het daar 'n reduksie van morfologiese vorme plaasgevind, veral op die gebied van die nominale en verbale vormstelsels. Maar die kernwoordeskat, woordvorming, woordafleiding en sinsbou het in hierdie proses Germaans gebly. Die invloed van vreemde tale en sprekers kan nie altyd direk aangetoon word nie; dié van Kreools-Portugees is die maklikste herkenbaar; terwyl dié van Duits, weens die verwantskap tussen Afrikaans en Duits, veel moeiliker is om direk aan te toon. Ons het bewyse vir die direkte invloed van Maleis en Hottentots, meestal op die gebied van die woordeskat, maar invloed van Franse sprekers was net van 'n indirekte aard, nl. as gevolg van gebrekkige aanleer. Die invloed van Engels, wat eers van die 19de eeu af 'n rol speel, dus nadat die Afrikaanse taalstruktuur alreeds ontwikkel het, het nòg die morfologiese nòg die sintaktiese struktuur van Afrikaans aangetas. Dit het wel tot 'n grootskaalse woordontlening en vertaling van idiomatiese uitdrukkings gelei wat nog steeds aan die gang is, soos te verwagte in 'n tweetalige land.

Ons kan dus nie van kreolisering praat nie – wel van taalverandering op grond van verreikende taalversteuring in 'n taal wat in sy hele wordingsgeskiedenis, tot in die 20ste eeu, as 'n minderwaardige dialek beskou is en met kultuurtale soos Nederlands en later Engels moes konkurreer.

3. Gevolgtrekkings

Op grond van 'n intensiewe bronnestudie en vergelyking met die Nederlandse dialekte, en met inagneming van die vreemde tale wat aan die Kaap gepraat is, kom ons tot die gevolgtrekking dat Nederlands aan die Kaap 'n geleidelike wysiging op elke gebied van die taalstruktuur ondergaan het. Ons kan nie altyd vasstel wat die oorsaak of die beginpunt van 'n bepaalde verandering was nie, maar ons kan sien dat verreweg die meeste verskynsels al teen die einde van die 18de eeu hul beslag gekry het. Afrikaans het toe reeds min of meer sy huidige struktuur gehad al moet ons aanneem dat daar in die 19de eeu nog heelwat wisselvorme in die uitspraak, by bepaalde woordvorme en in sintaktiese patrone bestaan het. J. du P. Scholtz beklemtoon: „Die huidige struktuur van Afrikaans is alleen te begryp as die resultaat van 'n proses van verskuiwings wat nou met mekaar saamhang en oor

p. 255). Dat
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WORLD OIL

Price paradox

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Oil prices should be lower than they are, in response to supply and demand, says Goldman Sachs, prominent American stockbrockers.

"One of the surprises of the past few months has been the intractability of demand, a seeming lack of response to sharply higher prices," says the New York firm in a report on the oil market.

Suggested reasons:

- Fears of another supply disruption are inducing consumers to build buffer inventories.
- Direct sales by Opec to consuming countries, by-passing the oil majors, have generated their own, entirely new demand for inventories: these sales now comprise as much as 25% of Opec production. This trend has, in addition, "somewhat nullified" the distribution and refining flexibility of the oil majors, with an added impetus to inventory requirements.
- Inventory requirements have also risen because it is now more difficult for the oil majors to schedule production to match their customers' seasonal demand factors. Although Goldman Sachs cannot quantify this factor, it believes it is significant.

Opec should produce 28,2m b/d during 1980, more than 2m b/d (or 7,4%) below the anticipated 1979 average of 30,5m b/d. But, notwithstanding higher expected non-Opec output and some easing of demand, Goldman Sachs anticipates further price increases in real terms in 1980, if not sooner. The possibility of a large (25% or more) increase cannot be ruled out. Mexico's recent price initiative ($2 per barrel to $24,60, well above Opec price levels) has had a significant influence.

Although Saudi Arabia now plans to produce at 9,5m b/d until the end of 1979, and could even continue at this rate into 1980, its influence on world markets has diminished. It seems that the Saudis cannot or will not increase production above present levels to alleviate even a short-term supply crisis. Although the Saudis remain moderate on price, Opec's next meeting in December should achieve a reunification of prices charged by the cartel's members. This outcome would mean a Saudi price increase of $2 to $3 per barrel, quite apart from any general increase contemplated for 1980.

Iran's productive ability appears to be falling significantly. Political interference with management of the National Iranian Oil Company could lead to a further drop in output below the current 3m b/d, or even to a complete shut-down. Libya and Kuwait are itching to reduce output, and Iraq may also cut back (from record 1979 levels).

The spot market, with particular significance for SA, remains a major factor in the world oil market, absorbing about 5-10% of Opec output, at a premium of $10-$12 per barrel over Opec's current price band of $18,10 to $23,50 per barrel. Nigeria, hard-pressed by high needs for revenue, has been a notable diverter of sales from oil company channels to this market.

Financial Mail November 2 1979

ir Wetenskap en Kuns, ...
pstelle, pp. 253–255, 258–267, 274–275.
nis van", *Standaard-Ensiklopedie van*
d 1970.
'n wetenskap in wording", *Afrikaans*
origin of Afrikaans, W.U.P., Johannes-
Pretoria 1962, pp. 92–96.
ipstad 1970.
.F.V... Portuguese and Creole. With special
ref... ca. Johannesburg 1966. New light
on ...o-Portuguese", Leuven 1972.
E.J.J... ...rikaans, sy aard en ontwikkeling,
Pretoria 1968, pp. 15 - 66.

(55) FM 2/11/79

ATOMIC ENERGY

Riding fuel cycles

Despite its development of enriched uranium, SA is unlikely to become independent of overseas supplies of nuclear fuel for many years yet.

The reason is economic, not technical, says Atomic Energy Board president Wynand de Villiers.

It would be totally uneconomic for SA to erect the necessary plant to manufacture fuel elements simply to supply one nuclear power station, he says. Exports are out, for the immediate future, in a world of stagnating nuclear power programmes and a surplus of nuclear fuel manufacturing capability. The same reasoning would apply to an SA fuel reprocessing plant.

But Pelindaba is continuing its research and development programme on nuclear fuel, so it is prepared for all contingencies. Some small-scale experiments in fuel element manufacture have already been carried out. For the present, though, SA remains firmly locked in to the world nuclear economy.

Meanwhile, there are sensitive nuclear fuel issues currently under consideration, both between SA and America, and between the major western nuclear powers themselves. For SA, these matters are complicated further because this country is not a signatory to the Nuclear Non-Proliferation Treaty.

Concurrently, the major nuclear powers are engaged in the International Nuclear Fuel Cycle Evaluation, sparked off by President Carter's objections to any development which might make it easier for non-nuclear powers to acquire nuclear weapons. As the operation of a conventional nuclear reactor automatically produces plutonium from the uranium fuel charge, any spread in fuel reprocessing technology inescapably raises the bogey of weapons production.

There is, for the present, a very real conflict of interest between the US and its partners, who lack significant supplies of uranium. Consequently, they have a very strong motive to "close the fuel cycle" by reprocessing nuclear fuel and going to the fast breeder in order to economise uranium. France has already launched a fast breeder programme, and Britain is proceeding with a nuclear fuel reprocessing plant at Windscale.

Sir John Hill, chairman of the UK Atomic Energy Authority firmly believes that the safest place for the world's plutonium inventory is inside a fast breeder, generating energy. So, he advocates nuclear fuel reprocessing and fast breeders as the best way to control plutonium and prevent its indefinite accumulation in the form of spent fuel.

Interestingly enough, De Villiers notes that the possibility is not excluded that plutonium extracted from spent nuclear fuel from Koeberg could one day be returned to SA (under full safeguards) to serve as fuel for a later fast breeder programme. (Fast breeders require plutonium fuel, unlike conventional reactors which operate on natural or slightly enriched uranium.)

De Villiers . . . locked in to world nuclear economy

But SA will not build fast breeders until they become competitive, not only with thermal reactors but also with conventional fuel. In fact, despite French plans, these are early days for fast breeders, as the West can boast only three operating reactors — the French Phénix, the British Prototype Fast Reactor at Dounray, and a smaller US installation at Idaho Falls. The Russians have a fast breeder, too, the BN 350).

The use of fast breeder reactors as "nuclear furnaces" to burn up atomic waste is an exciting long-term possibility, says De Villiers. But it doesn't have much bearing on SA's immediate nuclear programme. For a start, the Koeberg fuel supply agreement requires spent fuel elements to be returned overseas for reprocessing, and plutonium extracted must not be returned to SA. De Villiers notes that a recent newspaper article incorrectly suggested that plutonium from spent fuel would be sent to France. In fact, no country is specified.

The possibility does exist, though, that SA might have to store nuclear waste at some stage in the future. If this contingency ever arises, it will not make for any great difficulties, says De Villiers.

A year's nuclear waste from an atomic power station the size of Koeberg (nearly 2 000 MW) only amounts to a few cubic metres.

OIL RECYCLING

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FM 2/11/79

Scraping the barrel

At last the Department of Industries has published draft regulations for the recycling of used motor oil. But the 130 000 t a year re-refining industry may be less than convinced that they will work.

The draft regulations prohibit the discarding or destruction of oil (including its storage in leaky containers), and its contamination over and above the normal deterioration through use. Used oil may not be employed for any purpose except the treatment of animals, the lubrication of machines or implements, or the prevention of rust.

The quantities of oil in private possession are strictly limited — quantities in excess of 20 l of used oil may not be held for a period in excess of 30 days. Special rules apply to bulk consumers, like local authorities, farmers and cartage contractors, and, in addition, any other person who buys on average more than 20 l of new oil per month during a consecutive period of six months.

The regulations recognise three important classes of dealers in oil products — resellers, distributers and re-refiners. Persons in possession of excess quantities of used oil must supply those quantities to one of the three within 30 days.

Anybody wishing to operate a re-refining plant must supply the Secretary with details of the operation, including the purposes for which the end product will be used.

These complex rules are backed by severe penalties — a fine of R2 000 and two years' jail.

The draft regulations do not apply country-wide, but only to major population centres.

SA's seven oil recycling plants have a combined annual capacity or around 130 000 t, which represents about 30% of annual lubricating needs of around 370 000 t. (*FM*, August 27). SA uses annually some 190 Ml of automotive oil. The potential for re-refining is 85 Ml, of which only some 60% is actually being re-refined. The draft regulations obviously represent an attempt to improve this percentage by legal coercion.

To what extent these measures (if actually promulgated) would make an impact on the situation remains to be seen: but considerable difficulties of enforcement can be envisaged in the case of small backyard workshops, however severe the penalties. Could the right answer be to pay premium prices for used oil, in view of the strategic value of lubricating oil? ■

You have until December 15 to submit your views.

N.M 2/11/79 (55)

Why not a Sasol IV?

THE HIGHLY successful Sasol share issue gives cause for reflection — including the thought that an early repeat performance for a Sasol IV could be in South Africa's financial and strategic interests.

As the largest share issue in South African stock market history, the Sasol public flotation is an instructive example of how a vast State-primed venture can go hand-in-hand with practical capitalism for the little man who would like his savings to buy him a stake in the country and a hedge against inflation.

Not that that is quite what happened this time. Of the R525-million stake offered to the public in R2 shares R490-million was preferentially allocated to institutions, leaving R35-million for public issue.

The flood tide of cash that came in topped R1 000-million, with overseas investors alone over-subscribing the issue 10 times. Understandably many applicants, particularly the larger ones, have been miffed at getting little or nothing in return for their trouble and, in many cases, their expensively borrowed money. But that is the sort of risk that stags take.

More deserving of sympathy among the casualties in this mad scramble is the genuine small investor for whom the public issue was primarily intended. Of the 63 258 applicants who put in for between 200 and 1 100 shares barely half were successful and none received more than 200 shares.

Nevertheless, Sasol does seem to have tried to keep the professional stags at bay. More than 90 percent of the successful applicants were from the category that applied for 5 500 shares or fewer.

The opening price of more than 300 cents shows that not only were the expectations of quick pickings justified but that there is a solid basis of confidence here and overseas, where Sasol is regarded by some investors as being as good as an oil well.

With massive liquidity in the South African economy, the need to create more jobs, and the Arab oil sheiks in a skittish mood, is this not the time to start planning Sasol IV?

REFERENCES

1. Department of Statistics (1977). Census of Hospitals and Establishments for In-Patients. Report 20-06-01. Government Printer, Pretoria.

2. Department of Statistics (1977). Report on Deaths 1974. Report 07-03-10. Government Printer, Pretoria.

3. Department of Statistics (1976). Report on Bantu Deaths in Selected Magisterial Districts 1974. Report 07-03-08. Government Printer, Pretoria.

4. Department of Statistics (1976). South African Statistics 1976. Government Printer, Pretoria.

5. Department of Statistics (1974). Report on Bantu Deaths in Selected Magisterial Districts 1968 to 1971. Report 07-03-04. Government Printer, Pretoria.

6. South Africa. Act 58 of 1970.

7. Department of Bantu Administration and Development (1975). Report of the Department 1974/5. Report RP 114/1975. Government Printer, Pretoria.

8. Chiang, C.L. (1968). Introduction to Stochastic Processes in Biostatistics. Wiley, New York.

9. City of Cape Town (1977). Annual Report of the Medical Officer of Health 1975. p.110. Cape Town.

10. Department of Statistics (1976). Population Census 1970; Age, Marital Status and Type of Dwelling by District and Economic Region. Report 02-05-08. Government Printer, Pretoria.

11. Martins, J.H. (1975). Regional Population Estimates for 1974. University of South Africa, Bureau of Market Research. Research Report No. 46, Pretoria.

12. Knutzen, V.K., Bourne, D.E. (1977). The Reproductive Efficiency of the Xhosa. S.A. Med. J. 51, 392-394.

13. Department of Statistics (1971). Statistical Classification of Diseases, Injuries and Causes of Death. Manual 07-03-00. p.v. Government Printer, Pretoria.

14. Department of Health (1978). A Guide to the Health Act, No. 63e of 1977, p.17. Department of Health, Pretoria.

15. Department of Health (1978). Infant Mortality Rates in South Africa. Epidemiological Comments Dec. 1978, 1-21.

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Switch-over delays Pimville switch-on

S. Post 4/11/79

SUNDAY POST Reporter

THE delay in the supply of electricity to 46 new houses in Pimville's Zone 5 is due to the transfer of authority from the West Rand Administration Board to the Soweto Council, it has been claimed.

"We did not know where the money would come from," says Mr E H Scholes, Johannesburg's Deputy City Electrical Engineer.

Residents have been waiting for up to three months for the switch-on. Mr Scholes says it could take another three months before all the houses have electricity.

Housewives have complained that although there is no electricity they are not allowed to use coal stoves because the area is in a smokeless zone.

Botha: mechanics must be trained to save fuel

DURBAN. — The Minister of Manpower Utilisation, Mr Fanie Botha, last night suggested that training of mechanics by the Motor Industries Federation should include fuel saving methods.

Opening the annual congress of the federation, Mr Botha said this would contribute to the national fuel-saving campaign.

"That such a step will be of great national importance is irrefutable if notice was taken of the fact that on June 30, 1978, nearly 3 370 000 cars, buses and commercial vehicles were moving on our roads," Mr Botha said.

The country was on the eve of a new dispensation in the labour field.

"The measure of success that will be achieved in this regard in the future rests solely with ourselves.

"As far as I am concerned a better dispensation awaits everyone in the new labour situation, but then we should all put our shoulders to the wheel in a unified way and be positively inspired."

Everything possible should be done locally to meet the country's trained manpower requirements.

"That this is one of our highest priorities is clear if regard is had for the fact that even during the 1976-1978 economic recessionary period, a manpower shortage existed in certain sectors of the economy."

Mr Botha said there were two ways to meet the shortage of skilled manpower: general educational and industrial training programmes should be extended and black labour should be used to a greater extent in the more advanced categories of work. — Sapa.

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ives themselves? can anything be said on the question of the priority to be given to particular diseases or age groups, whether to allocate more to child welfare clinics or care of the aged?

Overall criteria are needed, and they have to be expressed in such a way that they can guide these detailed questions. Essentially, the problem is not only to relate resources used to objectives achieved, but to relate the various objectives to each other.

There are various means of doing this; but all of them require that expenditure be accounted for by the ends it is expected to achieve.

2.1 Programme Budgeting

Programme budgeting, also known as budgeting by objectives, involves the presentation of expenditure data according to the objectives to which it is directed. Thus, projects to combat TB would be grouped together, geriatric problems, sanitation programmes, etc.

This is necessary:

(a) to know the cost of pursuing each objective;

(b) to group together activities with the same objectives which can be compared by cost-effectiveness analysis;

(c) to know the effectiveness of a given amount of money when spent on different objectives, so that choices can be formulated in terms of the alternatives we might afford - so many geriatric day care centres, so many child welfare clinics, etc.

Financial statistics are not traditionally arranged on this basis but in categories such as 'salaries', 'transport', 'medicines', etc. A separation, e.g. between expenditure on different disease groups or age groups cannot be made.

The grouping of expenditure into programmes is an art. Pole, an economist in the U.K. Department of Health, writes:

> "Programme structure should, in my view, be mainly determined by the decisions to the taking of which one wishes it to contribute... One might suggest that where decisions are primarily a matter of political or moral judgement - of determining basic priorities - one would want the activities to be compared to reside in different programmes - the mentally handicapped against the alcoholics; but where it is a more technical question of how particular objectives can best be achieved - drug therapy against behavioural therapy - one would want the activities to be compared to be within a particular programme. This distinction ties up with an economic jargon of slightly older vintage - that of cost-benefit and cost-effectiveness; and through that to the main stream of neoclassical welfare economics, which attempts to make a distinction between the choice of the composition of the basket of outputs and the choice of the set of resources from which each output is to be produced. The former is, in a broad sense, a question of tastes, values, or utilities; the latter is a question of techniques".

He adds:

> "In practice, it is not an easy matter to make a hard and fast distinction between technical matters and matters of values or utilities in the health services. From one point of view, the question whether to treat schizophrenics in hospital or in the community is a technical one. Which is the cheaper way to fulfil whatever are the society's requirements for the treatment of this group? But community care originally became fashionable as a good thing in itself. The practitioners are very apt to muddle the medical and economic arguments when it suits them, and the politicians and administrators equally so when it suits them, but the economist's concern is to keep them separate". [9]

Programme budgeting, then, entails the attempt at this separation, sorting out from the multiplicity of decisions those which can be made on the basis of administrative or economic, together with medical-technical criteria, and those in which the role of the public through political

ENERGY (55) FM 9/11/79

Power to the world

SA has already achieved a striking position as an energy exporter, says Charles Skeen, Safto chairman, in his annual report for 1978-79. Coal exports in 1978 were worth nearly R350m and he estimates uranium shipments at more than R500m. With increased demand and a rising price for uranium, as the result of the oil shortage, and the doubling of Richards Bay coal handling facilities to 45 Mt annually, combined exports of these two energy materials could, by 1984, exceed R2 billion.

All manufactured products (including crops) have an energy content that can be calculated. Skeen estimates SA's other exports to contain an indirect energy content of more than 25 Mt of coal equivalent a year. SA's energy-intensive exports include the products of mining, heavy industry, fishing and agriculture.

In a world context, the energy content of SA's present exports represents no less than 40% of the energy produced by Nigeria or Libya. On the other hand, Skeen notes that SA has the most energy-intensive economy in the world, measured by the amount of energy consumed per unit of GNP. Thus, SA consumes nearly 2,5 Mt of coal equivalent per $1 billion of GDP, against nearly 1,5 Mt for the US the next most energy-intensive economy.

Skeen is not necessarily justified in attributing this high rate of energy consumption to inefficient use. He forgets that mining (contributing 15%of GDP) is a most energy-intensive activity.

Promoting exports

Skeen argues that SA should continue to promote those exports with a high energy content to make the best use of the availability and price of local energy. A valid argument. But market forces are already working in this direction — the smashing success of SA ferroalloy exports being a case in point. Surely import substitution is at least as important. Apart from the obvious example of Sasol there is, for example, the replacement of oil as a source of plastics through coal (Coalplex). Then there is the substitution of oil by electricity on the simple basis of relative price.

Lastly, it should not be forgotten that coal, in effect, subsidised gold and base metal exports for many years, because of the uneconomic price paid to coal mines. Future use of coal in the manufacture of exports or import replacements, must continue to be based on a rational price structure capable of promoting more efficient use of the resource.

OIL RE-REFINING (55)

Total commitment

6/4/79

Things are beginning to hum over oil re-refining. Last week government published draft regulations to compel salvaging of used oil (*FM* November 2). Now, Total SA has launched a range of re-refined oils (under the brand name "Suprol") with specifications matching those of its branded lubricants.

Used oil contains contaminants such as petrol, carbon, metal, varnish and corrosive sulphur-containing combustion products. By a combination of purification, distillation and filtration, and the introduction of additives, the used oil is brought up to specifications laid down by organisations such as the Society of Automotive Engineers and the SABS.

Corporate affairs manager Gerhard Esterhuizen says Total is making an all-out effort to maximise collection of used oil at strategic points to serve as feedstock for the new range. The company will process "whatever we can get our hands on." Total has a process contract with the Durol re-refining plant at Pretoria. Esterhuizen notes that the price of the re-refined product will be lower than that of the comparable item in the regular range.

TABLE II

			COLOURED	BLACK	
			Female	Male	Female
Rheumatic Heart Diseases (390-398)			139 4.4%	49 2.1%	56 2.9%
Hypertensive Diseases (400-404)			276 8.8%	273 11.4%	212 11.0%
Ischaemic Heart Diseases (410-414)			66 .0%	148 6.2%	66 3.4%
Cerebrovascular Diseases (430-438)	15 16.		3 %	772 32.3%	749 39.0%
Total Circulatory Diseases (390-458)	9752 100%			2390 100%	1921 100%
Motor Vehicle Accidents (E810-E819)	750 38.0%			282 15.1%	59 18.2%
Suicide (E950-E959, E979) *	485 24.6%	1 15		76 4.1%	11 3.4%
Homicide (E960-E969)	59 3.0%	4 6.1		106 .1%	89 27.5%
Total Accidents, Poisoning and Violence (E800-E999)	1973 100%	677 100%		368 100%	324 100%

* E979 "Suicide and self inflicted poisoning by motor ... st gas" is a code used in South Africa which does not appear in I.C.D. (8th revision) ... ee Ref. 13.

SA saved 10 pc fuel in year

Argus 12/11/79.

JOHANNESBURG. — The Minister of Industry and of Trade and Consumer Affairs, Dr Schalk van der Merwe, said last night that there had been a fuel saving of 10 percent in South Africa this year and that overall consumption had been lower than last year.

Speaking on the radio programme, Weekend Newsroom, he said that since 1973 the use of diesel fuel had increased by about four percent a year, while petrol consumption had remained constant.

This had been in spite of the growth in the country's economy.

SUPPLY

Dr van der Merwe said South Africa's supply position was better now than it had been five months ago, but he did not expect any decrease in the price of fuel.

By 1985 South Africa would be able to meet 45 percent of its needs with fuel derived from coal.

It would be possible to build even more Sasol plants if circumstances warranted this. However, such expansion would not be possible in under eight years because of factors like capital and manpower.

If new Sasol plants were to be built, he believed that ultimately South Africa would be able to meet between 70 and 80 percent of its own fuel needs.

ELECTRICITY

Regarding the supply of electricity, Dr van der Merwe announced that the construction of two more thermal power stations had been approved.

The necessary steps were also being taken to cope with a situation in which South Africa might not be supplied with enriched uranium from abroad for the Koeberg nuclear power station in the Cape.

ETHANOL

The Minister of Mines and of Environmental Planning, Mr F W de Klerk, who spoke on the same programme, said the Government would give a ruling next January on the development of alternative sources of fuel, such as methanol and ethanol.

The manufacture of these would be left largely to the private sector and the only role the Government would have would be in their control, marketing and distribution. — Sapa.

APPLIANCES (55)

FM 16/11/79

Paraffin problems

The paraffin price hike introduced in June is threatening to become an explosive problem. SA's two largest paraffin appliance manufacturers have both suffered a major drop in sales. Barlow's paraffin fridge sales have fallen by 35% since the increase and Cadac has suffered an overall 20% downturn in its paraffin stove sales.

The government has so far failed to react to representations made by the Domestic Appliance Manufacturers Association (Damsa) and Cadac, to do away with, or subsidise, the 14,75c/l levy.

Following the government's decision in June to impose a levy on all petroleum products, liquid petroleum gas, LPG, and paraffin increased in price by 15,1c/l and 14,75c/l respectively (*FM* October 19). But after representations by gas distributers, the LPG levy was reduced by 7c. The paraffin levy remained.

Damsa chairman, John Turner, warns that the levy has hit the less privileged consumer — who can least afford it. Deborah Mabiletsa, director of the SA Council of Churches women's desk, says the government is playing with fire. "It is asking too much from people who can't afford it. It's hitting health standards and it's unnecessary." Paraffin accounts for only 3% of all petroleum products in SA.

Mabiletsa says the drastic drop in sales will inevitably result in retrenchments — because of decreased production.

To date representations to the Department of Commerce have proved unsuccessful. Damsa wrote to the Department of Commerce in August asking the government to reconsider the imposed levy. Representations have also been made by Cadac, SA's largest paraffin stove manufacturers.

Says Cadac Financial Director Sandy Jones: "We have made a number of representations to the government but we don't seem to be getting anywhere." Cadac controls 60% of the R7m-a-year paraffin stove market.

Turner adds: "All we received was a letter of acknowledgement. Clearly the department is not aware how serious the problem is." He says the average Soweto family spends R18 a month on running a 0,25 m^3 fridge. "About R14 a month is spent on paraffin. This represents up to 20% of the average lower income group's salary." He says the unfairness of the hike is highlighted by the fact that it only costs R2 to run an electric fridge.

Secretary for the Department of Commerce and Consumer Affairs, Tjaart van der Walt, says the department is "aware of the representations. We are working in conjunction with the Department of Industries in reconsidering the levy. No decision has been made but we will either exempt or partly exempt paraffin."

Chief Industries Advisor for the Department of Industries, Frans Scheepers, says: "We hope to reach a decision by the end of the month."

But Van der Walt warns that if paraffin is exempt from the levy, other petroleum products and finally consumers will have to subsidise the loss of revenue.

Garages push for new fuel price rise

55 3

Star 19/4/79

Fair Deal Reporter

The price of petrol should go up again — unless the Government finds some other way to satisfy petrol retailers' demands for restored profits.

This is the case being put to the Government by the Motor Industries' Federation.

Their president Mr Theo Swart, said today the fuel conservation measures introduced this year had caused a tremendous drop in petrol sales and traders' profits had declined sharply.

Before the measures were introduced, he said, a dealer made, on average, about seven percent profit on gross sales. Now a dealer makes about five percent profit on gross sales.

"It costs him 15c a litre — 30 percent more — to buy petrol now because the price has gone up. But at the same time, he is making less profit.

"Many smaller service stations that do not have a high turnover are in difficulties," Mr Swart said.

"If a dealer doesn't sell about 85 000 litres of fuel today — depending on the rent he pays — he is not making money."

Case stated

He said the MIF had put its case to the Government and had asked it to help restore retailers' profits to previous levels.

In terms of the existing price structure for petrol, a percentage of the price goes towards a stabilisation fund, used to stabilise petrol prices, another percentage to a Sasol fund, another percentage to the oil companies.

The money to help petrol traders would have to come out of this existing price structure, Mr Swart said.

But if the Government couldn't "see its way clear" to finding money from these sources, Mr Swart said, then the price of petrol should be increased.

Mr Swart said the MIF had asked the Government to assist the retailers, not because it wanted to make the dealers rich, but to help them survive.

Retailers would go out of business if they were not given relief and a tremendous number of people — including blacks — would become unemployed, he said.

R11 000-m plan to double Escom output

slow 10/11/79

55

260

Own Correspondent

Escom plans to spend R11 000-million within the next decade to double its electricity output — and the projects could be a mammoth boost for some country towns.

The expansion programme, designed to meet South Africa's power requirements in the 1990s, includes three more coal-fired power stations costing an estimated R4 000-million, a new R200-million to R300-million hydro-electric plant in the Western Cape, extensions to Escom's headquarters at Megawatt Park, and a new training college for whites and blacks to meet the shortage of skilled staff.

Between R30-million and R35-million will be spent on enlarging Escom's headquarters in Sandton, while the new college, situated near Halfway House, will cost R40-million.

An Escom statement said the programme will start immediately with the contruction of two large coal-fired power stations.

The first plant, named Tutuka, will be located either on Amcoal's New Denmark coalfield near Standerton, or the Cornelia coalfield near Sasolburg.

The second station, Ilanga, will be built either at Cornelia or at Ellisras in the north-western Transvaal.

It will have dry-cooling towers, and may become the world's largest plant using this type of cooling.

Details of the third station have not been released, but another large project will be a pump-storage facility in

To Page 3, Col 2

Sun. Tribune 25/11/79

55

Kiss goodbye to the petrol-driven car

By JACK BRICKHILL

THE petrol-driven car is dying and will be phased out in the next 10 or 20 years as the fuel and transport crises strike home.

This is the message from the Government which is girding its loins for the crises that are expected in the 1980's and beyond. In particular, a difficult period is expected in the intermediate period up to 1985 when the Sasol 3 production will cushion the country to some extent from mounting fuel prices and shortages.

Secretary for Transport, Adriaan Eksteen, told the Natal branch of the Institute of Road Transport Engineers that fuel prices are likely to continue escalating in the next decade or longer.

"In real terms the increase is likely to be about five percent a year, but including inflation it will be 15 percent.

"This means transport, at least as far as the private car is concerned, will become progressively more expensive."

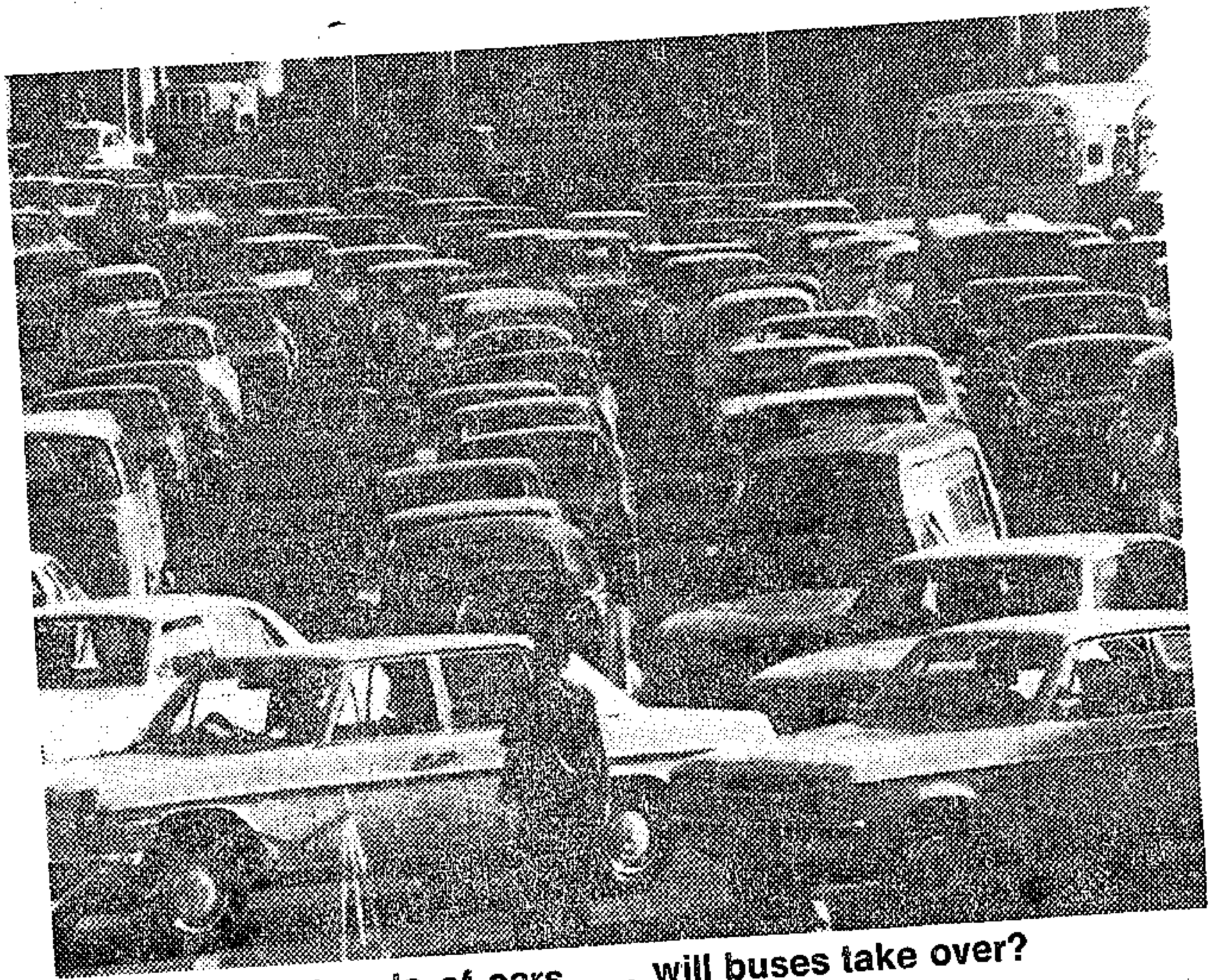
He says even if the country succeeds in becoming substantially independent of imported fuel, efforts will still have to be made to reduce the effects of increased costs of transport.

These measures, which must be coordinated, include:

- Discouraging the use of low-occupancy private cars;
- Introducing smaller, fuel efficient, cars;
- Developing battery-powered vehicles;
- Improving road standards;
- Higher axle loadings to cut the cost of transporting goods.

More specifically, the National Transport Commission, is issuing guidelines for urban transport plans to remove four-way stop signs, replace stop signs with yield signs in many cases, improve direction signs to cut down on wasted trips, enforce double - parking and illegal - loading regula tions to cut down congestion, raising average speeds to improve traffic flow and sychronising traffic light systems.

The NTC also recommends bus and car pool lanes with priorities at signal intersections, promotion of lift clubs and car pools, improved mass transport systems and better management of services.



A tangle of cars . . . will buses take over?

Provision is also made in the Urban Transport Act for higher parking tariffs and the limitation of all-day parking in central business areas.

Urban plans, drawn up by metropolitan authorities, must be approved by the Government before subsidies are granted.

Eksteen also says that urban sprawl must stop and future development must consist of high-density housing schemes to keep personal transport costs in reasonable limits.

A closer look will be taken at bus standardisation, management procedures, staggered working hours and park and ride facilities.

"All this can be of little avail unless we can induce the private motorist to abandon the use of his car for those journeys which can be undertaken by public transport whether for work, business or social trips."

The Government has set up an interdepartmental committee to study the road needs and the financing requirements. The first interim report is expected next year. The NTC will also undertake socio-economic studies on other major transport projects.

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(Seneca, Epp. 47)

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Rapport 25/11/79

(47)

Regering sal oor steenkooluitvoer weer moet besin

DIE kwessie of dit raadsaam is om Suid-Afrika se steenkool op groot skaal uit te voer terwyl die wêreld 'n oliekrisis ondervind, het vandeesweek weer sy kop uitgesteek toe die voorsitter van Johannesburg Consolidated Investments (JCI), sir Albert Robinson, in sy voorsittersrede gesê het dat die Regering se houding, volgens sy mening, té versigtig is oor die uitvoer van steenkool.

Sir Albert het gesê hy meen die huidige beperking van 44 miljoen ton steenkool vir uitvoer, insluitende antrasiet, kan aansienlik opgestoot word sonder om die land se langtermynenergiebehoeftes enigsins in gevaar te stel.

Energiebron

Hy is van mening dat Suid-Afrika teen die huidige tempo van verbruik genoeg steenkool vir ongeveer 200 jaar het. Daar is ook genoeg uraan om steenkool en olie as energiebron in die toekoms aan te vul.

Daar bestaan op die oomblik groot geleenthede vir die uitvoer van steenkool dwarsdeur die wêreld en hierdie geleenthede moet benut word. Hoewel beperkinge in laai- en vervoergeriewe vir die uitvoer van steenkool wel voorkom, is dit probleme wat baie maklik oorkom kan word, sê sir Albert.

Kenners in Suid-Afrika is op die oomblik in twee kampe verdeel oor die uitvoerprogram van steenkool of dit moet versnel word en of matige uitvoer gehandhaaf moet word om genoeg reserwes in die grond te laat vir toekomstige gebruik.

Diegene wat ten gunste van verhoogde uitvoer is, is van mening dat die wêreld voor die jaar 2000 gedwing sal word om alternatiewe energiebronne te vind en dat steenkool net 'n oorgangsrol sal speel. As ons gevolglik nie nou van die uitvoergeleenthede gebruik maak nie, sal die inkomste wat ons uit steenkool kon verdien het vir altyd verlore wees.

Konferensie

Dan is daar dié skool wat van mening is dat ons eerder 'n versigtige houding moet inneem en sien hoe dinge ontwikkel; dat ons maar liewer die verhoogde inkomste wat ons uit steenkool kon verdien het moet prysgee.

Kenners waarmee Sake-Rapport vandeesweek gepraat het, sê daar kan slegs oor hierdie vrae besin word as die land 'n omvattende energieplan het. Die eerste minister, mnr. P. W. Botha, het egter vandeesweek by die belangrike konferensie met vooraanstaande sakemanne in Johannesburg laat deurskemer dat so 'n plan dalk binnekort opgestel kan word.

Nog 'n faktor wat tot die meningsverskil, of ons meer moet uitvoer al dan nie, aanleiding gee, is die feit dat daar nie ooreenstemmigheid oor Suid-Afrika se steenkoolreserwes bestaan nie.

Uiteenlopende vooruitskattings oor ons steenkoolreserwes doen op die oomblik die ronde. Daar moet natuurlik besef word dat reserwes verander soos die prys van steenkool verander en dit is dus nie moontlik om 'n definitiewe syfer te noem nie.

Die Petrick-kommissie het byvoorbeeld gevind dat Suid-Afrika 94 000 miljoen ton steenkool in situ het.

Die voormalige Minister van Mynwese, mnr. Fanie Botha, het in April vanjaar in die Parlement gesê dat hy opdrag aan die Departement van Geologiese Opname gegee het om nuwe steenkoolreserwes vir die land uit te werk. Mnr. Botha het destyds gesê daar word gewerk op ongeveer 24 000 miljoen ton steenkool wat ontgin kan word, maar hy het bygesê dat hy van mening is dat die syfer maklik tot 70 000 miljoen ton opgestoot kan word.

Grondstof

Hy het ook bygevoeg dat as die wêreld die vraag na steenkool begin afplat, steenkool uitsluitlik gebruik sal word as 'n grondstof vir chemiese produkte. wanneer hierdie stadium bereik word, sal Suid-Afrika waarskynlik genoeg steenkool vir die volgende 400, 500 of selfs 600 jaar hê.

Die jongste skattings van Suid-Afrika se steenkoolreserwes is dat die ontginbare reserwes teen vandag se tegnologie en ekonomiese beperkings sowat 61 000 ton beloop. Teen die huidige verbruiksvlakke is dit genoeg om vir die volgende eeu te hou.

Intussen wil dit voorkom asof 'n mens moet wag totdat 'n omvattende energieprogram vir die land uitgewerk is, voordat daar besluit kan word om ons uitvoer van steenkool drasties te verhoog. — **Daan de Kock.**

Free flowing traffic saves

The National Institute for Transport and Road Research has been asked by the Department of Transport to make recommendations on areas in which fuel conservation was likely to prove most fruitful.

The institute has outlined some of the recommendations they will put forward in the institute's official organ, Scientiae.

The improvement of traffic management, for long the cry of motorists, has also come under the spotlight.

IMPROVED TRAFFIC MANAGEMENT

Stopping of vehicles at intersections adds considerably to fuel usage. There are many urban intersections which, with relatively little cost could be made to function more efficiently and so reduce stops and delays to traffic. If, for example, all vehicles in South Africa (3,4 million in June 1977 — the latest date for which figures are available) had one stop per day removed, 45 million litres of fuel and R10 million in crude oil imports could be saved annually. This line of improvement is already being followed in some centres.

Research has shown that the engineering measures that give the greatest benefits for relatively low cost of alteration to an intersection appear to be:

- The removal of unnecessary stop controls. Multi-way stops can be converted by the removal of the relevant stop control to give one crossroad priority, and two-way stops can be converted, where practical, to two-way yields.
- Linked traffic light control (synchronisation) — this prevents traffic having to stop at each traffic light along a major route and makes vehicle progress quicker, at the same time stopping waste of fuel in idling and speed changes.
- Vehicle-activated traffice light control. In such a system green time is allocated according to the amount of traffic in a particular direction, and vehicles are not stopped if there is no traffic in the other directions.
- The prevention of intersection blockages. This can be helped by road signs and road surface markings at intersections to prevent vehicles from entering intersections when there is not enough time to get through or when the exit is already blocked.
- The permission of "left turn on red". Vehicles turning left are allowed to do so even during the red period. They first stop at the stop line and, if it is safe to proceed, move off into an acceptable gap between the cross-street traffic. A similar practice is widely used in the USA.

FUEL CONSUMPTION AND ROAD FEATURES

The institute is investigating various ways in which the fuel consumption of vehicles can be reduced.

One way to do this is by direct means such as encouraging the public to buy smaller and more efficient cars, by increasing the licence fees on vehicles with a large mass, or by introducing legislation or regulations on maximum fuel consumption as is being done in Australia and the USA.

Another sphere where big savings can be made, however, is in the improvement of driving habits. The way in which you drive can either increase or reduce the fuel consumption of any vehicle. Some research has already been done in this field and there has been a great deal of publicity about improving driving habits from various sources.

A few examples which are based on research: The rate of acceleration of the average privately owned car is an important factor in that vehicle's fuel consumption. If the car takes eight seconds to accelerate to 60 km/h it is using 22 litres of fuel per 100 km; if it accelerates more slowly, taking 30 seconds to reach 60 km/h, it is using only 14 litres per 100 km. Because stopping occurs so often in urban driving, the fuel saving can be considerable. If a driver feels that his time is worth more than the cost of petrol he may weigh one up against the other — he may be unwilling to lose an extra nine seconds after each stop, which in a trip with 10 stops would mean a loss of one and half minutes.

Fuel can also be saved by changing up the gears as quickly as possible. In first gear up to 20 km/h one will use approximately 15 l/100 km; if one has changed up to second gear before the car has reached 20 km/h, one will be using only about 8 l/100 km; savings can be made on all the gear ratios. The best policy is to change up to top gear as soon as possible.

In terms of fuel consumption, research has shown that the most efficient speed is between 40 and 50 km/h in fourth gear. This should be possible to maintain on level roads but is, of course, impracticable on a journey of any length. Once the driver takes the car up to 90 km/h, the fuel consumption begins to increase sharply again although it is unlikely to return to the 15 l/100 km in first gear.

The amount of fuel saved by travelling at 70 km/h, instead of 90 km/h, has been found to be between 11 and 23 per cent, with an average of 17 per cent. This average

Those would-be women drivers who always felt that driving lessons take too long and

GADGET

(155)

POST MOTORING, Tuesday, November 27, 1979

millions of litres of fuel

is similar to the findings of the Automobile Association.

Other factors, like the starting temperature of the engine — whether it is cold or hot — and type and inflation of the tyres also influence fuel consumption and the public has already heard much about this in general terms. This is another line of research. The prevailing wind is naturally important too although its effects are difficult to measure.

Various unsupported statements on fuel-saving methods put forward by industry and other sectors are being tested. One such allegation — that having the car's windows open will increase fuel consumption — has been found to be invalid in the cars tested by the Transport and Road Research Institute.

The ultimate overall aim of this area of research is for researchers to be able to evaluate the effect of various geometric features when new roads are to be designed — regarding the fuel conservation aspect, how, for instance, does the steepness of gradients or the number of stop intersections influence fuel consumption?

A computer model is being developed incorporating all the factors involved for the most efficient design of new roads. Fuel conservation is an important factor in this, but is only one of a number of criteria to be taken into account when evaluating geometric design. Safety factors, for instance, are another essential consideration.

HOW MUCH FUEL CAN BE SAVED?

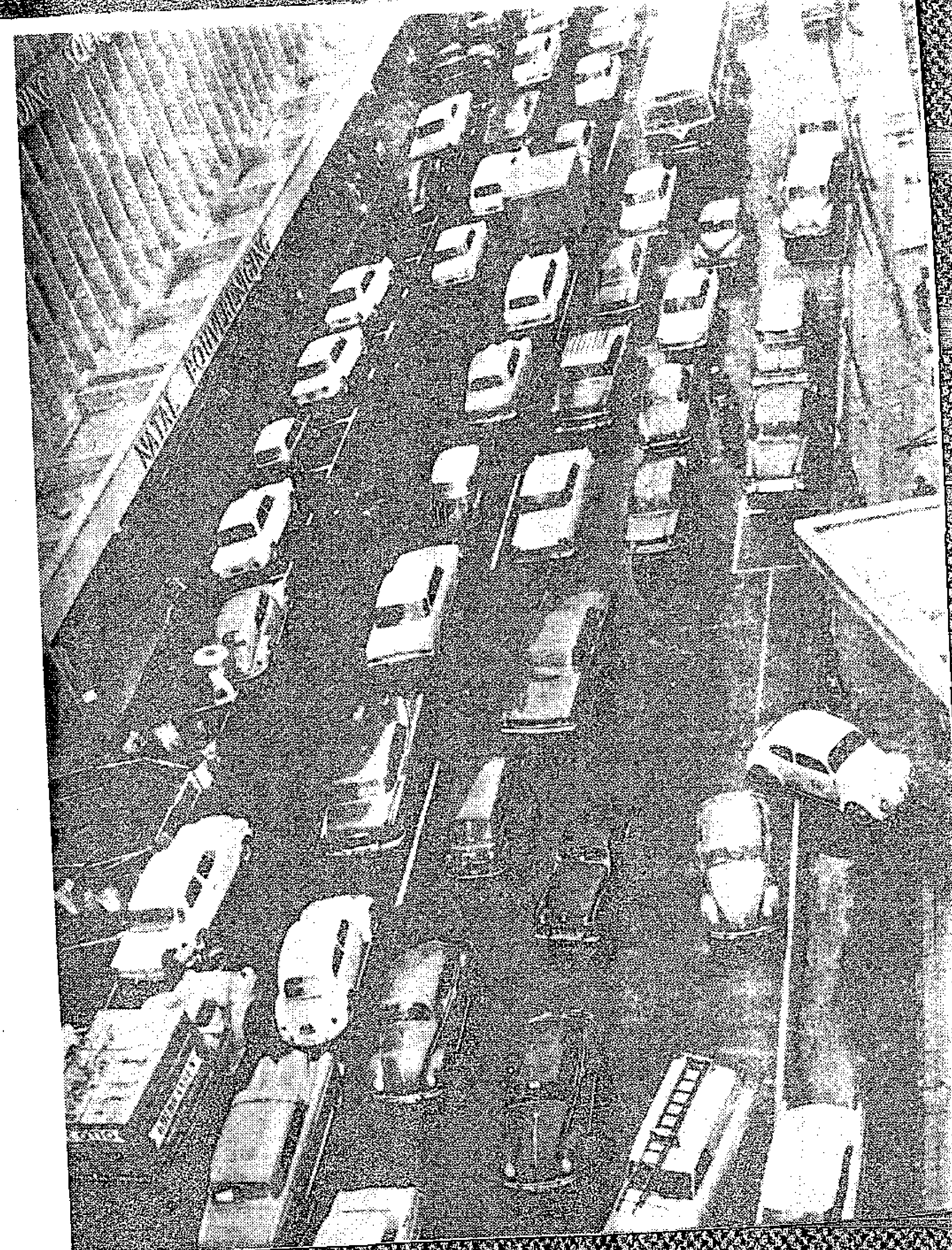
How much fuel can be saved if, after conclusive research, recommended measures on the lines suggested are put into practice?

Information is at present being gathered on how fuel is consumed in the seven metropolitan areas of South Africa. The engine sizes of privately owned vehicles, the total number of vehicles in use, the vehicle occupancy rate for different trip purposes and engine sizes, a breakdown of the total distance travelled per year by the different vehicle classes, and the various purposes for which private vehicles are used all have a bearing on fuel consumption Such data can be obtained from the licensing authorities and the Metropolitan Transport Advisory Boards and by means of questionnaires distributed by courtesy of such bodies as the Automobile Association and Rondalia.

The side effects of possible fuel-conserving methods must be identified and then quantified (not only in terms of fuel saving). Questions that have to be answered are: How much fuel would be saved if lift clubs became more common? What would be the effects of a higher vehicle occupancy rate? How effectively would priority lanes for high-occupancy vehicles as well as for buses encourage shared transport and what saving could be brought about in this way?

Other possible measures of which the effects have to be calculated to establish predicted fuel savings are the elimination of unnecessary trips — like those hurried weekend journeys (which are already becoming a thing of the past), more use by the public of smaller cars, of motorcycles and even bicycles as alternative means of private transport, the introduction of traffic engineering measures like the "turn left turn or red" suggested, changes in speed limits, regular tuning of vehicle engines, staggered working and school hours, together with many more.

It is vital that the relative merits of the various measures being investigated should be established so that the authorities have the fullest possible information before deciding which to implement and what points to emphasise to the public when this is done. The introduction of new regulations is expensive and changing habits of lifetime takes time and careful planning.



ELECTRICITY SM 30/11/79

Paying the piper

(55)

Escom has unveiled an ambitious (bu entirely necessary) scheme of expansio to meet anticipated SA demand for powe over the next 8-10 years, at a cost (i: current rand) of some R11 000m. Aroun. R1 500m will be spent in 1980, a figur including an allowance for price escala tion.

General Manager and Chairman Desig nate Jan H Smith emphasises that Es com's forward planning is a continuou: process, and the latest round of expansioi should really be viewed as part of an on going effort rather than as a sudden deci sion.

The scope of the programme has bee: dictated by the growth rate for electricit; in recent years (*FM* November 9), anc Escom anticipates no special difficultie: in funding the programme, ambitiou: though it may seem.

Smith anticipates that the Capital De velopment Fund (set up in 1971 to provid a proportion of self-financing for Escom will meet around 30-40% of the cost of th programme, without any need to increas tariffs. (Of course, tariffs may have to rise in the future because of the general impact of inflation.)

In 1978, Escom credited some R300m of Revenue to the CDF, just below the statutory annual ceiling of 6% of loans outstanding at the end of the year — R5 223m of external borrowing was outstanding at end 1978.

Of the balance of finance, about one half would come from local borrowings and the rest from overseas, but Smith points out the obvious — changing circumstances in capital markets could influence this ratio. At present, Escom's paper is enjoying a high rating on overseas markets, including the Eurocurrency market where most borrowing takes place.

Current loans run up to seven years and the interest rate has come down to only 1% above Libor, a low enough premium considering the disfavour with which SA was recently regarded by overseas bankers. Indeed, Escom recently rejected a loan offered for 8 years because the interest rate was too high.

The cost of forward cover for overseas borrowing is around R30-40m, a small enough percentage of current annual revenue of R1 800m.

Smith makes the point that borrowing at fixed interest rates to build permanent production facilities during inflationary times makes a lot of business sense. At present, even long-term interest rates in SA are below the local inflation rate, while power plants, once erected, are inflation proof. So Escom operates exactly like the ordinary householder who borrows from the building society to add a room on to his house.

Oil prices set for big rise

Star 3/12/79

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LONDON — World oil prices are set for still another substantial increase next month when Opec Ministers meet in Caracas to decide what their countries will charge in 1980.

The Opec (Organisation of Petroleum Exporting Countries) conference will be influenced by two key factors — continuing unrest in the Middle East, the leading source of petroleum, plus the free "spot" market where the group's oil sells for almost double what its members charge.

UNPREDICTABLE

Petroleum industry sources say that the major international oil companies, their supplies systematically eroded by production cutbacks in the producing states, are preparing for increases of up to 35 percent in the average Opec oil price.

It is now estimated at about 22 dollars (about R18,7) a barrel.

But sources close to the Opec oil producers report that while a 30-dollar (about R25,5) barrel may emerge from the Opec conference due to open in the Venezuelan capital on December 17, the result is completely unpredictable.

The only certainty is that there will be a price increase, they add.

Venezuelan oil minister, Mr Humberto Calderon Berti, expected to become the new Opec president next month, forecasts an increase and also reports that the majority of the 13 Opec nations now favour abandoning their new system or price movements within a wide band for a return to a uniform price. Many other Opec members say the same.

An 18-dollar (about R15,3) floor and 23,50 dollar (about R19,9) ceiling for prices were set five months ago at the last Opec conference in Geneva in a bid to regulate chaotic market conditions making the single "marker" price meaningless.

The chaos resulted from Iranian crude oil shortages during the Islamic revolution.

Last December, before the revolution triumphed, Opec had agreed to orderly, small price rises which would have lifted the market once every three months to a total 15 percent for 1979.

Then, with the Shah's overthrow early this year, the Geneva settlement of last June meant an average rise of about 60 percent over December.

Since then continuing supply uncertainties have shot prices up still more, with the June ceiling already punctured by at least three Opec states.

ATTACK

The regular Opec price-fixing session in Caracas next month comes amid unrest in the Middle East, the centre of the volatile Muslim world as well as the source of the bulk of the globe's oil.

Islamic militancy in Iran and the attack by a Muslim fringe group on the religion's holiest shrine at Mecca in Saudi Arabia are increasing fears for future oil supplies, oil industry sources say. — Sapa-Reuter.

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general meeting.

(4) Any director of a company who knowingly takes part in the allotment or issue of any shares in contravention of subsection (1), shall be liable to compensate the company for any loss, damages or costs which the company may have sustained or incurred thereby, but no proceedings to recover any such loss, damages or costs shall be commenced after the expiration of two years from the date of the allotment or issue.

222. Restriction on issue of shares and debentures to directors.—(1) No provision in any memorandum or articles or in any resolution of a company authorizing the directors to allot or issue any shares or debentures convertible into shares of the company at the discretion of the directors, shall authorize the allotment or issue of any such shares or debentures to any director of the company or his nominee, or to any body corporate which is or the directors of which are accustomed to act in accordance with the directions or instructions of such director or nominee, or at a general meeting of which such director or his nominee is entitled to exercise or control the exercise of one fifth or more of the voting power, or to any subsidiary of such body corporate unless—

(*a*) the particular allotment or issue has prior to the allotment or issue been specifically approved by the company in general meeting; or

CHAPTER FIVE

DEV

What is th ... .n South
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SA is expelled from nuclear talks

Star 5/12/79

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NEW DELHI — South Africa was today expelled from a conference of the International Atomic Energy Agency in New Delhi.

The conference voted 49—24 in favour of a Nigerian resolution to reject the credentials of the South African delegation. There were nine abstentions.

South Africa's chief delegate, Dr J W J Villiers, described the conference action as "blatantly illegal and politically motivated."

The Vienna-based IAEA, whose annual conference opened yesterday, is an autonomous body of the United Nations and reports to the General Assembly.

Non-aligned and communist countries outvoted Western nations after a credentials committee voted 7—6 against South Africa with one abstention.

Dr Villiers, president of South Africa's Atomic Energy Board, told the conference before the final vote: "What we are witnessing today is a blatantly illegal and politically conceived action to prevent a member state from exercising its rights."

South African delegates had left the conference hall by the time the vote result was announced. The session was then adjourned until the afternoon.

African and other delegates spoke against racial discrimination in South Africa, saying its delegation could not speak on behalf of all people in the country.

The US chief delegate, Mr Gerard Smith, said his country was totally opposed to South Africa's racial policies but apartheid was irrelevant to the credentials of the South African delegation.

South Africa was replaced on the IAEA Board of Governor two years ago.

Mexico and Peru joined Cuba, current chairman of the non-aligned movement, in voting against South Africa. Seven other Latin American countries abstained along with Spain and the Vatican.

The conference meeting to review the agency's programme, including safeguards against nuclear proliferation, voted South Africa out despite an appeal by IAEA Director-General Dr Sigvard Eklund.

He said South Africa had committed itself to report to the IAEA exports of nuclear material to non-nuclear states. — Sapa-Reuter.

Shock!

BLACKS on the East Rand and other areas which get their electricity direct from Escom instead of through city councils have to pay more because they use less.

An investigation by POST has revealed that:

- **The load factor of electricity (the amount used) decides how much residents have to pay per unit.**
- **For a very high load factor the price per unit will be low.**
- **For a very low factor, the price per unit will be high.**

This means that if a black township has a load factor of 49 percent, which means mainly domestic, residents will pay more per unit than if the consumer had a load factor of 100 percent (which means that there would be large factories working 24 hours a day at a constant demand).

Meaning that a city with many industries will have a higher load factor, and therefore a lower cost per unit than a purely domestic township.

The investigations follow complaints from people on the East Rand that residents paid more for their electricity than those of, say, Germiston.

The electricity services of the black townships were taken over by the East Rand Administration Board, and because this supply that the board requires is only for black townships, with no industries and a low load factor, the price unit increased.

In Katlehong, for example, a resident using 1634 units of electricity will pay about R43,68 while a consumer in Germiston, using the same number of units, will pay about R31,62.

While residents in Katlehong pay R0,030 per unit (three cents) for the first 30 units, and R0,015 for the remainder, plus a surcharge of 75 percent, residents in Germiston pay R0,01923 per unit (just over one cent per unit).

Johannesburg's rates are R0,0233 for the first 35 units and R0,0184 for the remaining units (about two cents for the first 35 and about one cent for the remaining units).

Cheaper

Soweto residents, on the other hand, paid R0,005 for all units (about ½ a cent), and residents in Meadowlands, Dobsonville and Diepkloof pay R0,050 for the first 20 units (about five cents) and R0,015 for the second 20 units (about 1½ cents).

Electricity in Johannesburg's black township is still supplied by the Johannesburg City Council and therefore cheaper.

Residents complained that the Government appointed the administration boards, and unless the supply of electricity is restored to the city councils of the various townships, the Government should subsidise the difference in electricity tariffs.

NUCLEAR POWER

F.M. 7/12/79 (55)

Raising the roof at Koeberg

A gigantic essay in reinforced concrete being written on a bleak South Atlantic coast — that's the Koeberg construction site at the halfway mark. With R1 000m already committed, and the profiles of the colossal containment buildings already formed, the final shape of this overwhelming project is now clearly discernible.

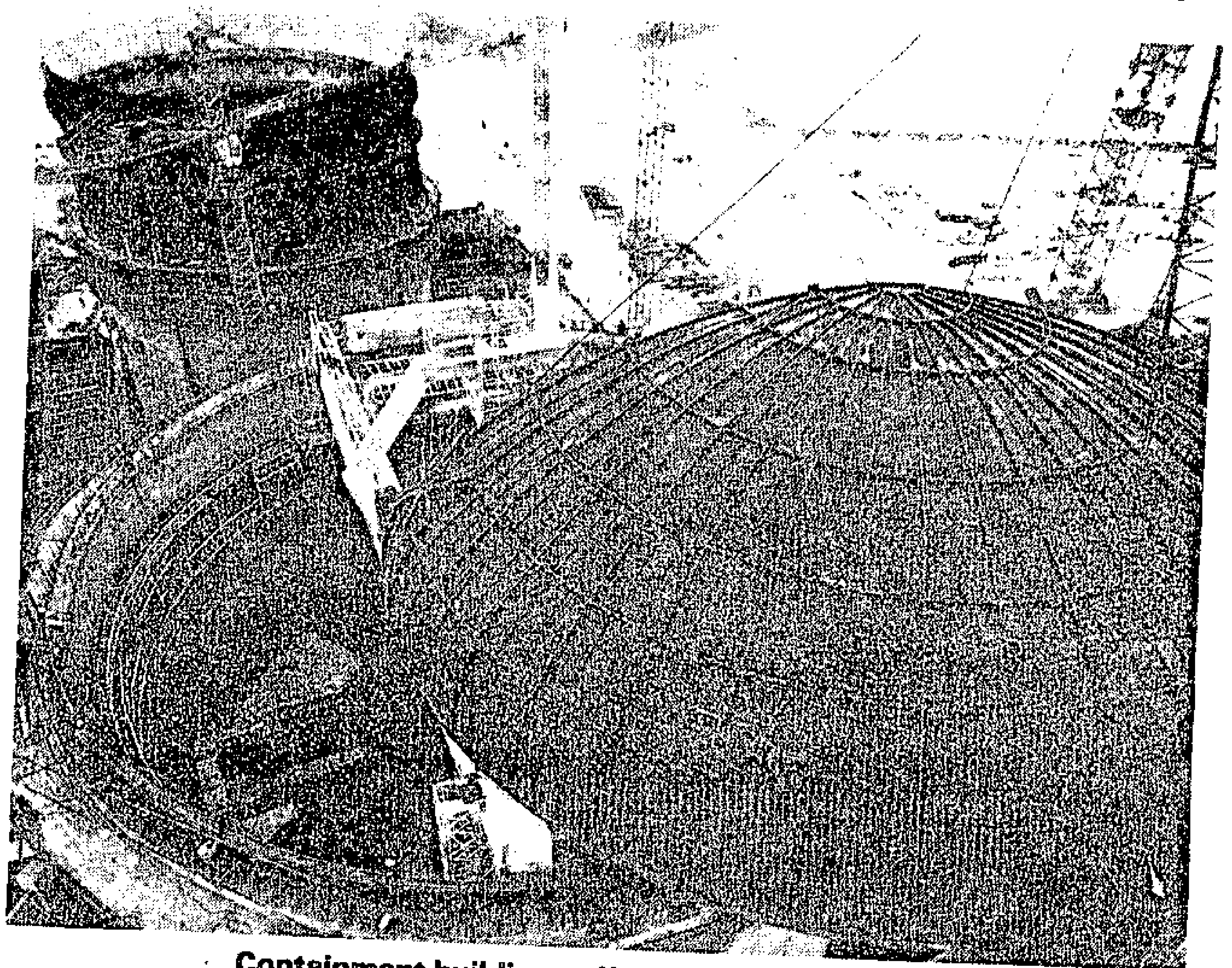
Koeberg will have three main segments. There are the twin containment buildings themselves — gigantic domed cylinders of reinforced concrete a metre thick, 47 m in diameter, and 56 m high to the apex of the dome. To seaward stand the auxiliary buildings for storage and handling of nuclear fuel. To landward will be the turbine hall, housing conventional electrical generators.

Halfway up the side of the metre-thick concrete wall of the containment building for Koeberg A can be seen a large circular port. At the newly erected site office for Framatome, plans are being prepared for the eventual insertion of the key item — the stainless steel pressure vessel to house the actual reactor. Its fuel is uranium oxide in the form of ceramic pellets housed in long rods with a cladding of zirconium metal. The uranium, mostly non-reactive U_{238}, will be enriched to the extent of around 3% fissionable U_{235} (the actual energy-yielding material).

The nuclear reaction proceeding in the fully-assembled core will generate great quantities of heat, to be tapped off by the primary (pressurised) water circuit. This circuit, in turn, will pass on its heat to the secondary circuit, which runs the generating turbines (see diagram). The electricity will be fed into the national grid.

The reactors themselves will occupy only a small central location inside the towering containment buildings, which also have to house a sequence of concrete shields against radiation, facilities for remote-control insertion and removal of fuel, and a whole array of control and safety mechanisms.

Beneath the "nuclear island" (the buildings which will contain nuclear material) is an extraordinary crypt. The entire structure rests on an upper raft of concrete (5,5 m thick), supported by an array of concrete pillars (490 in all) which, in turn, rest on a lower concrete raft. These pillars contain "anti-seismic bearings" — an oversized system of shock absorbers invented jointly by Electricite de France and Spie-Batignolles and designed to cushion Koeberg completely against earthquakes of up to 7 on the Richter scale. (This would be a quake around twelve times as severe as the Ceres shock.) More powerful quakes (a most unlikely contingency) could do some damage, but the anti-seismic bearings would still keep it



Containment building at Koeberg . . . putting the lid on

Ion

- 68 -

Such a clause will obviously also stand in the way of a subsequent oral cancellation of the non-verbal variation clause. (See S.A. Sentrale Ko-op Graanmaatskappy Bpk. v. Shifren, 1964 (4) S.A. 760 (A.D.)) The same rules obviously apply to cancellation of the entire contract, i.e. it cannot be done verbally if there is a term in the contract excluding verbal cancellation and verbal alteration. (See Impala Distributors v. Taunus Chemical Manufacturing Co. (Pty.) Ltd., 1975 (3) S.A. 273 (T.).)

Formalities prescribed by law.

As has been said above, the cases where the law prescribes fromalities must be considered as being the exception rather than the rule. In the course of specific contracts, the formalities prescribed by law will be dealt with more fully. Here it will suffice to note the more important contracts in the conclusion of which certain formalities must be observed.

A contract of sale of land is null and void unless it is reduced to writing and signed by the parties or their agents acting on their written authority. Note that a partner is not an agent who needs the written authorisation of the other partners, (see Muller v. Pienaar, 1968 (3) S.A. 195 (A.D.), nor does a wife married out of community of property but without exclusion of the marital power need her husbands written authorisation. (See Mpushu and others v. Mjolo, 1976 (3) S.A. 606 (E.C.) By a parity of reasoning the same should apply to ward and guardian. The former is not the agent of the latter

P.T.O

HONEY CAKE — Jan

1 cup flour
4 t baking powder
2 T butter
1 egg
½ cup sugar
¼ t salt
½ cup milk

3 T honey
1½ T butter

Sift dry ingredients. Heat milk and 2 tablespoons butter until melted. Beat egg and add to milk and butter. Mix with dry ingredients and bake in buttered fairly deep pie dish approximately 20 minutes at 350°F or 180°C.

Melt honey and 1½ tablespoons butter and pour over hot cake before serving. Serve with whipped cream.

NUT CAKE — Margaret

4 eggs
¼ lb sugar
¼ lb ground almonds (or hazelnuts)
½ t baking powder
½ T flour
¼ grated lemon (skin & lemon)

Beat yolks with sugar until creamy, then add nuts, flour, baking powder and lemon. Fold in stiffly-beaten egg-whites. Bake at 350°F for ½ hour.

Serve with whipped cream.

if it is too thick. Chill in a large bowl. Before serving pour on sour cream and sprinkle with chopped chives.

BEAN SOUP — Cat

1 pkt sugar ...
1 slice bee... ...meat
1 Kassler ri... ...ies
handful soup... ...d
2 bay leaves
1 onion stud... ...ves
2 carrots, ch...
2½ litres wat...
salt & pepper

Wash beans, co... , bring to boil. Boil for 2 min... from heat and soak for 1 hour. B... ...gain, add rest of ingredients. ...ns are tender. Cool. Remove meat an... Purée remaining soup in blende... ...y. Put a few reserved beans in each serving bowl. Sprinkle with Worcester sauce. Cover with soup. Garnish with cream and crumbled bacon or croûtons.

Koeberg environment study

THE Environmental Advisory Board is to discuss the possible impact on the environment caused by the construction of the Koeberg nuclear power station.

The City Council's Executive Committee decided at its meeting yesterday to refer the matter to the board. The board had asked for the item to be placed on their agenda.

PRESERVED BRINJALS — Sue J

brinjals
white vinegar
olive oil
garlic
fresh marjoram

Peel brinjals and cut into Julienne strips.
Put into enamelled pot and cover with white vinegar and bring to the boil. Cook for as short a time as

Star 12/12/79

55

Oil threat to world economy

NEW YORK — The US Energy Department finds the overall price and supply outlook bleak, both for the US and its allies, Deputy Energy Secretary, John C Sawhill said.

He told the National Energy Foundation that expected "additional rapid price increases would seriously weaken an already fragile world economy".

Mr Sawhill said that even with economic recession the Energy Department expects oil demand in the industrial world to rise by 300 000 to 500 000 barrels a day next year, adding that increased requirements of the developing world will add about 100 000 barrels daily to this total.

He said the agency estimates that 2m barrels a day of the Organisation of Petroleum Exporting Countries' "production could be at risk" during the coming year.

"Unfortunately, increases of non-Opec oil production is not likely to fill the gap," he said.

Mr Sawhill said it was becoming increasingly likely that Opec production would drop below the current level of 31m barrels a day.

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argues that one of the principle object-

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stated.[14] After the application of

ny years, the inventory valuation,

assuming a trend of rising prices, tends to become meaningless as it grossly misstates the current inventory valuation.

The apparent effect of LIFO on working capital reveals a weakening structure whereas in real terms there is actually a strengthening of the working capital position.

Example 6

LIFO is applied for the first time during the current year and the LIFO adjustment (being the difference between the FIFO valuation and LIFO valuation of end of year inventory) is R10. The tax rate is 40%. Assume a bank balance of R20 and that tax is paid therefrom.

Japanese deals upset the US

Star 12/12/79

(55)

TOKYO — Japanese companies bought over 21m barrels of oil from Iran in spot market transactions since Iran halted exports to the US, despite appeals from Washington to back its efforts to free US hostages held in Teheran, informed sources here say.

The scramble by Japanese companies to secure Iranian oil supplies came under blunt attack in Paris by US officials attending an international Energy Agency meeting where US Secretary of State, Cyrus Vance held a "candid discussion" on Iran with Japanese Foreign Minister, Saburo Okia.

The US senate majority leader, Mr Robert Byrd urged Japan "to halt all activities which undermine and undercut our efforts to bring about the return of the hostages quickly and safely."

Six other senators from across the political spectrum sponsored a resolution urging Tokyo to prevent Japanese firms from profiteering on Iranian oil.

High officials travelling with Mr Vance said in Paris that Japan ranked lowest in foreign concern shown for efforts to resolve the crisis between the US and Iran.

Tokyo sources say major Japanese trading companies, fearful that world oil prices would rise sharply once more next week and anxious about upsetting Iranian suppliers, overbought Iranian oil on the spot markets.

They said Japan, whose oil stockpile now tops 100 days' supply, has ordered tankers bound from the Middle East to slow down because Japanese storage facilities are virtually full.

Oil companies are seeking extra time to sell their products to make room for the additional supplies, the sources said. — Reuter, Sapa-Reuter.

Double, double, oil and trouble

FM 14/12/79

(55)

The time — Christmas 1980. The spot price for oil — $65 or $70 a barrel. The Middle East ablaze with pan-Islamic and anti-Western feeling. The West plunged into critical oil shortage and inflationary depression, with millions out of work and shivering through the cold northern winter. Russia waiting in the wings.

A new political fantasy by Paul Erdman or cold, reasoned economic prediction? Let's just call it a worst case scenario and go on from there.

Opec will meet in Caracas, Venezuela, on December 17. The least bad news to come out of the conference will be a unified "official" Opec oil price of $23,50 per barrel (against prices as low as $18 currently being charged by such important members as Saudi Arabia). But an immediate general rise to $25 is far from improbable, especially in the context of spot prices well above $40. (The spot market has recently acquired unprecedented weight, with Venezuelan Energy Minister Humberto Calderon Berti claiming that it is absorbing no less than 8m barrels per day. This amount represents nearly 26% of Opec's current 31m barrels per day.)

And, in 1980, oil prices can only go one way — up. The sober-sided *Economist* suggests an average Opec price of $30 per barrel next year. This is a figure high enough to generate aggregate Opec oil revenues of a massive $278 billion and an aggregate current account surplus of $90 billion. (Opec's 1979 current account surplus could be $50 billion.)

But a worse menace than hurtfully higher oil prices lies in prospect — an immediate threat of substantial production cuts. Kuwait, Iraq and Iran have all been muttering recently about cutting back oil output, while Iran's oil minister Ali Moinfar says he is asking Algeria, Libya and Kuwait to cut back in support of his country's political vendetta with the US.

He claims that Venezuela, too, intends to cut output by 6%. Iran's output is, of course, already down to perhaps a half of the 6m barrels a day it used to produce under the Shah. The Saudis manfully continue to produce at the rate of some 9,5m barrels per day. This level, though it is manifestly nothing but an act of political generosity to the West, as the Saudis' own best interests (in terms of reserve conservation and investment policy) would dictate a much lower rate.

Although political motives like Islamic solidarity are important, fully to understand Arab oil policy we have to look at the financial basics. Opec members divide, roughly speaking, into two groups — those with high absorptive capacity for imports, and those with limited absorptive capacity (the discretionary oil producers).

The former include heavily populated nations like Nigeria (with, maybe, 80m) and Indonesia, with 110m. These countries can, and do, spend all or most of their oil revenue on imports, and so do not constitute an important factor in world capital markets.

Since 1973, the discretionary oil producers' enormous surpluses (at least $75 billion for Saudi Arabia alone) have been "recycled" in the system — a tribute to the professional ingenuity of Western bankers and the sense of self-preservation of conservative governments like Saudi Arabia's and Kuwait's.

But the stability of the system has weakened considerably in recent times, undermined by the diminishing purchasing power and international value of the dollar, and by the contamination even of strong currencies by inflation.

Now, the Iranian crisis has established some alarming precedents. There's the repudiation of Iran's foreign debt and the freezing of Iranian assets in American banks, along with secondary effects like attachment of Iran's interest in Krupp and litigation in UK courts about the scope of Carter's freeze on America banks' holdings of Iranian money. All, in all, the attractiveness of paper assets in the West must have diminished alarmingly for the oil sheikhs, a fact attested by the runaway gold price.

And every rise in the oil price makes it possible for the discretionary oil producers to meet their import needs at a lower level of output, while their investment income alone must today contribute a significant proportion of their import bills.

A simple calculation makes the potential for cuts in oil output very clear. Next year's projected Opec current account surplus (the $90 billion already mentioned) represents the cost of 3 billion barrels of oil at the projected 1980 average of $30. This is equivalent to 8,2m barrels per day, or 26,5% of current Opec production.

So Opec could, theoretically, cut production by over a quarter and still be able to pay for all its current imports. The output cut of some 2m barrels per day currently being forecast by US Energy Secretary John Sawhill therefore far from exhausts Opec's potential for throttling Western economies.

Here, there's another lesson to be learned from the Iranian revolution. Too rapid economic development of such archaic societies can have a gravely destabilising social and political effect. This effect flows from hyperinflation brought about by heavy internal spending of the swollen oil revenues and from the impact of rapid urbanisation, technical education and westernisation on traditional peasant Moslem societies.

So bang goes the Shah's reason for maximum oil production — to provide the wherewithal for rapid growth. We can be sure that the Shah's downfall is a lesson that has not been lost on other traditional rulers.

The other side of the coin is what economists would call the "low price elasticity of demand" for crude oil. In simpler terms, oil is such a vital input to industrial economies that consumers would rather pay more than do without. This point has been painfully illustrated during 1979 by the disproportionate effect on the price structure of the loss of only around 2,5 to

3m barrels per day of Iranian output, or around 10% of Opec's exports.

Now, alarm is, it seems, beginning to feed on itself. The current level of demand for imported oil in the industrial countries is not, of itself, high enough to account for Opec's current level of exports (FM November 2 1979). The only inference — there's an awful lot of stockpiling going on, as the oil majors attempt to insulate themselves, as best they can, against the risk of further cuts in Middle East production.

This mixture of factors — economic and political — comprises a real witches' brew of instability at the start of the Eighties. It is not too difficult to argue that the Iranian crisis marks the commencement of a process of unravelling of the threads which have held the Middle East oil producers and the Western financial system together since the strains which threatened to overwhelm it after 1973. The whole situation comprises what an engineer would call "feedback".

Higher prices for imported oil worsen inflation in the industrial world. Both factors together serve both as motive and opportunity for the discretionary producers like the Saudis and the Kuwaitis to cut output. If they yield to these influences, oil becomes scarcer in the West, and its price tends to rise.

Fear of further cuts in output leads to more panic buying on the spot market. The rising spot price attracts more Opec production and drives up the "official" price still further. Higher oil prices enable Opec members to meet their import costs at lower output. And so on.

All that's needed, therefore, to arrive at that fearful worst-case scenario for the end of 1980, is to project the current negative factors forward uninterruptedly over the next twelve months. And it will actually take major political acts of sacrifice and self-denial (both from the West and the oil producers) to interrupt these trends.

What's needed (from the Western side) is what has been so little forthcoming since 1973 — higher domestic energy prices, stringent conservation measures for oil, major efforts to substitute coal and nuclear power for imported oil, and last, but not least, general economic measures to stop inflation and stabilise currencies. As American oil expert Walter Levy has put it, these are "the years that the locust hath eaten".

Will Opec's December conference turn out to be, after all, the first chapter of a sequence of events known to future historians as "The Crash of 1980"?

Mr C E Burihell, transformer divisional manager of GEC company hands over mini station keys to Mr Thebehali. Looking on is Mr Tolica Makhaya, deputy chairman of the Soweto council.

Stage set for Soweto light-up programme

~~345~~
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Post 14/12/79

THE FIRST stage of Soweto's R150-million electrification programme was launched yesterday with the delivery of four mini-sub-stations.

The sub-stations — part of a R500 000 order — were installed mainly in Diepkloof and Orlando East.

They were handed to Mr D Thebehali, chairman of the Soweto Council and Mr J M Khumalo, deputy chairman of the Diepmeadow Council.

According to Mr W J Seymor, of the consultants, the sub stations will start to operate probably in the next few weeks. That, he said, would depend on the connections to be done by the Johannesburg City Council.

Another four mini sub-stations will be delivered in the early weeks of January — 12 at the end of January. Each station will need 60 000 volts before operating.

Mr J M Khumalo said he was overwhelmed with joy to see the dreams of Soweto people come true.

Mr David Thebehali expressed delight at receiving keys on behalf of his council. He said: "The people of Soweto will see that we are trying our best to have the city electrified. I would like to see the electrification of Soweto completed within the next five years."

Star 14/12/79

(53)

Oil rise is unlikely to affect SA for moment

By Stephen Suckley

Gold soared to record levels in major bullion centres yesterday as news that Opec members were to increase the price of their oil by six dollars a barrel reached the market.

The announcement by Saudi Arabia, the United Arab Emirates, Qatar and Venezuela came ahead of Monday's Opec meeting when members are expected to formulate their policies for 1980.

The surprise price increase had an immediate effect on bullion which peaked at 458,75 dollars an ounce in London.

The pace was taken up in New York as the business clocks swung to the US. Inflation fears pushed gold to 462 dollars.

A six dollar rise would mean a jump of 33 percent in the cost of Saudi Arabian light crude oil which presently has a "marker" price of 18 dollars.

But the good news for South Africa is that the latest round of oil price increases is likely to have little impact.

South Africa is believed to buy the bulk of its oil on the free market, where the ruling price is about 40 dollars a barrel. So the latest rises will have no effect if the free market price remains at present levels.

Eventually, however, the Opec price must affect the free market price.

As the oil situation pushed up bullion, the dollar came in for some sharp knocks against other major currencies. Sterling closed in Europe at 2,2050 dollars (2,1920).

The dollar, however rose against the yen closing at 240,80 yen. Japan is regarded as particularly vulnerable to oil price rises because, like South Africa, it imports most of its needs.

In Hong Kong today gold opened at around 460 dollars an ounce.

of certain income) to any probabilistic mixture of consequences (lottery or prospect) having the same mathematical expectation. In Fig. 1 we have seen that the reference lottery with equal chances of \$1000 or zero (and thus a mathematical expectation of \$500) is the preference equivalent of a sure income of only \$250. Thus, this person must prefer a sure income of \$500 to a risky lottery with a mathematical expectation of \$500. It is intuitively evident that this generalizes: any point P on a concave v(c) curve will lie above the corresponding (vertically aligned) point along the straight line connecting any pair of positions on v(c) that bracket P. The point on the curve represents the utility of a given sure income; the vertically aligned point on the straight line represents the utility of a lottery with a mathematical expectation equal to that given amount. The generalization of this result, often referred to as Jensen's inequality, can be expressed as:

$$v''(c) < 0 \rightarrow v(E(\tilde{c})) > Ev(\tilde{c})$$

Here E symbolizes the mathematical expectation operator, and the tilde indicates that c is a non-degenerate random variable.

It follows immediately that a risk-averse individual endowed with a given s
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DISCUSSION

The crude death rates and the standardised mortality rates for whites, Asians and 'coloureds' and urban Africans are presented in Fig. 1. The interpretation of these figures is confounded by the differences in the underlying structure of the population. The population pyramids of the various groups were pictured in Part I with the exception of the urban Africans, which appears in Fig. 2. This population shows an excess of healthy working males and lack of elderly persons as a result of the migratory labour situation.

The standardised mortality rate provides a single figure for the mortality experience of a population which can only be fully expressed in terms of a series of age specific death rates. The SMR is calculated by multiplying all the age specific mortality rates in the observed population by the corresponding numbers in the standard population, adding the number of deaths so obtained and dividing the total standard population. While this figure is independent of the age structure of the observed population, the choice of the standard population will affect the weighting given to the deaths in the various age groups. The choice of an underdeveloped population as a standard will give great weight to infant deaths and little weight to deaths among the elderly, while a developed standard population will reverse the position. The choice of standard population affects the ranking of the mortality between the observed groups. There is no 'true' answer. As the Duke of Wellington said: 'There are lies, damned lies, and statistics'!

Infant mortality rates are summarised in Fig. 3. Once again, difficulty is experienced in obtaining data for Africans. Birth statistics for Africans are not published by the central government. The various medical officers of health[9] have estimated the infant mortality rates for their urban areas. These show considerable variation. (See also ref.15). A mean figure and the range are given in Fig. 2. These de facto figures should be interpreted with caution as sick infants are often brought to the cities from rural areas. An indication of the situation in the rural areas is given by a sample survey carried out in Cape Town and Transkei among Xhosa-speaking Africans.[12] An increase in infant mortality was observed with decreasing urbanisation, the figure for the completely rural areas being of the same magnitude as those parts of the world devoid of medical services. Fig. 4 summarises the age specific mortality rates of

rural areas or cause of deaths' according to the Bantu Reference Bureau (Personal Communication). At least 50 000 deaths among Africans were not registered. These occur mainly in the rural areas. It is estimated that about 10% of the deaths in the main urban districts are not registered for Africans.

gross population ...

Turning the screws

NM 14/12/79 (55)

THE prospect of another significant rise in the price of oil next year poses the question of how much more punishment the world can take at the hands of Opec countries before the bubble bursts and a global recession engulfs all but the fittest.

Saudi Arabia, the United Arab Emirates and Qatar have decided already on an increase of six dollars a barrel, which is 4,06 dollars above the official Opec ceiling of 23,5 dollars. They have resisted calls for a 30-dollar ceiling, but there can be no guarantee that other Opec countries will show the same restraint when they meet next Monday.

Even an additional 4,06 dollars a barrel could be enough to topple the United States into its looming recession. Britain's inflation-racked economy could take another knock, and most other Western countries may need to take further stringent measures to protect their economies.

Moreover, while higher oil prices seem certain to cause further havoc among Western economies they point the way to disaster for the poor countries of the Third World, many of whom are now so deeply immersed in debt that their peoples have no prospect of acquiring even modest standards of living in the foreseeable future.

It is estimated that 25 percent of the revenue from Black Africa's exports are used to pay off loans and interest. With higher oil prices next year the expectation must be that there will be less demand in Western markets for Third-World goods, so that the poor countries will be even harder pressed to meet their loan commitments.

Moreover Western banks are likely to become more cautious now about lending to countries with bad reputations for repayment, and there are relatively few Third World nations without that image.

Black-ruled countries of southern Africa might be well-advised to examine their relationships with South Africa, whose strong economy could be a bulwark for all in the troublesome times ahead. If they opt for bush wars rather than trade ties then they must expect to suffer the consequences.

Govt's secret energy plan goes before Cabinet soon

S. Trib 16/12/79

(55)

By JACK BRICKHILL

THE Government has prepared its energy strategy just as world oil prices are about to rise again.

The long-awaited master plan, drawn up by an inter-departmental committee under the chairmanship of the Secretary for Industry, Pieter Theron, has been completed and passed to the Energy Committee of the Department of Environmental Planning and Energy.

A decision on the future production of ethanol and methanol is expected to be taken by the Cabinet after the holidays.

Although oil supplies in the world have not been as bad as some people expected and some of the pressure to develop alternative fuel sources has eased, the lack of Government planning and direction has frustrated potential ethanol and methanol producers.

Sugar industry sources accused the Government of having no energy policy at all and the director of the State oil exploration company Soekor, Dr Franz Quass, says South Africa has meandered without proper direction through the energy situation.

Successive Government Ministers have said the sugar industry is free to make and market ethanol but producers, particularly from Malelane in the Eastern Transvaal, want assurances on price, continuity of supply and subsidies before making large capital commitments.

Among the more interesting projects is a floating methanol plant for the Superior gas field off Plettenberg Bay. This plant was first mooted in papers written by Soekor experts and was thought to be more economically feasible than a shore-based plant.

The idea is to pump the methanol to the shore from the floating plant. The wraps came down and little more was heard of the project although it is believed that top-level hush-hush discussions have been held recently.

The gas field was discovered in the first well sunk off-shore in April 1969, by Superior Oil.

Soekor's new third oil rig will start work on this field next year but it is a long process.

The Government report examines the technical and economic possibilities for ethanol and methanol production. It will also look at the impact of alternative fuel production on the motor industry.

	M	F	M	F	C M	C F	B M	B F
0–1	0,85	0,69	0,70	0,31	1,18	1,24	0,32	0,19
1–4	0,49	0,21	0,31	0,27	0,63	0,61	0,21	0,20
5–24	0,71	0,22	0,68	0,20	1,40	0,38	0,68	0,12
25–44	1,18	0,30	1,43	0,37	3,32	0,70	1,22	0,26
45–64	1,25	0,42	1,55	0,40	2,89	0,76	1,10	0,31
65+	1,26	0,71	1,34	0,91	2,19	0,90	1,02	0,53
ALL	0,95	0,33	0,95	0,29	1,91	0,56	0,89	0,20
NO.	1973	677	333	104	2175	652	1868	324

...OLENCE (EXTERNAL CAUSE)

W A

	C M	C F	B M	B F
	7,00	6,86	19,69	19,83
	0,75	0,77	2,58	2,48
	0,08	0,03	0,21	0,23
	0,42	0,31	0,72	0,78
	1,73	1,02	3,80	3,64
	8,55	5,71	14,69	14,84
	0,83	0,65	1,80	1,96
	943	761	3765	3145

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Clash over how much oil price will rise

Opec chaos

CARACAS — Ministers of the 13-nation Organisation of Petroleum Exporting Countries began a much-heralded meeting here yesterday in disarray over how much oil prices should rise next year.

President Luis Herrera Campins, of Venezuela, formally opened the conference, expected to last two days, in a heavily-guarded hotel in this bustling capital.

CARACAS — Iran's Oil Minister, Ali Akbar Moinfar (left), wipes perspiration from his face while an unidentified aide translates his statement that his country had raised its official oil price by five dollars a barrel effective from December 1. — (Cablecast.)

ff surplus crumbs.

The Natal Mercury, Tuesday, December 18,

01 FUNERAL AND ME SERV

GENGAN. – Th late MANIK (WATCH MA Burnside Estat combe; dearly Shiela, Radha Mummy and brother-in-law

and a loved kindly assem Plot, Mountai Pietermaritzb 20.12.79. Don Home, 119 Durban.

WEDDINGS

OGLE – STANSFELD. – Brian to Daphne. Married at St. Augustine Church, Escombe 18.12.1954 by the late Rev. A. Charlton. Address: 179 South Rand Rd, Hazeldene, Germiston.

ORRELL. – A for LILY (LIL 56 Manhatt Street, Durba of John (Jock) Ronald, Kenn and loving gr ley and Keith Frank Daly) Paul's Chur (TUESDAY 10.00 o'clock butes, sugg Evelyn Hous mond. Nat

012 IN MEMORIAM

FORSYTH. – In memory of my mother. – Margaret.

GLUTZ-WILSON. – Edmund John. In loving memory of my dearest father, who passed away 18.12.75. Very sadly missed. – Eddie.

SATURDAY NIGHT SPECIAL

May Bennett, Rigeworth

Rump steak	Peas
Potatoes	Bananas
Tomatoes	Lettuce
Onions	Mayonnaise and Seafood Dressing

Wash and boil the potatoes in their jackets. Cut a cross on top of each and dot with butter or margarine, salt and pepper. Put in warmer. Trim the steaks, and wipe with a little oil, and fry in very hot pan, turning once, till done to your liking. Fry one piece at a time, so that they brown quickly; when done place on a hot plate in the oven, dot with margarine, salt and black pepper. While the steak is cooking, cube the tomatoes, and thinly slice the lettuce, chop finely a little onion, toss and serve in a small wooden bowl. Add salt and pepper and pour a little seafood

4 Loin Pork Chops
1/4 t pepper
1 cup water
1 T lemon juice
2 sour apples
2 sweet potatoes} peeled and quartered
(or as much as wanted)

1 t salt
1 T flour
1/4 cup seedless raisins

Trim chops and fry lightly until brown. Remove from pan. Discard excess fat. In same pan add flour and blend. Stir in water and lemon juice and raisins - simmer for 6 minutes. Place half potatoes and apples in greased casserole. Place chops on top. Add rest of potatoes and apples and pour sauce over top. Cover and bake in moderate oven - 350°F for about an hour until meat and potatoes are tender. Salt and pepper to taste.

---oOo---

SPAGHETTI BOLOGNAISE

Guy Brown, Brackenfell

1/2 pkt spaghetti	1 - 2 cloves garlic
500 g mince	1/4 t paprika
3 large onions	mixed herbs
Worcestershire sauce	1/2 small tin tomato paste

Boil spaghetti in salted water till cooked, drain and wash in cold water in strainer. Return to pot to steam. Chop onion and garlic and fry in hot oil till golden brown. Add mince and 1/4 cup water. Cook, stirring occasionally, until the mince is nicely separated and brown, then add rest of ingredients. Simmer. Taste and add more spice if necessary. Serve Bolognaise on bed of spaghetti garnished with wedges of fresh tomato.

---oOo---

Place peach halves in bowl, cups up. Place fruit mince meat in peaches. Place in warm oven to heat. Pour peach juice and brandy into double boiler and heat. Pour over peaches and flambé.

---oOo---

SAVOURY OMELETTE

Alex Murray

Make each omelette separately, using the following for each:

2 eggs	small amount of chopped onion
1 rasher of bacon	1 t (level) baking powder
1/2 tomato	1 T milk

...con and fry; fry onion in bacon dripping, small omelette pan.) Cube tomat...

President Herrera made a strong appeal for Opec solidarity and a major effort by oil producers to restore order in the current chaotic market conditions. He rejected what he called attempts by the industrialised States to pin the blame for world inflation on the Opec States.

Just before the meeting opened, the Saudi Arabian Oil Minister, Sheikh Ahmed Zaki Yamani, repeated his refusal of any new increase in his country's official oil prices between now and the first quarter of 1980.

Hard-line exporting nations such as Libya and Iran have served notice they will demand further hefty price rises beyond the six-dollar increase to 24 dollars a barrel announced last week by the moderates led by Saudi Arabia, major Opec producer.

Price raised

The Iranian Oil Minister, Mr. Ali Akbar Moinfar, confirmed to reporters yesterday that his country had raised its official oil prices by five dollars a barrel effective from December 1.

But Sheikh Yamani, asked whether Saudi Arabia would agree to any increase in its Arabian light, the official Opec benchmark crude, in the first quarter of next year, replied: "Never."

The Libyans have already raised their price to a record 30 dollars a barrel, and delegates admitted that chances of reaching consensus on a new uniform price structure at this conference seemed remote.

The Libyan Oil Minister, Mr. Ezzedin Mabrouk, suggested the price of Saudi Arabian light crude, the Opec reference price, should be raised a further 10 dollars to 34 dollars a barrel.

His argument was that this was the cost of producing alternatives to oil as a source of energy.

Special session

Conference sources were already predicting "agreement to disagree" — with the possibility of a special Opec session in the spring to review the situation.

Welcoming delegates, President Herrera said the real value of Opec revenue had declined since the organisation increased prices four-fold in 1973-74.

He said Opec must protect the real value of oil revenue against the erosion of inflation and currency fluctuations by sensible price adjustments, an apparent appeal for moderation.

The leader of the Nigerian delegation, Mr. A. A. Hart, said he would have no objection to a 30-dollars-a-barrel price for Nigerian oil.

The Kuwaiti Oil Minister, Sheikh Ali Khalifa Al-Sabah, said he would announce new prices today. — (Sapa-Reuter.)

-y December 18 1979 Star

World awaits the new oil crunch

(55)

STAR 18/12/79

The Star Bureau

LONDON—The world will soon know the bad news from Caracas — whether it pays 90 percent or 100 percent more for its Organisation of Petroleum Exporting Countries' oil than 12 months ago.

But the most chilling aspect of the meeting of the world's most powerful cartel is that whatever the agreement reached by the 13 Opec nations it cannot guarantee an early end to the oil price chaos which has tormented the international economy in 1979.

For there is growing evidence that Saudi Arabia is in danger of losing its dominant role in Opec — even though it accounts for 30 percent of the group's production.

Saudi Arabia's moderating muscle on its Opec fellows had operated, up to the beginning of 1979, on the basis that it could increase production so that any price excesses would be quashed by extra supply.

LEAP-FROG

That ability evaporated earlier this year when the Ayatollah of Iran slashed production by some 2,5m barrels a day.

Thus, while Saudi Arabia dutifully supported its American mentors and western allies by increasing output by 1m barrels a day, it was not enough to prevent the leap-frogging of prices which eventually produced the so-called Opec "ceiling" in June of 23,50 dollars a barrel — 60 percent above 1978 prices.

That process has continued. Saudi Arabia is pushing through exploration programmes which could theoretically enable it to pump out 12m barrels daily.

But it is itself caught up in the political ferment of the Islamic world stirred by the revivalist Ayatollahs of Iran.

There is now pressure within Saudi Arabia to reduce production to 5m a day. It is argued that Saudi Arabia does not need to earn more dollars for its relatively small population.

Outside Saudi Arabia, Iraq threatens to cut output by 20 percent with Libya, the United Arab Emirates, Kuwait and Quatar in similar frames of mind.

According to Gulf Oil, one of the "seven sisters" of the major western oil groups, Opec could slice 25 percent of its exports without hurting itself economically.

The overthrow of the Shah of Iran switched that country abruptly into the "hawks" sector of Opec.

This has left Opec in three rough groupings:

- "Doves — Saudi Arabia, Kuwait, United Arab Emirates and Qatar. total output (at current rates) 14,6m barrels a day.
- "Hawks" — Iran, Iraq, Libya, Algeria and Nigeria, output 12,4m barrels a day.
- "Neutrals" — Venezuela, Indonesia, Gabon and Ecuador output 4,3m barrels a day.

With the neutrals tending to follow the market rather than lead it — as the Saudis and their allies have tried — and the "doves" at a point where they cannot or do not wish to increase oil exports, the "hawks" are in a dangerously strong position.

ATOMIC POWER

Nuclear neurosis

F.M. 21/12/79 (55)

Nuclear safety is not a major issue in SA yet. But there have been some rumblings from an infant anti-nuclear lobby in Cape Town. How safe will SA's (now half-completed) Koeberg nuclear power plant be?

The decision to build Koeberg was a long delayed one. Escom wanted to be very sure of its ground before venturing into this new area, and the project managers laboured painstakingly to take account of all possible hazards. Any lessons to be learned from Three Mile Island (TMI) or from current French difficulties with pressure vessel metallurgy will be applied at Koeberg by the contractors or by Escom itself.

The Cape Town City Council in July 1979 submitted a lengthy memorandum to Escom canvassing all aspects of nuclear safety, covering the emission of radiation under normal operating conditions, the risk and consequence of nuclear accidents and the problems associated with acquiring nuclear fuel and transporting, reprocessing and storing spent fuel.

Objections have also been raised by concerned citizens like The Committee for Protection of the Environment and Dr Arnold Abromovitz of the University of Cape Town.

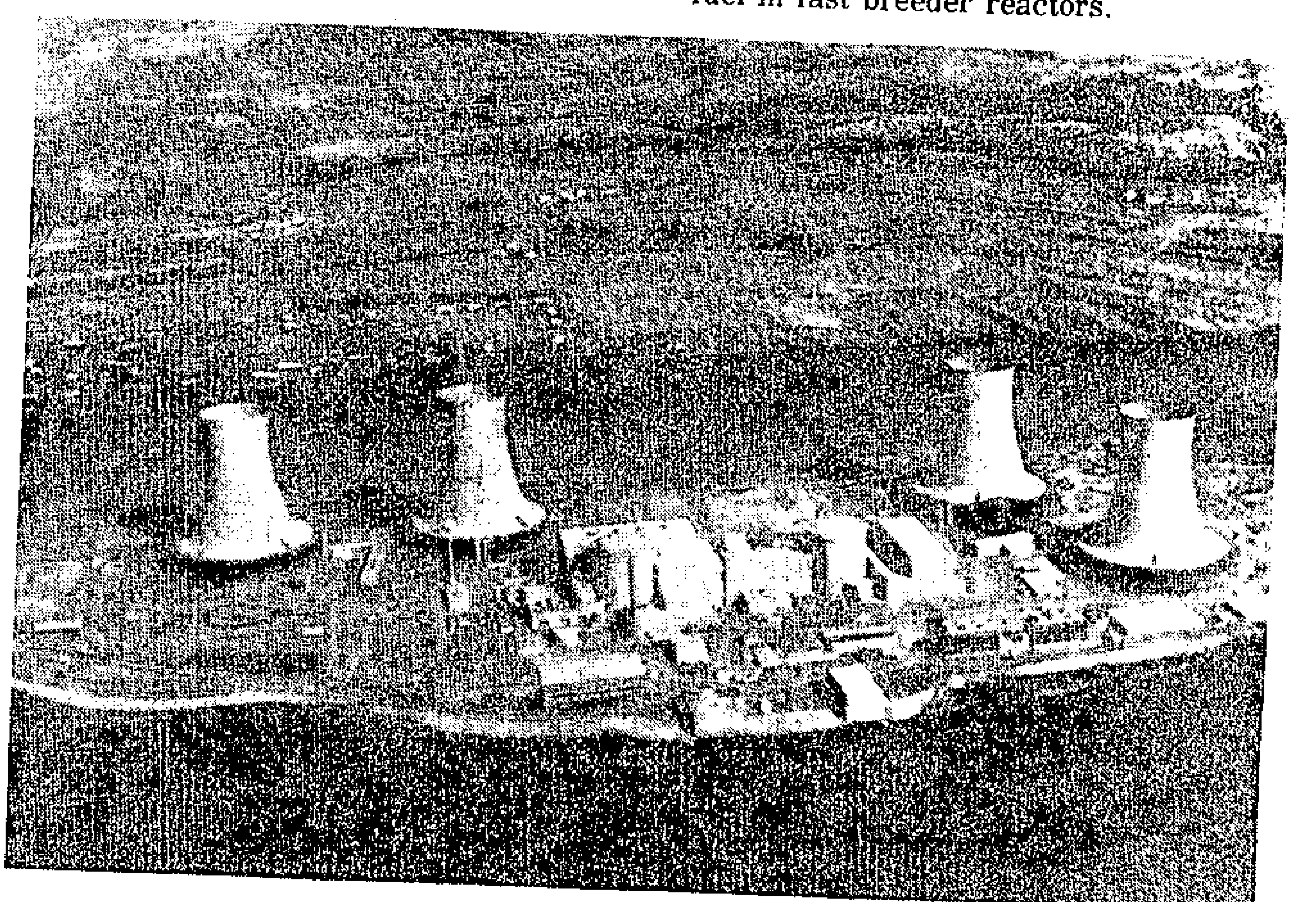
The most important points to emerge:

- At all times during the planning and construction period, Escom and its overseas contractors have worked in concert with the most reputable international consultants on nuclear safety.
- The site location was selected only after a most thorough-going investigation of all factors, especially earthquake risk. Duynefontein was actually pin-pointed as the safest place, seismically, in the whole area under consideration. To have moved Koeberg further north (as some critics would have wished) would have exposed the plant to a greater risk of earthquake. And the "nuclear island" at Koeberg is effectively earthquake-proofed (*FM* December 7).
- In terms of overseas practice, Koeberg is actually reasonably remote from major population concentrations. The population surrounding the site to a distance of about 25 km is very low by overseas standards and that to 35 km and more is acceptable.
- The reactors to be used at Koeberg, although of the same general type (Pressurised Water Reactors) as the Babcock & Wilcox type that malfunctioned at TMI, are manufactured by Westinghouse and Framatom, and are not of identical design. They should be more resistant to this type of mishap.
- The Koeberg plant is modelled very closely on the French plant at Tricastin, which is well ahead of the former in construction schedule. So Tricastin acts as a sort of pathfinder, where unexpected problems will show up first.
- Escom plans to follow the European and British policy of having a fully qualified nuclear engineer on duty in the Koeberg control room at all times, so removing the risk that insufficiently trained "operators" might be required to take critical decisions on their own initiative at a moment of crisis.
- TMI notwithstanding, the risk of a substantial release of radiation as the result even of a serious nuclear accident is extremely remote. Still less is the risk that the large urban population at the Cape would be exposed. (Despite the grave alarm in Pennsylvania and the evacuation of substantial numbers, the general population was not exposed to the radiation hazard at all).
- The radiation release under normal operating conditions is actually negligible compared with the difference in background radiation between Cape Town and Johannesburg, let alone the radiation to which individuals are exposed during a long air trip, while watching TV, or much worse, during a major series of medical X-rays.
- Escom will maintain a large and well-staffed health laboratory at Koeberg to monitor all aspects of radiation emission, whether related to gaseous, liquid or solid wastes.

The laboratory will also watch the risks relating to the "food chain" effect (that is, concentration through ingestion by plants, followed by the consumption of the plants by animals, with isotopes being concentrated at each stage).

- Arrangements are in hand for the transport of fuel elements overseas for reprocessing. The ultimate storage of long-lived "high-level wastes" in concentrated form, which would have, by contract, to be done in SA, is not going to arise for many years. When it does, there will be no shortage of stable geological formations in which to store them as long as is necessary.

In any event, substances like plutonium, with long half-lives, will very probably, and later if not sooner, be removed from nuclear fuel wastes altogether, for use as fuel in fast breeder reactors.



Three Mile Island . . . could it happen here?

of every winding-up order, ...
or setting such order aside, made by the Court, shall forthwith be ...
Registrar of the Court to—

The Govt panicked over fuel — report

RDM 21/12/79

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Staff Reporter

A SCATHING attack on the way the Government handled the fuel crisis during the past year has been made by the Transport Committee of the South African Road Federation.

The committee said in its annual report that it had become obvious that the Government had "panicked" when faced with the fuel shortage.

This panic had resulted in the consumer paying a much higher price for petroleum products than he had at the beginning of the year.

Temporary permits for road haulage were also restricted, with the result that South African Railways had regained goods traffic lost to the road haulage industry.

The report said several smaller road hauliers consequently went out of business.

"Fortunately the ludicrous 70km/h speed limit has been raised after a suitable face-saving period," the report added.

The road haulage industry had suggested that as a fuel-saving measure, the axle mass load of vehicles be increased, allowing hauliers to carry a greater weight.

The SARF supported these representations to the Government, but no action had yet had been taken.

The SARF also took up the question of the Railways obtaining more vehicles for container deliveries.

It was pointed out that, as a result of the fuel crisis, there were many vehicles available in the hands of private operators which were not being used.

The Natal Mercury

FRIDAY, DECEMBER 21, 1979

55

BREAK OPEC'S GRIP

THE FAILURE of the 13 nations that comprise Opec, the world's greedy oil cartel, to agree on uniform pricing and production levels means that the policy of controlled extortion that the consuming nations have lived with uneasily for the past five years could soon give way to a chaotic global scramble for diminishing supplies of oil.

The only result of the Caracas conference seems to be an agreement to disagree. Member countries are now free to set their own prices, ranging from around 24 dollars a barrel from the more moderate and responsible producers like Saudi Arabia, to 35 dollars demanded by Opec hawks like Iran, Libya and Nigeria. In addition to the price increases, some suppliers are deliberately cutting back production. In Iran the capacity to resume production at some major wells is in doubt because of neglected maintenance.

The effect of all this on the Rotterdam spot market, where South Africa is sometimes forced to buy at prices exceeding 40 dollars a barrel, is anybody's guess.

For South Africa the message is now writ large in neon lights: Achieve total self-sufficiency in liquid fuels as soon as possible.

The Government, long aware of the danger of oil sanctions, has given the country an impressive world lead in the production of petrol from abundant reserves of coal. But if we are to be freed from the clutches of Opec it is essential that the State's vast Sasol schemes should be supplemented by a chain of smaller, less ambitious projects run by private enterprise within the framework of a comprehensive energy policy.

Hopefully the formulation of such a policy will be a top priority of the new Department of Mineral and Energy Affairs announced by the Prime Minister, and one of its first tasks should be to define clearly the role of fuel alcohol in the energy pattern.

There is no lack of resources, ingenuity and enthusiasm in the private sector to undertake the production of fuels from a wide range of agricultural raw materials, including wood, casava and special "ethacanes," which are claimed to give high yields on relatively unproductive soil. Many of these schemes could open up new areas for development and provide employment for tens of thousands of people.

Private enterprise is straining at the leash, but before large sums of money can be invested there must be clear decisions on levies and excise duty, permitted profit margins, arrangements for blending alcohol fuels with petrol to obtain a uniform product, and for national distribution and marketing. It is not sufficient for the Government simply to say that it will not stand in the way of companies that wish to produce fuel.

UN anxious over Escom recruiting

RDM 31/12/79

55

Staff Reporter

ADVERTISEMENTS in overseas newspapers for nuclear personnel, placed by Escom, have prompted the chairman of the United Nations Special Committee against Apartheid to urge Sweden to forbid its experts from the accepting positions.

Mr Akporode Clark, the Nigerian ambassador and chairman of the Committee said he had learned the South African Electricity Supply Commission (Escom) was advertising for skilled nuclear personnel in the Swedish Press.

Mr Clark urged Sweden to prohibit its nuclear experts from taking part in South Africa's nuclear programme.

A spokesman for Escom yesterday confirmed the commission had placed the adverts in Swedish newspapers.

"They are only part of the advertsing campaign. We have placed similar ads in other European newspapers and in the British Press," the spokesman said.

They were advertising for engineers to take part in "the nuclear programme".

The spokesman said he was unable to say what reaction the adverts had met with or if any overseas applications had been received.

Two months needed for petrol scheme

Own Correspondent

Cape Town

Preparations over at least two months would be needed before a coupon system of petrol rationing could be introduced, the Secretary for Commerce, Mr T F van der Walt, said today.

Mr van der Walt confirmed that petrol coupons were ready if needed — having been printed for a rationing scheme prepared in 1973 but not used.

He said such a rationing scheme, if considered necessary, would have to be run on a decentralised basis.

This would mean that regional offices would have to be established in the main centres and in smaller centres magistrates offices would probably have to handle fuel rationing matters.

Coupons were likely to be issued by post offices.

Mr Van der Walt, chairman of the petrol rationing working committee set up by the Minister of Economic Affairs, Mr Heunis, said the scheme used in world War 2 would not be suitable for present day circumstances.

More vehicles

One factor to be considered was the big increase in the number of motor vehicles since the war years.

It would even be difficult to apply the present Rhodesian system of petrol rationing in South Africa because Rhodesia had fewer vehicles and could base its system on the requirements of each petrol user.

Mr van der Walt said his committee was a working group which would consider a possible rationing scheme not necessarily a coupon scheme.

The matter was regarded as urgent and recommendations would be made to the Government as soon as possible. The committee was due to meet next Monday — January 8.

No rationing yet

21/1/79 Star (53)

I'll stop SA's oil vows Shah's riva

RAM 3/1/79

55

By SIMON BARBER

WASHINGTON

SOUTH Africa will receive no more oil from Iran once the Shah falls.

This was the bleak message spelled out to the Washington Post yesterday by his arch-rival, the exiled Iranian opposition leader, Ayatollah Ruhollah Khomeini.

With the collapse of the Shah's rule now expected in a matter of weeks, the Moslem leader, confident that he will take over, has drawn up detailed economic and political plans which include cutting oil supplies to South Africa "because of its apartheid policy", he told the Post.

It is authoritatively estimated that South Africa imports 90% of its crude oil from the embattled Middle East country, where an exodus of foreigners began yesterday amid new unrest and worsening conditions.

The Minister of Economic Affairs, Mr Chris Heunis, said last night that South Africa had already lined up alternative oil suppliers to Iran, but he refused to elaborate.

He said he took the Ayatollah's threat to South Africa seriously.

"If the new regime in Iran is pro-communist, the effect on our country will be more serious than if they were pro-West."

Mr Heunis said that although Khomeini claimed to be a non-communist, it was probable that the reason he gave for cutting off South Africa's oil supply was "just a smokescreen", hiding "pressure from the Reds".

Speaking from his exile headquarters near Paris, the Ayatollah also vowed to stop selling oil to Israel.

He alleged that Mossad, the Israeli secret service, had been training agents of Iran's Savak secret police.

Washington is now in the precarious position of having to fulfil a promise to guarantee Israel's oil supplies, made by Dr Henry Kissinger during the early phases of the Israeli withdrawal from Sinai after the 1973 war.

But the 78-year-old Ayatollah, who spearheaded calls for the general strike that has crippled Iran, offered "to begin with a clean slate with America" after the Shah's downfall.

He insisted that his government would not become a subversive force in the Persian Gulf, seeking to undermine Saudi Arabia or other oil-based regimes, or cooperating with communists.

His remarks were made as it appeared that Dr Shahpur Bakhtiar, the opposition leader designated by the Shah to form a new civilian government, was failing to find support among the army or the dissidents.

Meanwhile Iranian Air Force jets forced down an Irish-owned airliner as it ferried a group of British and Irish air hostesses out of the country, reports Sapa-AP-Reuter.

The plane was later allowed to take off again from Teheran Airport, the Irish Embassy said.

Sources said a private charter plane used by foreign television networks to fly film out of Iran was also forced down.

Planes carrying Iranians as well as foreigners were able to leave yesterday as military personnel took over the duties of air controllers and hundreds of soldiers patrolled the airport.

Scattered new demonstrations against the Shah broke out in Teheran and there was unrest elsewhere.

Dr Bakhtiar was to face a required vote of confidence in the lower house of parliament later if he received a formal mandate from the Shah to go ahead as premier.

In London, British Petroleum told its crude oil customers that due to the situation in Iran supplies would be cut by 30% to 85% during the first quarter of 1979, reports UPI.

AYATOLLAH KHOMEINI
. . . no oil for SA.

F.M. 5/1/79

(55)

OIL SUPPLIES

Goodbye Iran, Hello ?

Iran's oil exports have dried up. Though this deprives SA of the source of a substantial portion of its crude oil imports, there is no sign of panic among government's energy planners.

Secretary for Commerce and Consumer Affairs Tjaart van der Walt tells the *FM* that the oil companies and Sasol (which is responsible for the Natref refinery) have already started buying oil on international spot markets. Though purchases are carefully co-ordinated, Van der Walt believes that "a lot of oil is lying around in these markets."

Government is of course giving top priority to finding new ways of conserving fuel, and Van der Walt has already had preliminary talks with the oil industry. No firm proposals have yet been formulated, and various alternatives will be thrashed out when the working group under his chairmanship meets for the first time next Monday. The committee consists of civil servants and oil men, but representatives of industry, commerce, agriculture, and mining have been summoned to Cape Town to give their views.

No rationing!

Is rationing imminent? Organised business is resolutely opposed to quantitative restrictions on fuel sales, unless the supply situation becomes desperate. Says Assocom president Bob Wood: "We do not favour rationing and would prefer, if possible, for fuel to be conserved by other measures — speed restrictions and reducing the time when fuel may be sold."

Government is not likely to be keen either. After the 1973 oil crisis, the authorities did their utmost to avoid rationing. It is not only difficult to administer (because of an inevitably large number of special cases and loopholes), but also unpopular and expensive. It was estimated a few years ago that a system of coupon rationing would cost about R16m a year. Van der Walt says no assessment of costs has been made recently.

One thing is certain. The brunt of any fuel saving measures will be borne by owners of cars and trucks. The transport sector accounts for two-thirds of SA's total oil consumption, and about 80% of the sector's energy requirements are oil-based. Moreover, almost 90% of its petroleum needs are accounted for by road vehicles.

The wheels of industry are unlikely to be slowed much — at least for the time being. Less than 10% of commerce and industry's energy needs are based on oil, and many factories — in the pulp and paper industry, for instance — are probably able to switch from furnace oils to coal for their heating requirements. Indeed, the Department of Planning estimated last year that industry's use of petrol products will decline by 5%-10% a year up to 1980, and thereafter by about 3% a year.

Petroleum products (mostly in the form of furnace oils, diesel fuels, kerosenes and liquefied petroleum gas) are used by industry mostly as heat fuels. Hardest hit by any cutback would thus be those sectors which rely on non-electric heat in their production processes. Among them: texile manufacturers, breweries, and bakeries.

The lucky industries which use virtually no oil-based fuels include furniture, footwear, and — appropriately — bicycle manufacturers. But they may also have to scratch their heads for less petrol-hungry ways to transport goods to and from their factories.

OIL SEARCH

Hope springs eternal

SA's off-shore oil search is being stepped up. At the end of January, a second rig, Sedco 708, will sink a well in the country's coastal waters, 350 km north-west of Saldanha Bay.

The new rig will be able to operate in deeper seas than Soekor's Sedco K rig, which is currently exploring between Mossel Bay and Plettenberg Bay. Sedco K can operate in water up to 250 m deep, but Sedco 708 can work in waters more than twice as deep, according to Schalk du Toit, assistant technical manager for geology at Soekor. Both rigs can drill up to 9 000 m below the seabed. The new rig will cost Soekor about R50 000 a day.

Government has placed no deadline on the oil search, which has already cost

FM 5/1/79 (55)

OIL SUBSTITUTES

Put a mealie in your tank

Sentrachem's R350m project to produce fuel from maize and sugar cane could be on stream within a year of getting the go-ahead — if all the stops were pulled out. So says the company's general manager (technical) Dr Robbie Robinson.

"If you pull out enough stops and get enough engineering firms on the job, you could halve the normal time to construct a chemical plant of this nature," he says. "The normal time would be about two years. Usually, the delays are involved in getting materials and equipment from abroad but in this project it is all standard equipment which could be obtained locally."

It is, of course, a matter of cost. The proposal, which has not yet been given the green light, is for construction of 10 plants for the production of ethanol (ethyl alcohol) from maize and sugar cane. The ethanol would be mixed with petrol and dieseline for use as fuel and chemical raw material. It would have the effect of stretching available oil supplies by nearly 10% and could, thus, make a significant contribution to coping with the present Iran-sourced oil crisis.

The 10 proposed ethanol plants, located in major maize and sugar growing areas, would each produce at least 80 000 t of ethanol a year. Between them they would produce close to 10% of the 10 Mt petrol and dieseline consumed in SA annually from an input of 2,5 Mt of maize or sugar cane.

This would provide a virtually limitless market for any surplus of these crops produced in the country — surpluses which are often exported at a loss.

Though the use of ethanol could push the price of petrol up by between 21%-28% at present prices, the chances are that SA will be paying a bigger premium than that for non-Iranian oil on world markets.

Meanwhile, AECI's research into ethylene from coal — with petrol as a by-product — might well be upgraded because of the Iranian turmoil. Deputy MD Ronnie Webb says scarcity affects economic considerations. He adds: "Latest (political) developments may well alter the economics sufficiently for the company to reconsider and once again handle the project as a high priority."

AECI began experiments three years ago only to discover researchers were getting *too much* petrol from the processes then practised. The ethylene-coal programme was then down-graded in favour of other projects.

Webb says that although the continuing technical work is successful, embarking at present on a commercial venture would not be worthwhile. "The decision to proceed with a highly capital intensive project is not determined by embargoes, strikes and the like, but in the first instance by economics," he says.

The Shah's plight and much tighter oil supplies do, however, shift the emphasis although Webb insists: "AECI's basic interest in the project is the production of ethylene — the feedstock for manufacturing polyethylene — and not the production of petrol."

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compound annual rate of growth between them. Actual rates of change are calculated directly from the series of output per worker available for each mineral (however, they suffer from overdependence on the endpoints and from ignoring the intermediate years between 1970 and 1976).

Petrol ration plan revealed

NM. 5/1/79. 55

Oil curb stays say strikers

TEHERAN — Iran's striking oil workers were refusing to resume all exports until the Shah left the country, the opposition National Front said yesterday.

"They said they could only export oil when they could export the Shah," a Front spokesman said.

The month-old stoppage has halted exports since December 27 and deprived foreign consumers of a daily 5,5 million barrels. Output for domestic consumption has been slashed to one-third of requirements.

The Shah has left Teheran with his family for two days of rest at the resort of Jajroud 70km east of Teheran a confidant said.

Meanwhile Russia is stepping up attacks against alleged United States interference in the Iranian crisis and is coming out increasingly in support of the demonstrators.

Some Western observers in Moscow believe that the increasingly shrill attacks on American "interference" may be paving the way for a more active Soviet role in the events. — (Sapa-Reuter-Mercury Correspondent.)

TEHERAN — Dr. Shapur Baktiar, Iran's new Prime Minister. — (Cablecast.)

Mercury Correspondent

JOHANNESBURG — The Government has worked out a detailed plan for a coupon rationing system to save fuel, Mr. Tjaart van der Walt, Secretary for Commerce, said last night.

Although there was no certainty that the plan would be implemented Mr. van der Walt said it had been worked out in the wake of the 1973 oil crisis in case it were needed.

If the Government decided to implement the plan it would only begin in mid-March, he said.

Mr. van der Walt — who is also chairman of the committee appointed recently to investigate methods of saving fuel — gave the broad outline of the plan.

Coupons

Drivers would be allocated a monthly petrol or diesel allowance, which would be run on a coupon basis.

There was no certainty at this stage how many litres of fuel each driver would be allowed as this would depend on the circumstances at the time, he said.

Motorists would be able to buy coupons at their local post offices and would present them at filling stations in return for their petrol ration.

Only registered owners of motor vehicles would be eligible for coupons.

Licence

When a motorist applies for coupons he would have to present the receipt of his car licence to ensure that this rule was applied.

Mr. van der Walt said a distinction would be made between the private motorist and the bulk fuel consumer.

The allocation for bulk users would be calculated separately from that of the normal motorists.

Motorists who had to travel more than the average or had to travel for production purposes would be able to apply for an additional allocation.

Branch offices of the Department of Commerce would be opened in large centres to receive applications from motorists for additional allocations of fuel. In smaller centres these applications would be placed before local magistrates.

In the case of mass fuel consumers the monthly allotment would be calculated on an individual basis. Every bulk user would be connected to the computer system of the oil companies.

The necessary information would be fed to a central computer and rationing would be done in conjunction with the controller of petroleum products of the oil companies.

Diesel

Although he would not

DIAGONAL STREET 5/1/79 (55)

Coal steam-up

Most of the week's features were in the coal sector as investors looked for energy shares following Opec's 14,5% price hike.

Individual shares rose by between 12% and 25% on the week, though at least part of the buying has been indiscriminate. It is difficult to understand why, for example, Zinguin, which relies entirely on its Iscor contract, should rise 25% to 305c on export prospects.

One fund manager told the *FM* the coal market is probably still generally in a bull trend, but that the recent rises have made the shares too expensive to attract his clients into the sector. This is borne out by Amcoal which came off 15c on Wednesday, after having risen 12% to 1 475c on Tuesday.

Another star this week was De Beers, which rose nearly 10% to 890c in anticipation of the CSO figures due next month.

This week's strong gold price performance was partly due to bear covering of short positions. But with continuing uncertainty over possible support for the dollar as Europe drags its heels over implementation of the EMS and little improvement in the Iranian situation likely for some time, bullion could be set for a further sharp near-term climb.

Brokers feel that foreigners will tend to opt for the metal itself rather than shares this year. So golds are generally not expected to perform as well as bullion.

In industrials, institutional buying has been slower than normal over the holiday break and new uncertainties which have crept into the economy.

In the final analysis the weight of cash available to institutions should continue to find its way to the market. According to one broker it is the older and smarter investor, who normally enters the market in the earlier stages, who is coming in now. Brokers and analysts are still hopeful that the *RDM* industrial index will rise above 300 this year.

Peter Pittendrigh

ing the <u>first long phase</u> employment increased
e the sustained growth in production. Output
ing but not at a sufficient rate to offset
ects of increased production. Over the period
increased by 60 per cent under the impact
ion. Output per man-year rose from 457
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increase of 1,2 per cent per annum.

56 <u>period down to 1973</u> technical change in
shift to more open-cast mining and strip-
forms of underground mechanisation -
or increased output to be compatible with
ployment. A 30 per cent increase in
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hen face is how to explain the sharp up-
973 - with the 1966 employment peak being
...ed in 1976. In the three years under discussion a 24 per cent increase in output was accompanied by a 14 per cent growth of the labour force - implying a labour productivity gain of some 8 per cent for the period (or 2,7 per cent per annum). This is half the rate of productivity growth of the previous period.

3.4. We are unable at present to explain the important increased labour-absorptiveness of the coalmining industry since 1973. There are some points which <u>may</u> be relevant and are hence worth recording - even though they do not at this stage fit into a coherent picture.

DA 61.79 (55)

SA buys oil in Holland?

LONDON — South Africa is believed to have made spot oil purchases on the Rotterdam market at $ 16 to $ 17 a barrel.

This would increase South Africa's oil import bill by an estimated R800 000 a day.

And the Secretary for Commerce, Mr T. van der Walt, confirmed in Cape Town yesterday that crude oil from several sources had been offered to South Africa — "obviously, at a price."

He said the flow of oil to South Africa would not necessarily stop if the country's main supplier, Iran, carried out threats to stop the supply.

But reliable sources said there was virtually no surplus oil on world markets, now in the worst crisis since 1973.

In London, a spokesman for BP said the company had been unable to make purchases, even at a premium, on the spot market which operates from Rotterdam. He said there was no oil on the market within a reasonable price range.

Mr Van der Walt said speculation about his department's preparedness to implement a petrol coupon rationing system did not mean it was a foregone conclusion that oil would be unavailable for South Africa.

South Africa had received offers from several sources.

"It is, of course, at a price, but whether and how this will materialise still remains to be seen," he said.

No indication is available from official sources on what prices South Africa must pay for supplies, or if they are available in adequate quantities, but it is certain that the ten day stoppage of exports from Iran already has serious implications.

Mr Van der Walt said Iran's stoppage did not necessarily mean other producers would not increase their production to eliminate a shortage.

Possible methods for fuel conservation were to be considered by the working committee appointed by the Minister of Economic Affairs, Mr Heunis.

Mr Heunis said he was not prepared to discuss details of how petrol rationing would be applied.

Many possibilities were being considered, and details could be given only after he had received a full report and recommendations from the committee. — DDC-SAPA.

.TA

1972	1 614	18 732	286	1 434	17 012	20 546
1973	1 911	19 484	294	1 205	17 985	21 395
1974	1 921	19 181	245	1 154	17 782	21 102
1975	1 703	19 544	281	1 232	18 031	21 247
1976	1 618	15 701	260	1 209	14 232	17 319
1977						16 877

(55) DAILY DISPATCH, SATURDAY, JANUARY 6, 1979 — 7

Govt must help save fuel says Malcomess

EAST LONDON — The saving of fuel must not be left to the private sector alone, the Member of Parliament for East London North, Mr John Malcomess, said yesterday. "The Government expects the private sector to carry the burden of fuel saving and has done so for several years.

"Restricted selling hours to the public, laws against the storage of fuel, speed limits to conserve fuel — all these have been in force for several years.

"Now that there is the very real danger of shortage of fuel as a result of the Iran situation, it appears possible that the private sector will have to put up with coupons and rationing.

"If there is to be a shortage, fair enough, but the Government must do its share too.

"I would recommend that two steps be investigated immediately. Firstly, introducing daylight saving in the summer months. This is done in many countries in the world, and France in particular has found tremendous savings in energy costs. This will certainly result in the saving of fuel.

"Secondly, electricity should be made available to farmers without the exorbitant line installation charges now levied by Escom.

"Farmers use millions of litres of fuel which could be saved by the use of electric power, but the farmer is prevented from doing so by the enormous cost of getting power onto his farm."

Meanwhile, the executive director of the Free Market Foundation, Mr Leon Louw, said yesterday petrol rationing would be "an enormously disruptive palliative, but no long term solution."

Commenting on the rationing scheme outlined by the Secretary for Commerce, Mr T. van der Walt, Mr Louw said long term solutions could only be achieved by releasing free market forces.

Hong Kong and the United States provided good examples of what could be achieved by free competition in transport services.

In addition to legalising transport competition, thought should be given to denationalising transport services.

"Cape Town and Port Elizabeth have private bus companies which, in 1976, made R6 million profit, while Johannesburg's municipal-owned service showed a loss of R8 million.

"The private services are reputed to be better and cheaper," he said.

According to the head of the Energy Research Institute in Cape Town, Prof R. Dutkiewicz, methanol, a fuel substitute derived from coal, gas and wood could meet all South Africa's petrol requirements.

Methanol is cheaper than petrol derived purely from coal — already on sale in South Africa. Production of the alcohol would soon cost the same as that of petrol if the price of crude oil continued to rise at the same rate as it had in the past, Prof Dutkiewicz said.

"For the past 10 months we have been testing a car run on a methanol/petrol mixture at different altitudes and varying temperatures. The results have been excellent, and in some cases performance has even improved."

The New Republic Party's spokesman on planning, Mr Nigel Wood, has suggested South Africa investigate the possibility of modifying an existing oil refinery in order to switch to the production of methanol from cane.

If this proved viable, it could save possibly two years, the approximate period required to start such a plant from scratch.

The question of producing methanol for fuel was being widely discussed, but such a plant could not be built overnight and, although costly, would be cheaper than a third Sasol.

If fuel rationing is introduced in the Republic, South African motorists may find themselves in a similar position to that of Rhodesians, who have been subjected to strict rationing since the end of 1973.

Motorists in Rhodesia are assessed on their daily needs, and usually get only enough fuel to travel from home to work.

Once a year they are allocated enough petrol to get to the South African border and back, or to travel 1 000 km inside the country. Internal motoring may be split up during the year.

Fuel coupons, or units as they are called, are in denominations of one and five and are valid for five litres of petrol only for the month of issue. — DDR-DDC-SAPA.

...rn Nigeria (especially ...l Chiefs", see also

... the Northern Nigerian ...85-317 will provide a ...: Africa under Colonial ...ems of the History of ...tzpatrick, pp.118-124

... of British Administration

...ase use Penguin edition).

...hensive biography.

Joyce Cary's Nigeria

PROTEST: CASE-STUDIES

Week 4

Women and protest in South Africa - the F.S.A.W. and the anti-pass campaign in the 1950s.

Basic Reading:

C.Walker — 'The Federation of South African Women, 1954-1962'

... purely Kikuyu revolt or as a civil war between the haves and the have-nots in Kikuyuland.

Basic Reading:

O.W.Furley	'The Historiography of Mau-Mau' in Ogot (ed) Politics and Nationalism in Colonial Kenya

Additional Reading - Interpretations of Mau-Mau

J.C.Caruthers	The Psychology of Mau-Mau, 1954
F.D.Corfield	The Origins and Growth of Mau-Mau, 1960
F.B.Welbourn	Review of the Corfield Report in J.A.H.II/1 (1961)
S.Cloete	Storm over Africa, A study of the Mau-Mau rebellion
J.M.Kariuki	Mau-Mau Detainee, 1963
G.Delf	Jomo Kenyatta, 1961
A.A.Mazrui	'On Heroes and Uhuru Worship' in Heroes and Uhuru Worship, 1967
A.A.Mazrui	'Mau-Mau in two dimensions', in Africa Report, May 196
C.Rosburg and J.Nottingham	The Myth of Mau-Mau, 1966
D.L.Barnett and N.Jararu	Mau-Mau from Within, 1966
B.A.Ogot	'Revolt of the Elders: an Anatomy of the Loyalist Crowd in the Mau-Mau uprising', in Ogot, Politics and Nationalism in Colonial Kenya, 1971
F.Furedi	'The Social composition of the Mau-Mau Movement', Journal of Peasant Studies, 1/4 (1975)
F.Furedi	'The African Crowd in Nairobi', J.A.H., XIV/2 (1973)
A.F.G.Schutte	'Mau-Mau', African Studies (Johannesburg) 32/4 (1973)
G.Lamb	Peasant Politics, 1974

NEW DIRECTIONS IN AFRICAN HISTORY

Week 6

Basic Reading:

C.van Onselen — 'South Africa's Lumpen-proletarian Army', University of London, I.C.S. Collected Seminar Papers, 7

1 000 bus trips cut out to save fuel

Star 6/1/79.

55

Johannesburg's transport department cancelled more than 1 000 poorly-patronised peak bus trips this holiday season in the interests of fuel economy.

"We decided not to run unnecessary trips during the holidays, so as not to waste fuel," Mr Tom Maisey, assistant manager of operations, said this week.

With the price of petrol increasing at the beginning of this month, it was still too early to tell whether this had induced more motorists to use buses, he said.

There was always a heavy fall-off in passengers over the holiday period, and unnecessary trips were usually cancelled during this time. This year, however, owing to the fuel crisis, special attention had been paid to this, he said.

Cancellations began just before December 12 and continued this week. Operations will be back to normal next week.

On December 22, the last weekday before Christmas, 264 trips were cancelled.

Mr Maisey said most trips cancelled were in the afternoon when inspectors saw only one or two passengers.

During this period there is a high frequency and passengers do not have long to wait for the next bus.

TRAFFIC JAMS

Although trips have been cancelled on an ad hoc basis, the department hopes to do this more formally in future by having a special timetable for slack periods.

The department is bracing itself for possible petrol rationing when motorists are expected to use buses for commuting, so they can save their fuel allowances for recreation.

This would reverse the trend since the end of the year when bus patronages began to fall steadily.

During the past year there was a reduction of about 1-million passengers, with 53,9-million passengers using the service compared to 54,9-million

Rapport 7/1/79

(55)

Stoom nie gou terug

Deur ALPHONS DU TOIT

ONDANKS die oliekrisis is dit hoogs onwaarskynlik dat Suid-Afrika ooit weer die era van stoomtreine sal kan beleef. Dié stelling kan veilig gemaak word ná 'n ondersoek wat Sake-Rapport vandeesweek gedoen het.

Die Spoorweë beskik wel nog oor nagenoeg 2 000 stoomlokomotiewe, maar baie van hulle staan en wag net om gesloop te word. Die moontlikheid dat van dié lokomotiewe weer in diens geneem sal word, is skraal. Dit sal blykbaar net gebeur in geval van die uiterste nood, en dan net as die olievoorraad heeltemal opdroog.

Feit is dat die SAS sowat twintig jaar gelede besluit het om stoom geleidelik uit te faseer en dit met elektrifisering en diesel te vervang. Dié besluit is nie ligtelik geneem nie en was inderdaad op suiwer ekonomiese redes gegrond.

In die opsig was die Spoorweë nie alleen nie.

Voortou

Die uitskakeling van stoomtreine is 'n wêreldwye verskynsel en 'n gebied waarop die Spoorweë geensins die voortou geneem het nie.

Die doeltreffendheid van diesellokomotiewe is algombekend. Nog voor daar besluit is om na dieselkrag op sekere trajekte oor te skakel, het die Spoorweë die hele onderwerp deeglik ondersoek.

Daar is destyds al bewys dat 'n diesellokomotief dieselolie vyf tot 10 keer doeltreffender gebruik as elke ander dieselaangedrewe voertuig. Met ander woorde, 'n liter dieselolie wat deur die Spoorweë gebruik word, is in staat om vyf tot tien maal meer vrag per ton km te hanteer.

GRAPH 11 : MINING EMPLOYMENT AND
TIN

45 persent van alle goedere in Suid-Afrika.

Wat dieselolie betref, is die Spoorweë se verbruik ongeveer 10 persent van die land se totaal. Maar weens die feit dat 'n diesellokomotief dieselolie vyf tot tien keer meer doeltreffend gebruik, is dit duidelik dat daar groot ruimte bestaan vir die beter benutting van dieselolie as brandstof.

Die SAS beskik oor die vermoë om baie meer vrag te kan vervoer, vandaar min. Lourens Muller se stelling in verlede Sondag se RAPPORT dat die vragvervoer in 'n brandstofkrisis per trein moet geskied.

Sishen

Vandag loop ertstreine op baie trajekte van die Spoorweë vragte van 7 400 t word byvoorbeeld van Sishen na Port Elizabeth gestuur. Die treine bestaan uit 100 trokke elk en word deur ses diesellokomotiewe getrek. 'n Enkele drywer en 'n assistent beheer al ses enjins.

Om dieselfde vrag deur stoomkrag te laat trek, sal die trein in vier eenhede opgebreek moet word. Elke eenheid van 25 trokke sal dan deur twee stoomlokomotiewe getrek moet word. In personeel alleen verteenwoordig dit dan agt masjieniste, agt stokers en vier kondukteurs — 22 mense in die plek van die 3 wat in beheer is van die dieseltrein van 100 trokke.

Nog 'n rede wat kan keer dat stoom op dié treine gebruik word, is die lugrem-stelsel. Nie een van die SAS se stoomlokomotiewe is toegerus om lugremtreine te hanteer nie.

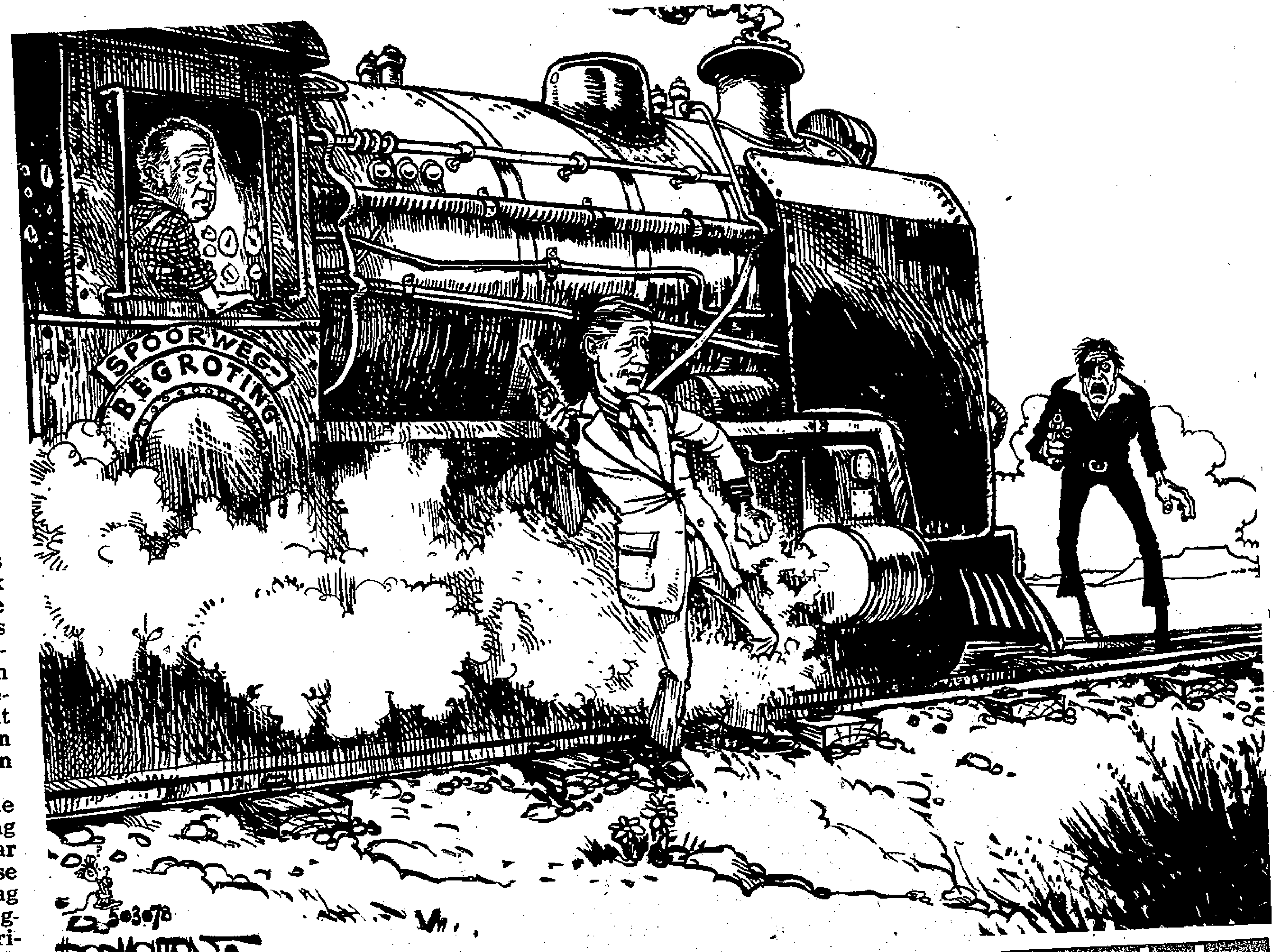
Bloutrein

Dit geld ook vir die Bloutrein, wat ook met lugremme toegerus is. Die bestaande stoomlokomotiewe kan wel omgeskep word om lugremme te hanteer, maar net ten duurste.

In die geval van die trajek na Suidwes is die Spoorweë ook nie in staat om gou weer stoomtreine te laat loop nie. Reëlings met boere en plaaslike owerhede vir die verskaffing van water is lankal opgesê en kan onmoontlik nie oornag herstel word nie, het ons vandeesweek vasgestel.

Uit gepubliseerde syfers is vasgestel dat die vervoersektor — die private sektor sowel as die Spoorweë — 75 persent van Suid-Afrika se brandstof (petrol, dieselolie en parafien) gebruik. Die Spoorweë se verbruik van dié 75 persent oorskry nie 10 persent nie, en dit sluit alle dienste, ook die lugdiens, in.

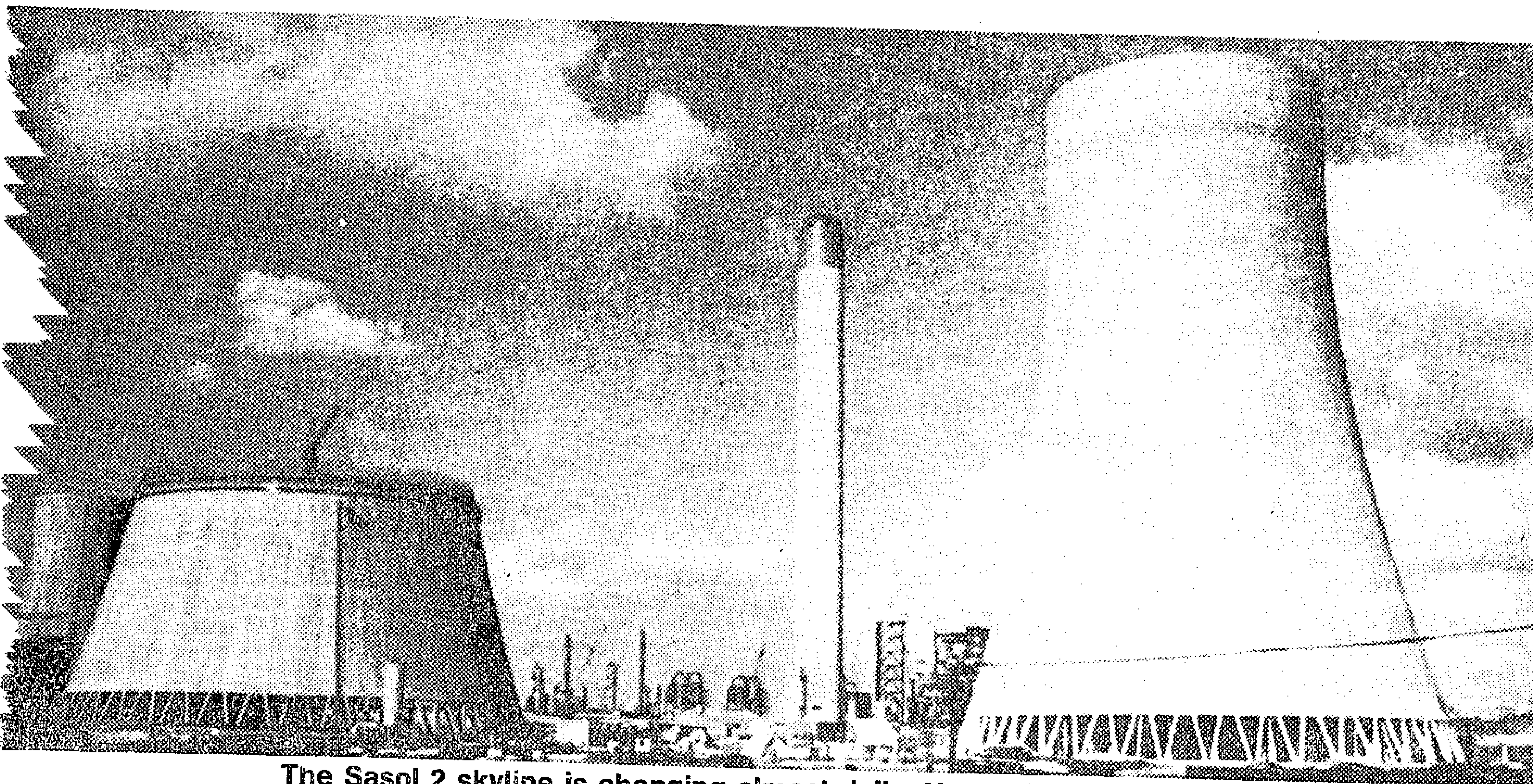
Op 'n ton km grondslag bereken. vervoer die SAS



Daar's 'n Falconetti op stoom-spoor

DIT lyk nie of ons gou weer sal stoomtrein ry, soos min. Louwrens Muller op die spotprent doen nie. Daar's 'n hele paar Falconettis in die stoom-pad.

BUILT ON BOREDOM — THAT'S SASOL 2



The Sasol 2 skyline is changing almost daily. How it looked this week.

Oil giant races on but for 20 000 workers life is just a drag

By PETER FABRICIUS

PROBABLY never before have those nomads of industry, the construction workers, gathered in such large numbers.

They have arrived in anything from a Sandton-registered Jaguar to an incredibly down-at-wheels Port Elizabeth - registered mini - van with a sleeping compartment larger than itself perched precariously on top.

Their accommodation ranges from a shared room with another worker in the male quarters to a neat three - bedroomed brick house — shared with their own family — in the nearby dormitory tow.. of Secunda.

There are over 20 000 of them right now and they are camped equidistant from everywhere — i.e. in the middle of nowhere — building one of South Africa's solutions to the oil crisis, the Sasol 2 oil-from-coal plant.

Secunda is situated in the eastern Transvaal, about 90 kilometres from Jan Smuts Airport. It lies close to the tiny towns of Trichardt and Evander.

The building of the gigantic plant — with an estimated final cost of R2 500 million — started in 1976 but now — just as the flow of Mid-East oil dries up — has hit its peak.

If an acceleration of the work-pace is in the offing, this hardly applies to the pace of social life. Though Sasol and the other 250 companies participating in the project have bravely tried to relieve the boredom of life in a construction camp, Secunda is hardly buzzing.

Workers can join the Sasol Recreation Club for R12 a year and play tennis, squash, rugby, billiards and tenniquoits. There is also a pool and a theatre for amateur dramatics — and most important, two bars.

Until recently, this club, the artisans' bar — which is within the security fence of the plant site — and a disco at nearby Trichardt foromed Secunda's nightlife

For the singles — upwards of 4 000 of them — and the teenagers the monotony is accentuated. According to Secunda residents outside Sasol, the frustration of being without women and varied entertainment leads single men to heavy drinking and fighting.

Outsiders say brawls are routine weekend occurence at the Trichardt disco.

According to one account there are only 300 single women in Secunda (which is proud to tell you that it recently acquired township status).

When two tough-looking artisans were asked what they did about the women problem, they jokingly embraced saying: "There's no problem, we've got each other."

Hinting strongly at promiscuity, two 19-year-old girls spoke of the "terrible" things they had done just to relieve the monotony of Secunda.

"For young people, this is a boring, frustrating and depressing place", one said. One of the results is that dagga smoking is rife among teenagers, according to the two girls, especially among Americans, of whom there are about 200 families and 100 single men.

An American woman, Mrs Martha Glassmire, chairman of the Fluor Women's Committee — Fluor is the name of the American firm heading the construction team — finds that having two young children staves off boredom.

But she concedes that it must be different for others. She remarks that the Secunda American community is reproducing fast — it is much cheaper to have babies here and it's something to do.

For her life is made a little more comfortable because she lives in a solid neat brick house. Many families live in caravans or mobile homes (a longer version, not permanently on wheels) and no accommodation is available in the nearby towns.

Mrs Ronel Oosthuizen lives in a caravan-and-tent arrangement that costs the family R100 a month to rent from Fluor. The price includes electricity, water and the use of washing machines, toilets and kitchens but Mrs Oosthuizen seems happy with the price, though she has tried to find a house in Trichardt.

According to estate agents in that town, property owners are holding on to their property in the expectation of even greater demand — and higher prices — from Sasol people.

7/1/79 (55) Sund Express

PETROL: THE SECRET PROFITS

● Mr Chris Heunis . . . declined to discuss the matter further.

Extra R21-m into coffers of 6 500 garages around SA

EXPRESS INVESTIGATION BY JEAN LE MAY

THIS week's petrol price increase will mean R21-million in extra profits during 1979 for garages — and filling stations — thanks to a secret formula worked out by the Government.

The shock disclosure follows a Sunday Express investigation which shows the profit margin for petrol retailers has increased by a staggering 82% in two years.

As a result of this week's increase a large supermarket on the East Rand will make an extra R1 000 a month from petrol — and the average dealer will rake in about R275 more each month.

Spokesmen for the Automobile Association and consumer organisations strongly condemned the hitherto undisclosed retail profit built into the price rise when told about it by the Sunday Express (See Page 4).

The SA Co-ordinating Consumer Council said it would call for an immediate investigation into the matter.

The extra profit comes in addition to a second windfall which most garages picked up from the price increase this week.

● From Monday all existing fuel stocks, bought by garages at the OLD prices, were sold to you at the NEW 10% higher price — amounting to an unexpected profit of more than R600 000 for petrol dealers countrywide.

The extra share of profits for filling stations in the new fuel price could amount to as much as R3 360 a year for the average dealer, or a total of more than R21-million for the country's 6 500 garages.

With the price increase, the retailer's profit margin, based on the secret formula, went up from 1,86c to 2,13c a litre for super grade and from 1,88c to 2,15c a litre for regular, the Sunday Express was told by a retailer this week.

A spokesman for the Motor Industries Federation said the increase was in terms of "a formula worked out by the Government".

"It's a fixed profit margin based on the price the retailers pay for petrol." He added that he did not known how the formula was worked out.

When the Sunday Express questioned Mr Chris Heunis, the Minister of Economic Affairs, on the matter, he said: "Of course the profit margin has gone up — but that does not imply an increase. They get a fixed percentage return on the price of their produts and when there is an increase in the price they must pay, the percentage return naturally goes up too."

Mr Heunis declined to discuss the matter further.

Retailers were last given a profit margin increase of 0,69c a litre to 1,86c/1,88c in January, 1977.

● EXPRESSSCOPE ON THE FUEL CRISIS: PAGE 4

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Deur ANDRIES VAN WYK

Ingrypende voorstelle wat Suid-Afrika meer weerbaar sal maak teen oliekrisisse en waardeur miljoene rande bespaar kan word deur beter benutting van die land se beskikbare energiebronne, word gemaak in 'n verslag wat pas met die goedkeuring van die Regering se Energiebeleidskomitee gepubliseer is.

Die verslag, geskryf deur twee navorsers van die Departement van Beplanning, mnre. H. T. Burger en W. Roberts, is in wese 'n pleidooi vir 'n meer omvattende en rasionele energiebeleid.

Tussen die grafieke en voorstelle word dié boodskap uitgespel: om net op petroleumprodukte te probeer bespaar, is kortsigtig en onvoldoende. Honderde miljoene kan sonder veel ongerief op ander energieterreine bespaar word en die geld kan gebruik word vir die kragsentrales en Sasols wat gebou moet word namate brandstowwe soos olie skaarser en duurder word.

Die voorstelle is versigtig bewoord — dis twee amptenare wat Suid-Afrika se beleidmakers suutjies-suutjies wys op wat nog gedoen kan en gedoen behoort te word. Maar bladsy ná bladsy blyk die meriete van 'n energiebeleid wat besparings op elke terrein kan afdwing.

Suid-Afrika se energiebehoeftes sal steeds groei, maar met 'n positiewe beleid van energiebesparing op 'n breë front, kan 'n demper op hierdie groei geplaas word en kan dit meer doeltreffend en doelmatig plaasvind, sê die twee navorsers.

Doen jy dit nie, sal die verbruiker op die ou end gedwing word om meer van sy inkomste af te staan aan hoër pryse, meer belastings en hoër rentekoerse ten einde uitbreidingskapitaal vir organisasies soos Evkom te verkry.

Die twee navorsers se statistiek oor hoe ons besig is om kosbare energie te vermors, is onrusbarend. Altesame 66 persent van al ons energie-insette gaan verlore. Ons primêre energie-verbruik gaan teen 1985 opskiet na 123 miljoen ton steenkool — 60 persent meer as in 1976. Die ooreenkomstige styging in Amerika is die helfte minder.

Die twee navorsers bepleit onder meer die volgende:

- Die instel van 'n omvattende program waarin onder meer die massa-media en seminare benut word om die Suid-Afrikaanse energieverbruiker besparingsbewus te maak en van raad en inligting te bedien. Inligtingskantore kan ook vir hierdie doel op 'n streekbasis ingestel word.
- Die instelling van energiepryse wat werklike koste of skaarsheidswaarde van die produk weerspieël. Vir hierdie doel kan energiebelastings ingestel word om die verbruiker te dwing om die mees doeltreffende energiebron te benut.
- Die opheffing of vermindering van verkoopbelasting op toestelle en uitrusting wat energiedoeltreffend is en korter belasting-afskrywingstydperke vir energiebesparende toerusting en masjinerie.
- Die instel van regulasies en standaarde wat sal verseker dat die ontwerp van apparaat, toerusting en geboue energiedoeltreffend en -besparend is.
- Die instel van standaarde met betrekking tot die brandstofverbruik van motors en verpligte of vrywillige standaarde vir buitenshuise en advertensiebeligting.
- Dat daar in die beplanning van infrastrukture rekening gehou word met energieverbruik in terme van die plasing en uitleg van woonbuurte en die tipe vervoerstelsel.
- 'n Stelsel van energie-etikettering waarvolgens die energieverbruik en energiedoeltreffendheid op elke huishoudelike toestel aangedui word sodat die verbruiker 'n energiebesparende keuse kan maak. Die stelsel sal vervaardigers ook dwing om meer energiedoeltreffende toestelle te vervaardig ten einde mededingend te bly.

Meer as net petrol moet bespaar word, sê geleerdes

- Die beperking van onnodige ritte en die bevordering van massavervoerstelsels deur die heffing van tolgelde by motoriste wat stedelike kerngebiede wil binnegaan. Daarby moet verhoogde parkeergelde kom en beheer oor die parkeerplekaanbod.
- Duurder lisensies vir vervoermiddels wat 'n hoë brandstofverbruik het of energie-ondoeltreffend is.

Energiebesparing op 'n breë front bevat voldoende aansporing om dit 'n wesenlike faktor in die formulering van 'n energiebeleid te maak, lui die verslag. Dit los nie die probleem van kwynende energiebronne op nie, maar dit vergemaklik aanpassing in 'n toenemend energie-arm wêreld en bied die tegnologie meer kans om met meer blywende oplossings vorendag te kom.

Die besparing van elektrisiteit kan oor die langtermyn meebring dat minder steenkool gemyn hoef te word, moontlik minder kragsentrales gebou word en minder verkoelingswater gebruik hoef te word.

Suid-Afrika is tans vir sowat 77 persent van sy primêre energiebehoeftes op steen-

Ons boere kyk dit mis

ONS boere, sê Oom Martiens, kan gerus die raad vat van daardie twee Pirtoria-slimmes wat so 'n bekvol te sê het oor die beleidlose vermorsing van Suid-Afrika se kosbare kraggies.

Ons boere, seg hulle, kyk die waarde van mis skoon mis.

Met die missies van 2½ melkkoeie, 22 varke of 208 hoenders kry jy oor 'n tydperk van een jaar genoeg stikstof om 125 kg per hektaar toe te dien.

Met die syfertjies stry ek nie, broertjie. Maar ek soek nou al heelweek na 'n halwe koei.

:agmorser

55

kool aangewese en daar kan verwag word dat hierdie afhanklikheid sal toeneem weens die strewe om minder olie te gebruik. Weens sy waarde as valuta-bron sal nog groter druk op ons steenkoolreserwes geplaas word.

Opeenvolgende ondersoeke het getoon dat Suid-Afrika nie onbeperkte steenkoolvoorrade het nie. Die gehalte van die grootste deel van ons steenkoolreserwes is laag.

Dieselfde is gedeeltelik van toepassing op ons uraanreserwes. Weens toenemende elektrifikasie, die inskakeling van kernkrag en 'n aktiewe buitelandse vraag na uraan, sal druk op die land se uraanreserwes toeneem.

Die besparing van energie op 'n breë front sal 'n effek hê op toekomstige prospekteerwerk en ontginning. Dit sal neig om die styging in fisieke koste wat saamhang met die ontginning van minder en moeiliker bereikbare energiebronne te vertraag.

Besparing in die sin van beter mynboumetodes kan ook 'n beduidende rol speel in die beter benutting van ons reserwes. In sommige gevalle word net 10 persent van die beskikbare steenkool uitgehaal. Die res bly agter as pilare. Dit is noodaaklik dat ekstraksietegnieke gevolg moet word wat nie onnodige laste op ons steenkoolreserwes sal plaas nie.

Die rasionele en verminderde gebruik van energie in Suid-Afrika kan ook 'n daadwerklike bydrae lewer tot 'n beter omgewing, want die produksie van energie is een van die mees besoedelende nywerheidsbedrywighede.

Die effek van energiebesparing op besoedeling is ook belangrik, want hoër verbruik verg meer besoedelingsbeheer — en hoër koste van goedere en dienste.

Aangesien energie volop en goedkoop was, sal beide werkgewer en werknemer deur 'n proses van heroriëntasie moet gaan om in te pas in 'n bedryfsomgewing waar energie 'n skaars en duur produksiefaktor is. Hierdie boodskap moet oorgedra word in 'n inligtingsveldtog waarin besparing terselfdertyd aangemoedig word.

Bedryfbestuurders sal moet leer dat die era van vrylik beskikbare en goedkoop energie tot die verlede behoort. Sekere nywerheidsprosesse maak die verlies van energie, veral hitte, onvermydelik. Maar herwinningsmoontlikhede is in bykans elke bedryf teenwoordig.

Kostevoordeel-ontledings moet gedoen word oor die gebruik van meer gesofistikeerde kontrolestelsels, die installasie van hitteherwinningstelsels en die gebruik van energiedoeltreffende apparaat en toerusting.

Die voortdurende vervanging van verouderde toerusting met energiebesparende masjinerie is prakties uitvoerbare beleid. Skaarser en duurder vorms van energie moet vervang word deur goedkoper en meer beskikbare energiedraers, al beteken dit vervanging of verandering van bestaande toerusting. Laasgenoemde sluit in die vervanging van petroleumprodukte deur steenkool in die opwekking van hitte.

Lande wat tot die Organisasie vir Ekonomiese Samewerking en Ontwikkeling behoort, bereken dat die nywerheidsektor deur beter energiebestuur en die uitskakeling van vermorsende praktyke 10 persent op nywerheidsbrandstof en 5 persent op elektrisiteit kan bespaar sonder dat uitset benadeel word.

Sowat 75 persent van hierdie lande se huishoudelike energie word gebruik vir water- en ruimteverhitting en lugversorging. Net deur beter isolasie in geboue kan hier tussen 15 en 20 persent teen 1985 bespaar word.

Ondersoeke toon dat tussen 5 en 10 persent van alle energieverbruik bespaar kan word. Indien die besparings uitgebrei word na die omskakeling van elektrisiteit, word die besparingspotensiaal op tussen 15 en 20 persent gestel.

In geld verteenwoordig dit enorme bedrae vir elke land. 'n Besparing van 10 persent in Suid-Afrika se petroleumbehoeftes alleen verteenwoordig 'n verbetering van R100 miljoen in ons betalingsbalans.

Die owerheid, sê die twee navorsers, is betrokke by energiebesparing in die sin dat energiebesparing 'n belangrike element van 'n geïntegreerde nasionale energiebeleid is.

Die beskikbaarheid en verbruik van energie is so 'n belangrike en omvangryke vraagstuk dat dit die aandag van die owerheid en die private sektor verdien. Sommige maatreëls wat die verbruik van energie sal beïnvloed, is egter van so 'n aard dat dit byna uitsluitend deur die owerheid aangevoer kan word.

Weens die kardinale rol wat die owerheid in die verkryging, produksie en beskikbaarstelling van energie speel, kan die behoefte, verloop en uitwerking van besparingsmaatreëls op optimale wyse deur die owerheid bepaal en gemonitor word. Die nuttigheid van die besparingspogings kan ook grootliks verhoog word indien dit op nasionale grondslag gekoördineer kan word.

en navorsing en ontwikkeling in hierdie verband te onderneem.

Oor energieverbruik in die huis sê die twee navorsers dat vermorsing deur die opvoedingsprogram beperk of heeltemal uitgeskakel kan word. Die huishoudelike besparingsmoontlikhede van oorsese lande kan nie sonder meer op Suid-Afrika toegepas word nie, maar dis tog insiggewend dat Amerika beoog om teen 1985 sowat 10 persent in die verbruik van huishoudelike energie te bespaar. Die OESO-lande verwag 'n besparing van tussen 20 en 25 persent en Duitsland tot 33 persent.

Suid-Afrika se huishoudings het in 1976 sowat 12,9 persent van die land se energie verbruik. Tussen 75 en 84 persent van die elektrisiteit is na hitte omgeskakel, sowat 5 persent na meganiese energie en 10 persent na lig.

Energiebesparing kan op 'n beperkte skaal op dieselfde basis as die produksie van energie beskou word en as sodanig vorm dit 'n besliste onderdeel van elke energiebeleid.

Die implementering van 'n besparingsbewustheidprogram sal 'n volgehoue stroom van inligting en raad aan die energieverbruiker vereis. Vir maksimumdoeltreffendheid sal die samewerking van handels- en beroepsorganisasies verkry moet word om sodoende belangrike kommunikasiekanale met die belangrikste energieverbruikers te verkry.

Die bepaling van die energieprysstruktuur en die formulering van fiskale beleid kan aangewend word om die vraag na energie te demp en die rasionele en doeltreffende verbruik van energie aan te moedig.

Met inagneming van inflasionêre neigings en sosiale probleme moet die maatreëls soos prysbeheer, subsidies en belasting op so 'n manier aangewend word dat energiepryse ekonomies regverdigbaar is en die werklike waarde van die kommoditeit weerspieël.

Die inkomste wat verkry word uit energiebelasting, kan moontlik gebruik word om verdere besparing aan te moedig

Omdat so 'n betekenisvolle hoeveelheid energie gebruik is om vertrekke te verhit, is beter isolasie 'n belangrike besparingsmaatreël.

Indien warmwatersilinders afgestel word na 50 grade C kan tot 5 persent op die huishoudelike elektrisiteitsbehoeftes bespaar word en 'n verdere 3 persent deur die uitskakeling van onoordeelkundige beligting.

Hitteverliese van tot 1200 kWh per jaar geskied uit warmwatersilinders. Dit kan grootliks beperk word deur die silinder te beperk tot 200 liter, die pypstelsel te isoleer en die termostaat af te stel.

'n Ysvrye koelkas gebruik bykans twee keer soveel energie as 'n nie-ysvrye model — maar min verbruikers weet dit. Dis omdat die klem in die aankoop van huishoudelike toestelle val op aanvanklike koopprys, voorkoms en prestigewaarde.

Dit kan uitgeskakel word deur die vervaardiger te dwing om die energiedoeltreffendheid op huishoudelike toestelle aan te bring.

Dis een van die metodes wat ingespan kan word om energiebesparing in Suid-Afrika op 'n vaste en praktiese basis te plaas, lui die verslag.

Iran kan met Natref hou op neus kry

(55) Rapport 7/1/79

Deur DAVID MEADES

AS die beweerde dreigemente van die aangewese eerste minister van Iran 'n werklikheid sou word en Iran weier om olie aan Suid-Afrika te verskaf, kan die kwessie van Iran se belang in 'n Suid-Afrikaanse raffinadery heel interessant ontwikkel.

Die raffinadery is natuurlik Natref, waarin Sasol 'n belang van 52,5 persent, die National Iranian Oil Company een van 17,5 persent en Total een van 20 persent het.

Hierdie raffinadery is in 1971 amptelik geopen nadat dit teen 'n totale koste van R90 miljoen voltooi was. Met die kwaai inflasie van die afgelope agt jaar kan so 'n raffinadery vandag maklik vier of vyf keer meer kos om op te rig, wat 'n waarde van by die R400 miljoen op Natref plaas.

Die Iranese maatskappy, wat 'n staatskorporasie is, moes oor die laaste paar jaar reeds 'n baie goeie dividend uit sy belegging in Natref ontvang het.

Leningskapitaal

In die jongste jaarverslag van Sasol word juis gesê dat die resultate van Natref weer eens aansienlik verbeter het.

Die uitgereikte kapitaal van Natref is R15 miljoen, wat beteken dat die Iranese in aandelekapitaal net R2,6 miljoen in hierdie raffinadery belê het.

Die balans van die oprigtingskoste van Natref is met leningskapitaal gefinansier en Sasol het waarskynlik hier vir die grootste deel ingestaan.

Met die vervangingswaarde van Natref as maatstaf, is die Iranese maatskappy se belang in Natref vandag seker maklik R70 miljoen werd.

Skadevergoeding

As daar dan nou besluit sou word dat Iran se olie nie vir Suid-Afrika beskore is nie, kan dit gebeur dat daar ook 'n kwessie rondom Iran se voortgesette belang in Natref kan ontstaan.

Dit kan dalk die geval wees dat daar sekere kontrakte met Iran kan bestaan vir die lewering van olie en 'n eensydige opskorting van sodanige kontrakte kan 'n aksie tot skadevergoeding inhou.

In so 'n geval kan die belang van Iran in Natref in die gedrang kom en kan dit dalk aan 'n ander oliemaatskappy verkoop word.

Voorts is dit ook bekend dat Iran met 'n uitgebreide kernkragprogram besig is.

Suid-Afrika is een van die wêreld se grootste uraanprodusente en sy verrykte uraan kan in die dekades wat voorlê dalk nog 'n goeie ruilmiddel word.

...es (and graphs) of employment, output and output per worker. ...cular, output per worker tended to grow quite markedly during ...t employment period (1946-56) but then to decline during the ...f fast employment growth to the mid-1960s. It then grew ...t - in fact more than doubled between 1965-66 and 1972 - ...t continued to expand fast accompanied by an actual decline ...yment. Since then, however, productivity has been tending ...ne somewhat (though the series is very volatile) in the ...ears of heavy employment growth. Statistics for 1977 ...that we have very fast output growth with almost static ...nt. We know there has been the development of a major new ...t pit at Sishen to supply Saldanha Bay and export markets.[26] ...possible that part of the 1975 employment increase has to ...development work for this project.

...explanations of the changes recorded in 9.4 will not be ...d - beyond noting i) that the period has seen the development of both more productive open-cast techniques and of various ...und improvements and ii) that as with coal, manganese, and (and perhaps other minerals) there are different types of deposit ...rface and underground) which require different techniques ...fferent associated labour productivities) for their ...tion. With the qualification that there are technical ...involved which are not well understood, it seems possible ...hat there has been a trend increase in employment since the ...0s, of the order of 5-6 per cent per annum, which technical ...s has not thus far eliminated.

Motorryers bring kant met petrol

Rapport 7/1/79 (55)

REEDS in dié vroeë stadium dui alles daarop dat motorryers hul kant gaan bring om die groot petroldors af te weer. In die voorstede in Johannesburg, Pretoria en aan die Rand het petrolverkope die afgelope week drasties verminder en dit word in groot mate nie net aan die nuwe prysverhoging gewyt nie.

In die vakansiestede soos Kaapstad, Durban en Port Elizabeth word verkope nog beïnvloed deur die groot getal besoekers wat nou tuiswaarts keer, terwyl stede soos Bloemfontein nog nie 'n vaste patroon toon nie, omdat te veel inwoners nog weg is.

In Johannesburgse woongebiede soos Linden, Bryanston, Regentspark, Blackheath, Fairlands, Mondeor en selfs Hillbrow is die tendens van laer petrolverkope klaar merkbaar. En dit nadat die afwesigheid van inwoners wat met vakansie weg is, in ag geneem word.

Vulstasies op die hoofpaaie buite Johannesburg en Pretoria het in enkele gevalle hoër petrolverkope ondervind, maar hulle skryf dit toe aan die groot getal vakansiegangers wat met leë tenks terugkeer en ander wat op hul deurreis volmaak.

Net enkele eienaars van vulstasies wyt hul laer verkope aan die prysverhoging. In Linden sê een eienaar hy verwag dat sy verkope oor drie weke of 'n maand weer normaal sal wees. In die verlede het verkope ná prysverhogings afgeneem.

Verskeie ander sê hulle sien klante wat vroeër drie maal per week by die pompe was, die afgelope week net een maal. Motors word minder gebruik. Motorryers wil nie rantsoenering hê nie en doen hul bes om dit af te weer.

Ook in Durban gooi gereelde klante nou minder petrol in. Mense wat volgemaak het, maak nou net driekwart vol.

In Bloemfontein is daar 'n toeloop na fiets- en motorfietswinkels. Ouers sien nie meer kans om hul kinders per motor skool toe te neem nie.

In Port Elizabeth was die vakansieweek nog 'n faktor. Mnr. C. T. Coetzer, hoofbestuurder van die stad se busmaatskappy, sê vyf miljoen liter brandstof kan jaarliks in die stad gespaar word as

Back to the bus

Star 11/1/79 (55)

Petrol squeeze, tax on big cars?

By Harvey Thomas, Motor Editor

A new levy of 1c a litre on petrol and diesel fuel, and a tax on car engine capacities are being considered by the Government's petrol study group. The revenue would be used to subsidise improved public transport.

The proposals have been made on the assumption that oil supplies from Iran will be stopped. It is an assumption apparently confirmed by the Iranian Prime Minister in Teheran today.

The Government's petrol study group sees the petrol levy and engine tax as possible long term measures to get people back into the buses.

The levy would be held in a fund to implement schemes such as improving public transport.

Iran's decision to stop selling oil in South Africa will not alter other recommendations to be made to the Government.

The group will still recommend that fuel rationing should be introduced only as a last resort.

Today, the oil industry reacted to the news that Iran had officially decided not to supply South Africa by pointing out it was possible other sources would be found — but at a price premium.

"As long as crude oil fetches such a high price you will always have international jobbers. But obviously there is a price premium attached," said a source.

The oil industry has been expecting the Iranian move and already has senior people overseas looking for alternatives.

The Minister of Economic Affairs, Mr Heunis, returning from a trip to Europe, would give no indication whether alternative sources had been found.

But Iran's decision is still extremely serious as the Shah had supplied South Africa with much of its "lights," an oil term used to decribe a grade of crude oil from which petrol and diesel is obtained.

Diesel shock

The majority of South Africa's refineries are geared to handle this grade of crude and my sources said that there would be chaos if they were forced to absorb a heavier grade of crude.

There was speculation in the oil industry today about what would happen to Iran's stake in Natref — a crude oil refinery plant at Sasolburg.

Iran owns 17,5 percent of Natref.

The petrol study group has been told the country could save substantial amounts — estimated today at between R50-million and R80-million a year — by a *10 percent reduction in diesel consumption. This* was one of the main reasons why the group has now put the onus on organised agriculture, commerce and industry to save more fuel.

Technical investigations at all levels of agriculture,

To Page 3, Col 6

Bakhtiar's pledge: No oil for SA

TEHERAN — The Irannian Prime Minister Dr Shahpour Bakhtiar, pledged today to cut off oil sales to South Africa and Israel and to review his diplomatic relations with South Africa.

In an impassioned address, his first to Parliament, Dr Bakhtiar said: "Since apartheid has been condemned by the UN, the Iranian Government will endeavour to follow a policy based on UN resolutions and will try to remove the legitimate criticism of its past foreign policies.

"And its relations with South Africa will be reviewed, including stoppage of oil to South Africa."

On commercial ties with Israel, Dr Bakhtiar said: "The Iranian nation has always shown its unity with the Arab brothers and has always supported the rights of the Palestinian people.

"And, like the sale of oil to South Africa, the sale of oil to Israel will be stopped."

He also repeated his promises to restore human rights to his own country.

The 62-year-old French-educated lawyer, chosen by the Shah to restore civilian rule in Iran, told the 268 deputies in the packed Lower House: "I have inherited a terrible situation for which I am not responsible."

He told delegates that if they and their colleagues in the Senate gave him the necessary vote of confidence, which will probably take a week to 10 days, he would dissolve the Savak secret police, dismiss "unneeded foreigners" from jobs, free prisoners held "solely on political grounds," prosecute human rights violators, and compensate those who had suffered unjustly in prison.

He also pledged to abolish martial law gradually, schedule early elections, pursue a sound defence policy, and strengthen ties with neighbouring countries.

In a bid for support *from the powerful Iranian religious hierachy, the Shah's most effective opponents,* Dr Bakhtiar promised close co-operation between government and religious leaders. — Sapa-AP.

● American show of force in Saudi Arabia — Page 9. Ayatollah says it again — No SA oil —

areas designated commercial with the grazing of animals atta
traditional households on communal land?" The power of th
households in the countryside is such that one must presume
influence members of their extended family groups. Through
arrangements with family members and through what might be co
the "Mafisa" system of borrowing-in cattle it may be possible
livestock owners to retain stock near their traditional homes
to utilise communal grazing. The Report on Rural Developmen
on the subject but does not provide satisfactory answers. Th
the failure seems to lie in the mechanistic nature of the me
A serious fault is the absence of any reference to the large
families who have no cattle. Is that position simply to be
the present and for the future? It may be that the extensiv
being carried out in Botswana over the White Paper proposals
the public as to the intention of the proposals so that the p
will become a watch-dog on the working of the arrangements.
has arisen that would reduce the concern. The final section
Income Distribution Survey raises the same concern.

1. The freehold farms are largely owned by non-citizens. In
wealthy Botswana have bought many of these farms with the a
differential transfer tax on sales to non-B swana.

per cent of rural hou … qual to that of
the lower 70% of rura … s unlikely that
they would have esti … l below the
poverty line and tha … e figure for those
rural households whc … n in their report
that practically al … the livestock
economy in terms of … s shown that it
is only the two top … s the middle
income and the rich … livestock. In
these categories, … respectively of
income.

The proposals to s … ge cattle owners
from those who run … be seen against the
enormous relative … up to half of the
cattle of the cou … razing land into
commercial ranchi … rcial ranches,
mostly in the wes … eld under leasehold
tenure. Settler … livestock owners.
The purpose behind this proposal … ed development of commercial ranching. As a corollary to this proposal, the removal of the large herds to leasehold ranches is intended to relieve pressure on the communal lands. These are the lands closer to settlements that have been heavily grazed in the past and are in need of restoration. There is a third category, reserved areas, which is not important in this discussion. The aim behind the proposals, to combine the promotion of commercial ranching with protective devices for the smaller livestock owners who will continue to rely on communal grazing, is laudable. What is questionable is the means whereby this is intended to be carried out.

In essence, the proposal is for a once-for-all settlement of livestock interests. Considerable benefits will flow to the wealthier families who obtain leasehold ranches, unless, as proposed, in the first instance small livestock owners combine together to claim the same privilege. There are several factors that suggest this will not happen. The first is that 45% of the rural population have no cattle and so are out of the running from the start. Secondly, all available evidence suggests that at present it is few families who practice the commercial management of herds. Farmers on

▶▶ From page 1

commerce and industry are under way to report back to the study group on how the use of diesel can be reduced.

I understand that the study group was particularly concerned by the rate of diesel consumption which, last year, exceeded that of petrol for the first time.

By far the largest proportion of diesel goes to agriculture, commerce and industry.

After the study group met it was decided certain of its 40 members would compile reports and recommendations. The reports will be included in the group's recommendations to the Minister of Economics, Mr Heunis.

The investigations are far-reaching and include major users of fuel such as the Railways which might be encouraged to speed up its electrification programme and asked to investigate the return of steam locomotives on certain lines.

The study group has, for the time being, taken the heat off the private motorist — but my sources emphasised that it is incorrect to suggest that motorists are "off the hook."

The sources pointed out that although motorists use only a third of South Africa's daily fuel needs they accounted for 45 percent of all diesel, petrol and paraffin sold.

"In a crisis situation motorists would be very hard hit," I was told.

The study group has decided that unless there is a major deterioration in the fuel supply situation rationing should be regarded as a last resort.

11/1/79

55

Mdantsane electricity supply may be illegal

CAPE TOWN — The South African Government says no licence has been granted for the supply of electricity in Mdantsane.

This has been confirmed by the Minister of Economic Affairs, Mr Chris Heunis, in a letter to an East London businessman and by the acting secretary of the Electricity Control Board, Mr J. W. Conradie.

This suggests the Ciskei Government could be supplying electricity illegally in the area.

Mr Heunis and Mr Conradie said steps were being made to rectify the position in terms of the Electricity Act.

Notice will be given in the Government Gazette of the intention to apply for a licence and calling for objections. Once objections have been heard, the Electricity Control Board will decide whether the Ciskei Government can officially supply electricity in the homeland.

In his letter, Mr Heunis said a thorough investigation of the situation at Mdantsane had been instituted after a complaint had been received in January 1978. Initially it was thought no licence was necessary because the South African Development Trust, as a local authority, was believed to be exempt from the provisions of the Electricity Act.

"Only after further investigation was it established that the whole area of supply was not within the area of jurisdiction of an urban local authority," the Minister wrote.

Because the supply of electricity in Mdantsane exceeded one megawatt hour a year, the Department of Plural Relations, although a department of state required a licence.

The Department of Plural Relations was approached to apply for a licence for the South African Development Trust, but as there was uncertainty in the Department about the details, this had taken more time than had been anticipated.

Although finality has not been reached, the Electricity Control Board reports that it is processing all relevant data about the application and notice in terms of the Electricity Act will be published in the near future.

Only after a licence had been issued would the Electricity Control Board be able to control the supply of electricity by that particular undertaking, Mr Heunis said.

The Minister added that if there was any dispute about the supply of electricity in Mdantsane, this had to be resolved by users in the town and the supplier which, in this case, was the Ciskei Government.

Mr Conradie was asked if the present position was illegal. He said no one was allowed to supply electricity anywhere in South Africa without a licence from the Electricity Control Board.

It was illegal for anyone to generate electricity without a licence, Mr Conradie said.

In terms of the Act, the Ciskei Government could be prosecuted and the Electricity Control Board could ask some other licensed supplier to take over this function.

Mr Conradie said the position had been investigated only after an industrialist, Mr Fred Burchell, whose factory was situated in the Ciskei, had complained.

When a licence was applied for, the board had to give 30 days' notice for objections. If there were any objections, a public hearing had to take place

Until a licence had been granted, the Electricity Control Board could not control the tariffs in a particular area. Local authorities were free to make any charge for electricity as long as they did not make a profit.

Once a licence was granted, there could be no revision of tariffs unless it was approved by the board, Mr Conradie said.

But in the case of Mdantsane, the board could not intervene if the tariffs were altered because no licence had been granted.

So the position of electricity users in the Mdantsane area is confused. Because the supply of electricity could be illegal, it would appear the Ciskei Government might have no legal power to claim tariffs from users until the position is rectified.

Last year, Mr Burchell told a group of visiting South African MPs the situation was a "debacle" and he urged them to rectify the position. He also lashed out at the high electricity tariffs for industrialists operating in the homeland.

According to sources in East London, a massive increase in electricity tariffs in Mdantsane is expected soon.

The sources say the basic charge of R1,20 a house is to increase to R2 a month. The unit charge is expected to go up from one cent to 3,5 cents.

The Mdantsane Council has taken the matter up with the Ciskeian Cabinet.

The Mdantsane township manager, Mr I. Balk, could not be reached yesterday and other Ciskei Government officials said they did not know about the increases. — PC-DDR.

RDM 11/1/79

'SA could produce 75% of its own fuel'

52

Own Correspondent

DURBAN. — South Africa could produce between 70 and 75% of its liquid fuel needs if the Government implemented Sasol III and agreed to the large-scale production of methanol and ethanol, Mr Nigel Wood, Member of Parliament for Berea said yesterday.

Mr Wood also criticised the Government for not legislating the re-cycling of lubricating oil.

"We have the coal reserves to justify a third Sasol project and if we can get to that stage the country can save a staggering R1 000-million each year," he said.

And the lack of oil recycling facilities, he said, was costing South Africa R10,5-million every year.

"We are losing a lot of fuel because of unwarranted delays in developing and implementing plans to produce ethanol from our large reserves of timber, cane and maize."

"These are yet other examples of inefficiency at the top — always waiting until we get to a crisis before any action is taken."

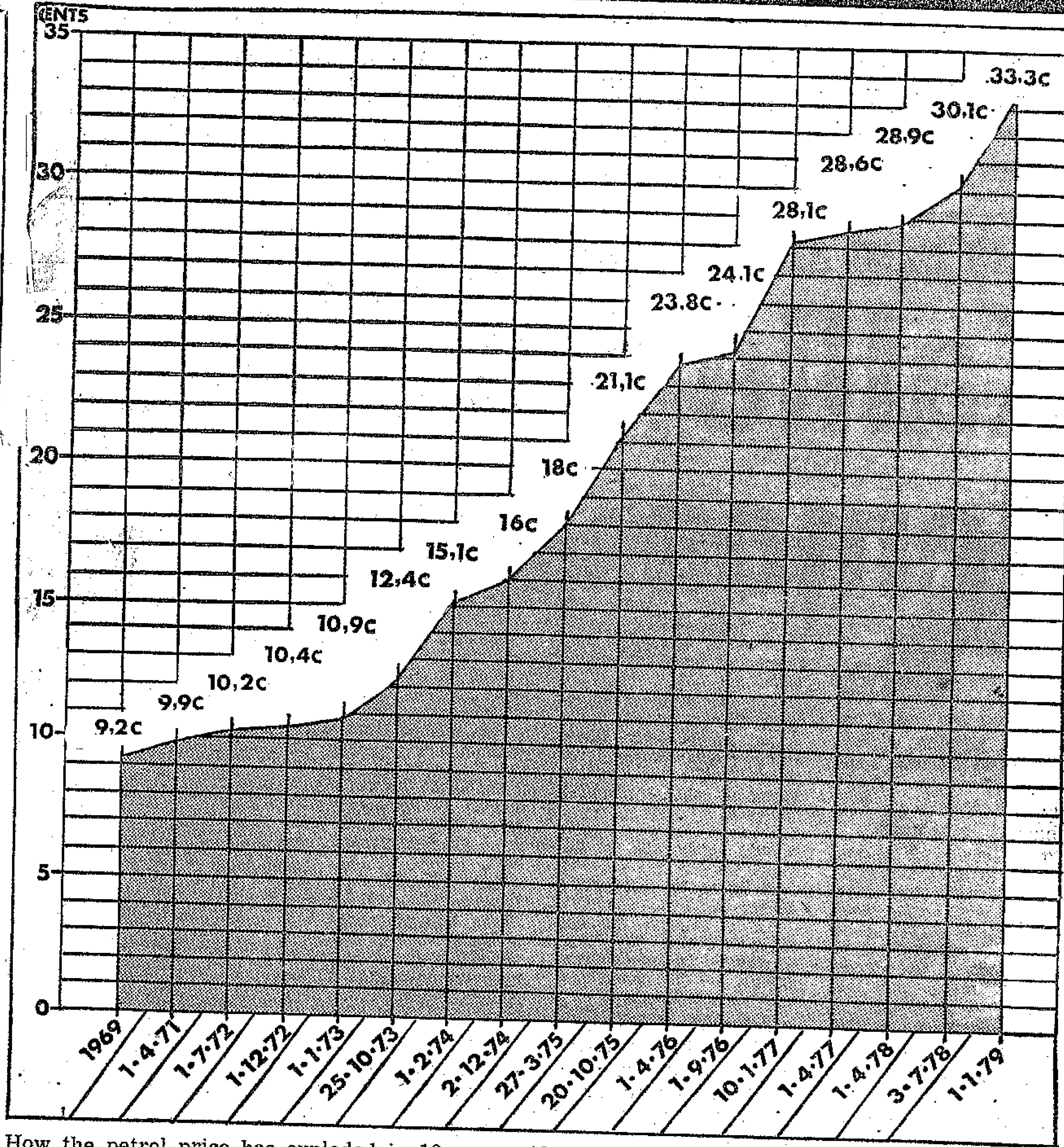
He claimed that by mixing ethanol with imported fuel, South Africa could save 10% of its oil import bill.

"That would be R140-million per year saved," he said.

has more than trebled in 10 years

Govt cut kept up with price

13/1/79 Star 55



How the petrol price has exploded in 10 years. Above is an illustration of the soaring cost of premium petrol since 1969. By this year the price had more than trebled.

Bus link would save fuel

Thousands of litres of fuel are wasted annually because private and municipal bus operators do not run a linked service into Johannesburg, says a private bus operator.

Mr E E Milns, general manager of Putco Operating, says the present laws prohibit bus operators from picking up passengers outside their specific areas. But the petrol uncertainty makes it imperative that something is done to change the situation.

He expects that in future buses will be integrated to ease demands on fuel.

He told The Star's CARE campaign that private and municipal bus operators were willing to co-operate on the rationalisation of bus routes. But without Government financing it would be impossible to implement the scheme.

Mr Ray Smith, director of the National Transport Commission told CARE the rationalisation of bus routes was not in the interim plan for short-term urban transport improvements in Johannesburg.

● CARE has been told by private and municipal bus operators that the metropolitan transport advisory boards (MTABS) are moving too slowly in compiling their recommendations to improve urban transport.

● The National Transport Commission has asked the Government for more money to implement the interim transport plan for Johannesburg.

Reef municipalities are on the hunt for fuel saving dodges

Staff Reporters

While private motorists are looking at new ways to cut down their petrol consumption, many municipalities on the Reef are taking the threat of further restrictions in their stride.

Johannesburg City Council, for instance, has established a variety of fuel-saving measures including a reduction in refuse collections and tighter organisation of maintenance trips.

Boksburg traffic department is hoping to save about 400 litres a month by allotting vehicles a specified amount of fuel.

Kempton Park municipality hopes to cut fuel consumption by 10 percent.

For Alberton municipality fuel conservation has been a "non-stop exercise for years." The town clerk Mr A J Taljaard said they had introduced a log book system in which destination and reasons for the trip are entered for all vehicles.

Germiston's town clerk, Mr J A du Plessis said he had sent out a circular to the various heads of departments asking for suggestions on ways and means to save more petrol.

Edenvale's Town Clerk, Mr P J van Rehde van Oudtshoorn said saving measures were first introduced in Edenvale more than three years ago. "It has been an ongoing process."

Elsburg is making use of two-way radios to save fuel. So that council vehicles do not have to return to the office for new orders when they complete a job.

Bedfordview's council has held "think tank" meeting attended by departmental heads to put forward suggestions on fuel-saving.

The Town Clerk of Roodepoort, Mr J S du Toit said his municipality had taken strict measures, including limiting the use of council vehicles.

The chief traffic officer of Roodepoort, Mr Chris Rademan said that his and the city engineer's department were working on a scheme to synchronise traffic lights.

At Randfontein, meter readers were taken to various points in one vehicle instead of in different cars and the traffic department had been asked to do more foot patrolling.

At Carletonville, council departments are working to fuel allocations.

Brakpan town council has cut municipal travelling allowances by 20 percent.

Coal still the mainstay of SA's energy

Bus. Sun. Exp. 14/1/79 (55)

By PAUL DIAMOND

FEW, if any, industrialised countries lean on coal as much as South Africa leans on its 81 000-m tons of reserves. Altogether 85% of our internal power is derived from coal.

Gordon Grange, technical advisor to the Chamber of Mines, says: "All our electricity is generated from coal with very large power stations sited beside the collieries supplying them.

"Coal burners provide heat for cooking in the homes of millions. Low grade coal is turned into oil liquid fuels and chemicals to a greater extent than anywhere in the world."

The rate at which the coal industry has expanded over the past 10 years is worth noting. Sales from coal in 1968 were R97-m on a tonnage of 50,6-m with negligible exports.

In 1978 sales should be close to R900-m with 85-m tons being sold, a revenue increase of 800% and a tonnage rise of 68%. While price inflation is partly responsible for the boosted revenue, 33% of the 1978 revenue will come from coal exports. These now account for 15% of the tonnages sold.

At present 1,25-m tons are exported through the Richards Bay terminal every month and this is likely to increase to 3-m tons in the 1980s.

The move today is towards mechanised methods of mining. Ten years ago 8-m tons of coal were produced by mechanised methods. Today 80-m tons are mined by machines.

Already draglines, of which six are in operation, account for 40% of our production and by 1985 140-m tons annually will be produced by machines.

From an internal point of view, one of the most noteworthy advances in South Africa's local history is the rapid completion of Sasol II, which, with Sasol I, will produce about 45% of the liquid fuel requirements in the early 1980s.

There is little doubt that new Sasols are on the way. They could be based not only on our well-proven process but also on coal liquification which will enable plants to be brought into production in a shorter period.

e Ford
Dr.
1977.
tute for
a grant
through Southern Africa in
on which this paper is

Glossary

ARDP - Accelerated Rural Development Programme

TGLP - Tribal Grazing Land Programme

Saldru is affiliated to the Centre for African Studies, University of Cape Town.

It works — and workers smile

RDM 15/1/79

(55)

Sasol II sees 1980 as target

By CHUCK MITCHELL

WITH anticipation etched on their faces, the hardened construction workers and engineers gathered around the towering smokestack that now serves as a landmark for Sasol II, the giant oil-from-coal project in the eastern Transvaal coalfields.

A few minutes after 2 pm on Monday afternoon the smokestack began belching white smoke. The workers smiled, some applauded. The first of six boilers necessary for the production of steam for the conversion process had been successfully tested — South Africa was one step closer to achieving "oil independence".

Construction work on the giant R2 458-million project — ten times the size of Sasol I — is continuing at a steady pace. There has been no panic since Iran stopped oil supplies to South Africa and petrol rationing became a real possibility.

It would be difficult to step up the construction schedule for the project, according to Mr Clarence Keyter, head public relations officer for Sasol II. The completion target is sometime in 1980.

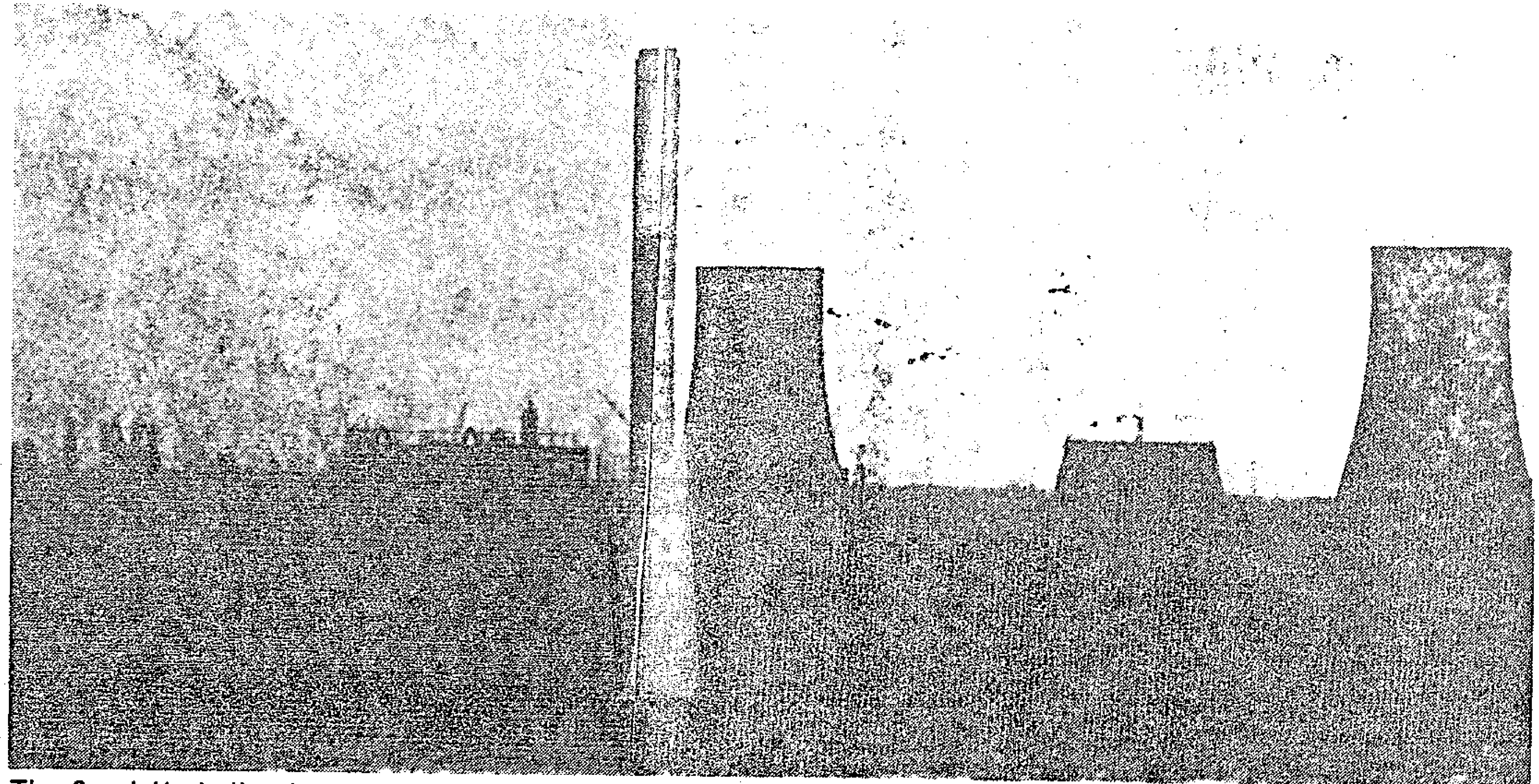
"We have been working flat out since 1976 and work is right on schedule", he said.

"Each phase of the project must be successfully completed and tested before workers can go on to the next one. First the air compressors had to be tested, then the water supply. It must proceed phase by phase."

Sasol II is enormous. A guided tour of this wonderland of giant metal monsters and eight-wheeled earthmoving dinasours almost makes you believe the 20 000 workers at the site are incidental. But they really are not. A town has been built for them 5 km from the plant, and on site they consume 40 000 meals a day. There are massive recreaction halls, dining rooms and sports fields — and social problems. These are expected, according to Mr Keyter, but they are not as big as one would expect.

It won't be long before Sasol II comes to the rescue of the overburdened, overtaxed motorist. The project has been specifically designed to produce motor fuel, unlike its Sasol I, which produces almost everything but the kitchen sink.

You could see in the anticipation on the faces of the workers the pride in having accomplished something important. The white smoke from the stack meant their hard work hadn't gone up in smoke.



The Sasol II skyline is dominated by these two 50-storey high water cooling towers — as high as the Carlton Centre.
Picture: DAVE PUGHE-PARRY

Nothing doing in Secunda

Staff Reporter

WITHOUT Sasol II there would be no Secunda. This sleepy little community of 8 000 nestles in the middle of nowhere only 5 km from the huge Sasol II plant.

According to Sasol officials it is the ideal community with schools, clubs and gardens where 19 000 trees have been planted.

It is a beautiful town, they said.

But the locals don't believe it. In fact many of them can barely tolerate living there.

From the roadside, the community looks cramped. The houses are tightly sandwiched.

There is no postal delivery service and no "proper" supermarkets in Secunda, according to one resident. There is a Holiday Inn, but it has no telephone to make outgoing calls, the staff told me. The refrigerators don't work and the lights periodically go out.

Mr Aubrey Treyvellan, who manages the local hardware store, laughed when I ask him how he likes Secunda. "Secunda? You've got to be kidding. Life is very boring in Secunda. And the local services? What services?

"I have had my phone replaced seven times in the last four weeks. The only thing to do here is to play snooker. I play every night. I am quite good now," he said.

"There is no postal delivery, no supermarkets, the schools are crowded. I can't wait to get out of here," a pretty mother of two said. She said she knew many other people felt they were "inmates" in the town because their husbands were on contract.

And for single women things are very boring in Secunda.

"I do a lot of sitting at home — there are very few nice guys here," said Miss Marianna Kriek, 20.

"Tonight I am going to go home and have a bath. You can't go to drive-in every night."

Miss Char Milligan, 17, agreed. "This is not the ideal place for a single girl. I can't wait to get away," she said.

MR A TREYVELLAN
snooker every night

FM 9/11/79

FUEL CONSERVATION

More questions

No one can accuse the government of not consulting private enterprise on its fuel conservation plans. Indeed, some argue that the lengths to which it is going to sound out public opinion indicate that the oil supply situation, for the time being, is far from critical.

Latest move is a confidential questionnaire to commerce and industry asking what effect a reduction of oil based energy supplies would have on production. The country's biggest fuel users are also being quizzed on ways in which they could save oil products.

Economic Affairs Minister Chris Heunis has yet to explain why his consultations with business are being conducted in such secrecy. Nonetheless, one employer body, Assocom, is thinking of preparing guidelines for its members on how they can save fuel. There are plenty of possibilities.

ENERGY (SS)

The floral chance FM 19/1/79

How much alternative liquid fuel could be supplied locally? At least 50%, estimates Forestry Council investigator Volly van Breda. The Natal timberman (also helping Economics Minister Chris Heunis's specialist energy sub-committee) says maize, sugar cane, and lumber could initially account for 20% of national needs to supplement the projected 30% contribution from Sasol 1 and Sasol 2.

"What we need most is government policy on these ethanol projects. Will there be a duty or tax on ethanol and will there be a reasonable return for investors? Then we can get stuck in," says Van Breda.

Ethanol, produced from high-starch plants, can be mixed in a 1:4 ratio with oil and coal-based petrol and diesel to supplement consumption. Van Breda says: "We can do it within two years." Sentrachem technical MD Dr Robbie Robinson adds: "It can be done in 18 months, even one year, if everybody is ready to spring at it." The two are expected to meet next week for an exchange of ideas, though Van Breda is insistent about the feasibility of bringing ethanol-producing sugar cane and maize plants on stream.

Robinson stresses no big deals or joint ventures are in the offing while Van Breda would like to get down to figures and money. Dimmer prospects of getting more Iranian oil are daily giving more credence to discussions of this sort. Six months ago such schemes would have sounded like zany pipedreams.

"There are even suggestions about planting cassava," says Van Breda. The idea of covering large tracts of SA with the New World's high-starch root will not be as preposterous as it sounds when the diesel and petrol alternatives get an airing. "Certainly a lot of underused land is available," he adds. Van Breda figures that 10 Mt of sugar cane will produce 0,56 Mt of alcohol; 2 Mt of maize, 0,8 Mt; and 4 Mt of timber (via methanol), 0,64 Mt.

SA Timber Growers' Association chairman Craig Anderson says the 3 Mt-plus present lumber surplus could contribute significantly to looming energy sources. "We work out that 1 Mt of timber or timber waste will produce 226 Ml of ethanol at 30c a litre. That is competitive if there is no tax," he says.

Robinson says: "Ethanol output from

maize and sugar cane could be around 1 Mt a year from 10 plants each costing R35m. The ex-factory price would be 20c a litre."

Van Breda's calculations tally on maize if each plant processes 80 000 t annually at R34/t for feedstock. His sugar cane returns are less specific but, he adds, much wider Brazilian experience shows ethanol extraction costs as little as 10c a litre. Timber processing estimates indicate that supplementary fuel from wood and wood waste runs at 19c a litre.

Sentrachem will, however, have to be worked on pretty hard to make it keen on timber projects. "It's a different technology to sugar cane and maize, which are a relatively simple process of boilers," says Robinson.

Both agree, however, that driving on flora based supplements is likely if SA is pushed too far into a corner.

RW 26/1/79 35

OIL SUPPLIES

Borrowing from Peter

The odds against oil rationing appear to have lengthened following top level overseas consultations in the past fortnight between SA oil companies and their multi-national parents. But the threat of coupon controls will probably be left dangling over consumers' heads to maintain disciplined offtake until the supply situation eases.

The loss of Iran as a supplier to SA is a tough blow, aggravated by the fact that the total halt of production has wiped nearly 6m barrels a day (b/d) off the international supply slate, thus adding to the headache of the oil multi-nationals who are trying to maintain crude oil flows to their customers around the globe.

According to reliable sources, however, the international majors have access to sufficient "non-political" oil which, by a complex exercise of switches, swops and re-allocations, can be delivered to SA without breaching the destination embargoes stipulated by certain exporters.

The extent to which SA demand can be met from these sources depends, however, on the situation in Iran. The sooner production is restored to normal levels (5,7m b/d), the sooner oil multi-nationals can re-arrange their supply chains and arrange for additional volumes of "non-political" oil for SA. In the meantime it is clear that shortfalls will have to be met from cargoes purchased on the spot market. On the advice of the oil companies, it seems certain that government will keep such acquisitions to a minimum, using spot cargoes only to top up commercial stocks of crude.

According to international oil brokers, the small volumes of spot oil available are commanding premiums ranging from $1,75 to $2,55 a barrel. It is likely that sellers will demand premiums in excess of these levels if SA is identified as the buyer.

The question that vitally affects us is the price the oil multi-nationals will demand for normal contracts with SA. Quite apart from the fact that alternative supplies may have to be shipped longer distances, thus pushing up the freight component of landed cost, a premium may have to be paid to reflect the going market price, which is considerably in excess of the average price for the year of $13,97 a barrel of Arabian light, the benchmark crude used by Opec for pricing purposes.

A further encouraging feature of the present oil situation is the flexibility of SA's crude oil refining industry. Anticipating marked changes in the pattern of demand for oil products even before the leap of oil prices in 1973, refinery operators invested more than R170m in secondary processing plant in order to improve yields of light and middle distillates by reducing fuel oil run-off from 24,8% of the barrel to about 16%. This means that more than 70% of the barrel emerges as motor spirit, diesel fuel, kerosene, LPG and gas.

Not only does this enable refinery operators to take a fairly varied crude oil "diet" during times of catch as catch can, but it has important cost benefits.

Even before the Iranian crunch, SA refineries were in a position to cut their foreign exchange requirement by extended runs of heavier crudes, which are often up to a dollar a barrel cheaper than light varieties. Heavy crudes are also more freely available.

The problem confronting the working committee appointed by Economic Affairs Minister Chris Heunis is not so much the containment of demand for motor spirit as the formulation of a plan to keep consumption of gas oil (diesel) within reasonable bounds without inhibiting industrial and agricultural growth. Without catalytic crackers and viscosity breakers to cut into heavy crudes, SA would be in a parlous situation today.

(55) 26/1/79

TRANSPORT

Blue-collar economists

(55) 26/1/79

Eight months of all-weather tests reveal that the best fuel saving gadget on a heavy truck is the driver. Those with a light touch on the throttle can, according to Swedish researchers, save almost R2 000 annually on each vehicle.

Saab-Scania's report says: "No fuel economies worth mentioning can be achieved, no matter how sophisticated the engine design nor how lavish the equipment, without the co-operation of the driver."

From February to September last year three standard trucks were handled by 55 drivers of 17 companies who made 300 working trips. The only modifications were: a tachograph to record road speed, running time and distance; an engine rpm monitor that also tallied total revolutions in top gear; fuel meter; and load indicator. Aggregate distance covered during the test period was 175 000 km.

"Even small variations in speed have a marked effect on fuel consumption," says the report. Tachograph print-outs show that a driver maintaining a steady 70 km/h (Sweden's truck limit) uses 10,52% less fuel than a heavy-foooted colleague driving erratically at up to 80 km/h. They used the same truck with identical distances and loads.

Tests also revealed that running a truck 10 km slower at 70 km/h saves 70c in fuel for every 100 km covered. That amounts to R840 on vehicles clocking 120 000 km annually. It also saves R360 a year on tyres and R600 for repairs.

Among conclusions made by the Saab-Scania report are that proper gear changing saves much more fuel and cash than streamlining which, unless trucks are doing at least 90 km/h over long distances, has a negligible effect.

Rural Development in Botswana

Introduction

Botswana has completed a decade as an independent country. When Botswana became indpendent in 1966 she represented an unlikely case for an economic success story. Her resources were a vast semi-arid and arid tableland; a potential but difficult to exploit water resource in the Okavango delta; a small relatively young population with few modern skills and with little formal education; a large herd of cattle (1.2 million); and abundant wild life which promised the development of a tourist industry if that resource were carefully husbanded.

At independence none could foresee the time when Botswana would be able to finance her own development. Like the other two Southern African ex-British Protectorates, Botswana was, and looked like remaining, a bread-basket case with the common additional complication of heavy reliance on migrant participation in the South African economy. The [redacted]

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Star 31/1/79

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Govt may confiscate cars

Tough on speedsters

MR HEUNIS

By Harvey Thomas, Motor Editor

The Government is preparing a massive crackdown on speed offenders. Among the options being considered are confiscation of motor vehicles, heavier fines and withdrawal of driving licences.

The Government's Fuel Conservation Committee is sitting in Pretoria and Cape Town this week to interview representatives of organised agriculture, commerce and industry on ways to reduce South Africa's consumption of oil, with particular emphasis on diesel fuel consumption.

But the committee has already decided in principle that fuel rationing is not to be recommended and that the petrol selling hours should remain unchanged.

While the onus has been placed on industry, agriculture and commerce to effect savings, I understand that the Minister of Economic Affairs, Mr Heunis, feels motorists must be made to realise they have not been "let off the hook."

Confiscation

To this end his department is now planning far more stringent penalties for flagrant speed offenders.

I understand that above a certain speed, a speed transgressor may have his vehicle confiscated, and a scheme to withdraw the driving licences of other deliberate speedsters is also being discussed.

Mr Heunis said in an interview in Cape Town that the warning about further penalties for speeding was addressed to all users of fuel in South Africa.

The oil supply position in the world was creating problems.

Where supplies were still available a high premium would have to be paid and the equalisation fund for which provision was made in the increase of fuel prices at the beginning of the month might not be enough.

Iran crisis

Mr Heunis said the international oil supply position was extremely serious. The political position in Iran and the fact that it would probably take months before oil could be exported to other countries created a serious problem for oil-importing countries.

It was essential that South Africans give full cooperation in the efforts to save fuel.

A third Sasol plant may be on the cards

There are indications that a third giant Sasol oil-from-coal plant will be built next to the almost-completed Sasol II at Secunda in the Eastern Transvaal.

This could not be confirmed by a Sasol spokesman today, but Sasol employees have recently hinted that big developments were on the way after the latest oil crisis caused by the virtual shut-down of Iran's exports.

The siting of Sasol III depends on the scarcest commodity in the entire oil-from-coal process — water.

UNLIKELY

This is why the Government seems to have abandoned plans for a third Sasol near Ellisras, where there are ample coal reserves.

For a Waterberg plant would have to pump water out of the Limpopo, and it is unlikely that Botswana, which also owns Limpopo water rights, would sign an agreement for this purpose with Pretoria.

Now, however, it has been announced that a new water agreement with Lesotho will lead enough water into the Vaal Dam complex to provide for the needs of a third Sasol.

ENOUGH

Sasol II adjoins the giant Bosjesspruit coalfield which has enough reserves to feed another Sasol plant.

It also adjoins a railway line to the Rand, a canal from a dam in the Vaal at Standerton and an existing town, Secunda, which now has hotel and shopping facilities.

Estimates for a third Sasol have been as high as R4 500-million. But the complex could cost less if extensions to present facilities are made.

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29. The slope of the consumption function is determined by the:
(1) Average propensity to consume.
(2) Amount of autonomous consumption.
(3) Marginal propensity to consume.
(4) Amount of investment induced by changes in income.
(5) All of the above.

30. If APS is negative:
(1) The APC must be equal to 1.
(2) The APC > 1.
(3) The sum of APC and APS is

2/2/79

STAGGERED HOURS

Looking for volunteers

Staggered working hours are one way to ease traffic congestion and cut fuel consumption. Not surprisingly, moves to smooth the morning and evening peaks in this way are gathering momentum.

Government sponsored committees have already been set up in Johannesburg and Durban. Among interests represented are government and municipal departments, Railways and organised commerce and industry.

The Johannesburg committee has been functioning for the past 18 months. Having identified the problems and completed a number of surveys, the group is now ready to make firm recommendations to government.

According to committee chairman Dr John Mortimer, who is Johannesburg's O&M director, if peak periods could be extended by an hour or so, congestion would drop by 10%, reducing both travel time and fuel wastage. In addition, fewer trains and buses would be needed to transport the same number of passengers, since more trips would be possible.

But there are problems. If work hours are changed, many citizens would have to alter their living habits, by, for example, eating later in the evening or earlier in the morning. It has been found that South Africans generally prefer to start work relatively early in the day.

The eight hour working day also limits the scope for staggered working hours. In SA this problem is exacerbated by the amount of time which blacks spend travelling to and from work. The Johannesburg committee found it takes an average of 85 minutes to travel from Soweto to the CBD by public transport. In addition, many blacks reckon it takes 40 minutes (including chatting and eating time) to get from the transport terminus in the city to their places of work.

Mortimer claims that some progress has been made in persuading companies to change their clock-in times. For example, Wits University has agreed to start later and to slot low volume lectures into early morning periods. And cheap, off-peak season tickets for bus travellers have encouraged some voluntary staggering.

The Durban committee only started work last September. City engineer Don Macleod, who chairs the committee, says that once all relevant information has been gathered a number of organisations will be asked to act as guinea pigs.

Within the next few months a committee will be set up in Pretoria, where government and municipal departments already start work at different times. Ironically, however, the CSIR (which has studied the capital's traffic problems) has not been able to discern any significant reduction in congestion since civil servants' working hours were staggered.

What's happened to flexitime, often advocated as one way in which workers can voluntarily help ease peak hour congestion? According to Richard Black, a consultant at Flextime (which advises companies on the introduction of flexible working hours), about 250 firms on the Reef have opted for the system, and most are satisfied with it.

"During the recession we went through a slack period," he says, "but business has definitely picked up."

More to pay for coal, bricks

R.d.m 3/2/79 55

By JEREMY BROOKS
Staff Reporter

COAL and anthracite prices go up from Monday, the chairman of the Transvaal Coal Merchants Association, Mr Wilfred Stoloff, announced yesterday.

The public face an 18c increase, to R2,33, for a 90kg bag of coal and the same weight in anthracite has been increased by 33c to R4,80.

Mr Stoloff said that following the hike in the producer, or pithead, price for coal, the Price Controller had authorised merchants to increase their prices with immediate effect.

He said that nine cents of the coal increase was accounted for by the increased producer's price, compensating coal merchants for higher transportation costs over the past two years.

The association was also notified yesterday that the producer's price of anthracite had jumped with immediate affect.

As a result, the association was authorised to increase the maximum retail selling price of a bag of anthracite.

● Sapa reports from Pretoria that in addition to the coal price rise, an increase of approximately 10% in ex-works price of various types of bricks was announced in the Government Gazette yesterday.

A spokesman for the office of the Price Controller said it could be expected that the effect of the increase in the pithead price of coal on the retail price would not be higher than between 2,5% and 5%.

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The ca ... overnment would first have to proclaim a region as drought affected before the programme came into operation.

An answer to the problem lies in the Employment Guarantee Scheme as evolved in Maharashtra State in India in the last four years. Without a regular programme whereby citizens can seek and obtain work it is unlikely that government would be organised to quickly open a large number of productive small works. The guarantee of work, it appears, can only be implemented if it is a regular part of the management of rural development.

The guarantee of work in the countryside as a regular programme necessitates a move from the consideration of the most efficient form of drought relief management to a programme that, while operating as an automatic standby machinery for drought relief, is a major instrument of income redistribution. It is also, since income is redistributed by wages earned on work sites, a programme that can build much of the physical infrastructure required in the countryside.

In table 1 there is an estimate of the amount required to raise all families up to the poverty datum line; P9 million annually. In the previous section a company concept to manage grazing lands is proposed which, through the sale

7/2/79 55

Oil from coal waste: new method tried

JAAP BOEKKOOI reports on two aspects of a scheme to make full use of coal which at present goes to waste in South Africa to produce oil, coke and gas.

A new, improved method to make oil from coal now wasted in South Africa is being studied by German researchers on behalf of the Industrial Development Corporation of South Africa.

The method is radically different from the Sasol process, and will not compete with it, but rather supplement it.

It aims to produce liquid fuels, however, to an eventual 1,3 million tons a year as a minor by-product of coal conversion into coke, gas and char.

The combined research, of which first laboratory results are expected this year, is part of an IDC investigation into the giant Coalcom concept which aims to reduce wastage of coal in South African mining operations from a present average 70 percent to some 15 percent.

The Industrial Development Corporation's link with a German research firm came about when German scientists said they were working on a process to improve pyrolysis, one of the coal conversion techniques which form part of the Coalcom concept.

In pyrolysis coal is heated to drive off its valuable volatile matter which is then turned into liquid fuels.

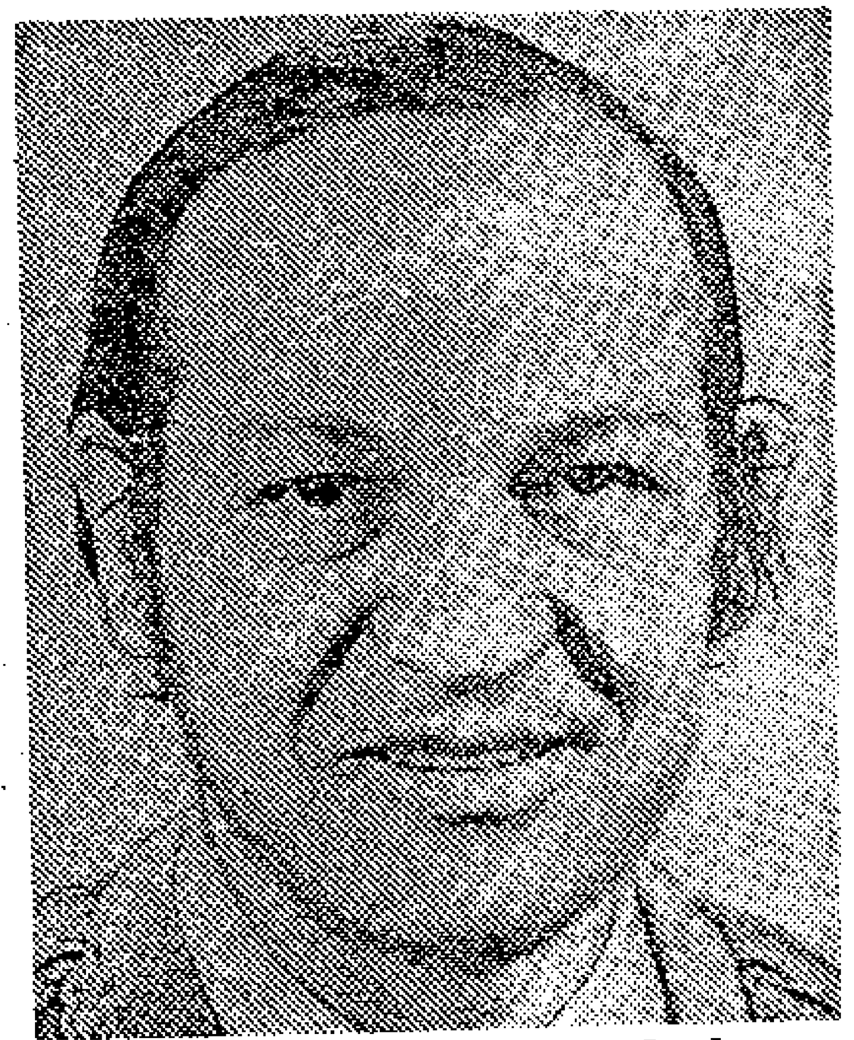
The German scientists claim they have made a breakthrough in this process, which has not been economical so far, by getting improved liquid fuel yields through a simpler process.

Apart from oil, pyrolysis yields char which can be used as fuel for power stations. Boilers would, however, have to be redesigned for this purpose.

According to Mr T C Droste, assistant head of the IDC's Projects Department, there have been "some promising indications" of success in the German research.

Later this year, he added, the IDC would probably have to take a decision to sponsor further research into the process.

Coalcom, designed by Mr David Horsfall of Anglo American Corporation, is regarded as a long-term possibility by the IDC as a method to turn coal into coke, oil, gas and power on a non-wasteful integrated basis.



Mr David Horsfall, designer of Coalcom.

Russians steal march on SA coal project

A Plan-for-the-Future for South Africa's coal mines has been "stolen" by Russian mining engineers who have set up a vast coal treatment factory in Central Siberia of a type designed in Johannesburg several years ago.

The Siberian coal factory near Krasnoyarsk, north of Mongolia, produces petrol, coke, gas and power station fuel from raw coal. It is closely copied on the lines of the Coalcom Project first published in Anglo American Corporation's house magazine Optima three years ago.

Thet Calcom Project, which was studied by an Industrial Development Corporation committee last year, is again topical because it is designed to almost double the country's oil-from-coal output, including that of Sasol.

Save costs

It will also minimise the much criticised coal wastage in South African collieries from a 70 percent high to 15 percent, produce sorely needed metallurgical coal as form coke, and could save up to R1 500 in capital costs per plant.

The designer of Coalcom, Anglo American's consulting coal process engineer David Horsfall, envisages an eventual string of coal factories of the type now pioneered in Siberia which would integrate new coal technology, save large amounts in capital costs and help make South Africa more independent of world oil supplies.

The Coalcom Propect by manufacturing coking coal, would also obviate the need to open mines in the Kruger Park for this coal.

The Coalcom proposal was given wide global publicity when it was first mooted. The international Mining Magazine said in a leader in 1977 that "research along the lines of Coalcom . . . whereby virtually all potential by-products are utilised must therefore be vital for any effective energy policy."

It continued: "It would seem to be essential to the success of any moves in countries like the energy-hungry United States to meet future demands in the face of dwindling oil supplies."

It is ironic that Soviet engineers have stolen a march on the South African coal industry by producing oil from what would otherwise be waste coal, in spite of the fact that the Soviet Union produces enough oil to supply the entire communist bloc.

Not started

In South Africa the Coalcom Project, to the disappointment of its initiator, Mr Horsfall, has not yet got off the ground.

A spokesman for the Industrial Development Corporation told me: "We are taking steps to implement the recommendations for manufacturing coking coal in the Coalcom report, but other parts of the project, such as pyrolysis which heats coal to produce liquid fuel and char for power stations, are still subject to pilot studies overseas."

The feedstock

The Siberian coal complex, like the plants proposed for Coalcom, uses extensive coal washing and heating by which, in the words of Mr Horsfall, the "waste products of one coal process may be the feedstock of another process."

The Soviet plant will process 1,2 million tons from the Kansk coalfield extracting all the valuable components of coal, such as fuel oil, gas and smokeless briquettes, and using the refuse with high ash content to fire the boilers of an electric power station.

The Krsnoyarsk plant followed the successful operation of a pilot commercial plant which produced fuels and energy

Fuel device saves up to 30 pc—claim

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The Star Bureau

LONDON — A fuel-saving device which could increase cars' mileage by up to nearly a third has gone on sale here and could be marketed in South Africa soon.

Extensive sea-level tests on the economiser have shown fuel savings of 16 to 25 percent.

High altitude tests in South Africa have produced savings of up to 30 percent, according to the manufacturers. The designer, British research engineer Dr Alan Williams flew to South Africa last July to arrange for tests by the Bureau of Standards and Ford in Port Elizabeth.

Negotiations are now under way with South African businessmen to arrange the marketing and manufacture under licence of the device.

CARBURETTOR

The economiser, which was featured on television here this week, is being sold in Britain for about R75.

It is basically a secondary carburettor and works on the principle that 25 to 30 percent of the petrol in ordinary carburettors is not vaporised.

A modified version for fuel-injection and diesel engines is on the cards for the future.

LESS POLLUTION

It is claimed the fuel-saver has two beneficial side effects as well — one is eliminating "flat spots" by more efficient use of fuel, and reducing pollution.

A spokesman said the carbon monoxide level was almost nil because more of the petrol was burned up.

It was because of this and the British Government's interest in fuel-saving, that further extensive tests were being carried out by the Motor Institute Research Association.

The spokesman said several other countries were also interested in the device. In Australia tests were being carried out by the Holden company and a police laboratory.

RDM 8/2/79

Heunis explains why fuel price may go up

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CAPE TOWN. — The Minister of Economic Affairs, Mr Chris Heunis, said yesterday that the price of petrol may have to be adjusted if the premiums South Africa has to pay for crude oil continued or increased.

At the same time the Minister denied South Africa was buying crude oil with gold bullion.

Mr Heunis said no-one had been instructed or given the authority to exchange gold for oil.

The increase in the price of petrol, which came into effect on January 1, had provided for premiums which would have to be paid for oil purchased from sources other than Iran, but it was already evident the premiums were much higher than anticipated.

The increase in price again emphasised the seriousness of the situation and underscored his warnings that the amount of crude oil imported had to be curbed and better use made of the oil available, he warned.

"It is undeniably clear that if the high premiums should continue or even increase it will be necessary to adjust the prices of petroleum products."

Mr Heunis said this was a step which South Africa would wish to avoid so that the economic revival should not be harmed.

He did not think there was any connection between the increase in the price of gold and the price of crude oil.

The price of oil was determined by the smaller amount of crude oil available on the world market and the serious reservations existing about the stabilisation of the political situation in Iran.

Mr Heunis said it was not South Africa's intention to go on a panic buying spree for crude oil.

The Minister yesterday introduced a Bill which would empower him to impose a levy on any fuel manufactured, distributed and sold anywhere in the Republic.

The State Oil Fund Amendment Bill says the money raised by such levies would be used to finance any increase in the cost of purchasing crude oil or for other purposes determined by the Minister in consultation with the Minister of Finance. — Sapa.

RAILWAYS BUDGET

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Fuel hike expected to boost rail usage

DD — 8/2/79

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HOUSE OF ASSEMBLY — It was confidently expected the recent increases in fuel prices would result in additional traffic for the Railways, Mr Muller said.

That should tend to neutralise the expected additional expenditure by the Railways to some extent.

Outlining the prospects for the coming financial year, Mr Muller said the expected acceleration in economic activities during 1979/80 and the resultant improved work opportunities should see commuter traffic increase by about four per cent.

In contrast with the decrease experienced during the past year, the more stringent fuel conservation methods should have a favourable effect on main line passenger traffic during the coming year.

An increase of 7,6 per cent in goods traffic was budgeted for and high-rated traffic should increase by about 4,2 per cent.

Low-rated traffic was expected to increase by 8,1 per cent, despite an expected smaller grain harvest and a consequent decline in export maize.

Indications were both Richards Bay and Durban would again be used to capacity in exporting coal.

"The volume of coal exports, including a small quantity through Maputo, should advance from 14,8 million tons during 1978/79 to more than 22 million tons in 1979/80, an increase of 51 per cent."

Manganese, chrome and iron ore shipments for local consumption were expected to show a substantial increase, while iron ore exports should grow by 9,6 per cent.

It was anticipated that overall import volumes would increase by eight per cent during the coming financial year and exports by six per cent.

The positive trend in the external passenger services of SAA during recent months should be maintained and freight and external passenger services were expected to show a satisfactory growth rate.

Conveying petroleum products would decline as a result of fuel conserva-

Conveying petroleum products would decline as a result of fuel conservation measures and that would have a detrimental effect on pipeline earnings.

Revenue from all sources was expected to amount to approximately R3 373,7 million. Expenditure, including R178,2 million in respect of net revenue appropriations, was expected to total some R3 575 million.

This figure represented an increase of R454 million (14,5 per cent) on the revised estimates for 1978/79. This increase could be attributed mainly to increased labour costs and a continued escalation in prices, notably of petroleum products, coal, electricity and steel.

The increased labour costs would arise largely from the salary and wage increases totalling some R125 million being granted with effect from April 1.

With expenditure at R3 575 million and revenue at only R3 373,7 million, a shortfall of R201,3 million was anticipated.

That shortfall did not include the additional cost of 6c a litre for fuel from February 23.

The additional expenditure there would amount to about R70 million.

Although the rates equalisaton fund would have a credit balance of about R115 million after the estimated surplus of R53,2 million on the current year's workings had been transferred to the fund, the balance represented only 3,2 per cent of the present level of annual expenditure.

Referring to energy utilisation, Mr Muller said the Railways were the most efficient form of land transport, an advantage stemming mainly from the low rolling resistance of a steel wheel on a steel rail.

Statistics showed that on average road transport consumed nine times as much diesel fuel as rail transport to convey the same tonnage.

The Railways, however, used steam and electric trains as well and only 35 per cent of rail traffic was moved by diesel.

The movement of goods by rail would thus be of great strategic value if the country was forced to curtail its present fuel consumption. — SAPA

(55) 9/2/79

OIL SUPPLIES

Crunch could come soon

The full impact of Iran's production cuts has not been felt yet because it is still working its way through the long and complicated supply chains of the multinational oil companies.

Unlike most OECD countries, which are perhaps in a better position to deal with the present crisis than they were in 1973-74, SA faces special problems. Alternative supply sources do exist, but they are limited because virtually all Middle East and African producers maintain formal destination embargoes on the Republic. Their boycott is doubly effective in the present tight international supply situation.

For the oil majors, with supply commitments to their SA refining and marketing subsidiaries, the loss of Iran has forced drastic re-scheduling of their supply chains.

They appear to be coping in two ways. The base load of SA's crude oil requirements is probably being carried by sources to which the oil majors have access with a reasonable prospect of medium to long-term continuity on a contractual basis. In addition to these limited sources, the oil companies and Sasol will probably negotiate term contracts with international brokers and take their chances on the spot market.

Quite apart from the obvious hazards of obtaining oil on what appears a makeshift basis, the new supply chain will not be without technical problems. For a start, it is a fair bet that the freight content of the landed price of crude will go up because of longer delivery voyages.

The main problem will be to accommodate a diversity of crudes. Although SA's four major refineries are about as sophisticated as modern technology allows, there are limits to their flexibility. Were it not for investment of about R170m in secondary processing plant, which has increased refinery yields of light and middle distillate fuels to nearly 70% of the barrel, SA would have been in an intolerable position today.

The spot crude market is in turmoil because of panic buying by consumers, particularly independent refineries, who fear the worst possible developments in Iran. Oil traders reported this week that supplies of light crude were selling at premiums as high as $7 a barrel over the official OPEC price of $13,34/barrel for the first quarter of 1979. This suggests that the spot market, which normally accounts for a very small percentage of the international oil trade, has been virtually wiped out for the time being.

SA has decided to tread cautiously in its spot market operations. Government has set up a four man committee comprising representatives of the departments of commerce and industries, Sasol and the oil companies. All acquisitions of oil on the spot market will have to be approved by the committee.

Too many imponderables

There are too many imponderables to say with any certainty when (and if) the crunch will hit. Refinery stocks, normally kept at 60-70 days, may be somewhat lower than operators are used to, but the margins are still well within safe limits.

The message government will have to put across to consumers is that replenishment of refinery stocks will be at a lower level than before the Iran crisis. The new conservation package will be aimed principally at bringing discipline to areas of consumption which are not subject to statutory controls, without stifling productive growth.

Until now the thrust of government's fuel restrictions has been aimed at private motoring. The fact that overall petrol consumption in 1978 was only marginally higher than in 1973 shows that the economy drive has been successful.

Consumption of diesel fuel (gasoil), on the other hand, continues to rise at a rate which threatens to exceed refinery tolerances to cope with changes in the pattern of demand. A continuation of this trend will mean that demand will have to be met from prohibitively expensive imports of refined gasoil, or by importing more crude.

Because it is the fuel of agriculture, mining, industry and heavy transport, the scope for gasoil economy appears limited, yet it is understood that government's working committee has been able to suggest measures that would result in appreciable savings. These could well include a recommendation to "encourage" greater use of rail transport by cutting down the number of permits issued to road hauliers to carry non-exempted goods outside the free delivery area.

To extend controls to agriculture, the biggest consumer of gasoil, may prove difficult, and politically unpopular.

The underlying hard reality is that government will not hesitate to impose mandatory controls on consumption if the international supply position does not improve and if buffer stocks are run down to danger levels. Such a situation could well arise if Iran does not come back into the market by the start of the next northern winter, and if SA consumption does not match the supply.

In the longer term, the Iranian crisis will probably have caused a major rethink on energy policy by government. Government's long-term thinking on liquid fuels now seems to centre on the production of oil from coal (revised national commercial coal reserves are 38 billion tons) in order to reduce dependence on imported oil.

It is reliably learnt that, as a result of important design changes at considerable cost, the ratio of petrol and gasoil yields at Secunda will shorten from about 70:30 to 60:40, and that its capacity may be further expanded.

The big test will be to stay afloat for another year or so until Sasol 2 goes on stream. The situation that has to be faced is that the world's second largest oil exporter has been wiped off the world supply, ie 20% of OPEC production. At the very least, consumers may have to learn to live with a 20% discipline in the medium term.

SHIPS' BUNKERS

Open house

(53) FM 9/2/79

Despite the present fuel scare, ships calling at SA ports will not want for bunkers.

The situation has changed radically since 1973-74, when bunkers accounted for about 20% of the country's total oil consumption. At that time hints were dropped that only regular callers who had supply contracts with the oil companies would be bunkered. A priority list was compiled with local coasters at the top and casuals at the tail. As far as the *FM* has been able to establish, nobody was turned away and SA earned considerable credit for supplying all comers.

Since then Suez has re-opened, trade has slowed down, the gas-guzzling passenger liners have faded from the scene and seven large container ships have replaced about 80 conventional cargo carriers.

In 1976-77 SA ports handled 12 554 vessels compared to over 20 000 in 1969-70. Not all these ships took bunkers but the figures point to a lower demand for fuel, a trend confirmed by the oil companies.

The oil companies have told ships' agents that bunkers will be available to foreign vessels as required, so clearly no shortage is anticipated. Meanwhile, the SA-Mozambique Conference announced last week that the 2% bunker surcharge which was to become effective on February 1 will no longer apply.

The reason is that domestic lines, Unicorn in particular, have successfully argued that many of their vessels are engaged in foreign trade and hence should be treated on that basis and be exempt from the price increase.

However, the SA Coastwise Conference imposed a bunker surcharge of 0,75% at the beginning of February. The surcharge applies to coastal freight rates.

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sales but the connection works through in due course. In the second half of 1977 ferro-chrome producers were finding resistance from Japanese contracted buyers, and Rustenburg Platinum announced they would not rehire 5 000 contract workers (late 1977). In remains to be seen what precisely has happened to total mining employment over the full year.[52]

3.3.3 Economic Development Programme employment 'projections', 1976-1981

In the published summary of the latest EDP[53] (the full version is not to be published) a figure is suggested for 1981 employment in the mining sector. Details of the employment break-down by mineral are not given but the total figure is of interest.

Put briefly, the EDP compilers "expect" rapid increases in mining employment linked to increases in mining output - partly in consequence of an "assumed" average GDP growth rate of 5 per cent per annum but mainly (so it appears) because of expansion in export markets. Their figures are as follows:

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Sunday EXPRESS **Business**

EDITED BY PENELOPE GRACIE

Fuel warning unit could save the nation R800-m

WITH South Africa spending about R4 000-m on fuel a year, a device which claims to cut consumption by 20% must be seriously considered.

If, as is claimed, it can cut our fuel bill by an average 20% it will save the country R800-m — which would pay for Soweto to be electrified eight times over.

Tests during the past year on a wide variety of public and private petrol and diesel vehicles have shown that the integrated circuit "KiloKing" can make drivers improve fuel consumption by an average of 21,18% — and double drive tyre life.

A 45 000 km test by SAR over 11 months yielded a 31,57% saving on fuel used by a heavy diesel truck. The highest improvement — 49,03% — was achieved when the unit was fitted to a diesel truck run by a transport company.

Those who install the R395 unit can expect to recover their cost in between two and six months. If the driver is efficient it will take longer to recoup the cost, but in tests even a vehicle with a top driver saved about 10%.

KiloKing is owned by a subsidiary of Trust Bank, which put up the money to develop the product. The concept was further developed into a commercially viable product by Sparrat Electronics, a subsidiary of Federale Electronics.

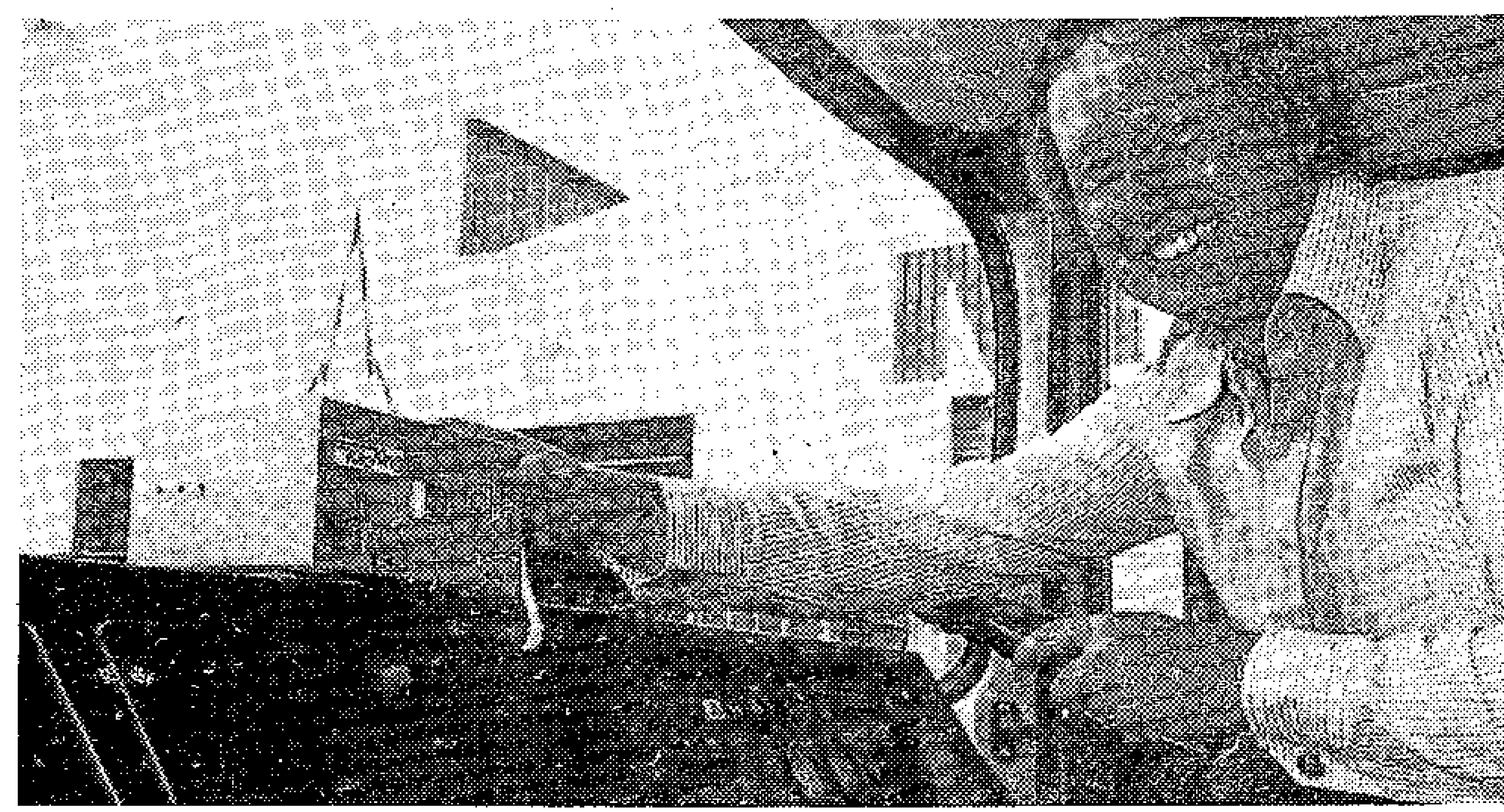
KiloKing will be made by Sparrat and will be installed and serviced by another Federale subsidiary, SATV.

KiloKing is an electronic sensor that measures driver performance — especially excessive throttle pressure — without intefering with the driver's judgment or the vehicle's performance.

The unit sets reasonable parameters within which a driver should operate if peak fuel efficiency and the lowest possible maintenance costs are to be achieved.

For example, the unit can measure a gradient and allow the driver anything from 75% to 100% of throttle travel for peak engine efficiency.

Should the driver exceed the limit he is alerted by an audible signal. He is allowed two warnings, but thereafter is penalised on an automatic counter. This is a useful management tool to identify drivers using a lot of fuel.



● Martin Flint with the moneysaving KiloKing.

According to KiloKing's general manager, Martin Flint: "Ordinary vehicles are able to return impressive fuel consumption figures on official economy runs and, apart from proper maintenance and tuning, this is almost entirely due to driver performance.

"Most vehicles are designed with optimum fuel consumption in mind, but the motor engineers are usually confounded by drivers who aren't aware of the errors they are making."

The KiloKing unit for diesel engines will be manufactured initially and commercial petrol and consumer petrol models are planned for later.

KiloKing's backers are so confident that the product has a place in the motor world that they have taken out worldwide patents and hope to export the KiloKing before the end of the year.

Cape Town 13/2/79

55

City to burn its refuse for power

Municipal Reporter

CAPE TOWN is well placed to become the first city in South Africa to generate electricity from municipal refuse.

This has been made clear from a report by the City's electrical engineer, Mr D C Palser, which was presented to the utilities and works committee at their meeting yesterday.

Mr Palser, who recently returned from a study tour of Europe, said it was initially estimated that using the refuse would lead to a saving of more than R500 000 a year.

Very little work has been done on the burning of refuse for power generation, but many of the problems have already been overcome. However, when refuse only was burnt special equipment was needed, and this meant the electricty was considerably more expensive than the power from a conventional coal power station.

Investigations showed that it would probably be better to burn refuse as a supplementary fuel with coal on the conventional coal burning chain grate stokers.

An installation of this type was operating satisfactorily in Birmingham, England, and arrangements had been made with experts associated with this project to visit Cape Town to consider the practical and economic implications of introducing a similar pilot scheme here.

Cape Town was in a unique position in that a refuse pulverizing plant had been constructed next to the Athlone power station. Mr Palser said it should be possible to extract the combustible component from the rubbish and take it to the power station boilers at little cost.

This material was blown into the boilers where a high proportion was burnt in suspension with the heavier elements falling on the front of the grate and being burnt along with the coal. The system had an advantage over the pure refuse system in that the coal supply could be varied to meet fluctuations in the supply of rubbish.

Mr Palser estimated that the energy available from refuse each year was equal to that from 30 000 tons of coal, which, at present prices would cost R0.75 million.

The cost of the plant needed would not be excessive because the pulverizing plant was next to the power station and the net advantage to the city could well be in excess of R500 000 a year.

258 pervenerit

Remember that subordinate clauses in oratio obliqua have their verbs in the subjunctive mood. A future perfect indicative in a protasis in oratio recta, will become a perfect subjunctive in oratio obliqua where the sequence is primary, and a pluperfect subjunctive in an historic sequence. What then is the mood and tense of 'pervenerit'?

fore

An irregular infinitive, equivalent to 'futurum esse'.

neminem tam stultum fore, qui non videat ...

After the antecedent 'tam', the following relative clause is clearly consecutive, and 'qui non videat' could be rewritten as 'ut non videat'.

259 stultum ... improbum

Link these two adjectives with the phrase above 'non solum improbi, verum etiam imperiti.' If we equate 'stultus' and 'imperitus' we can say that Cicero repeats the first pair, but in reverse order: improbi-imperiti: stultum (= imperitus) improbum ... B A, is known as ... chi X).

autem

This particle ... moreover') or as an adversative ... here?

261 hoc ... uno in

This ablative ... use ('Even if ...') For practice tr... the note on 'pervenerit' (l... are similar to conditionals

262 re

No... i ... comprimi', an... m': 'checked fo... ly under control'.

262 posse

The infinitive ...

263 quodsi

See on line 250

eodem

Take this adverb ... ith 'collecos'.

Crude oil only in small quantities, at high prices

(55) Cape Times 13/2/79

HOUSE OF ASSEMBLY. — The Minister of Economic Affairs, Mr Chris Heunis, said yesterday that only small quantities of crude oil could be obtained by oil companies in South Africa even at very high premiums.

Introducing the second reading of the State Oil Fund Amendment Bill, which provides for a levy to be imposed on any fuel manufactured, distributed or sold anywhere in the Republic, the minister said it had been the experience during the last two months that virtually all crude oil had had to be purchased at a premium.

"Initially the premium was of the order of between one to two US dollars a barrel. Subsequently this premium increased to between three and four dollars, and at present premiums of between five and six dollars are paid.

"Only small quantities of crude can be obtained by the oil companies even at these very high premiums."

The minister, said it was therefore clear that supplies could only be obtained at high cost with a consequent further pressure on South Africa's balance of payments and, in fact, of all oil importing countries.

"As far as we are concerned it is important to remember that the balance of payments represents a serious constraint on our economic growth and consequently on employment.

"In view of these considerations, I think there should be general consensus that we should strive to limit our import of petroleum products as far as possible which means that we, in turn, should utilize our available supplies as cautiously and as efficiently as possible," Mr Heunis said.

Mr Chris Heunis

The government, in considering the options available, had to bear in mind the effect of further price increases on the economy and on the country's growth rate.

"At the same time it is apparent that we have to make all possible efforts to ensure that our essential oil requirements should be secured as best we can. It is also clear that the various sectors of the community, and the different sectors of our economy, must all make an equitable contribution with regard to both the payment of the premiums and to conservation of oil."

The increase in the price of petroleum products announced on January 1, included a levy, but this levy allowed little room for increased premiums of crude oil and would have to be adjusted from time to time.

In order to do so, a equalization fund was being created. The levies would be paid into the equalization fund, the minister said.

The debate was adjourned and the House rose. — Sapa

Financial Mail

(57) (55)

FM 16/2/79

IRAN

Counting the cost

As the crisis in Iran deepens, the cost is becoming clearer — not only to SA, but to the whole of the free world.

SA at least has the advantage that any major increase in free world oil supplies, or continued disruption of production, is likely to be accompanied by continued interest in gold markets, with a beneficial effect on the bullion price. The arithmetic is interesting.

Even at current levels of conservation, SA is reliably understood to be importing 320 000 barrels a day, plus undisclosed volumes of special oils and lubricants which probably cost a further $100m a year. Total annual crude imports are probably of the order of 115m barrels, which must be regarded as the minimum need until Sasol 2 gets under steam.

The average Opec price last year was about $12,70 a barrel, plus say 70c (US) freight and insurance, so at that rate (including the special oils) our oil import bill this year would have been of the order of $1,65 billion.

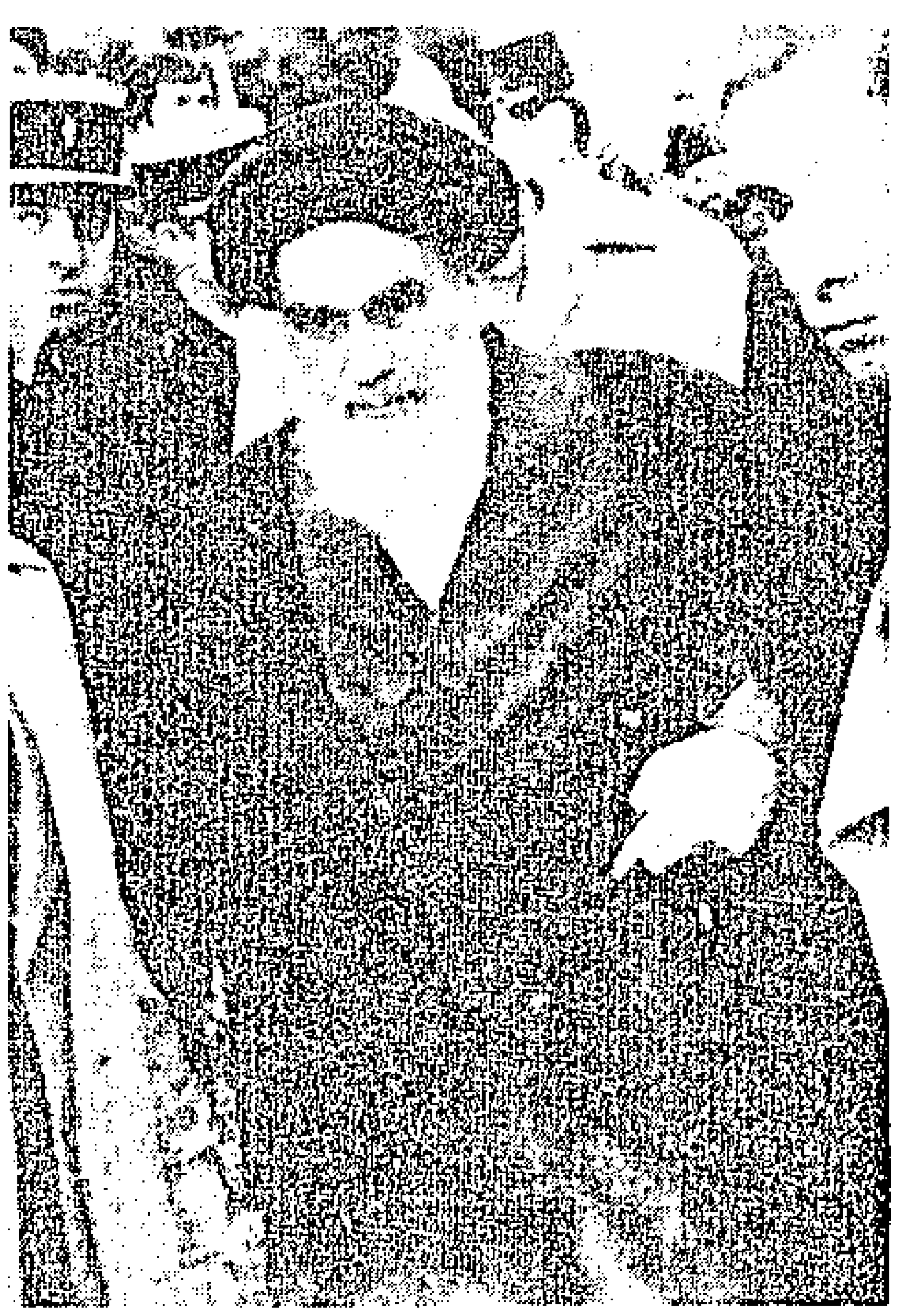
The 1979 first quarter price of the Opec benchmark crude, Arabian Light, is $13,34/barrel, but the 1979 average Opec price as set last year would have been $13,97; with freight, insurance and the additional special oils, this would have given an oil import bill around $1,8 billion.

But with Iran out of the market, light crudes are being traded in Europe on the spot market at up to $23/barrel, $10 over the market price. SA will certainly not be paying anything like this on average for its current supplies, but we would be fortunate to be paying less than $17/barrel, and with higher transport costs (because of longer hauls) this could well be $18 on a cif basis.

Keeping supply tight

This is likely to persist for most of the year, since even if Iran re-enters the market, by then the oil majors will be stockpiling for the northern hemisphere winter, thus keeping the supply tight. At $18/barrel, which at present can safely be regarded as the average upper limit cost of acquisition, the forex requirement (including specials) would be almost $2,2 billion.

On this basis, therefore, and bearing in mind that there are so many imponderables that all such calculations must be treated with considerable reserve, the Iranian oil crisis is likely to cost SA of the order of $400m, or R350m, in extra foreign exchange this year. By the time this works through to the customer, the cost will obviously be considerably higher.



Ayatollah Khomeini . . . may yet reap the whirlwind

Meanwhile, the gold price (LME afternoon fixings) has averaged $232 so far this year, against $214 in the December quarter and $193 for the whole of 1978. It cannot be said that Iran is the only reason for this year's firmness: the weakness of the dollar is also a factor, although this in turn has been fuelled by the latest oil crisis. And if the problems of the dollar are overcome, many observers believe $230 could be a difficult barrier for gold to penetrate.

But an average of $230 this year would be almost $40/oz more than last year. On the old rule of thumb that gold sales revenue rises by R200m a year for every $10/oz increase in gold price, a $40 higher gold price would boost gold receipts by some R800m. Much of this would go in tax; but it's apparent that, on the oil price estimates in this article, if the Iranian crisis pushes up the bullion price by anything more than $20/oz, SA would be a net beneficiary — at least in balance of payments terms.

Internationally, the nomination of a civilian government in Iran, under Prime Minister Mehdi Bazargan, and including the National Front leader Karim Sanjaby as foreign minister, is seen as the first development in weeks which offers any hope that the situation there may be on the mend. Certainly, the fact that a number of countries have now recognised the new regime implies that the outside world accepts that the government set up by the Ayatollah Khomeini offers the only chance of a return to stability.

It is much harder to stir up revolt, however, than to put it down. A large proportion of the urban population is now armed, and while some may be obedient to the Ayatollah, others are aiming at a revolution which has nothing to do with an Islamic republic, or else are bent on criminal violence. That part of the armed forces which remained loyal to the Shah and his regime has now surrendered. But it may not be easy for the new regime to count on the transferred loyalty of the generals, let alone of the rank and file, in restoring law and order.

If the generals fear that the position of the armed forces will be much reduced under Khomeini's rule, they may prefer to wait for an opportunity to stage a counter-coup, though they may be deterred from such a course by the process of international recognition which the Ayatollah is now beginning to enjoy.

In strategic terms, the best possible

Table 32. Number of African technicians by category, and number of firms in construction sample which would employ these technicians were they i) immediately available ii) available in 1981 assuming full economic recovery.

NATIONAL DIPLOMA FOR TECHNICIANS OR NATIONAL DIPLOMA IN :	Africans employed if available			
	i) immediately		ii) in 1981 assuming full economic recovery	
	Technicians	Firms	Technicians	Firms
Electrical Engineering (Heavy Current)	3	2	8	3
Electrical Engineering (Light Current)	3	2	12	2
Mechanical Engineering	4	2	13	4
Automotive Engineering	-	-	1	1
Refrigeration and Airconditioning Engineering	-	-	1	1
Civil Engineering	48	6	84	11
Structural Engineering	2	2	6	3
Construction Supervision	42	4	88	7
Structural Draughtsmanship	10	1	16	2
Mechanical Draughtsmanship	2	1	9	2
Civil Engineering Draughtsmanship	12	4	27	7
Building Surveying	25	2	46	3
Engineering Surveying	35	6	74	8
Paint Science	5	1	7	1
T O T			392	

NATIONAL TECHNICIAN IN :				
Mechanical		-	1	1
Structural		-	1	1
Mechanical		1	2	1
Structural		1	7	1
Building		3	10	4
Building Fo		4	37	6
Measurement		2	41	2
T O T			99	

Concern over possible fuel cut

R.D.M. 17/3/71 55

Staff Reporter

ORGANISED industry, commerce and agriculture reacted with concern this week to a report speculating on an imminent 20 % mandatory cut in their fuel supply and a 10 % increase in the price of petrol.

The new measures are expected to be contained in an announcement soon by the Minister of Economic Affairs Mr J C Heunis.

Commenting on the prospect of a petrol price increase, the Automobile Association said any increase in the price of fuel would have "serious and widespread repercussions for the country's economy as a whole".

The AA expressed the view that any further increase in the retail price of fuel could be avoided by introducing other measures.

It suggested that if funds were needed to increase the levy on the existing equalisation fund — as seemed likely — then these should be paid out of the present excise duty on fuel to leave the retail price undisturbed.

The executive director of Assocom Mr Raymond Parsons said there were several options open to the authorities with regard to fuel conservation, and it would be premature to speculate on what the Government might do.

"The private sector is pledged to cooperate to the fullest extent in any practical measures to conserve fuel," he said. "Any compulsory steps, whether they are cuts in supply or increased fuel prices, would have to be carefully weighed from the point of view of the economy as a whole."

Electricity and gas price increases recommended

55 Star 20/2/79.

Johannesburg's management committee yesterday recommended that the city council's electricity and gas tariffs be increased after the recent increase in the price of coal.

This has been done in terms of the coal escalation clause in the council's gas and electricity tariffs.

The price of electricity for the average householder will increase by 30c on his present account of R16,87 if he uses 800 units a month.

The basic price of each unit of electricity sold will increase by 0,0375 cents.

Gas will increase in price by 12,7c/GJ (gigajoules). The effect of this on the average domestic consumer will be about 17c a month on a consumption of 1,37 GJ, and is equivalent to an increase of 2,5 percent.

The price of coal was increased by 64 cents a ton on February 2, an average increase of 8,7 percent in the council's purchase price of coal, according to the Electricity Department.

21/2/79

Measures planned to save diesel

55

Own Correspondent

Far-reaching recommendations which could save South Africa millions of rands in diesel fuel are to be made to the Minister of Economic Affairs, Mr Heunis.

The recommendations, some of which have already been passed on to Mr Heunis, were last night welcomed by a meeting of the Motor Transport Owners Association in Pretoria.

They will be made in full by the Federation of Road Transport Associations.

The federation's vice president, Mr H J Herbst, last night called for:

- Reducing the speed limit for heavy-duty trucks from 90 km/h to 80 km/h.
- Consolidation of deliveries to cancel out vehicles returning empty after delivering goods.
- A uniform price system for both the private sector and State-owned transport.
- Raising the weight allowed per axle on heavy-duty vehicles.
- Drastic improvements in driver training and stricter control over the issuing of licences.
- The issue of licences to specially qualified operators who will be the only people allowed to undertake transportation business.
- Allowing exchange of permits for transporting certain goods between contractors.
- More economical engines and tighter quality control.
- The introduction of radial tyres for all heavy-duty vehicles.

"The arteries of a nation's economy is its transport system and we must strive to make South Africa's system more effective. Fuel rationing is the last thing we can afford — it would sever these arteries," Mr Herbst said.

The Star's Pretoria Bureau reports that South Africa's first think-tank on the energy crisis, attended by some of the best brains in the economic, commercial, industrial, transport and political fields, is to be held in Pretoria next week.

The University of South Africa's School of Business Leadership is arranging the two-day seminar during which structural changes and strategic planning in the light of the oil crisis will be examined.

55 22/2/79 RAM

Sasol III given the green light

By HAMISH FRASER
Deputy Financial Editor

FACED with a hand-to-mouth oil-supply situation and the certainty of even higher world oil prices soon, the Minister of Economic Affairs, Mr Chris Heunis, is expected to give the go-ahead shortly — possibly today — for a R3 600-million Sasol 111.

The Sasol 111 announcement is expected to be accompanied by fuel-saving measures aimed at reducing industrial consumption of petroleum products and an invitation to the private sector to involve itself in about a third of the massive financing needs of another Sasol.

Sasol 111 will be sited alongside Sasol 11 which is nearing completion at Secunda in the Eastern Transvaal.

It is expected that construction of Sasol 111 will begin as soon as its predecessor goes into production at the end of this year.

By the time Sasol 111 is commissioned in 1984, South African will have lifted its oil-from-coal production from less than 10 per cent of its present needs to about 50 per cent.

The multinational oil giants, BP and Shell, the Afrikaner mining and industrial giant General Mining and South Africa's biggest chemical company, AECI — which is owned jointly by De Beers and Britain's Imperial Chemical Industries — will probably be invited to take up more than R1 000-million in the project.

This will be the first time that private enterprise has been asked to join a Government-backed project on this scale.

South Africa's oil bill has risen from R190-million in 1972 to R1 300-million last year, and the disruption in supplies from Iran, South Africa's biggest traditional supplier, is expected to increase the bill by several hundred millions of rands this year.

South Africa is believed to be paying a political premium of more than $20 a barrel from back-door suppliers of oil from OPEC countries which have sanctioned oil supplies to South Africa compared with a world price of about $14.

Sasol estimated last year that on world oil-prices ruling then, Sasol 11 would save South Africa R350-million a year in foreign exchange when it came into full production.

Given the certainty of continually rising prices in the next few years, a doubling of Sasol's capacity could take South Africa's saving of foreign exchange to more than R1 000-million a year.

Secunda, where the final touches are being put to Sasol 11, is regarded as the logical site for the new oil-from-coal plant.

The contractors are still on site, there is an existing infrastructure, coal and water supplies are plentiful, and there is accommodation for contractors and permanent workers.

When Sasol bought the ground for Sasol 11, it bought more than it needed for that project.

Petrol up 20 percent

CAPE TIMES
23/2/79

On page 2

- Govt heeds fuel-saving recommendations
- Fuel moves could increase inflation

P. T. O.

SA to produce half its oil needs

THE SASOL II oil from coal complex nearing completion at Secunda in the Eastern Transvaal is to be more than doubled in a R3 276 million project intended to leave South Africa with the ability to produce half its petroleum needs.

This was announced yesterday by the Minister of Economic Affairs, Mr Chris Heunis, at a press conference in Cape Town.

He invited the private sector to participate in the project and said a public issue of shares in the relative companies of the Sasol group would be made towards the middle of the year.

Other financing would be obtained from parliamentary appropriations, export credits and the State oil fund financed by a levy on all products derived from oil and payable by all sectors. Bridging finance would be provided by private and state sources.

Construction of the first phase of the expansion programme would be completed by March 1982, when the first products would also become available.

Mr Heunis said the commit-

To page 2 B

By GORDON KLING

A SHOCK 20 percent increase of six cents a litre in the price of petrol and other petroleum products came into effect this morning.

The rise, which economists fear will subdue the fledgling economic recovery and boost inflation, was announced last night by the Minister of Economic Affairs, Mr Chris Heunis.

It means that 98-octane petrol will cost 36,3c a litre at the coast, about 2c more than the average price in Britain, and a 45-litre tank will require an extra R2,70 to fill. A petrol bill of R50 a month will now be R10 more.

It also means that a cost tidal wave will crash through the economy, depressing living standards with a new surge of increases in the consumer-price index, and impairing the competitiveness of the Republic's exports.

And the minister warned that the possibility of coupon rationing still existed, although the emphasis was on other conservation methods.

Mr Heunis said the increase was necessitated by the need for additional levies in respect of the higher prices payable for crude oil in the wake of the disruption of supplies from Iran, and to provide partly for the expansion of Sasol II. An immediate increase of "not more than 6c a litre" in the price of petroleum products was required.

Appealing to business to absorb as much as possible of the increased costs, Mr Heunis said: "These developments emphasize the seriousness of our fuel-supply position, as well as the necessity for all consumers of petroleum products in the country to conserve petroleum-based fuels."

Economists and businessmen were stunned by the extent of the rise. "It sounds outrageous," said the director of the Bureau for Economic Research at the University of Stellenbosch, Professor J L Sadie. "The population is being impoverished and higher wage and salary demands are inevitable."

The president of the Association of Chambers of Commerce (Assocom), Mr R J Wood, said retailers' ability to absorb the increase was limited "in view of the low profit-margins earned at present". Expressing concern for the hesitant economic recovery, he urged material tax cuts in the budget to ease the blow and stimulate consumer spending.

Dr Johan Cloete, chief economist of Barclays National Bank noted that the 11,6 percent increase in the inflation rate for the year to the end of January was already alarming. "I would not li

To page 2 A

The Minister of Economic Affairs, Mr Chris Heunis, announces an expansion of Sasol II at a press conference in Cape Town yesterday and a huge increase in the price of petrol.

(55) 23/2/79 D

Strict new fuel measures

By BARRY STREEK

CAPE TOWN — The price of petrol and diesel was raised by 6c a litre last night as the government announced tough fuel-saving measures to get South Africa through the oil squeeze.

The prices of all other petroleum products have also been raised by not more than 6c a litre.

The increase will come into effect today.

East London motorists will now pay 35,6c a litre for 93 grade petrol and 36,3 for 98 grade. In Queenstown, petrol will now cost 37,3c and 38c a litre respectively.

This means that a 50-litre tankful will cost R3 more.

The hike will pay for the increased cost of oil following the collapse of the Iranian Government and will also provide some of the financing for a R3 276 million extension of the Sasol 2 project at Secunda in the Transvaal.

The oil-from-coal measures will mean that about 50 per cent of South Africa's petrol requirements will come from within the country, but they could retard the economic upswing and be inflationary.

The increase was announced last night by the Minister of Economic Affairs, Mr Chris Heunis, who earlier in the day announced the expansion of Sasol and other fuel-saving measures after meeting representatives of commerce and industry.

Other steps to be taken by the government include:

- **New hours for petrol at garages — from 7 am to 6 pm on Mondays, Tuesdays, Thursdays, Fridays and Saturdays. On Wednesdays, garages will close at noon.**
- **Higher and stronger penalties against motorists who break the speed limits. Regular infringers of the limits will lose their licences.**
- **Economy tests as part of driver's licence examinations. This would include a course on the theory and practice of fuel economy.**
- **A higher tax on larger cars.**
- **Speeding up the flow of traffic, including the possibility of staggering work and school hours.**
- **The lowering of speed restrictions from 90 km/h to 80 km/h for vehicles over 9 000 kg and for all vehicles travelling in greater metropolitan areas.**
- **The conversion to other sources of fuel such as liquid petroleum gas for taxi fleets.**
- **A massive national education campaign on fuel conservation methods.**
- **The rapid electrification of railway lines, beginning with the busiest routes.**

However, the most important step announced yesterday was the extension of the Sasol 2 project. The expansion will cost R3 267 million, bringing the total investment at Secunda to over R4 800 million when it is completed.

Mr Heunis said this was being undertaken at Secunda because production would start two years earlier there than at any other site and costs would be reduced by R500 million. There were also proven coal reserves in the area.

The government's inquiry, appointed after the disruptions in Iran, decided that the establishment of an ethanol or methanol institution did not at this stage present a solution. This had been accepted by the government.

Mr Heunis said when he had announced the previous increases from January 1, the termination of crude exports from Iran had led to extra premiums on the open market.

"The prices in the open market have now risen to a level where the proceeds of the levy which was introduced on January 1 have become inadequate to cover the increased costs of crude oil," he said.

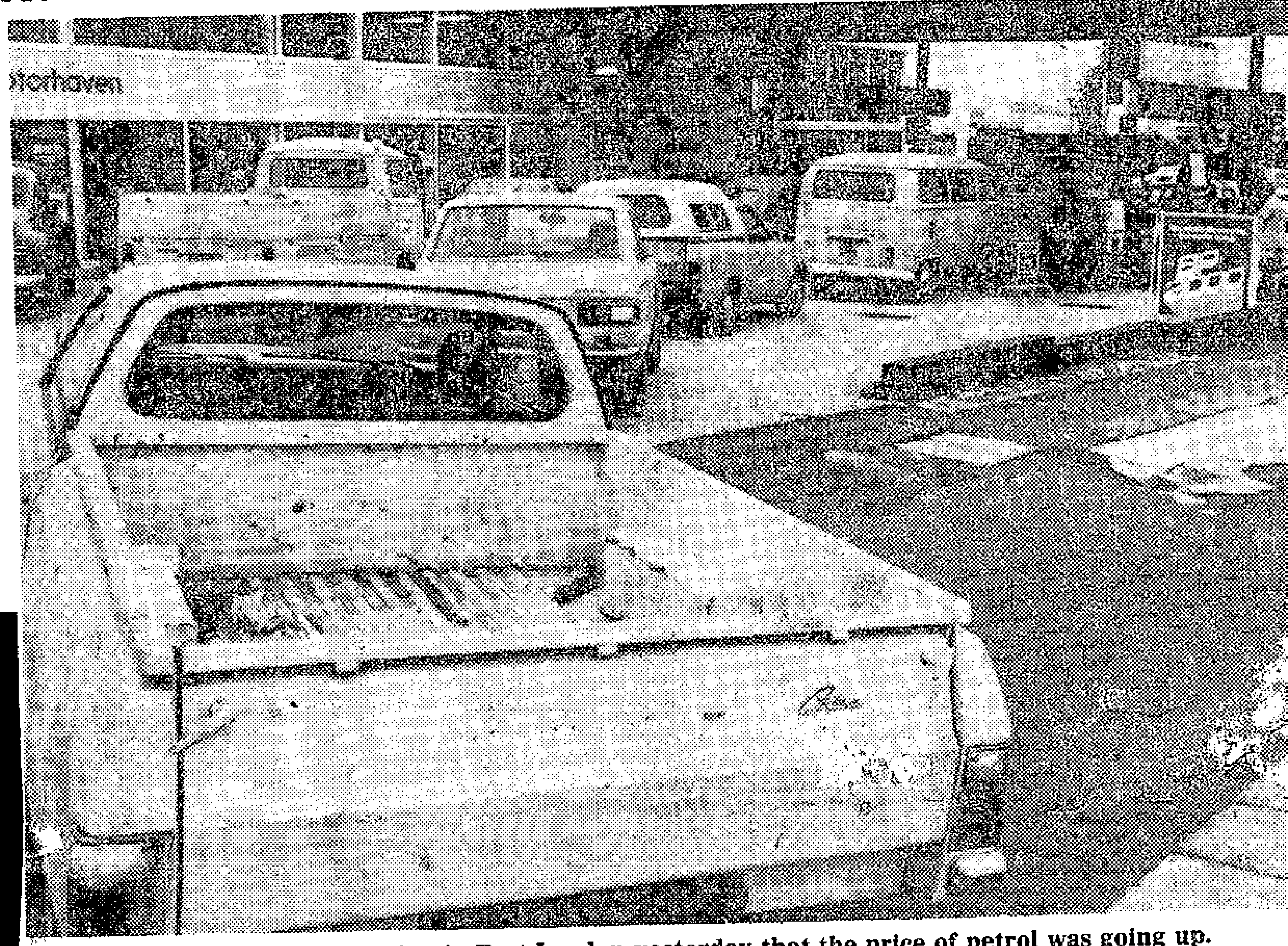
The Minister also appealed to large fuel users to absorb as much of the price increases as possible without passing them on to the consumer.

During yesterday's press conference, Mr Heunis said coupon rationing had not been ruled out, but a decision had been delayed until the effect of the latest proposals on fuel conservation had been assessed.

The Van der Walt committee which investigated fuel saving measures also recommended certain mandatory measures which could cause a certain measure of hardship, but which would nevertheless be preferable to rationing.

These included the introduction of a coupon system prohibiting the use of a car on one or two days a week at the owners' choice.

The latter measure was recommended only as an alternative to rati[...] although it woul[...] cording to the comm[...] result in a meaningf[...] ing of petrol.



The word got round fast in East London yesterday that the price of petrol was going up. Those who made it to the filling stations in time saved themselves R2 to R3 for a tankful.

Price ripple effect feared

JOHANNESBURG — Organised commerce, industry and consumer bodies all reacted with gloom last night following the news of the petrol price increase and predicted it would have a "ripple effect" right through the economy.

It was generally agreed the increase would affect all end-products, in particular those which were oil-based.

Fears were also expressed that the new measures would accelerate the inflation rate and aggravate the unemployment situation.

The executive director of the Federated Chamber of Industries, Dr Hennie Reynders, said the price rise was inevitable.

"The increase will certainly affect the cost structure of almost every business concern in this country," he said.

The chairman of the Handelsinstituut, Mr Jack van Wyk, said the measure would withdraw finance from the private sector which would hamper development, making it more difficult and more costly. Production would also suffer.

A spokesman for the South African Co-ordinating Consumer Council, said it was generally feared the measures would spark off a "rash of price increases affecting just about everything on the market".

A spokesman for the Automobile Association said the measures followed a wave of other price increases which had hit the motorist hard.

"The motorist is punch-drunk — he has had to survive increases in the costs of petrol, cars, insurance, spares and general maintenance. The price of petrol alone has increased by 9,3c in less than three months. This is bound to send shockwaves right through the economy."

The Ombudsman for the South African Council of Churches, Mr Eugene Roelofse, said the time had come for the introduction of a "no-name-petrol".

"At present astronomical sums of money are spent not in promoting fuel conservation, but rather persuading users not to buy their competitor's product. I do not know of one motorist who is able to distinguish one brand of petrol from another."

Port Elizabeth motor plants felt the increase would cause only a temporary setback for the industry.

The managing directors of Ford and General Motors said they hoped the negative effects would be countered by government steps to stimulate the economy.

Increase shocks motorists

EAST LONDON — Motorists in East London in general seemed shocked at the amount of the petrol increase announced yesterday.

Word of the increase leaked to the public about two hours before garages closed last night. And cars queued at many garages in the closing minutes of petrol sales before the Minister of Economic Affairs, Mr Chris Heunis, had officialy announced the increase.

Mr Wayne Mitchell — a Beacon Bay resident — found the 6c increase in a litre of petrol "quite unbelievable". He said he expected an increase — but not such a vast one.

Mr G. L. Moss, an Amalinda resident, said he had suspected the Government might introduce rationing, but had not expected the increase that was announced.

Miss Denise Roberts, who lives in Saxilby and works for a local building society, said: "We're going to have to start lift clubs or ride bicycles."

A representative for a large oil company, Mr Tich Tyack, said the increase was a shock.

"But I think it will show the public the severity of our petrol supply position. The present steps are better than rationing, which is ineffective and causes a black market often. I think people are going to go more for lift clubs now," Mr Tyack said. — DDR

The Star
Friday February 23 1979

Petrol: the price of prodigality

55

ANOTHER stunning petrol price rise, together with other proposals to fund Sasol 3 and the recommended fuel conservation measures announced by Mr Heunis yesterday are an unpalatable medicine to treat a potentially fatal disease. South Africans of all shades must swallow it or watch the bread taken from their mouths.

Global politics, South African policies, the collapse of the Iranian regime and a criminal squandering of fuel have all contributed to the onset of the malady. It will be a long illness and every South African will have to share the nursing.

Mr Heunis's committee has recommended a common sense conservation programme affecting all users, not just a motoring section. But motorists should be aware that the situation is grave, and that so far they have done very little to counter it.

Drivers who have been arrogantly ignoring pleas to save petrol since the first brief flush of patriotism in 1973 have no reason to be smug about evading speed traps. They have been sabotaging the national interest and deserve to be dealt with severely in future. When Mr Heunis announced a 10 percent increase in January, he hoped it would cover the premium South Africa would have to pay for petrol from new sources of supply. But it seems that our unnamed suppliers are turning the screw because South Africa is not in a bargaining position. So the price has to go up even higher. And higher still later in the year to meet new Opec demands.

Obviously this country cannot be held to ransom over a commodity so valuable to its lifeblood. We must strive for self-sufficiency. Only vast natural supplies of oil can ensure that, but we can go some way towards that goal with the three Sasol projects. Oil from coal has hitherto been an expensive transformation, but the price of natural oil is rapidly catching up.

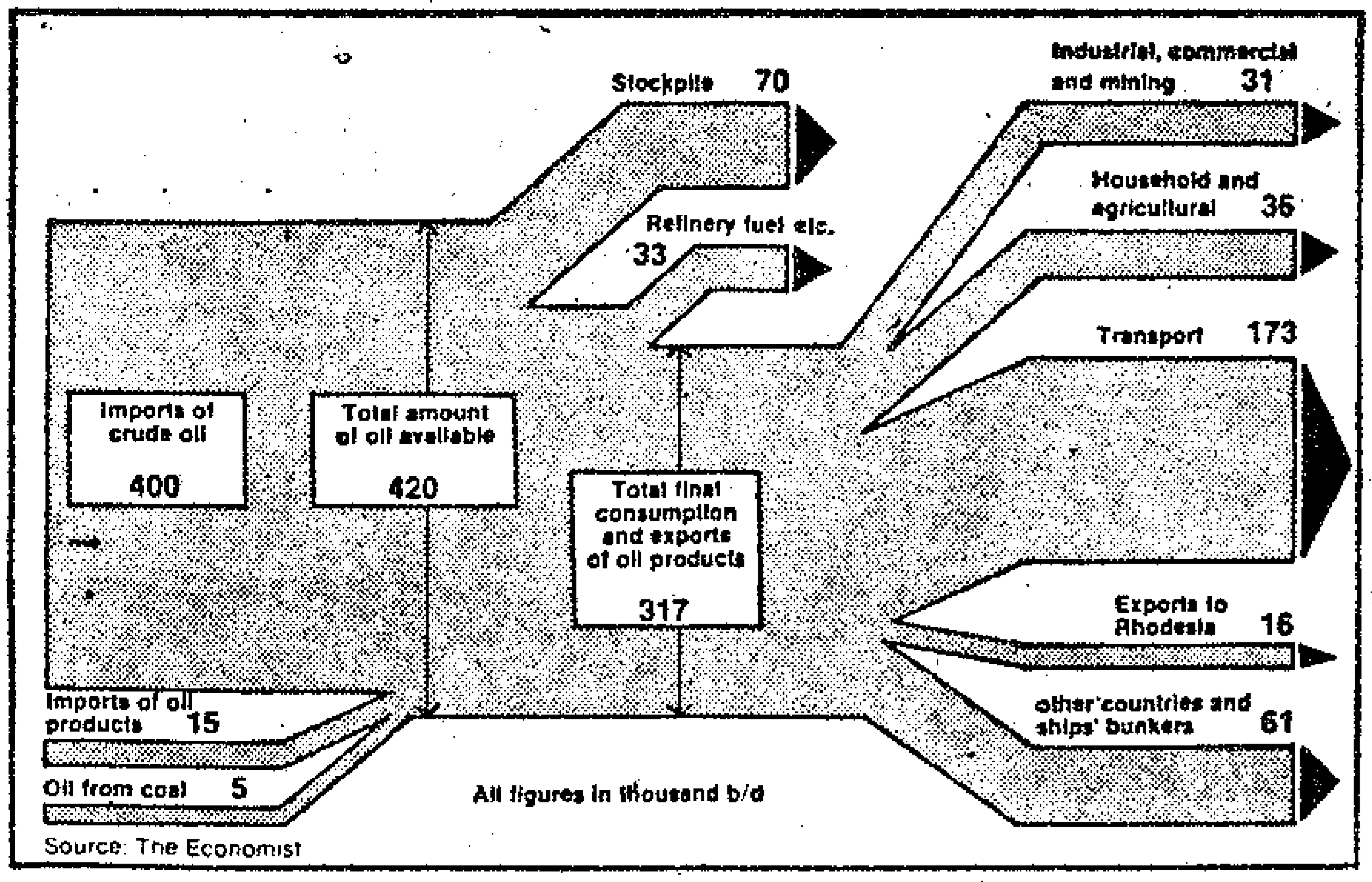
Mr Heunis proposes to levy the whole range of oil-based products to finance Sasol. It is going to hurt, but South Africa will have to grin and bear it. More, it will require a new, unselfish determined effort by every consumer not to waste a precious drop.

THE OIL CRISIS

Star 23/2/79

55

South Africa's oil flow?



Source: The Economist

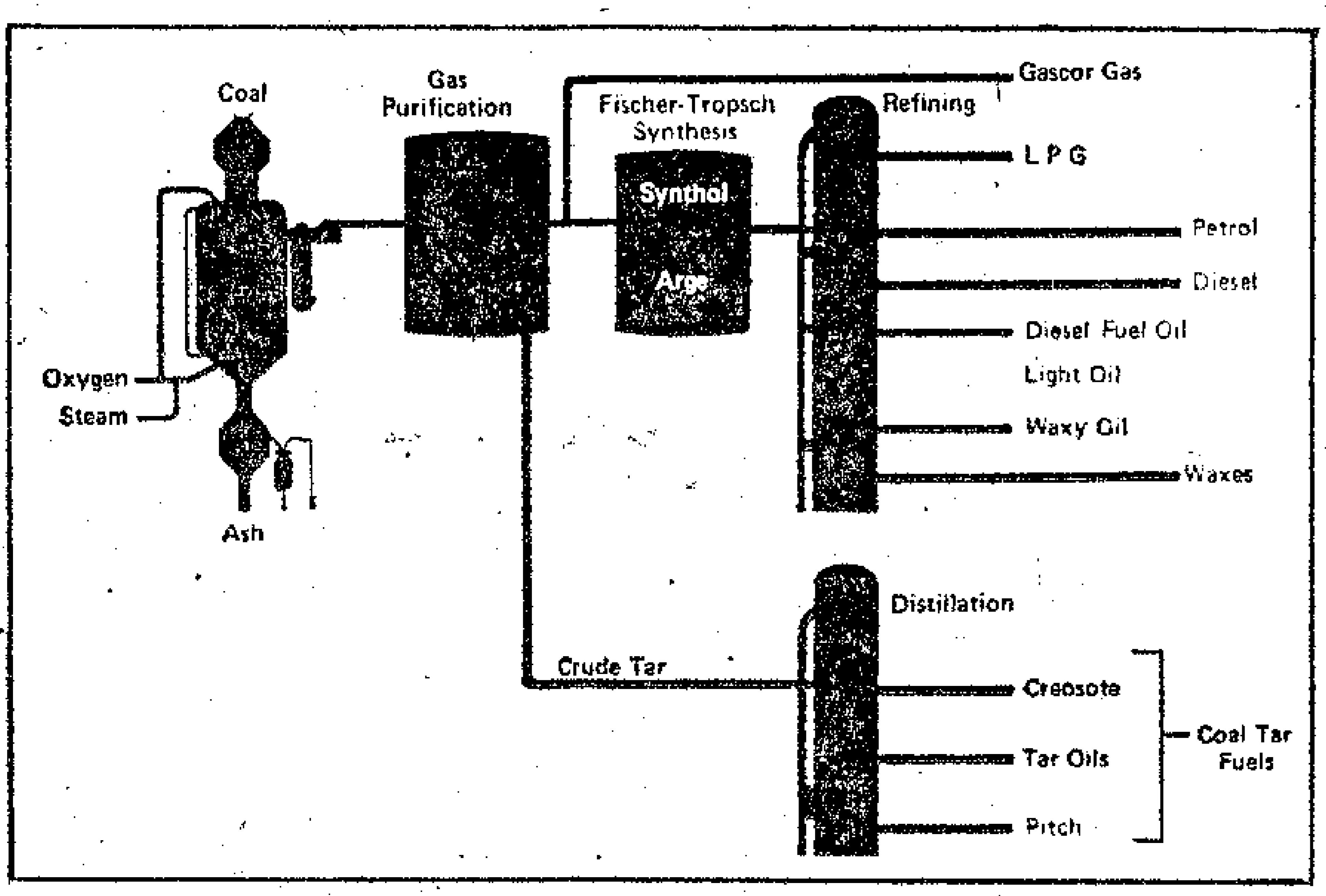
The diagram shows how The Economist magazine of London analysed the likely oil flow in South Africa. On this basis the daily consumption is a staggering 317 000 barrels. But Sasol says the contribution of its oil-from-coal operations is too low.

Estimates say Sasol 1 can produce about 8 000 barrels of oil a day from every 2,5-million tons of coal from Sigma Colliery and Sasol 2 as much as 87 000 barrels from every 12-million tons of coal from Bosjesspruit Colliery.

By the mid-1980s, the combined production of both Sasols should meet about 33 percent of South Africa's petrol needs — and in the process haul down the oil import bill by more than R350-million.

But what happens in the mean time? The Energy Policy Committee has calculated that South Africa wastes nearly 40 percent of its energy resources. A Government priority now is to force everyone to make better use of fuel — and use less of it.

Sasol fuel products from coal



The world-wide oil crisis, first triggered by the alarming price explosions in 1973 and made worse than ever by the political turmoil in Iran, has introduced a new acronym into daily use — Opec.

Though it is usual to associate it almost exclusively with Arab oil sheiks, the Organisation of Petroleum Exporting Countries in fact embraces oil producers as far flung from the Middle East as Nigeria and on to Venezuela and Ecuador in South America and across to Indonesia in the Far East.

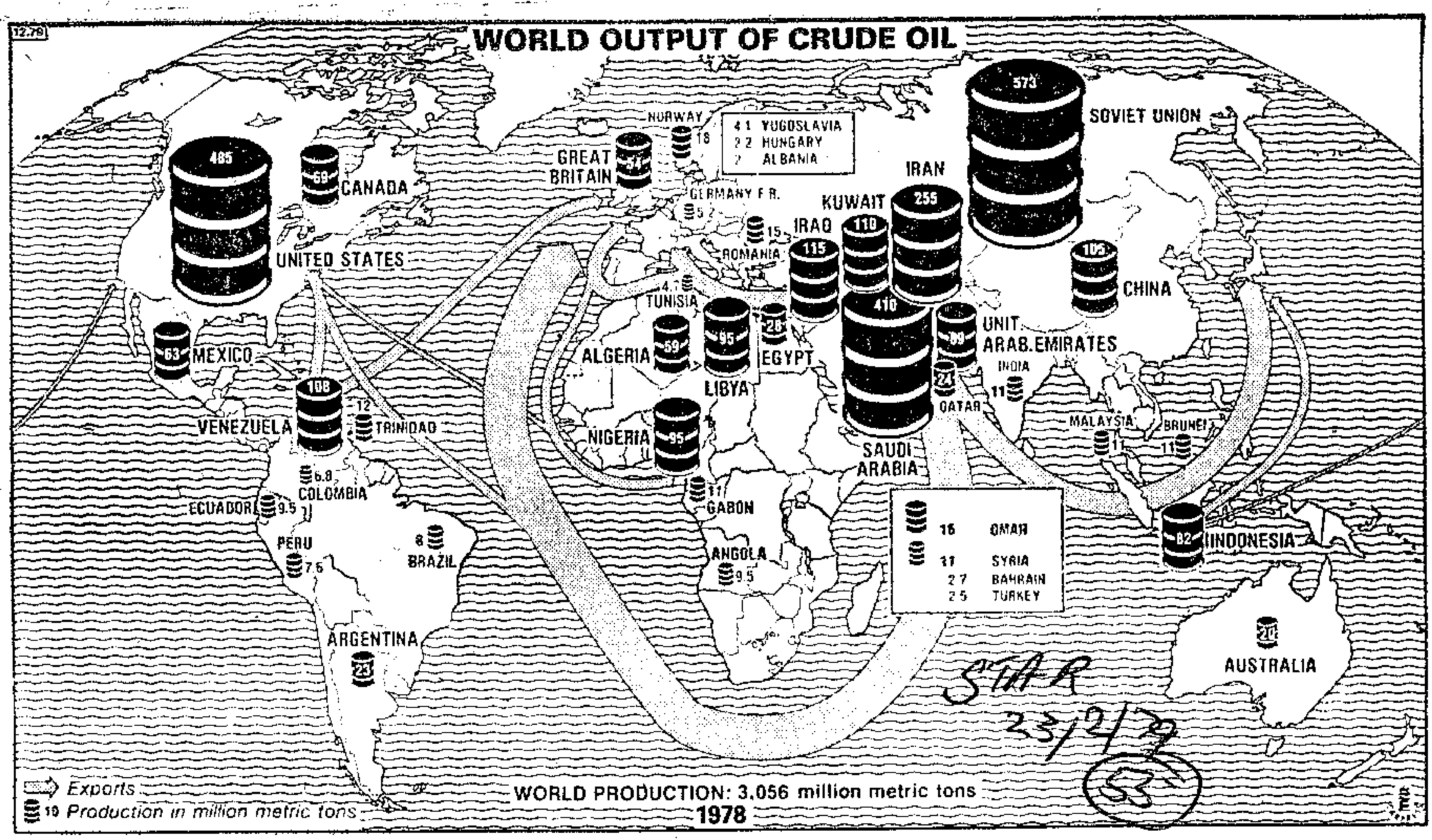
Between them, the Opec nations produced 1 462-million tons of crude oil last year — only a fraction short of 48 percent of the world total. What makes its share so significant is that as much as 95 percent of Opec oil goes in exports to feed the industrial countries.

Only one tap

Iran ranks second only to Saudi Arabia among the biggest of the Opec producers. While its output last year at 255-million tons represented only 8,3 percent of world production, the blockage of supplies soon proved the seriousness of the repercussions when even one of the taps is turned off.

South Africa, which until now has relied on Iran for the bulk of its oil imports, has already seen its annual oil bill soar from R200-million to over R2 000-million. Now that SA has to search elsewhere for supplies, the bill will go higher.

The cost will be formidable — and South Africans can brace themselves for steep increases in prices not only at garages, but also in a sweeping range of products as the higher cost of oil and all its by-products have to be digested.



The importance of Opec

The Organisation of Petroleum Exporting Countries (Opec) was formed in 1960, and has its headquarters in Vienna.

The Opec countries produced 1 462-million tons of crude oil in 1978, or some 47,9 percent of the world total of 3 056-million tons. About 95 percent of its production goes for export.

In the Middle-East: Saudi Arabia, Iran, Kuwait, Iraq, United Arab Emirates and Qatar: Production 1 003-million tons.

In Africa: Nigeria, Libya, Algeria and Gabon: production 260-million tons.

In South America: Venezuela and Ecuador: production 118-million tons.

In the Far East: Indonesia: production 82-million tons.

In order to cover its requirements, the European Economic Community depends for 90% on imports of crude oil.

Japan has no production of its own. Imports to the EEC and Japan originate for some 90% from the OPEC countries.

The United States is the world's second producer. This production, however, covers only 65% of its own consumption. The additional 35% is covered for 85% by imports from the member countries of the OPEC.

Production '78

World crude oil production in 1978 reached 3 056-million tons.

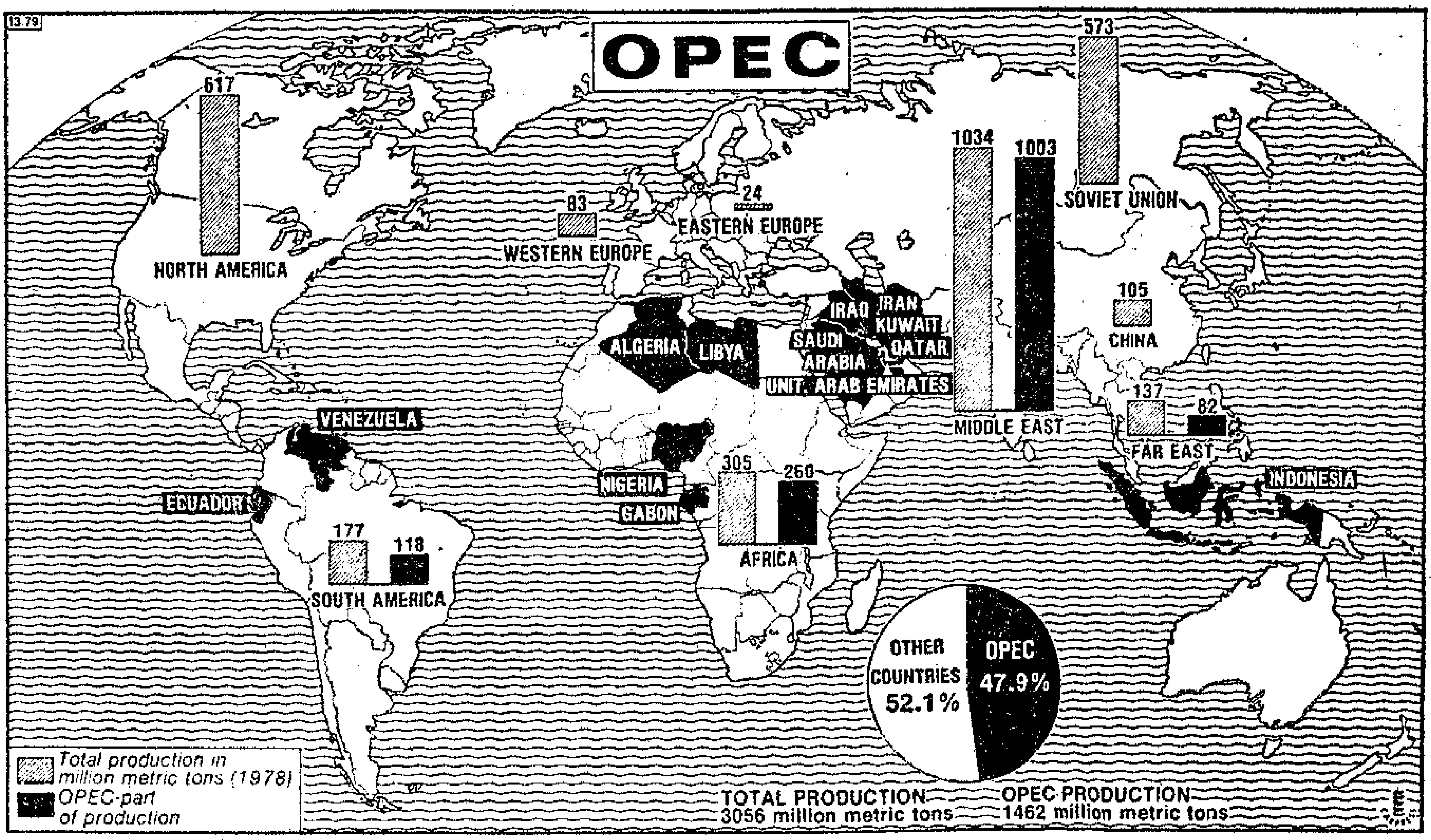
The main oil producing countries are the following:

	Production in million tons	Share in world tot. production
1. Soviet Union	573	18,1%
2. United States	485	15,0%
3. Saudi Arabia (a)	410	13,4%
4. Iran (a)	255	8,3%
5. Iraq (a)	115	3,8%
6. Kuwait (a)	110	3,6%
7. Venezuela (a)	108	3,5%
8. China	105	3,4%
9. Libya (a)	95	3,1%
10. Nigeria (a)	95	3,1%

(a) member states of Opec.

Two production areas, the development of which has required enormous efforts, are playing an important part in oil production: the North Sea and northern Alaska.

Due to the Alaska pipeline, the overall production of the United States has again increased. With a production of 54-million tons in 1978, Great Britain can now credit herself with the 16th place.



Star 23/2/79

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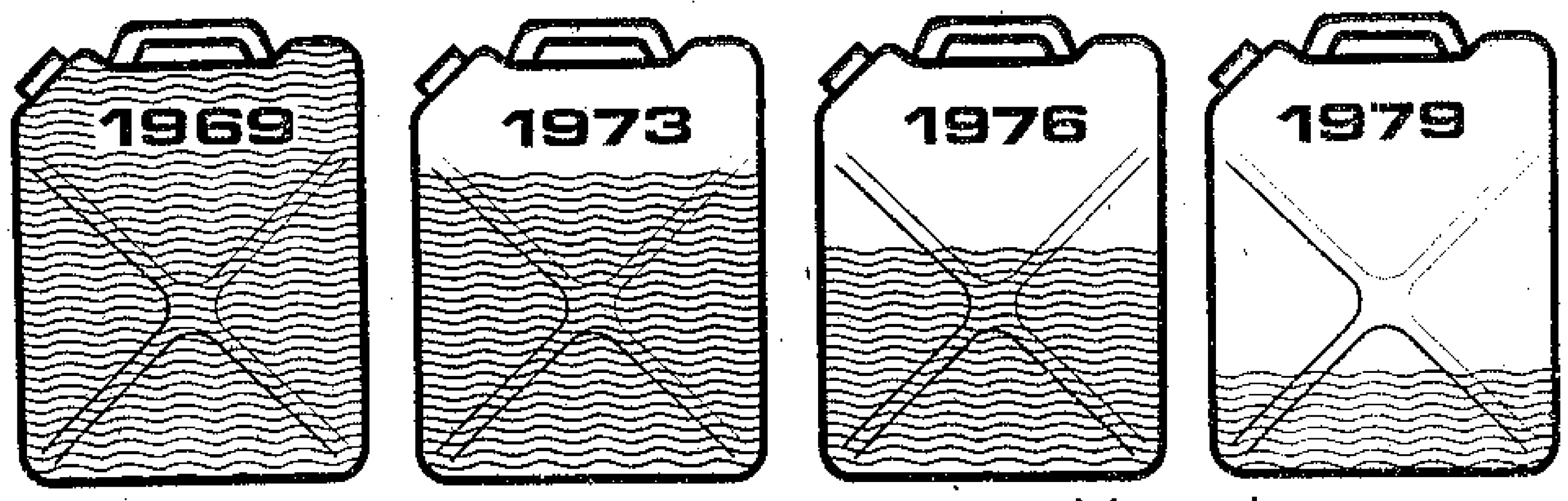
Everything from food to new houses will go up



How the petrol-buying power of your rand has sunk. . . .

'Petrol will cost 50c a litre this year'

By Michael Chester, Financial Editor, and Anne Colley

Petrol will cost 50c a litre before the year is out. This is the forecast of Mr Colin Adcock, managing-director of Toyota, who was commenting on the latest 6c-a-litre rise.

And bank economists today issued warnings of price shocks on everything from shopping baskets to new houses in the chain reactions to the oil crisis.

The warnings were coupled with forecasts of a new damper on hopes of a faster economic revival in 1979.

Dr Johan Cloete, chief economist at Barclays National Bank, said: "The impact of the new 20 percent price increases on fuel will be more like a tidal wave than merely ripple effects. Hardly a single item will escape a drenching."

He estimated an immediate upward twist of the inflation spiral of around two percent all round, to send the consumer price index soaring to around 14 percent — with as bad to come from repercussions in the months ahead.

Family budgets will be hit in virtually every product on the market.

Industry experts believe with the cost of fuel to the farmer rising, the prices of basic food products like wheat, vegetables and maize will rise. Added to this will be an increase in factory processing and transport costs, causing a sharp rise in food prices.

Public transport will suffer cost increases which industry sources believe will lead to a rise in bus-fares.

The South African Railways and Airways are massive consumers of fuel and rail and air fares can be expected to rise. This is expected to place a damper on the holiday trade.

Plastic

The price of cars is likely to be pushed up by higher steel, rubber, plastic, tyre and spares prices.

Because bricks are made using large quantities of oil the cost of housing will go up.

Plastics are based on petroleum products so the price of packaging and containers will increase.

Far more serious is the extent to which plastic is used in manufacturing — virtually every product on the market contains some, from ballpoint pens and buttons to furniture and television sets.

With municipalities and provincial administrations using vast quantities of

P.T.O

This is what you are losing with the higher petrol price announced by the Minister of Economic Affairs, Mr Heunis. Until yesterday 33,3c bought a full litre of petrol (right). Today the same money buys only 850 ml (left). Linda Smith's bright smile will do little to lift the gloom of motorists who have to face the higher fuel bill. The litre on the right costs 39,3c from today — in old-fashioned terms, R1,75 a gallon.

Picture: CLIVE SMITH.

Petrol cost may be 50c a litre

From page 1

fuel, rates and taxes could rise.

Dr Cloete said:

"It is not only higher transport costs that have to be counted," he said, "though those will be bad enough. The cost of fuel in all its uses in the factories and offices will add to the burden on costs of production of almost every single item one can name.

"Higher fertiliser prices will make food prices particularly vulnerable because of higher farming costs. Inflation of food prices is already around 15 percent. It's going to be much worse."

Dr Cloete said it was also necessary now to bring down forecasts of economical growth rates. He had earlier predicted growth at between 3,5 and 4 percent for 1979. Now he expected it to be 3 percent at best.

"In fact, we may be lucky to achieve the feeble 2,5 percent of last year."

Nor could South Africa rely on high gold prices for protection. "Bullion helps the balance of payments but it can do little if anything to protect us from another bout of furious inflation."

Mr Rudy Gouws, chief economist at Senbank, was also concerned about a slower growth rate. Senbank had earlier forecast growth of over 3 percent, even allowing for a 15 percent increase in fuel prices.

"Now we shall perhaps have to scale it down again — though maybe not too much."

Business leaders and economists are almost universal in fearing that still further fuel price rises are inevitable in the next few months because of the heavy premiums South Africa is having to pay for crude oil on world markets now that supplies from Iran have been shut off.

Mr E J Woods, president of Assocom, maintains that the Iranian crisis is having a more serious effect on South Africa than on the rest of the world.

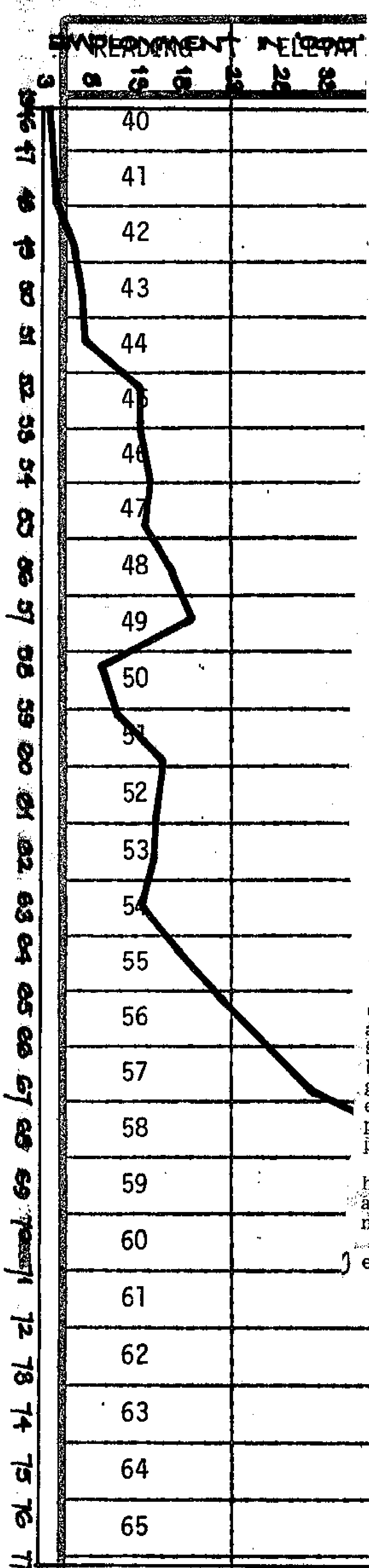
"The increase of about 20 percent in the price of petrol will have a serious influence on the cost of many items. The retailers' ability to absorb the additional costs is lumbered in view of the low profit margins at present.

"Assocom is concerned that this increase can retard the hesitant recovery in the economy and accordingly stresses that it is now more than ever necessary for the forthcoming Budget to contain material tax cuts, particularly for individuals, in order to stimulate consumer spending."

Mr H C Ballingall, president of Johannesburg Chamber of Commerce, remarked: "It's much worse than the public thinks. And there may be worse to come in the next few months."

He too forecast an immediate 2 percent jump inflation with more price increases in the pipeline, plus a 0,5 percent cut in the economic growth rate.

"What troubles us now," he said, "is that any tax hand-outs in the Budget next month may all have to go in paying more for petrol and other goods — meaning very little, if any, increase in demand."



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Petrol—CoL is expected to soar

Argus 23/2/79

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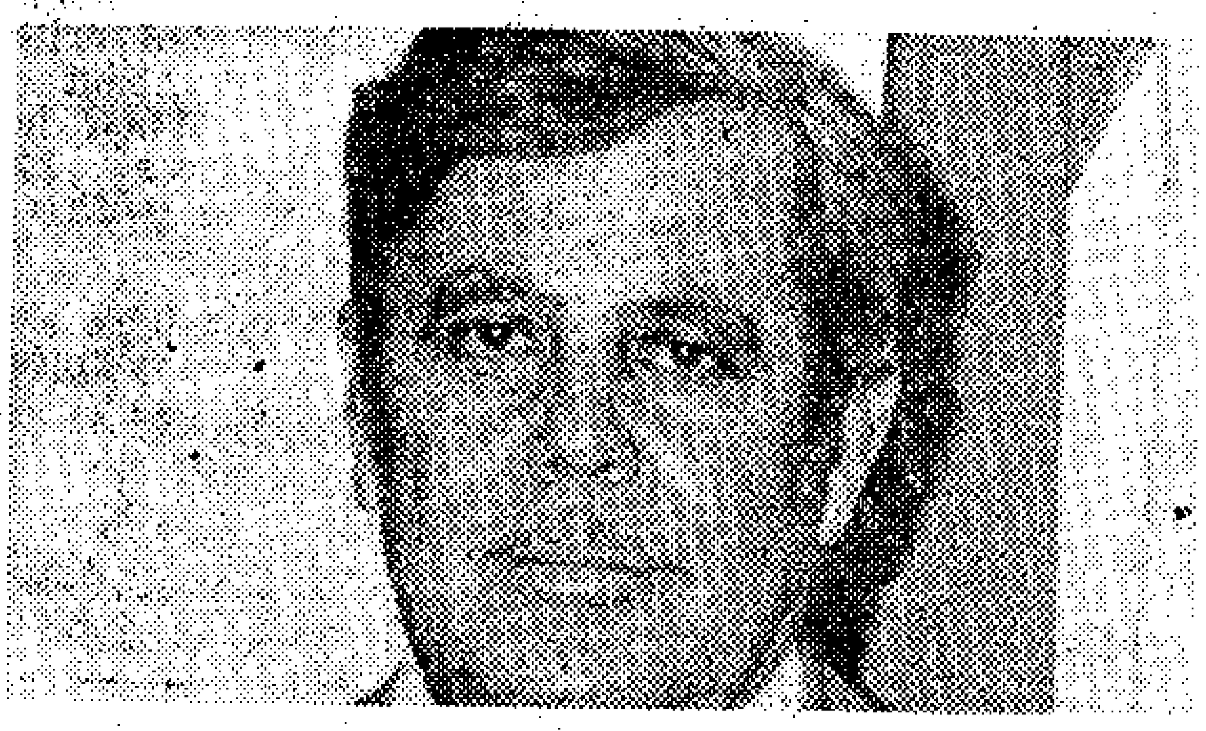
THE shock 20 percent increase in the price of petrol and diesel oil announced by the Minister of Economic Affairs, Mr J C Heunis yesterday, will send the cost of living soaring, leaders of commerce and industry predict.



Mr J C Heunis

What it will cost you to fill your tank

P.T.O

Motoring Editor

WHETHER your car runs on petrol or diesel it costs you much more to run it now — and to fill your tank — than it did yesterday, and even more than it did in December.

Taking it that an average private motorist, who uses his car to get to work and for pleasure, does about 300 km a week, if he has a big car it will now cost him R15,56 a week for fuel against R13 yesterday and R11,66 in December.

For a medium car the cost is now R12,30, yesterday R10,27 and December R9,22; while for a small car it is now R11,58, yesterday R9,67 and December R8,68.

BREAKDOWN

The cost of filling your tank today—with the December figure in brackets is:

- **Alfasud 50 litre tank: R18,15 (R13,60).**
- **Audi 100 75 litre tank: R27,22 (R20,40).**
- **BMW Five 66 litre tank: R23,96 (R17,95).**
- **Chev Kommando 83 litre tank: R30,13 (R22,58).**
- **Datsun 140Y 55 litre tank: R19,96 (R14,96).**
- **Fiat 131 65 litre tank: R23,60 (R17,68).**
- **Ford Granada 100 litre tank: R36,30 (R27,20).**
- **Mini 36 litre tank: R13,07 (R9,79).**
- **Jaguar 104 litre tank: R37,75 (R28,29).**
- **Mercedes 90 litre tank: R32,67 (R24,48).**
- **Peugeot 504 66 litre tank: R23,96 (R17,95).**
- **Mazda 323 61 litre tank: R22,14 (R16,59).**
- **Toyota Cressida 65 litre tank: R23,60 (R17,68).**
- **VW Golf 52 litre tank: R18,87 (R14,14).**

SA's steepest rise — Page 6.

They pointed out that production costs as well as transport costs would be higher and it would be difficult for industry to make any savings in these.

Mr Dick Friedlander, President of the Chamber of Commerce, said a rise in transport costs would put Western Cape industry at a further disadvantage in competing with manufacturers on the Reef, because of the great distance that goods and raw materials had to be sent.

Substantial

The Director of the Cape Chamber of Industries, Mr Jack Roos, said: 'We have not worked out yet what effect this will have on the cost of living.

'But it is bound to be substantial and will affect all sections of the community.

'It will certainly have a marked effect on industries which are large consumers of fuel'.

Diesel oil

Mr Roos said that industry consumed about 18 percent or 19 percent of the country's supply of diesel fuel. But agriculture was an even bigger user of it, and this meant that food costs were bound to go up.

He said that industry had already responded to the Government's earlier appeals to reduce fuel consumption and some firms were switching away from diesel oil to other fuels such as coal, gas or heavy furnace oil.

Savings

Some others could make savings of 10 percent or more in their use of diesel fuel. But others were already sparing in their use of it and could make few further cuts.

Mr Roos thought the 20 percent increase had been unavoidable in view of the fact that this was a world-wide shortage of petroleum-based fuels, and not just a local difficulty.

Both he and Mr Friedlander praised Mr Heunis for his 'wise decision' to expand Sasol II.

Mr Friedlander said the 20 percent increase was 'extremely worrying.'

He pointed out: 'It will obviously have a ripple

(Continued on Page 3, col 2)

Petrol price

Argus 23/2/79

(Continued from Page 1)

effect throughout the whole economy. It will lead to cost structure increases which will obviously have to be passed on to the consumer.

'The inflationary trends in this are clear.'

Mr Friedlander said this brought home the need to spend more on research into other sources of power. Solar heating, in particular, had been neglected in this country.

The petrol price increase, with the possibility of another later in the year, will have a chain reaction effect on the Government's Budget proposals due to be introduced next month.

The higher fuel price will create complications especially for the Minister of Transport, Mr S L Muller, when he introduces his rail budget on March 7.

To meet an increased fuel bill on the railways between R60-million and R70-million the minister is bound to have to put up tariffs.

Higher rail tariffs, possibly in the order of about 6 percent, will certainly give another twist to the spiral of rising consumer prices.

Tax relief

But as price pressures build up, the country is looking to the Minister of Finance, Senator O P F Horwood for financial relief in the form of tax concessions in the main Budget on March 28.

With the Government enjoying buoyant revenues from the higher gold price and in the light of the need for an infusion of life into the economy through greater consumer spending, economists are fairly confident that Senator Horwood will be able to put something back into the public's pocket to meet higher fuel bills.

Because of the huge premiums South Africa must pay on shipments of crude oil, Government sources are already speculating about a further increase in the price of fuels of about 5c a litre later in the year.

Mr Heunis, had no comment on this renewed speculation.

Price spiral fear follows fuel rise bombshell

Mercury Reporter

THE petrol and diesel price rises will push up the cost of most transport operations and will almost certainly lead to bus fares going up.

They will add R700 000 a year to the Durban Transport Management Board's fuel bill while Putco in Durban is faced with an increase of more than R1 000 000 a year.

"Sooner or later there will have to be a bus fare increase," Mr. Clive Stuart, deputy general manager of the DTMB, told the Mercury yesterday.

"We are hoping people will turn to buses now and the extra money will help offset a fare increase. However, previous petrol increases have had very little effect on people's transport trends."

Bill

He said the price of diesel supplied to the board would be increasing by 5,35c a litre — a hike of more than 50 percent on the 10c the DTMB was previously paying for a litre.

The fuel bill, which now stands at R1 400 000, will increase correspondingly, said Mr. Stuart.

The Durban divisional manager of Putco Ltd., Mr. Vic Edwards, said he could not see his company being able to absorb the increased fuel bill. A fare increase was "inevitable".

Mr. Edwards said the Putco fuel bill had increased by R35 000 a month when they had to pay 2c a litre more for diesel in January.

The 6c increase would shove up their bill by R105 000 monthly. He said Putco's head office in the Transvaal would work out the fare hike.

Mr. E. R. Collins, who runs a bus service from Botha's Hill into Durban, said his fuel bill would increase 33 percent. "Without a doubt we will have to increase our prices," he said.

Mr. A. Bisschoff, secretary of the Natal Agricultural Union, said the increased fuel costs would be the last straw for lots of small farmers.

"The time when farmers could absorb such costs or even part of them is long past and the full amount of this increase will have to be passed on."

He said it was obvious the Government would have to give urgent consideration to subsidising food.

This would ensure that farmers could recoup their expenses and at the same time the consuming public would not be required to carry the full burden.

Business

On the business front Mr. Alec Rogoff, the president of the Durban Chamber of Commerce, said yesterday that the petrol price increase was "most unfortunate" when an up-swing in the economy was, at long last, beginning to materialise. The economy would be checked and inflation boosted.

"It is now more necessary than before to introduce other measures to stimulate economic growth."

Mr. Rogoff suggested an early repayment of a loan levy to individuals and the lowering of marginal tax rates for companies and private persons.

In addition, the inflationary impact of the petrol price increase could be off-set, to some extent, by the abolition of the import surcharge.

Taxes

Mr. Roland Freakes, the executive director of the Natal Chamber of Industries, also called yesterday for "meaningful" tax concessions in the next Budget.

There was now a very real need for fuel saving by all sectors including the Government itself.

"Customers can make their contribution by being less exacting in their demands in respect of precise delivery times.

"The Government can eliminate red tape which has given rise to the so-called 'empty-leg returns' and over-cautious limits on axle loadings.

"Increased fuel prices will act as a further incentive to rationalise transport systems but there is a limit beyond which savings cannot be effected."

A Durban broker said that the Johannesburg Stock Exchange was "subdued" by the rise in fuel prices.

Railways

It seems likely that a crash programme to electrify more railway lines is likely to emerge soon, possibly when the Railways budget is announced on March 7.

At the date of the last Railways report, March 1977, there were 1 827km of lines being electrified. At that stage of the 17 projects only five were to be completed after this year.

The average of about 400km added to the electrified lines each year could be stepped up rapidly but the building of the electrical plant and equipment is a problem area dominated partly by supply difficulties.

Although it would be possible for the Railways to bring steam engines out of mothballs, the diesel and electric units are more powerful and in the case of

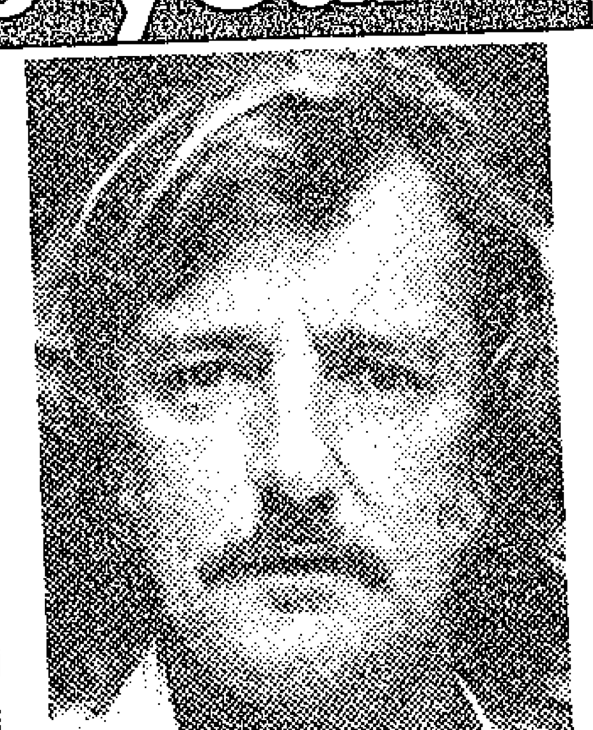
What's your opinion?

Mercury Reporter

MOTORISTS described the 20 percent increase in the cost of petrol as being better than rationing which they were thankful had not been applied.

In a snap survey at a petrol filling station, motorists filling up for the weekend told the Mercury that they would use their cars less whenever possible.

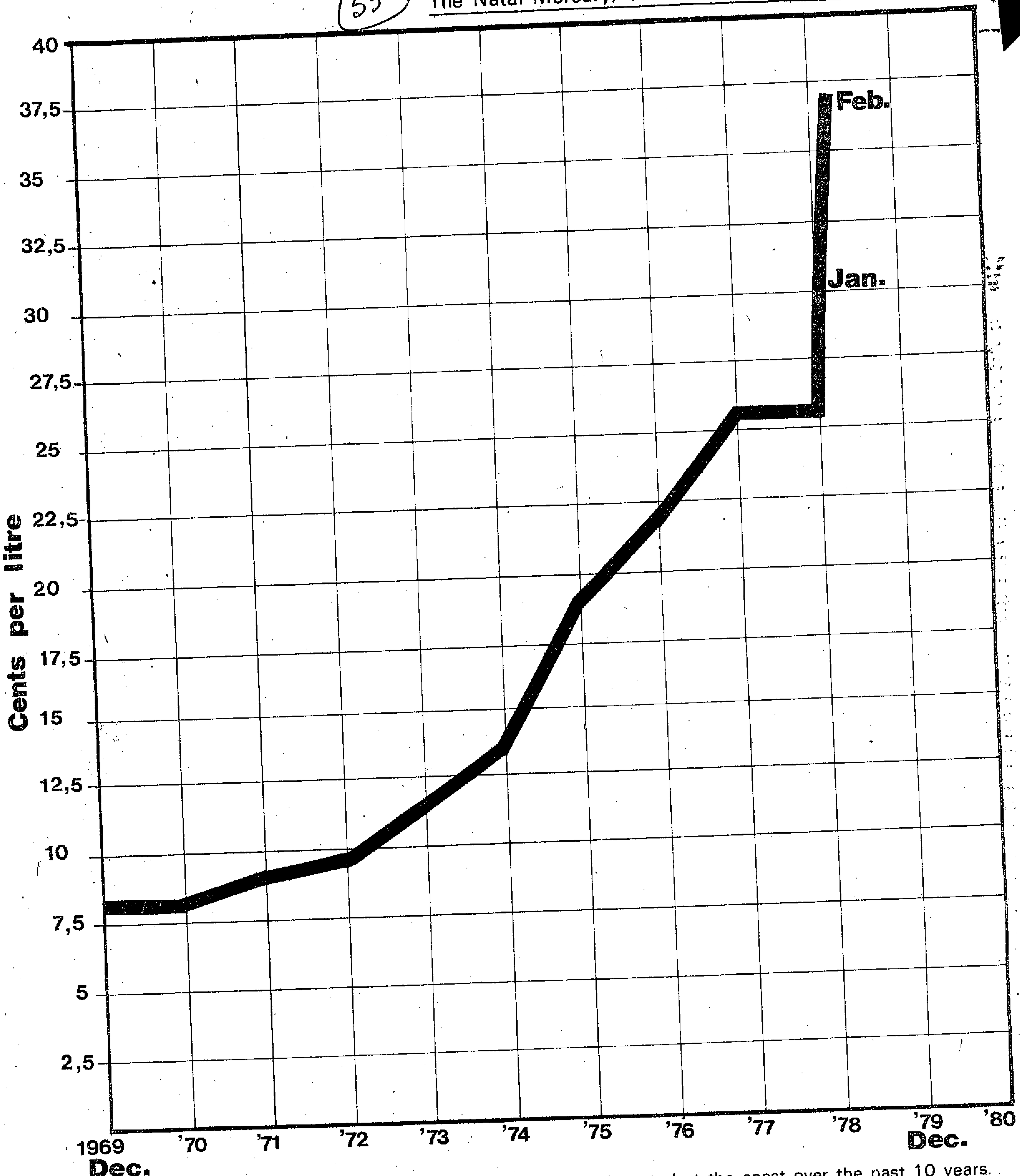
MRS. Léda Streicher of the Bluff said: "I ride a motorbike to work and leave my car at home — it's much cheaper."



MR. Leo Rogers, owner of a driving school, said: "I may have to increase my fees — people may think twice about buying cars."

MR. Daniel Matyeka of Umlazi is a salesman with three cars: "I'll sell two of them and catch a taxi to the bus stop as from Monday."

MR. I. Wilkinson said: "I use the mini at weekends and put the big company car in the garage."



A GRAPH of the increases in the price of premium grade petrol at the coast over the past 10 years.

electrical units appear to be the only solution to the oil crisis.

The fuel price increase will cost Pietermaritzburg Corporation's Transport Department at least R260 496 a year, the transport manager, Mr. D. D. Schumann, said yesterday.

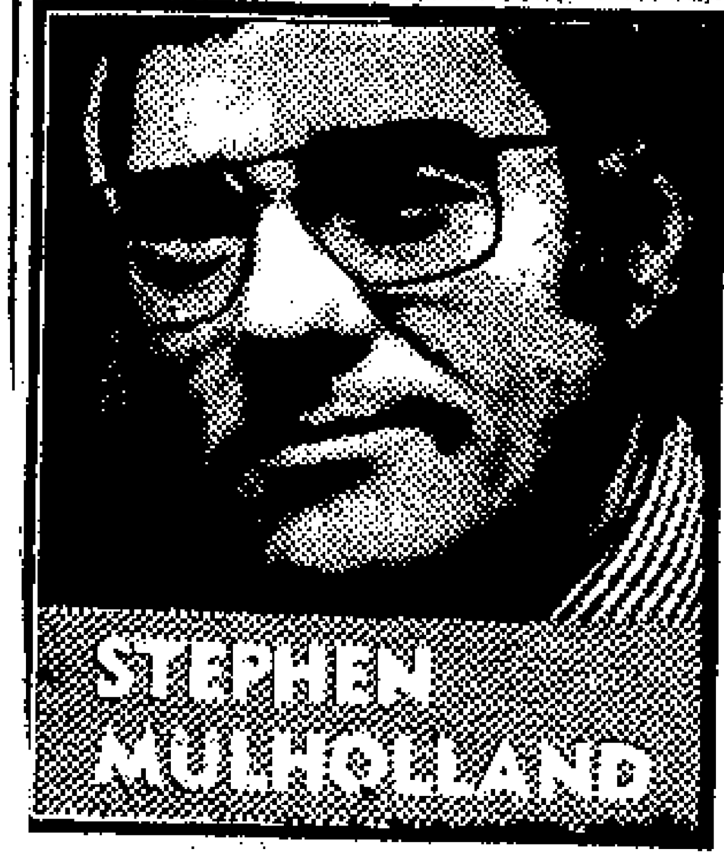
He warned that the increased financial burden on the department would almost certainly lead to fare increases.

Mr. Schumann called on the Government to finance investigations into adopting the trolley bus system for public transport.

Pietermaritzburg Chamber of Commerce yesterday called on the Government to make "every endeavour" to inhibit any further price increase in the immediate future.

In a statement yesterday the chamber said the Government should recognise the effect of such increases on the economy as a whole at a time when there was widespread concern about ever-increasing unemployment.

The chamber said the increase would not only hit motorists but would have a ripple effect throughout the entire economy in the form of increasing consumer costs.



Let's get the petrol hike into focus

Sun. Times Bus. 25/2/79

(55)

LET'S get the petrol price increase in perspective.

Hysterical references to "soaring" rates of inflation and setbacks to the economy because of the 18 per cent increase in the petrol price are, to a large extent, uninformed and poorly based.

In 1979, South Africa's gross domestic product — in general terms the sum of all the goods and services produced in the country — was of the order of R40-billion (or milliard, to use the less descriptive metric term).

The oil bill was of the order of R1,3-billion, or 3,3 per cent of the total. Thus, in simple arithmetical terms, this week's 18 per cent increase in the petrol price should be applied to 3,3 per cent of the total economic output in order to gain an accurate perspective of its effect.

This is not to say that the increase is not regrettable, nor is it suggested that there will not be an effect on our life-styles.

However, misled as they sometimes are, the ordinary public consistently confuse specific price increases with the phenomenon known as inflation.

Inflation is the persistent rise in the general price level sustained over time. It is not the increase in price of particular goods or services.

Inflation cannot occur unless sufficient money is created to accommodate price increases. If money is not created to accommodate price increases, then the public as a whole will either have to cut back on consumption of the service or article whose price has been increased, or consumption of something else will have to be cut.

For example, if you insist on using the same amount of petrol at 39c a litre that you used at 33c a litre, you will have to cut back on something else, say beer or cigarettes. Or you can also dip into your savings.

In a society free of price controls this means that as demand for some products, say beer and cigarettes, falls following price increases of a more desired product, say petrol, then the price of beer and cigarettes should fall on the simple premise that the less demand there is, for something the lower its price is in the market.

In other words, in the absence of accommodating money supply increases, a single price increase, no matter how great the increase and regardless of the commodity in question, will result not in inflation, but in a re-ordering of consumption patterns.

To return to this week's petrol price rise and accept, although it is erroneously based, the argument of those who say it is in itself inflationary, we are then faced with a position in which roughly 3,3 per cent of the gross domestic product is to be increased in price by 18 per cent. This translates into a 0,6 per cent increase in the cost, or measure, of the GDP.

(Incidentally, the Department of Statistics gives a weighting of 5,6 per cent to "Other Transport Goods", which classification presumably includes oil, in the consumer price index).

These arguments also fail to take into account the effects the price increase will have on consumption both directly through reduced consumption and indirectly through more efficient use.

Further, the Government and the Reserve Bank have in recent years shown a healthy respect for monetary restraint and it is therefore unlikely that money supply will be permitted to rise to accommodate the petrol price increase, moderate as it is in overall terms (as our analysis indicates).

Over the past five months South Africa's inflation rate has been running at about 6 per cent on an annual basis. It will be higher for a full year but, even with the petrol price increase (countered to an extent by the deflationary effects of the rise in the value of the rand) it is unlikely to reach the double-digit levels suggested by alarmists.

Sunday Times

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THE PAPER FOR THE PEOPLE

Facing up to the fuel problem

THE problem of supplying energy to our expanding industrial society is, like the problem of suppying food, a permanent one. It will not go away in this century. That the problem is exacerbated by politics is beyond question; but even political remedies are not easy to perceive. If the Rhodesian experience is any guide, not even majority rule would suffice unless it happened to install in power the parties preferred by those who control the oil tap.

Hence the Government is to be congratulated for facing up to reality. Some scientists will argue that there are better remedies than a third Sasol plant; but by the time that argument has been thrashed out Sasol III will have been built. Obviously, both the Government and the scientific community should now focus their attention on Sasol IV, or the alternatives.

Meanwhile, it is wise to rely on price to deal with the immediate shortages. There is no such thing as a free lunch — *somebody* pays — and any attempt to subsidise special interests will in the end simply interfere with the efficiency of the adjustment that must be made.

Cheap fossil fuel has underlain the revolution in Western lifestyles that came when every man could aspire not only to a chicken in the pot but to a car, or two or three, in the suburban garage. It was a lovely, golden time, and it is coming to an end — a bit sooner in South Africa than elsewhere.

It is fruitless to exhort people to save energy; the effect wears off very soon. It is almost as pointless to hound them through the courts for speeding. The way to deal with the problem is to let every man make his own choice whether he wishes to squander his money on expensive fuel or to save it for other purposes by making frugal use of energy.

The adjustments will follow rising prices almost automatically as each individual weighs a distant suburban house against a flat in town, as each industrial user weighs the cost of heating oil against the cost of coal, as each commuter weighs the time taken in commuting by bus against the cost of using a car.

No bureaucracy can perform this task half as as well. Provided the Government resists the pressures to distort the process in order to protect special interests, we are well on our way to coping with the problem.

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per annum growth rate to 1976 is positive though low (0,4 per cent per annum). The peak-to-peak growth-rate (1970-73) is postive and higher at 0,8 per cent per annum. Of course both of these are lower than the projected average growth rates of 1,7 per cent to 1,9 per cent per annum for the decade.

There is one further complicating factor which is almost certainly accounting for some of the very slow growth (or actual decline) in mining employment in the period viz. the fact that at times the gold-mines (and other mines e.g. coal?) have been operating at below desired levels of capacity because of socio-political influences (of several sorts) on their supplies of black labour. We cannot at this stage make an adequate statement about the statistical dimensions of this crucial effect but we hope that further

Sasol decision must affect capital market

Sun. Trib. 25/2/79

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By BEN TEMKIN

THE DOUBLING of the capacity of Sasol II at a cost of R3 276 million radically changes expectations on the capital market for this year.

While a major part of the cost is to be met through the new fuel levy, it is intended private enterprise should be invited to subscribe for something like half the capital outlay. It may well be that this subscription will be in tranches, but, even, so R1 600 million will have to be set aside for the purpose.

And the least that would be taken in a first tranche would be around R500 million.

That is a large amount of money to drain out of the system, notwithstanding that it is liquid right now.

The growing uncertainty on interest rates will be made that much clearer in the knowledge that there will not be as much money available in the capital markets as was thought. In fact, a reversal in the falling interest-rate trend has been brought that much nearer.

It would be foolish to expect an immediate about-turn in the trend as the pressure for money will not start immediately.

In any case, the raising of the petrol price is bound to put a dampener on the plans of manufacturers of a wide range of commodities who were expecting a substantial rise in consumer demand.

Higher spending on petrol will mean a shift in demand from other products so consumer demand could fall in a number of sectors — including the motor sector, which must do well if the economy is to do well.

It should also not be forgotten that Senator Horwood's March important tax concessions for individuals. These concessions could yet have the effect of bolstering consumer spending notwithstanding higher prices for goods because of the petrol price rise and the higher price of petrol itself.

What seems likely in the immediate future, therefore, is that manufacturers and retailers will hold back on their borrowings.

This may well keep interest rates on a downward trend for a few months yet. And this trend will be accentuated by the State's desire to hold down rates to promote economic growth.

In short:

- Interest rates will continue to soften for a while yet because of the changes in expectations on consumer demand and economic growth.
- The reversal in the interest rate trend will now come sooner rather than later, however, because of a possible Budget boost to consumer spending as well as the reduction in market liquidity.

Oil crisis 'shows need for change'

(55) Star 27/2/79

Political Staff

THE ASSEMBLY — South Africa's priorities had to undergo a fundamental change as a result of the oil crisis, Mr I F A de Villiers (PFP Constantia) said yesterday.

More than ever economics now had to govern the pace and style of political change.

South Africa could no longer tolerate the slow slide into negative growth, unemployment, underutilisation of human resources and direction of capital by political aims before economic essentials.

Mr de Villiers called for a contractual programme of reform that could command the confidence of white, black and brown people and of the Western democracies.

Radical options could no longer be deferred to some other time and place, for if they were not made now it might soon be too late, Mr de Villiers said.

Mr Harry Schwarz (PFP Yeoville) said the oil price increase was hitting the entire community so, the benefits of the increased gold price should also be shared by all, through tax concessions to every individual taxpayer.

The leader of the New Republic Party, Mr W V Raw, said the public had hardly recovered from the general sales tax shock when they were hit by the new fuel tax.

A few of the elite, like Dr Connie Mulder's "super de luxe jet set" had lived it up on taxpayers' money, with tens of millions wasted, while people were struggling to exist, Mr Raw said.

Earlier the Minister of Finance, Senator Horwood, said inflation remained a serious problem, especially with the petrol price increase.

Last year the consumer price index rose by 11,3 percent, but the economy should perform substantially better this year than last year.

55 80

28/2/79

Oil: SA can cope — director

JOHANNESBURG — South Africa would be independent of foreign energy sources by 1990 if a policy aimed at making her self-sufficient was adopted without delay, the managing director of a South African oil company, Mr H. Hough, said here yesterday.

Opening the convention of the Association of Municipal Energy Undertakings, he said the Republic had the potential and technology to achieve this.

Meanwhile, Iran's oil exports initially will be sold directly to the highest bidder at a suggested price of R15,30 — R17 a barrel — well over the benchmark rate set by the Organisation of Petroleum Exporting Countries, the head of Iran's oil industry announced yesterday.

Mr Hassan Nazih, new managing director of the National Iranian Oil Company, said exports would resume on March 5, and first sales would be on a spot basis.

"There are several foreign tankers in Iranian waters ready to take on oil. These are expected to dock within a few days," he said.

The NIOC's past agreement with an Euro-American oil consortium was under review, and "we will not be willing any longer to deal with the consortium under the past conditions. We will not give any discounts."

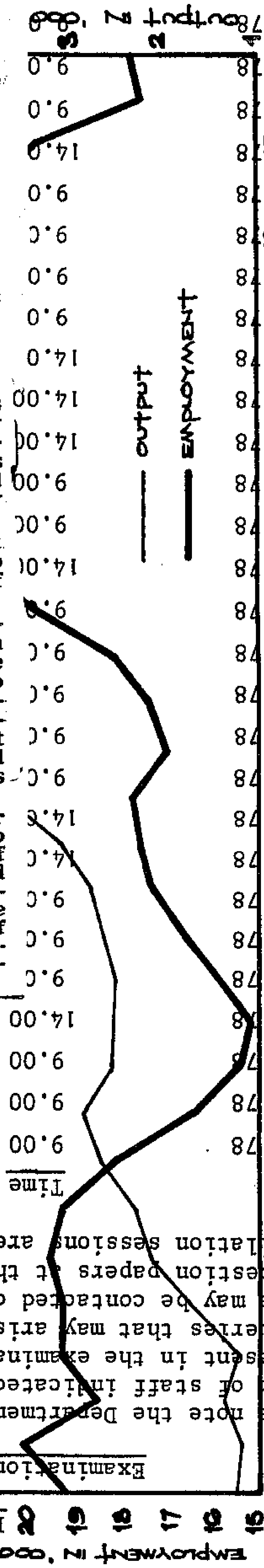
Iran had sold the bulk of its oil to the consortium, lead by British Petroleum, at a discount of 15,3c a barrel.

Oil industry sources have predicted the new revolutionary government will sever its ties with the consortium, and attempt to sell oil directly to the world market.

But oil experts doubt the country's ability to do so, so soon after a year of political upheaval.

Kuwait yesterday raised its oil prices by R1,02 a barrel — becoming the fifth Opec country to do so — but Saudi Arabia announced it would maintain its present prices at least until it has consulted its partners in a month's time.

Saudi Arabia called for urgent consultations "to prevent the worsening of the energy problem, and to prevent a few oil companies from reaping huge profits at the expense of the oil producers and consumers." — DDC-SAPA-RNS-AP.



New petrol shock fear

Argus 28/2/79 (55)

RUMOURS of another petrol price rise on top of the 6c a litre increase last Friday have been circulating in Cape Town today.

The rumours are that the price increase could be as high as 5c a litre.

The Minister of Economic Affairs, Mr J C Heunis, declined either to confirm or to deny the rumour.

His only reply was: 'No comment.'

The Public Affairs Manager of Shell, Mr A Liebenberg, was unable to confirm the rumour but said: 'It will come as a terrific shock . . . but it is possible.'

A Table View garage owner said: 'The public will go mad if this is true.'

He said he had no official comment yet but when the last increase came about rumours started on Friday morning and the official announcement was made only at 6 pm.

The Argus switchboard was inundated with calls from members of the public who had heard the rumour last Friday. The calls came at the rate of three every five minutes.

Sasol can produce diesel

PRETORIA — Sasol 3 would have facilities to produce diesel fuel from South Africa's surplus supplies of creosote, the managing director of Sasol, Mr J. A. Stegmann, yesterday told a Unisa symposium on the oil crisis.

Mr Stegmann said there was an incorrect belief that Sasol could not produce diesel fuel.

"Although our production is aimed mainly at gasoline because of improved extraction techniques, we can now produce gasoline and diesel in equal quantities."

He said the original Sasol technique would be used in Sasol 3 because they had been optimised by technical improvements.

Details of the participation by public and industry in financing of the R3 276 million extensions to Sasol would be released by the middle of the year, Mr Stegmann said.

The extension would be about a kilometre away from the Sasol 2 plant, although it would make full use of the existing infrastructure and services at Secunda, Mr Stegmann said.

"Sasol is already the world's leader in the production of liquid fuels from non-petroleum sources and this has made a great contribution to reducing our dependence on imported crude oil," he said.

This had enabled the country to experience an economic revival sooner than most Western countries, in spite of the fact that the economic recession after the 1973 oil crisis started here later than elsewhere in the world. — DDC.

Certain variables tended to cluster together and were directly related to each other. We found that the size of land cultivated, maize yield, number

Nations meet for oil talks

55

2/3/79

Mercury Correspondent

LONDON — Major oil-consuming countries are meeting at the Paris-based International Energy Agency to decide on conservation measures to curb oil imports.

Besides South Africa, the United States and the United Kingdom have indicated they would take steps to conserve oil.

In the U.S., President Carter is asking Congress for powers to ban weekend petrol sales and to introduce some forms of petrol rationing.

Though such steps are likely to be only a last resort for the U.K., the British Government will be burning 5,5 million tons a year extra coal in power stations, reducing the use of oil-fired stations.

More than 400 million barrels of crude oil have been lost to the world market in the past three months because of the crisis in Iran. According to IEA statistics, stocks are declining at a rate of 3,4 million barrels a day compared with the normal two million barrels a day — for winter consumption.

Iran has formally signalled the end of its agreement with British Petroleum and the rest of the oil consortium in Iran. This consortium used to handle two-thirds of Iran's oil exports.

Instead, Iran plans to restart exports by selling to the highest bidder next week and is anticipating prices of 18 to 20 dollars a barrel.

Other oil producers are currently asking prices from 13,34 dollars to 15 dollars, while the spot market is trading above 20 dollars.

BP which has a 40 percent stake in the Iranian consortium, has already cut back deliveries by 45 percent, while Shell, another consortium member, has cut supplies by 15 percent.

The loss of oil supplies as a result of the Iranian shutdown is now down to two million barrels a day, after taking into account extra output from Saudi Arabia and others.

With oil supplies down by three to four percent, it is expected that nations will agree to voluntary action.

One of these measures will be increased use of coal as an energy medium and in a report on steam coal to the year 2000, the IEA strongly recommended this fuel.

South Africa was featured in the report as a country with a major coal export potential.

Big three bid for big Escom coal contract

55

2/3/79

JOHANNESBURG — Escom has called for tenders for the supply of coal to feed two new power stations which, when commissioned in 1986 and 1987, could cost about R1 000 million in today's money terms.

The major coal mining groups have been asked to submit tenders by the end of this month for the supply of steam coal to Escom which would be sufficient to meet the needs of two 1 800 megawatt plants at a rate of about five million tons a year over a period of 40 years.

Three groups — Anglo American, Barlow Rand and General Mining — are known to be tendering for this competitive contract.

High on the list of Escom's priorities is the problem of pollution. Pollution authorities feel that there are too many power stations in the Eastern Highveld, which together with Highveld Steel and the ferroalloys plant at Machadadorp create a high level of air pollution.

Escom is therefore looking at developing coal fields which are not too close to this area.

In accepting tenders, however, Escom will take into account such other factors as the cost of the coal, sulphur dioxide content in the coal and the potential to expand beyond initial requirements.

Escom's plans are to erect two new power stations with an output of about half of that which will be produced by the new Duvha and Matla plants. These two, which cost about R1 000 million each from the planning stage to the production stage, require a feed of about 10 millions tons of coal a year.

Escom, however, will be looking at the development of smaller stations which could be erected closer to growth load areas.

The commission will not necessarily stick rigidly to this requirement and will also consider tenders which can provide the supply of larger quantities of coal with a resultant increase in the size of the power stations.

Before these two new power stations are commissioned, Escom will increase its electricity output by another 500 megawatts from the Kriel station and by an additional 7 200 megawatts from Duvha and Matla.

A further 2 000 megawatts will be supplied by the Koeberg nuclear station in the Cape, as well as the benefits which will flow from the Drakensberg pumped storage scheme. — DDC.

If an average of 1968-70 is taken as the base then the 7-year compound per annum growth rate to 1976 is positive though low (0,4 per cent per annum). The peak-to-peak growth rate (1970-73) is positive and higher at 0,8 per cent per annum. Of course both of these are lower than the projected average growth rates of 1,7 per cent to 1,9 per cent per annum for the decade.

There is one further complicating factor which is almost certainly accounting for some of the very slow growth (or actual decline) in mining employment in the period viz. the fact that at times the gold mines (and other mines e.g. coal?) have been operating at below desired levels of capacity because of socio-political influences (of several sorts) on their supplies of black labour. We cannot at this stage make an adequate statement about the statistical dimensions of this crucial effect but we hope that further

ENERGY

Gas burning bright

The latest oil crisis has prompted a surge of interest in gas as a source of energy. "Gascor has received many calls from potential gas users," says Clarence Keyter, PRO for Sasol, which has a half share in SA Gas Distribution Corp. The other half is held by IDC.

Gascor was set up 15 years ago to pipe gas to industry on the Reef and in the Vaal Triangle. By the time a new pipeline to the West Rand was completed late last year, Gascor was supplying almost 500 customers through a 400 km network of high pressure pipelines. "Extensions to the existing network are continually being made to serve industrialists where this can be economically justified," says Keyter.

At present Gascor supplies about 36% of the energy needed for industrial heating within its marketing area. Gas is the second largest energy source in this region, after coal, which has a 45% market share. Keyter reckons that gas has almost completely replaced oil-based fuels for industrial heating in the PWV area.

Gascor's gas is manufactured by Sasol from coal. Sasol 2 and 3 will also have substantial gas-producing capabilities. The gas consists mainly of hydrogen, methane and carbon monoxide.

Thanks to a very low sulphur content, fuel gas is mainly used in heat sensitive applications such as the treatment of metals, glass and ceramics manufacture, food processing and the melting of non-ferrous metals. Gascor's tariffs encourage consumers to regulate gas consumption as evenly as possible.

FUEL SAVING

Devious duds

55 FM 2/3/79

Like a phoenix out of the ashes rise a multitude of fuel saving devices every time the energy crunch intensifies. With the latest 20% SA fuel price hike and Saudi Arabian Oil Minister Sheikh Yamani's warning that Opec oil prices could rise by more than 50% to \$22 a barrel by year's end, interest in these devices is likely to be intensified.

However, an *FM* spot check reveals that few motor spares retailers bother to stock them. Retailers share an SA Bureau of Standards staffer's retort: "We've tested more than 50 devices over 22 years. None has ever realised manufacturers' claims."

Unheard of

Commenting on recent media reports of a UK-designed device, claimed to save up to 30% on fuel and reportedly undergoing SABS tests prior to launching in SA, the SABS spokesman says: "Devices we've tested have never saved even 5%. 30% is unheard of."

Fuel Research Institute Engineering Division chief Dr Donald Clark reports that a "considerable number" of ideas and gadgets have been submitted for testing. "If it looks at all feasible we test it." No one "really significant, consistent saver" has been found. Some devices have achieved small savings of 2%-5%.

Fred Bothma, AA Technical Services executive, concurs. "We've tested roughly 30 devices over the last four to five months. They fall into two categories — some offer no benefits; others aren't fuel saving devices as such. I call them tune-correctors." Improved petrol consumption, he adds, could be achieved simply by tuning the carburettor correctly.

Ford SA is testing a device designed by British research engineer Dr Alan Williams. Basically a secondary carburettor, it works on the principle that 25%-30% of petrol in ordinary carburettors is not vaporised.

Williams' device is claimed to correct this, achieving petrol savings of up to 30%. Ford is sceptical. Says a spokesman: "Of the devices evaluated to date, none has shown an overall improvement in engine efficiency. Ford has no plans to incorporate any such devices at this time."

The Johannesburg Municipality, faced with an across-the-board 10% fuel cut edict, remains equally disenchanted with devices tested. "They don't affect savings anywhere near the claims made."

What can work it seems is the type of device that monitors driving, on the principle that careful driving lends to savings. Newest on the SA market is an electronic driver aid, Kiloking, manufactured by Sparrat Electronics, a Federale Electronics subsidiary. Retailing at R395, it claims to help drivers improve fuel consumption by an average 21% on the basis of an electronic sensor measuring driver performance, especially excessive throttle pressure.

Kiloking GM Martin Flint says the sensor, (currently designed for diesel engines only, with a petrol unit in the final prototype stage), has been tested by Afrox, the SA Railways, and the Pretoria Municipality. An SAR heavy diesel truck, over 11 months and 45 000 km, yielded a 32% saving. Flint says current production is 500 units a week; and the target is 1 000 a day once the export potential is developed.

Speedocruise, a speed control device (retail price R121, fitting charges R35-R45, depending on car model), is manufactured by Asseng subsidiary SA Engine Components. "Most of the high line models (Jaguar, Rover, Chevair Berlina, Chev Commodore, Datsun 280, Alfetta, some Fiat models) in SA have it installed as original equipment," says sales manager Harold Bellson. He stresses the device's sales pitch is on cruising comfort at electronically set speeds, rather than fuel saving per se.

"We won't quantify fuel savings." Users claim fuel savings are as high as 10%-15%.

Unit sales in 1978 were roughly 15 000. Bellson expects this to be maintained, but adds that sales of 2 000 a month could be achieved in 1979 with the present fuel crunch.

Motor manufacturers are adopting a conservative attitude to devices of any kind it seems. Says Ford: "The main emphasis is on improving and modifying design to effect fuel savings. We're looking at mass reduction using plastics and alternative components. Aerodynamics also play a part. And we recognise the probable use of gas additives."

OIL

Sasol 3's long-term pay-off

(55) FM 2/3/79

When the first units of Sasol 2 are commissioned at the end of the year, they should be economic in comparison with the planned Opec benchmark for Arab light crude of $13,97 a barrel; and when Sasol 3 (actually, an extension of Sasol 2) comes on stream in 1982, by which time the official price of Arab light crude could be $20 a barrel, it too should be economic, at a retail price which could be by then another 10c/l higher than now. By then, top government officials hope, Sasol could be exporting technology.

But the short-term picture is by no means as bright. The cost of surviving the oil crisis, both through expensive imports and the painful financing of the new Sasol plants, could stop economic revival dead in its tracks unless there are meaningful countermeasures in this month's Budget.

The price of petroleum products has gone up 9,2c/l since the beginning of the year — of which between 7c and 7,5c is an additional levy being paid into the Strategic Oil Fund. Top priority is to meet the premiums on current crude oil acquisitions; the balance will go first to the Sasol 2 fund to hasten its completion by the end of the year, and then to start building up a kitty for Sasol 3.

The previous 4c/l levy financed nearly 63% of Sasol 2 over the past four or five years (R2,6 billion).

Now, with the additional 7c-7,5c, consumers will be paying at least 11c/l to SOF.

Top government sources put current imports of crude (net of re-exports to the BLS countries, Malawi, and Zaire, and stockpiling — Rhodesian supplies, which are modest, probably come from Sasol 1) at 250 000 barrels/day. This is well below pre-Iran levels of 320 000 barrels/day, but is still enough to add R4,4m a day to the SOF.

Just how much of this is being used to even out the crude oil premium is a closely guarded secret; but it could be as much as 1,5c of the January price hike of 3,2c/l plus all last week's 6c/l increase. This 7,5c/l total is equivalent to $12 a barrel, or more than 100% on the Opec marker crude. That's probably more than we're actually paying — few purchases by SA include a premium of more than $5 a barrel. So it seems that government plans to build up a solid balance on the oil equalisation fund over the next few months and will then start building up funds in preparation for Sasol 3.

More than R1 billion

At current import rates, 7,5c/l, the additional SOF levy since the beginning of the year, tots up to just over R1 billion a year — all of which will be effectively removed from domestic spending power by spending on offshore oil premiums, sterilisation in the Sasol 3 fund, or preemptive foreign purchases of plant.

If sanity returns to world oil trades by the end of the year, and the marker crude oil price stabilises between $14 and $15 a barrel for international outcasts like Israel and SA, levy contributions to Sasol 3 could begin to mount at 7c-8c a litre and finally contribute close to two-thirds of its projected cost of R3 276m — even more, if economic pick-up leads to higher consumption.

That would leave about R1 billion to be funded from government and private sector equity, loans and export credits.

The prospectus of the Sasol 3 equity issue is due to be published in mid-year. Its success will obviously depend on earnings forecasts. But government officials are confident that, in spite of possible adverse international political reper-

IRAN's DWINDLING BARRELS

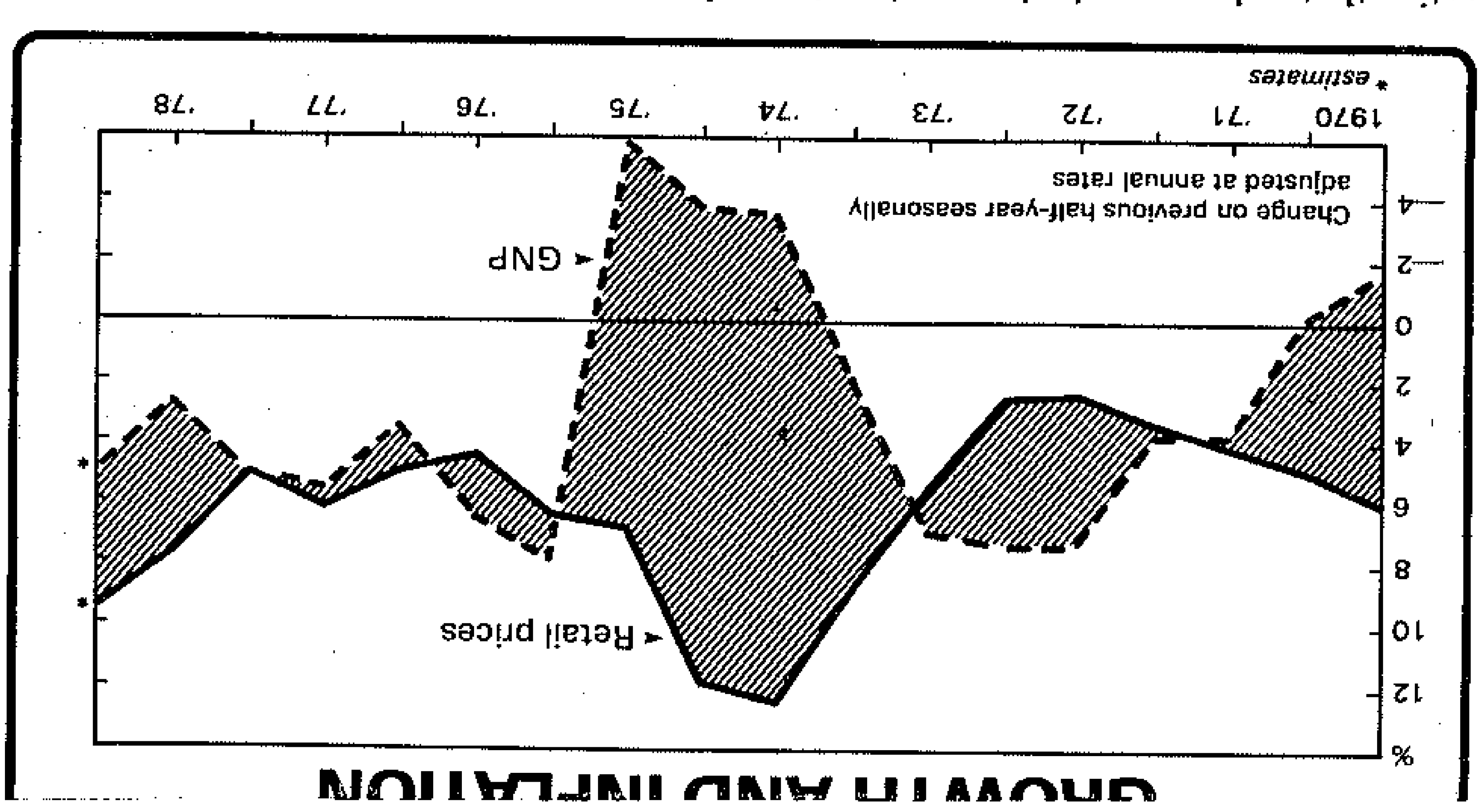
Iran plans to resume oil exports from the Kharg Island terminal, in the Gulf, next week, but the international oil companies will have no share in the market. National Iranian Oil Co chairman Hassan Nazih said this week that the 14-member Western consortium that has handled most export sales for the past 25 years will be "omitted from the oil industry's dictionary".

NIOC plans to sell direct to individual oil companies by auction on a spot basis with no discounts, and is hoping for prices of $18-$20 a barrel.

NIOC says Iran is now producing about 1,5m barrels a day, against 6,5m barrels (of which 5,7m barrels was exported) last October. If true, this is a Mohammad Ali Narvegh has said there are no immediate plans to raise output, Nazih claims Iran is capable of producing 6m barrels a day without foreign technical assistance. Outside sources regard this as a substantial over-estimate, putting the figure at no more than 4,2m barrels/day, and even that only by the end of the third quarter of 1979. Assuming Iranian consumption remains the same, this would leave only 3,4m barrels for export — a 40% decline.

Some Opec members are believed to be pressing for further oil price increases above the 14,5% agreed in Abu Dhabi last December, to take advantage of the supply shortfall.

GROWTH AND INFLATION



notice that only a convincing moderation in the rate of price increase will dissuade it from seeking a settlement above 7%.

For the most part, private economists believe that the inflation rate will slow, but not by as much as the administration thinks. Most private forecasters estimate inflation this year at between 8% and 9%.

fear.

One possible contributor to inflation and a sharper, deeper recession is the resurgence of the oil problem. The loss of about 5m barrels a day of oil from Iran drove the world almost instantly from a position of ample supply and moderate prices to a state of shortage and rising prices.

prospects for improvement, recently caused the administration to cut its estimate of the economy's long-term potential for growth to 3% from 3,75%.

Productivity is tied closely to employment. Last year, the poor rate of productivity growth forced business to hire many more workers than they otherwise would have. Despite a startling increase in the number of Americans seeking work, the unemployment rate remained relatively constant.

That apparently cheery news is not so cheery, for if productivity shows the modest improvement in 1979 that the administration is expecting, business will need fewer workers and unemployment could begin to rise.

All in all, Carter's economic policies are hanging on by a thread. His foreign difficulties might seem more serious, but the reality is that the American voter chooses his president on the basis of not foreign policy but domestic affairs, principally the economy. With the next presidential election (November 1980) coming steadily closer, the state of the economy will become an ever more pressing problem for Carter.

Nuclear power costs escalate

NM 2/3/79

Parliamentary Correspondent

CAPE TOWN — The cost of the Koeberg Nuclear Power Station has risen by R580 million since September 1975 due to price escalations and increases, including the new import levy and general sales tax.

This figure, based on Escom estimates, was given yesterday by the Minister of Economic Affairs, Mr. Chris Heunis, in reply to a question from Mr. Theo Aronson (SAP, Walmer).

Mr. Heunis said the cost of the main contract, plus additional fees and facilities, was estimated at R1 818m at 1979 cost levels.

"It is estimated that R814 million will be spent on the main contract for the construction of the power station and the first reactor, and R754 million on the second reactor.

"In addition it is expected that a futher amount of R250 million will be spend on items common to both reactors," he said.

Mr. Heunis said that, since March 17 last year, Escom had exercised further options.

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US oil companies well in the black

Business Times looks at the international scene

By JIM SRODES
New York

AMERICA'S major oil companies are facing more than one set of problems — and not all of them are bad.

There is the Iranian crisis to be sure, with its shortages of supplies, and there also is the threat of Government intervention in the industry.

And then there is the good problem — of what the 24 largest firms are going to do with all the money they made in 1978.

Combined profits for the 24 largest US petroleum firms jumped a full 10.2 per cent during 1978 to a record $13 400-million according to the Oil and Gas Journal's authoritative survey released here this week.

The better than 10 per cent surge in profits not only put the major American producers well ahead of the 8 per cent inflation rate, but the 1978 earnings top the previous record earnings of $13 100-million piled up during 1974 by a healthy $249,9-million.

More to the point, this year's record profits are considered "healthier" than 1974's bulge in earnings which was largely a windfall from the sudden jacking up of prices by the Arabs.

The 1978 earnings, petroleum economists point out, are due largely to improved management, although product prices certainly helped a majority of the companies to their record levels.

Perhaps even more encouraging to the oil industry executives, their profits trend appears on an upturn. Net profits for the fourth quarter of 1978 were a whopping 32,4 per cent higher than the same period the year before. Indeed 1978 is all the more impressive since the earnings had to come after a number of the larger companies had deducted substantial foreign exchange losses due to the devalued dollar.

Exxon alone had to write off $307-million in foreign exchange losses last year, Texaco lost $105,3-million and Standard Oil of California lost $85-million just from exchange shifts against the Japanese yen.

TABLE 3: OUTPUT, EMPLOYMEN

Year	Output (1000 metric carats)
1946	1 349
1947	1 242
1948	1 282
1949	1 265
1950	1 732
1951	2 229
1952	2 383
1953	2 718
1954	2 859
1955	2 629
1956	2 586
1957	2 579
1958	2 702
1959	2 838
1960	[illegible]
1961	3 788
1962	3 918
1963	4 376
1964	[illegible]
1965	5 026
1966	[illegible]
1967	6 668
1968	7 433
1969	7 863
1970	8 11[illegible]
1971	[illegible]
1972	7 383
1973	7 565
1974	7 510
1975	7 295
1976	7 023
1977	7 643

Sunday Express

Who's going to dig the coal to fuel new Sasol?

By PAUL DIAMOND

THE question currently puzzling mining men is — who is going to get the contract to supply the coal to the extended Sasol II project?

It seems very likely that with Sasol's mining men busily engaged in extracting 12-m tons a year, possibly 14,5-m, from the Sasol II mine at Bossjespruit, they will have their hands full. If this is so, it's on the cards that Sasol will call in the help of private enterprise to mine coal for the other half of the huge Secunda project.

The field is reported to have 60 years' reserves, fortunately for the expanded Sasol project will have a voracious appetite for coal. It will take up a minimum of 24-m tons a year (one-third of South Africa's current output) or at least 92 000 tons a day.

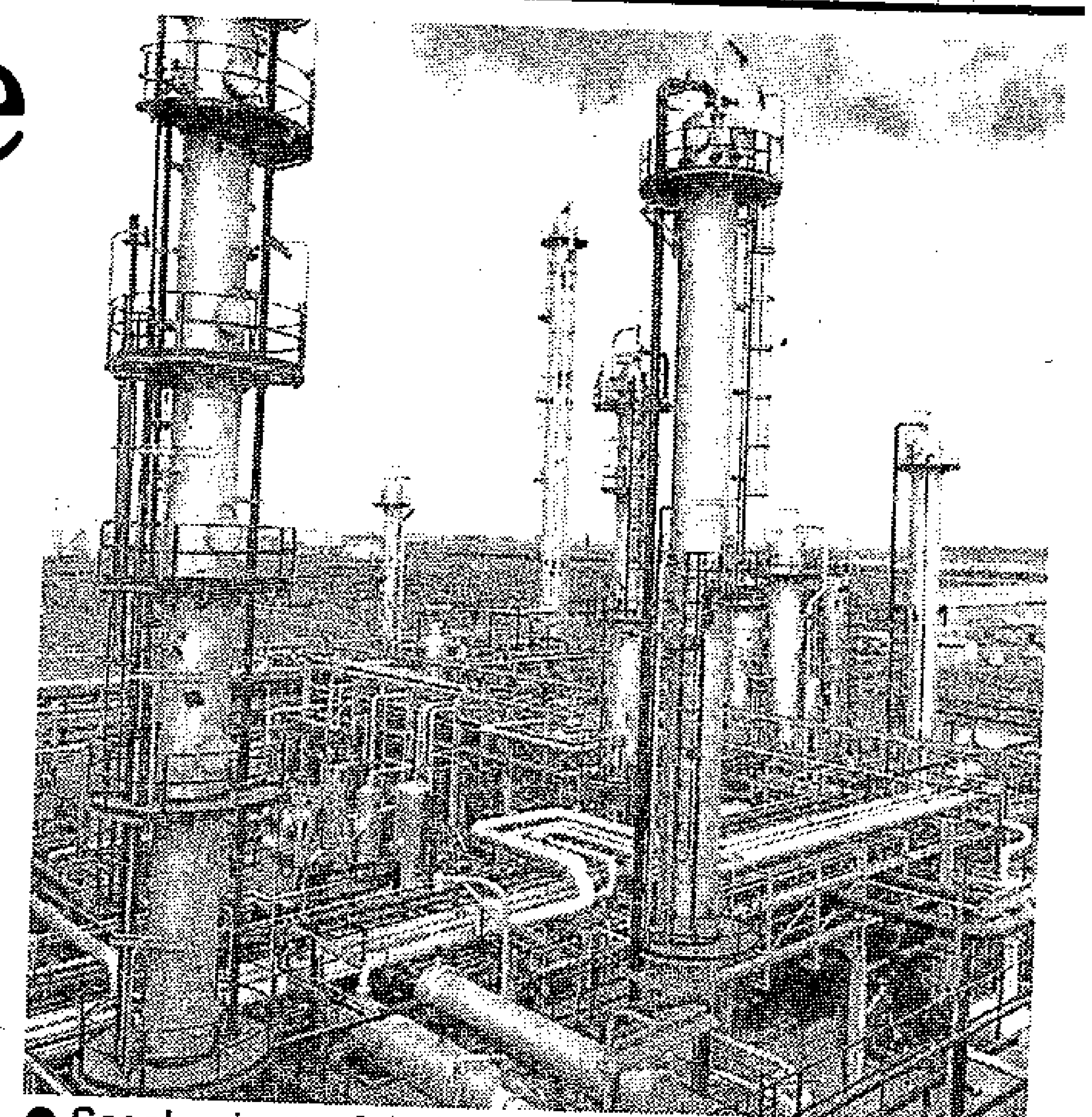
Current thinking and expectations are that the contract will fall into the lap of General Mining. The latter's coal division is already snapping up mining rights in the area between Bossjespruit and the southern end of the huge Kriel field.

Furthermore, General Mining also has the good fortune, some say good sense, to be mining consultants to Sasol, a useful link when it comes to future negotiation.

General Mining is already well into the coal belt with Optimum supplying Hendrina power station and its big 10-m ton a year Matla colliery. This is destined to supply the Escom station of the same name and has cost R170-m to bring to production.

General Mining also has mining rights over the other large coal bearing tracts in the area. Mining competitior Anglo American also has coal deposits near Sasol II, but at the moment doesn't seem to be in the running as a Sasol supplier.

The extensions to Sasol will give a boost to the coal belt in the Eastern Transvaal where, in the area encompassing Witbank and Secunda, there is currently a capital expenditure of between R4 000-m and R5 000-m in progress what with new Escom stations, the collieries to supply them and the export trade.

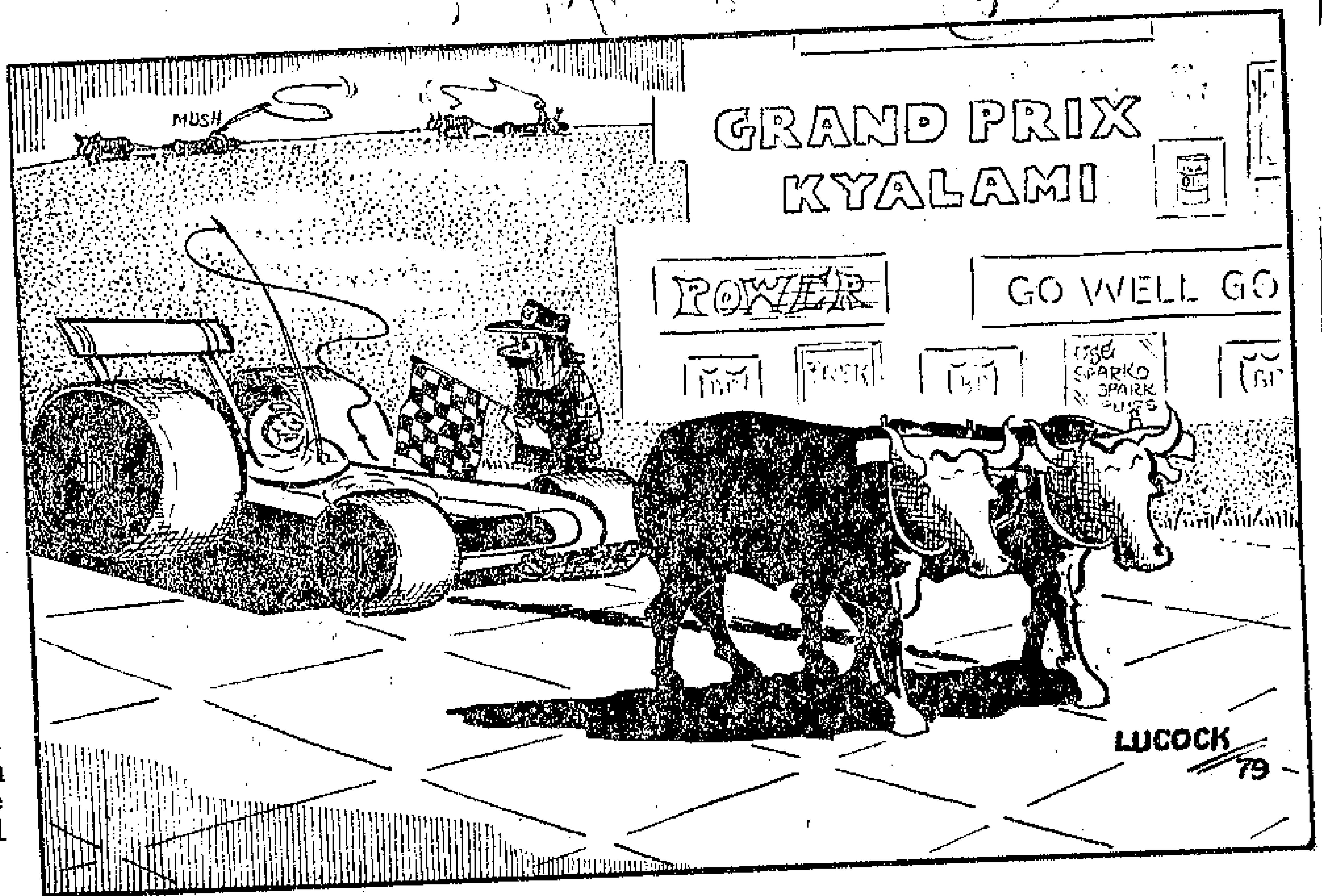


● Sasol, giant of industry — but who will supply the coal for the expanded Sasol.

THAT PETROL PRICE HITS HARD

4/3/79 Sunday Trib (55)

By TONY HUDSON
Finance Editor



"Remember the good old days when we used to put a tiger in the tank?"

Hopes fade for low inflation rate

HOPES that the inflation rate would be reduced to single figures this year are rapidly fading and the indications are that it could be even higher than it is at present for at least the next six months.

Earlier this month, the signs were optimistic and the Stellenbosch University's Bureau for Economic Research believed the problem was licked. It said that apart from a 2,8 percent rise in the consumer price index in July caused by GST, the index had only risen 8,1 percent during the year.

"And," it continued, "a definite tendency towards a sustained decline is discernible."

And then came the petrol price increase, closely followed by an eight percent rise in the price of sugar.

Both increases are expected to have a tremendous ripple effect throughout the economy as transport costs play a vital role in final product price and sugar is used in many areas other than directly by the consumer.

Economists are divided as to just how hard these two price rises will hit the inflation rate and estimates range from the optimists to feel that it will still be possible to bring the rate for the year to around nine percent to those who feel that it could run to 12 percent or higher.

However, the consensus is that more than one percent is going to be added to the cost of living by the last petrol price increase and the sugar increase.

One of the reasons for the differing opinions is that many economists built a 15 percent oil price increase into their predictions for 1979 before the event.

What is making the situation worse is that the figures for January show that the overall inflation rate for the 12 months to the end of January was 11,6 percent. While this is at the same level as for the last six months of 1978, the January increase was the highest for over a year, with the exception of last July when GST was introduced.

Another factor working against the feeling of the optimists is that with the world price of crude oil steadily increasing, and the premiums South Africa is having to pay for its fuel all point to yet another hefty petrol price increase.

While there is no Government comment on the possibility, the feeling is another five cents increase is in the pipeline and that petrol could well be selling for 50 cents a litre or more by the end of this year.

If these gloomy rumours turn out to be fact — and there are many who do not doubt it — there is no doubt the authorities will battle to contain inflation at its present level, let alone bringing it down to nine percent.

One of the vital areas in keeping the increases down lies in the hands of the retailer.

Prices are often increased unjustifiably when consumer spending increases and with Horwood expected to stimulate this by tax cuts in the coming Budget, this is a very real danger. So if inflation is to be fought at all, price increases must be kept to the barest minimum.

Sun. Times Bus. 1/5/79

55

Oil recyclers get a boost from Govt

By MARTIN CREAMER

THE Government has ruled that the week-old 6,4c-a-litre levy will not apply to users who re-process their own oil.

The Department of Industries told the major oil companies on Friday that lubricating oils which are "laundered" and returned to the original user would not be subject to the levy.

There had been confusion among lubricant dealers as details of how the levy would be imposed were not spelled out by Chris Heunis, the Minister of Economic Affairs, in his original statement.

The tax relief on re-refined lubricants will be a boost to the oil recycling business, which is operating at half capacity.

There are currently about 65-million litres of oil laundered in South Africa each year — just over half of the 113-million re-refining capacity available.

The marketing manager of the Trek-owned Chemico oil recycling plant, Arie Hardam, said the levy would not apply when the oil recycler bought and then resold the oil after it had been processed.

But if the oil was laundered for a customer and returned to him after processing, it would be exempt from the latest tax introduced to finance new petrol-from-coal Sasol projects.

About 20 per cent of the 60-million litres of oil recycled in South Africa is returned to original suppliers without any sale taking place. The tax relief means that reusers will collectively save close to R1-million a year because of the exemption.

Mr Hardam expects more businesses to have their own oil re-refined in view of the new ruling and the industry as a whole is known to be looking for a stronger line from Government on the question of oil conservation.

There are currently seven re-refiners in South Africa. The biggest are the Chamdor and Durban-based Chemico plants with combined annual capacities of 51 000 tons, the mobil-owned Condor with 30 000 tons, Boksburg-based Cera (12 000 tons), Castrol-owned Durol (12 000 tons), Exol, in which the cooperatives have a 51 per cent stake and Trek 49 per cent (5 000 tons), Lubex (2 000 tons) and Mineral Oil (1 500 tons).

Legislation expected to be gazetted before the end of next month could bring a further stimulus for the industry, back in the spotlight as a result of the Iranian crisis.

The industry has for some time been in need of a boost. Trek, for instance, lost R750 000 after tax on its Chemico venture during the financial year of 1977, but pulled it into the black in the last financial year. (See Trek results page three).

The denial of traditional crude oil sources of supply has resulted in alternatives having to be found and recycling is one of the ways to stretch reserves.

It is believed that legislation in the pipeline could make it an offence to destroy or contaminate used oils.

Annual demand for lubricating oils is said to be running at between 350 000 tons and 370 000 tons, about a third of which is believed to be economically recoverable.

The industry is thus only recovering about half of the potential 120 000 tons, Mr Hardam said.

The current price paid for a 210-litre drum of used oil is about R6. After re-refining, blending and redrumming, the recycled motor oil is sold at about 60c a litre, including the new levy. New motor oil sells at about 66c a litre.

Retailers told 'look to Blacks'

6/3/79

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Mercury Reporter

BLACK purchasing power is rising rapidly and retailers should change their marketing tactics to take advantage of this dynamic spending force, Mr. Martin Fonn, assistant vice-president of the Greatermans Group, said yesterday.

Speaking at a seminar on the Central Business District he said what were necessities for the Whites and luxuries for the Blacks today, will soon also become necessities for the Blacks.

Black spending power had risen by 120 percent between 1970 and 1974 as opposed to 77 percent for the White group. A similar gain in Black spending was anticipated for the four years up to 1979.

Promotion

He urged retailers to turn their attention to the Black market and to set up joint promotional activities in order to capture a wider share of spending.

"Our inbred and historical suspicions of each other must disappear. We must remain competitive and competitors but it is the essence of our co-operation that will make us successful."

He said the combined strength of retailers was their main weapon against the onslaught from the suburbs and he urged them to join the newly-formed CBD Association, which, without their support, would be a "lesser force in the market place".

Crisis

The American delegate, Mr. Dan Sweat, president of the American International Downtown Executives' Association, said the energy crisis had helped focus attention on the need to revitalise city centres.

"The energy crisis is for real. Fuel is going up in price all the time. We cannot continue to encourage the urban sprawl we have seen in the past, to the detriment of our CBD's."

C. Times 6/3/79 (55)

Fuel: Munnik's views on [illegible]

By PADDY ATTWELL

THE Provincial Administration was investigating the whole question of fuel conservation by its departments, the Administrator, Dr L A P A Munnik, said yesterday.

Among the problems being looked into was the question of the official Mercedes Benz 350s being used by MECs and himself, Dr Munnik said.

Dr Munnik was asked to comment on fuel conservation measures by the administration following reports that cabinet ministers were to switch to smaller cars for official business.

The emphasis was on fuel conservation, but the administration had to consider the capital outlay if smaller cars had to be bought, he said.

Only three official cars for the Administrator and MECs had been bought in the past 13 years, the first two of which had lasted about seven years. Cars currently in use were expected to last about the same length of time.

MECs and the Administrator had to drive long distances into the province and it would not be possible for him to drive these distances in a small car. He would also not be able to drive these distances himself.

The administration had employed five drivers for the Administrator and MECs, he said. The drivers would "look ridiculous" driving a small car. If smaller cars were bought, five people would be "out of a job".

However, experts were working on the question, and they might find that smaller cars were necessary for MECs and himself. At present two Mercedes Benz 350s had been allocated to him, one of which was already seven years old. His wife also used one of the cars because she had to attend many official functions.

The administration's four MECs were allocated one car each. The cars consumed about [illegible] l/100km (24 mpg).

Dr Munnik said that the administration was to cut down on travelling on official business.

A spokesman for the Roads Department said fuel conservation measures were still being considered, but added that local authorities had already been encouraged to cut out four-way stops and stop streets to avoid delaying traffic flow unnecessarily. They were being urged to [illegible]

[illegible] has [illegible] to [illegible] according to the Town Clerk [illegible].

The council would [illegible] cars for the mayor, but it also had to consider the cost of replacement. The mayor had [illegible] with petrol consumption of about [illegible] (16 to 18 mpg), for use [illegible] and a Cadillac for use on State [illegible].

The Cadillac was taken for a run about every two weeks to keep it in trim, but generally it was kept "in mothballs", [illegible] said.

A general instruction, which applied to the mayor's office as well, had gone out to all departments to rationalise travelling, he said.

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New oil threats

NM 6/3/79

THE CURRENT upheaval in the world's oil supplies seems to have taken another profound turn with threats by OPEC to blacklist Western Oil companies which charge "excessive prices for refined products", and to cut out oil companies as middlemen by signing direct contracts with governments instead.

Just how the business of refining oil products would function under that arrangement is not clear, and there is some irony in the fact that the current chairman of OPEC is the oil minister of the United Arab Emirates, which itself can refine only 25 percent of its needs. However, the move underlines OPEC's determination to trim the profits of the world's multi-billion-dollar oil corporations, which it regards as burdensome parasites.

There is no question, of course, that the oil companies receive generous windfalls whenever the Arabs raise their oil prices, and that overall they suffer only from an embarrassment of riches. A survey undertaken in America by the Oil and Gas Journal showed that the combined profits of America's largest petroleum firms jumped 10,2 percent during 1978 to a record 13 400-million dollars.

However any thoughts that oil consumers might benefit through the blacklisting of the major oil companies should be dispelled. For only last month the same oil minister of the UAE was speaking of the "illegal" profits of the oil companies being returned to their "true owners" — OPEC.

Meanwhile, the prospect of oil being used increasingly as a political weapon has taken on a new dimension with the suggestion in OPEC quarters that in future the West might have to pay a "political price" for its supplies, and that the first demand could be a settlement of the Palestinian issue.

It must be accepted, of course, that already oil has become a major factor in tailoring the attitudes of certain industrialised nations towards global issues. However, nobody has yet been so blatant as to make specific demands on the West. Unless this blackmail is steadfastly resisted, it could become a signal to every country that is rich in precious minerals and other commodities in world demand to use their resources for political gain.

Oil crisis a setback for S.A. economy

TNM 8/8/79

(55)

JOHANNESBURG — The shock effects of the Iranian crisis and apparent problems in concluding a successful settlement in SWA — Namibia have left a mark on consumers and the business community, according to the latest issue of the Standard Bank Review.

The immediate effects of the crisis — "a threatening shortage of oil supplies, the danger of extraordinary drain on the balance of payments resulting from the circumstances which now force South Africa to obtain much of its oil at high premiums on the spot market, and the direct and indirect effects on inflation of a large hike in the domestic price of all products, have been a setback for the domestic economy," the review says.

Gold revenue

"It has the potential of changing the recent situation from one where South Africa benefited disproportionately from the crisis, principally through record gold prices as a result of uncertainty, while only paying a limited price for it in terms of a marginally higher oil Bill, to one where potentially the bulk of additional gold revenue is issued to buy up free market oil at premium prices.

"Nevertheless, a broad analysis of the country's overall position does not support undue pessimism about short and medium term growth prospects.

"In the short term South Africa stands to continue benefiting from international insecurity through higher gold and hedge commodity prices. Only in the longer term, should a new oil crisis have a depressing effect on U.S. and world growth, is there a danger of the economy feeling the full weight of the crisis through falling export earnings," the review says. — (Sapa.)

FUEL CONSERVATION

Everyone's doing it

The 30% spurt in fuel prices since January has jolted commerce and industry. An *FM* survey of some of SA's major oil users this week shows that virtually every business is thinking hard

Financial Mail March 9 197?

about how to lower its dependence on oil-based fuels. In most cases, there has already been some action.

Among the more ambitious conservation efforts is the formation of a working group by Assocom and the Grocery Manufacturers Association to look into more fuel-efficient deliveries to supermarkets. The group, headed by OK Bazaars director Melville Pels, has written to retail chains suggesting that they discuss delivery schedules with their suppliers. Members of the group will soon start trying to unravel some of the problems, such as the effect of fewer deliveries on chain stores' inventories.

Some manufacturers and merchants are not waiting for the group's recommendations.

Premier Milling's transport manager Colin Grant points out that "rescheduling deliveries is difficult, but we're going to do something about it." For one thing "we're going to insist that every truck goes out with a full load and not a half load." Premier is retraining all its 27 drivers, derating high horsepower engines and fitting anti-pilfering devices to fuel tanks. According to Grant, the company aims to cut its fuel bill by 10%.

Likewise, OK Bazaars MD Meyer Kahn says "we've insisted that all our trucks go out full." Transport operator Unity Longhauls started a bonus scheme last month for workers whose loading abilities result in above average revenues from a particular trip.

Kahn says OK is expanding the centralised furniture delivery service it started three years ago. The chain is planning a single delivery depot in the Vaal triangle, similar to those in other urban areas. In addition, notes Kahn, "we would be sympathetic towards our suppliers in helping both us and them conserve fuel."

Special efforts

Improved truck performance is an obvious way to save petrol. Unity Longhauls has instructed drivers to stick to a 70 km/h limit and, according to MD Jan Burger, "we're making a special effort" to check fuel pumps and other equipment. The Professional Hauliers Association has roped in the CSIR to help it draw up standards for efficient truck operation. It is also encouraging further driver training, and has asked government to distinguish between drivers' licences for various heavy duty vehicles.

Some firms, however, have not got past the "thinking about it" stage. Says Pioneer Concrete's transport manager: "We're having an all-out meeting shortly. Lots of opinions and ideas will come out then."

The use of oil-based fuels in industry is also being questioned. Goodyear Tyre has reduced its energy consumption, much of it in the form of heavy furnace oil, by 23% in the past four years. The company's engineering manager will shortly visit seven overseas associates to share his conservation tips. Among them: improved insulation on piping, lower operating pressures on steam systems, oxygen controls on boilers, and the recycling of waste heat.

Bakers have scratched their heads to find ways to reduce the oil intake of ovens. Johannesburg's Atlas Bakery, for instance, will be switching to gas within the next six months. Oil will be used only in emergencies.

Berg River Textiles has an ingenious plan for its Paarl factory. A neighbouring food processor has different seasonal demands, and has agreed to sell BRT some of its coal-fired steam during the textile industry's peak winter months. "We have to get away from burning oil," says the company's technical services manager, Tony Messina.

But Messina echoes the plight of many other industrialists. "If we had limitless cash, we could convert," he complains. Installing coal or gas-fired equipment is usually expensive. Says Goodyear's Mike Selley: "We cannot switch from heavy furnace oil without capital outlays running into several million rands."

Government should not be surprised if industry soon comes knocking on its door for help to convert, especially if mandatory cuts are imposed.

STAR 9/3/79 (2) 55

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Star BUSINESS

Energy: Goodyear saved R850 000!

Mr Tony Humphries (left) has been appointed commercial director of British Steel Corporation of South Africa, with effect from April 7. He will succeed Mr John Spence-Thomas (right). Mr Humphries was responsible for the sales of special steel products in London and south-east England before joining head office in 1971. Mr Spence-Thomas, who is well known in southern African steel circles, will return to the UK. He will join Distington Engineering Contracting, a new international steel plant contracting division of British Steel Corporation.

By Anne Colley

With an energy crisis threatening to loom up out of the mists of Iranian politics, world attention is increasingly turning to energy conservation — a subject Goodyear has been exploring with great success in South Africa.

Mr Jerry Putt, the man who launched Goodyear South Africa's conservation programme, is recognised as an expert in the field.

A firm protagonist of this exercise, he cites the R850 000 a year the company's Uitenhage operation is saving through implementing a simple programme, as encouragement to others.

"Start with total management commitment or forget it" he warns however. "Lip service never saved energy or money."

"The first step in a committed firm is to appoint a committee headed by a full-time conservation co-ordinator, to survey facilities, set savings goals, develop a programme to achieve those goals and monitor the progress," he advises.

"Interestingly, it's not a good idea to make the most senior engineering man head of the committee, as all too often he will take it as an affront if you suggest his department is wasting energy.

"There are attitudinal problems all over.

"When we tell people of the success we've had, and the 21 percent by which we have cut energy consumption, the reply is so often 'well you must have been damned bad to start with.'

"But we weren't. In fact I haven't been into a factory where savings couldn't be made.

"Our committee started by surveying our facilities and looking for housekeeping items which could be improved to save fuel. They looked at piping, lighting, insulation, air-pressure, steam charts and the like. And they found plenty of areas for saving:

- we cut out 9 km redundant piping which was generating wasted heat
- we cut out 9 km of valve traps which cut the steam bill by 15 percent
- we reorganised the lighting — dimming in storerooms and improving in some working areas.
- we improved insulation and
- banned the use of compressed air for cleaning to name but a few items.

TOTAL MANAGEMENT COMMITMENT – OR JUST FORGET THE WHOLE THING . . .

"These housekeeping areas provided substantial savings at negligible costs. Then the committee looked at low cost items that offered tremendous conservation opportunities.".

"For instance we improved our boiler controls with equipment costing R1 400. Within a week that equipment had saved us its cost by cutting out excess air in the boilers which had been unnecessarily heated.

"When all that was done our water consumption was down 45 percent, the heavy fuel oil use was 22 percent lower and the electricity used had been cut by nearly 19 percent. That alone saved us over R600 000 a year — despite a 101 percent increase in electricity since the programme started.

"And the actual energy conservation savings were not the only benefits. We then found that we needed only four of our 11 compressors and two of our five boilers, cutting us back to less than 50 percent of our available capacity on both scores.

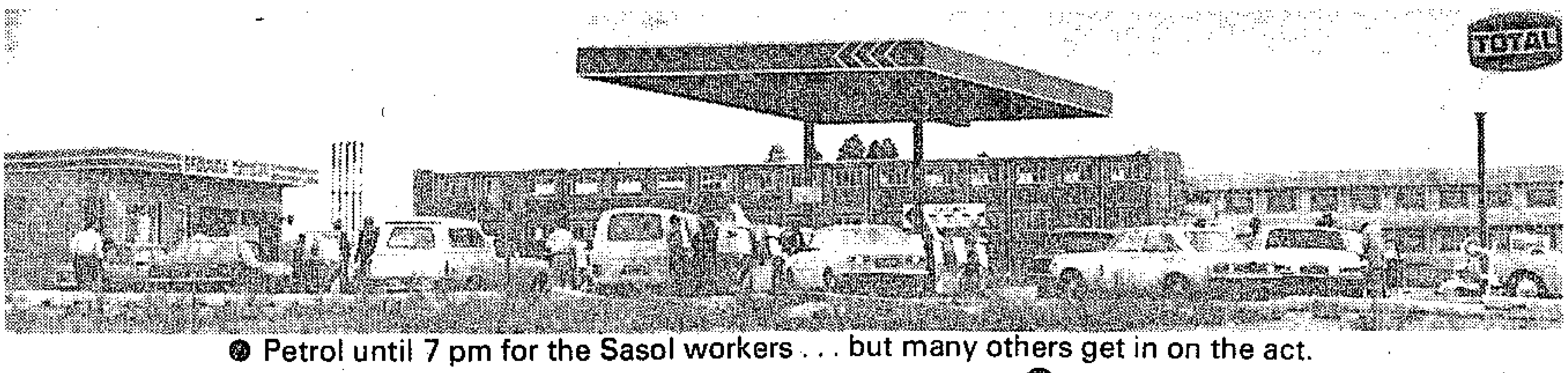
"Not only did this cut back further on energy usage when the equipment was isolated, but it means

- we have stand-by capacity in case of breakdowns
- we have no need to invest in capital here when we expand
- we can do maintenance at our leisure, which means more efficient maintenance which again saves energy in the long run — and cuts down overtime pay.

"Our initial target when the programme was started in 1975 was to cut our energy consumption by 15 percent by 1978. We in fact achieved a 21 percent saving by the end of last year, are heading for 30 percent by the end of this, and there is still a hell of a way to go.

With an R850 000 annual saving to point to, Mr Putt has little difficulty in persuading people of the benefits of the principle. He believes that South Africa is only now awakening to the need for conservation — with Iran driving the point home.

IT'S THE ONE-HOUR EXTRA FILLING STATION



● Petrol until 7 pm for the Sasol workers . . . but many others get in on the act.

Everyone in on Sasol II's late petrol

Sun. Exp. 11/3/79

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SUNDAY EXPRESS INVESTIGATION BY DEREK TAYLOR

AN OFFICIAL concession to allow Sasol II's 18 000 shiftworkers to buy petrol up to 7pm has become a late-sales racket for all-comers, a Sunday Express investigation disclosed this week.

As 6pm ticked by at the car-packed Total filling station outside the Sasol II construction site I watched while queues of vehicles went on being filled — most of them from the Sasol site.

Others were from nearby Eastern Transvaal small towns and some of them were from the highway to Swaziland and Natal, which passes 15 km away.

At 6.30 I drove in and asked to have my tank filled up. The African woman pump attendant sloshed in the super without question.

For half an hour we watched a queue of cars filling up, and nobody was asked for identification.

That is why other local garages are up in arms about the only private filling station in the country that is allowed to stay open until 7pm. And — on two occasions last December — even later when the customers threatened to riot.

The Department of Commerce last year granted a permit for the filling station to open from 9am to 7pm after Sasol had applied for a remedy to the problem of its shift-workers getting petrol.

Thousands of hours of working time were being lost because employees were leaving the job during their shifts to make sure they had enough petrol to get home — many of them live in towns as far as 80km away, Sasol claimed in its application.

Most of the men occupy single quarters during the week and go home to Durban or Reef towns at the weekends.

At 5.45pm each day streams of the 18 000 workers on the Sasol II site start flooding through the gates,

● Sunday Express man Derek Taylor gets his petrol — at 6.30 pm.

in queues up to two kilometres long, to fill up their cars — an impossible number to be served in the 15 minutes before closing time at 6pm.

Official permission to keep the filling station open until 7pm to cater for the Sasol men was given on three conditions:

- Only customers who could produce identification as Sasol workers could be given petrol after 6pm.
- Records of such sales must be kept.
- The concession could be withdrawn if abused.

□ □ □

Irate garage owners in nearby towns, such as Kinross, Leander and Leslie, have discovered that the station has been serving all-comers — at their expense in petrol sales, they claim.

"The concession for the Sasol shift workers is understandable," Mr Ronnie Evans, a Kinross garage owner, said this week, "but serving all-comers is just not fair.

"People from all around here are taking advantage of a late fill-up by driving over to Sasol II."

Because of his sales losses he had been forced to make a formal complaint to the police concerning illegal sales.

Although the late-closing station is not advertised, it has become known to travellers from the Reef to Swaziland and Natal. Many of them find the 30 km diversion worthwhile to get a full tank just before 7pm, especially at weekends.

Competitive petrol traders believe the pumps outside Sasol II are selling as much as a million litres of petrol a month — which would make it one of the most profitable filling stations in the country.

Its owner, Mr Des Klein, and his working partner, Mr Nick Loubser, who is in charge of the station and its nearby parent garage in Secunda, say however that the monthly total is 380 000 litres.

According to local traders a filling station selling 100 000 litres a month is doing well; sales of 200 000 litres a month would be "very good".

Mr Klein, who owns other garages in the district, told me he was unaware that identification as Sasol workers was not being demanded from customers after 6pm.

Later, he admitted that "slip-ups in identification" had been made.

Mr Loubser said all his pump attendants had been trained to ask for Sasol identification and to refuse petrol if this was not forthcoming.

"But you have no idea of the problems we get when the rush of 2 400 cars an hour is going through.

"You get a lot of drunks and roughies and the rows they start if they are questioned are unbelievable.

□ □ □

"The policy is not just to take the line of least resistance, but to avoid trouble on the forecourt.

"Back in December, when the workers were kept late or paid late, we twice had near-riots when we tried to close at 7pm.

"We had to call in the Leander police, who told me to keep serving to prevent a riot.

"This week we have had the Total bosses out to plan a security fence round the station."

Mr Loubser said he had applied to the Department of Plural Relations for permission to bring in "a better calibre of help" from the homelands to man his pumps.

A spokesman for the Department of Commerce, confirming the conditions on which the concession was given, told the Sunday Express that a full investigation of the filling station situation would be made immediately.

Africans to higher levels of influence in the system of industrial relations constitutes a form of progress. The tacit admission of collective bargaining rights on an industrial basis, albeit circumscribed, likewise, shows a modest advance. However, the changes mooted for 1976 re-affirm the restrictions on freedom of association which have for so long been a prominent feature of labour policy in the Republic. Dualism in the market-place will be retained in spite of changes in occupational mobility which are undoubtedly taking place and despite the more militant mood shown by African workers in recent times.

It is true that in Europe systems of workers committees or councils have been devised and are being implemented. The proposed South African legislation has adopted certain features of these systems while denying their context and real content. Trade union rights to organise, bargain and strike are fully recognised there and committee ... these rights. In other words, trade unions like o... ...odern society are capable of distancing themselves f... ...t and conducting their business at levels which work... ...find unsatisfactory. European experiments are aim... ...direct participation by democratic methods and circum... ...struction and misunderstandings attendant upon bureaucra... South African effort is aimed in the opposite direct...

The dilemma confronting the authorities is tha... ...ed instability in Southern Africa their dual syst... ...s, its proposed changes not excepted, is overtly disc... ...nds ultimately for its effective implementation on ... ...frican workers upon whom it is imposed. Whether an ... system spread throughout thousands of factories, shop... ...rove a successful technique for restoring industrial ... ...l.

...ER

Carter's power play doesn't interest sheikhs

Oil-rich Gulf just wants arms

The Star Bureau

NEW YORK — In the wake of the Iranian upheaval, a new controversy is brewing over plans by the Carter Administration to step up the sale of advanced arms to pro-Western countries in the Persian Gulf and Middle East.

The administration, concerned over the implications of the crisis in Iran for the security of the world's most important oil-producing region, recently announced that it was prepared to expand its military involvement in and around the Gulf.

As part of this policy, the Secretary of Defence, Mr Harold Brown recently visited Israel and three Arab states and discussed several proposals for increasing the American military presence, including more frequent visits by warships and closer co-operation between Washington and local governments on defence matters.

But officials report that Mr Brown found his hosts, particularly Egypt and Saudi Arabia, more interested in obtaining American weapons.

This situation has confronted President Carter

Hansard 6 Quest Col 404
14/3/79

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Lead content of petrol

*11. Mr. N. B. WOOD asked the Minister of Economic Affairs:

(1) What is the maximum permitted lead content of petrol sold in South Africa;

(2) whether the question of the reduction of such amount has been considered; if so, with what result; if not, why not.

†The MINISTER OF ECONOMIC AFFAIRS:

(1) SABS specification No. 299/72 provides for a maximum lead content of 0,836 grams per litre but the specification is not compulsory;

(2) the Department of Industries has made inquiries about the implications of reducing the existing levels of lead content but the matter was not taken further in view of the fact that the industry's maximum usage of lead varied between 0,2 and 0,8 gram per litre at optimum refining efficiency and because of increased refining costs and/or reduced refining efficiency which a further reduction in the lead content would bring about.

Mr. N. B. WOOD: Mr. Speaker, arising out of the reply of the hon. the Minister, is he aware of the possible consequences of poisoning by tetra-ethyl lead, which is an additive to petrol?

†The MINISTER: Mr. Speaker, the hon. member ought to realize that there are certain specifications which are aimed at preventing what the hon. member is concerned about.

Mr. N. B. WOOD: Mr. Speaker, further arising out of the reply of the hon. the Minister, is he aware that should we use ethanol as an additive to petrol, we would not need to add poisonous tetra-ethyl lead? [Interjections.]

Mr. SPEAKER: Order!

Hansard 6 Quest Col 446 14/3/79

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6(446) **Price of petrol** 14/3/79 (55)

443. Mr. H. H. SCHWARZ asked the Minister of Economic Affairs:

(1) What is the (a) lowest and (b) highest price in the Republic for each grade of petrol;

(2) what is the profit per litre of petrol allowed to (a) oil companies and (b) retailers;

(3) what percentage of the cost of the petrol does the profit to (a) oil companies and (b) retailers represent.

The MINISTER OF ECONOMIC AFFAIRS:

(1) (a) 98 Octane—36,30 c/l
93 Octane—35,60 c/l
87 Octane—35,00 c/l

(b) 98 Octane—44,20 c/l
93 Octane—43,50 c/l
87 Octane—42,90 c/l

Only 93 octane petrol is distributed throughout the country while 98 octane petrol is only available in the coastal and adjacent areas and 87 octane petrol in the high-lying inland areas. The difference in the coastal and inland prices represents the railage costs on petrol plus the general sales tax on the railage costs.

(2) (a) The profit per litre petrol allowed to the oil companies is confidential and is not generally published. However, I shall furnish the hon. member personally with the information concerned on a confidential basis.

(b) 2,51 cent per litre gross profit margin.

(3) (a) Falls away.

(b) Approximately 7,91% of the purchase price of 93 octane petrol at the coast. In the interior the profit percentage is lower as a result of the higher purchase costs brought about by the railage costs which are included in the purchase prices of petrol.

APPENDIX A. - Questionnaire used for Durban, Witwatersrand & Pretoria surveys

UNIVERSITY OF CAPE TOWN

Oil crisis will change lifestyle

W. Saunderson-Meyer: Pretoria

The oil crisis is not a temporary inconvenience to be ultimately solved by a string of Sasols — it is going to change the structure of South African life and politics in a basic way.

The recent Unisa symposium on the energy crisis leaves one with the sobering realisation that technology is not going to wave its magic wand and enable us to continue living energy-wasting lives. All it can do is help utilise existing resources and to hopefully bridge the gap until present research produces a workable solution.

Every high school pupil knows energy cannot be created only converted from an existing form, but we forget that this means that even our huge coal resources are a finite resource.

For this reason, the suggestion that South Africa should just build a dozen more Sasols to become independent of oil imports by the end of this century, merited little serious consideration.

Such a scheme would also demand the investment of about 40 billion rand over the next thirty rands over the next thirty years.

"Anyway, the crisis is immediate and drastic. Without even considering the upheavels in Iran, the World Energy Conference estimated in September last year that world demand may exceed oil supply by as early as next year," Prof David Kitze, of the Government Energy Policy Committee, said.

"Even the more optimistic of international studies estimate that the crunch will come within the next decade," he said.

At one stage it was hoped that nuclear power would rush to the assistance of mankind, but there are many problems such as the choice between unproven technologies, the danger of pollution, immense cost escalations and the long lead time required to replace conventional power stations.

Referring to current research on fast breeder reactors and fusion reactors, Prof Kotze quoted the British Nuclear physicist, Sir Samuel Curran: "From the time that a new energy source is discovered by the scientist until it is making a reasonable substantial contribution to the national needs, an interval of some 30 or so years must elapse."

The same applies to petrol additives like ethanol and methanol.

Existing resources of coal and electricity will have to be carefully husbanded and used more efficiently, which means that there will be strong government pressure on commerce and industry to reduce the rate of increase of energy consumption relative to the rate of increase in economic growth.

"This means that the average national income must increase while per capita energy usage falls — it can only be done if the lifestyles change and the living standards of some of the population drops," Prof Kotze said.

"Use of private transport will have to be cut, and whether we like it or not, we must reconsider where we live and where we work."

The government will probably make stricter fuel economy prescriptions to motor car manufacturers. A measure that may be introduced is specified fleet consumption, which means any manufacturers mix of cars would have to be below a certain given consumption. Big cars may be taxed heavily.

Mr Grant Robinson of the UNISA School of Business Leadership, said: "A jaundiced eye must be cast on the gas guzzling executive motor car. Sixty per cent of the South African cars are company-owned and I am sure that this does not extend to 60 per cent of the Minis and Golfs on our roads. The upper-bracket cars must be substantially company-owned and this particular executive perk must come under scrutiny."

Mr Wally Langschmidt, of Market Research Africa, said research indicated that every six cent rise in the petrol price would lead to a ten per cent drop in petrol consumption by the consumer.

The South African "way of life" will become less ostentatious, less status orientated, less wasteful and less mobile. Research indicated that families would buy smaller houses and live nearer to town and their work, thus halting the suburban sprawl. High density housing will become the norm rather than the exception.

The energy house will become of age.

More use will be made of public transport, lift clubs, bicycles and motor-cycles.

"The housewife will learn to share a smaller car with two or three other women when she goes shopping. It is likely that she will shop only once or twice a month and buy in bulk from suburban shopping outlets," Mr Langschmidt said.

The reading of books and magazines will increase and there will be a growth in home entertainment like television and video cassettes.

"Although cinema attendance has declined by 50 per cent in the last six years, the suburban cinema may experience a revival in popularity," he said.

Mr Langschmidt said that with increasingly expensive energy costs changes would also develop in the attitudes towards big business.

"The consumer will feel that big business is to blame for the oil crisis and that profits are unreasonably big. Advertising expenditure will be attacked as needless pushing up prices and excessively emphasising expenditure rather than saving."

Prof Gerog Marais, director of the School of Business, Leadership, said the long-term solution to the energy crisis was to bring the workplace and the home nearer to each other.

"Black workers must not be forced to travel huge distances to work. Industries must be brought closer to urban black towns like Soweto and these must be developed as habitable cities with more facilities," he said.

The ultimate responsibility of the consumer to realise that the days of cheap, extensive energy resources was stressed at the symposium.

"In the absolute dependence of modern man on energy usage to support his lifestyle and in the desire for economic growth, on the one hand, and the rapid shrinking of world energy resources, on the other, we have the potential for a collision affecting the very kernel of human existence." Dr Kotze said.

Or as Grant Robinson put it: "Structural change of society is not instantaneous, but when you wake up one morning it is there."

(55)

OIL CRISIS

Help for Carter

The Iranian crisis is proving to be a bit of a blessing, at least for the energy policies of US President Jimmy Carter. His big problem on energy matters was how to overcome Congressional objections and public inertia and get done what needs to be done. What needs to be done is to reduce the domestic appetite for petroleum-based energy, boost domestic production of hydrocarbon energy, and convince the giant US petroleum companies to shift their exploration and marketing strategies.

Until recently, any real sense of crisis has been lacking. Energy costs have risen but the increases have been absorbed and ignored. Now Iran has provided the crisis, and White House energy aides are making the most of it while it lasts.

Not that the US government is not genuinely worried about Iran. The 500 000 barrels of oil a day it once got from Iranian wells are missed. But the Americans are justifiably more worried about the $15 a barrel spot market price some nations are charging, and that this might be institutionalised.

In the crisis atmosphere of the past fortnight, Carter energy strategists have been able to overcome at least some of the roadblocks that have led to the US consuming more petroleum (now 21m barrels a day) and importing more (9,8m barrels) than ever before.

Contrary to popular belief, Carter did score points in Mexico. On a more than symbolic front, three major companies resumed negotiations over a major natural gas purchase that had been broken off last year by an angry Mexican government. The Mexicans also gave initial approval to a scheme that will help boost the output of the mammoth US oil pool on the north slope of Alaska. The plan is for the US to sell the Alaskan oil to Japan, which can take it by tanker directly, and relatively cheaply, from Alaska. The Japanese in turn would turn over existing contracts for Mexican oil, which can be moved to the US east coast (where the shortages are), much more cheaply than Alaskan oil.

The oil companies are beginning to swing to a new and more aggressive posture. Standard Oil of Ohio (Sohio), British Petroleum's partner in Alaska, dropped its plans to build a pipeline from California and will rely on the Japanese swop. At the same time, Exxon turned the screws on Tokyo by announcing it will halt its sales of oil to non-subsidiary clients this year (about 10% of sales), with Japan being the first to suffer.

Carter is also allowing domestic price controls on petroleum to expire and thereby hopefully spark new exploration and development within the US. Energy Secretary James Schlesinger is telling Congress that the President already has powers to impose rationing at the petrol pump if they do not follow through on a host of energy conserving programmes Carter has been fighting for since 1977 — from weekend closing of petrol stations to tax incentives for factories which shift to coal.

A secret fear of the Carter camp is that the Iranian crisis will fade away before all their energy tasks can be accomplished.

(56) (55) 16/3/79

THE BUDGET

What the pundits think

How does the oil crisis affect Budget strategy?

Cloete: The oil price increase can only give an upward twist to the inflation rate, which means stimulation must be handled carefully.

Dagut: I agree. But that's only part of it. In terms of the balance of payments one gets interesting perverse results. We could end up with a *bigger* current account surplus because the higher oil price boosts our community exports. In the post-De Kock world this should show up in the trading rate of the rand.

All these factors come up as positives for 1979 but as negatives for 1980. During the second half of this year the northern hemisphere will adapt to the higher price of energy, bringing a slower rate of growth. This will lead to a tailing off of the rate of growth of our exports.

Gouws: We had a similar situation in 1974-75. The tremendous oil price increase at the end of 1973 was good for commodity prices in the first five months of 1974 and was good for the gold price throughout 1974 — but the chickens came home to roost later. In the end a sharp increase in the oil price is not good for gold.

I think the gold price reaction is going to come sooner rather than later: we might get current account problems as early as the December quarter this year.

Since the oil price increase is draining spending power from the economy, isn't it deflationary?

Gouws: Yes: that's why the minister should not take too much fright. Remember, in 1978 what increase there was in personal consumer spending was financed not from any increase in incomes but from the use of savings or hire purchase credit. That will not change materially this year. So Minister Horwood needs to give a boost to consumer spending — provided he is sufficiently confident that the balance of payments will not present a problem.

Cloete: I'm concerned about the balance of payments. Certainly, gold is going to be a buffer. But during 1973, when the oil price went up, the deflationary impact on Europe and America was very immediate. Although in terms of prices our commodity exports might benefit, the impact of oil on the rest of the world and therefore on the volume of our exports is going to be negative.

In this discussion, three leading economists give their views on how Senator Horwood should approach the budget (due on March 28). They are: Johan Cloete, chief economist, Barclays National Bank; Merton Dagut, chief economist, Nedbank; and Rudolf Gouws, manager, èconomic services, Senbank.

Let's move on to the financial constraints surrounding the budget.

Gouws: The minister certainly received more than he anticipated this fiscal year, largely owing to higher taxation from the gold mines. Overall I would say he will receive almost R400m more than he budgeted for, while spending should be virtually on target. Then, he has been very successful with the domestic borrowing programme. In the end, he won't have to draw on his stabilisation account.

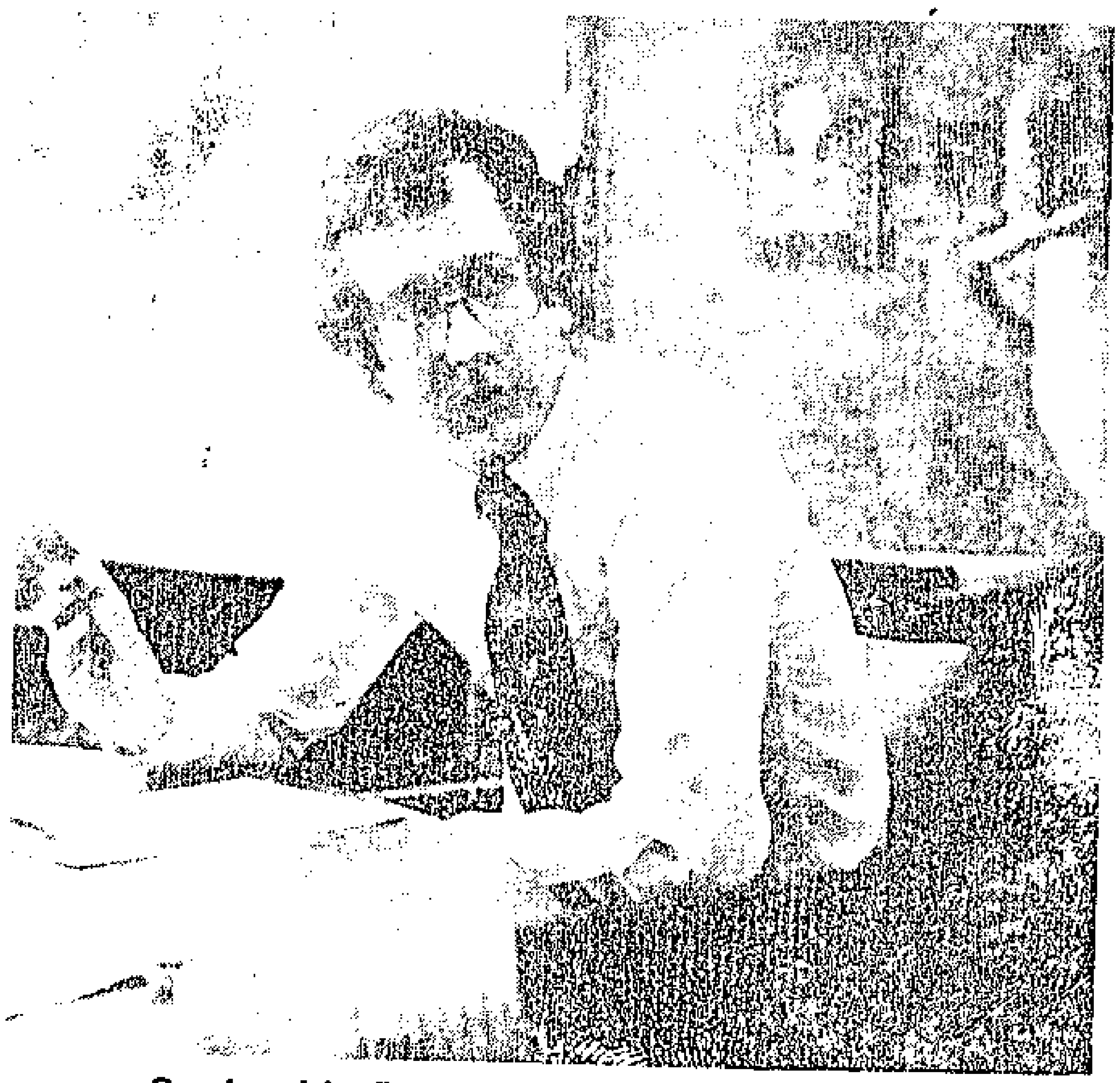
Assuming a 12% increase in government spending in 1979-80 and unchanged rates of tax, our estimate is that he has R500m which he could use for relief.

Although the actual figure could well be higher, we expect the minister to be conservative, so we're basing our figures on a $200 gold price. We have also assumed a GDP growth rate of just over 3%.

Dagut: We are thinking of an average gold price of $240 in the first half of the year and $260 in the second half. I would use something like a 3,5%-4% GDP growth rate. That should give room for an injection of the order of R800m to R900m.

Should the emphasis be on increasing government spending or on tax concessions?

Cloete: That depends entirely on what the minister thinks about confidence. If he believes confidence is sufficiently high,



Senbank's Gouws . . . R500m to inject

Barclays' Cloete . . . let's cut gst

Nedbank's Dagut . . . remove the loan levy

that in fact people will spend most of the additional money that slips into their pockets, then he could emphasise mainly tax reductions. But if he is concerned about the level of confidence, the emphasis should be on government expenditure increases.

Which way do you think he's going to go?

Cloete: Tax reductions, because he doesn't believe, it sems to me, the Keynesian view of increasing government expenditure; we have this strange view that this is creeping socialism.

Dagut: What needs to be increased is real personal disposable income.

I would remove the 10% loan levy and change the abatement levels to get the major portion of the tax reductions across to middle income tax payers. That is where the broad basis of semi-durable spending is. I agree that the top marginal or all marginal rates are too high; but I can't see how in this particular environment, where one has recently imposed a 4% turnover tax on non voters as well as on voters, it is politically sensible to be seen to be reducing the rate of tax on the perceived very wealthy.

I would meet the need for a little more government spending by granting wage increases in the public sector.

Cloete: I wouldn't agree with that. I'm very much afraid that increases in wages in the public sector might be followed by increases in wages generally.

Gouws: We believe there will be little increase in government spending, and the emphasis will be on the revenue side. Repaying the 1976-77 loan levy would cost about R140m, and abolishing the 1979-80 loan levy about R200m. If he increases the abatements and pushes out the top marginal scale from R28 000 to R35 000, this could take care of another R150m.

It would also be a good thing to do something for companies. Halving the company surcharge would cost about R75m. If the minister feels obliged to cut the import surcharge by 2,5%, that would cost a further R80m.

These already total R645m, so he won't be able to do everything; I'm sure he won't in fact make both personal loan levy concessions.

The oil price increase may have a highly regressive effect, hitting the lowest income groups hardest. Is there anything the budget can do about that?

Dagut: Subsidies, eg on foodstuffs. We saw a sample of these subsidies in the form of no increase in rail tariffs.

Cloete: I suggest the emphasis should rather be on indirect tax reductions. In other words, reduce the sales tax.

This would be a major reversal of philosophy. Horwood is trying to move the emphasis from direct to indirect taxation.

Cloete: Exactly; that is why it is out, I'm afraid.

Gouws: If the minister is going to earn over R1 billion from gst this year, even a 1% reduction would cost him more than R250m — half of what, in my sums, he has available. A 1% reduction, for instance, in the price of a R4 000 or R5 000 motor car is only R40 or R50. That won't have the same psychological impact as an adjustment of the tax scales or abolishing the loan levy.

Dagut: It would be undesirable to reduce gst because this is one tax that should never be used as a fiscal regulator. It must be a permanent feature.

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We 3/ ....

The next striking thing about the report is that the BTI could not find a single body of opinion capable of arguing intelligently and persuasively in favour of a uniform price structure for petroleum products.

The BTI's conclusions were self-evident even before the investigation began and clearly this was an issue Heunis could have settled with a short lecture at one or more of the Nat party congresses in 1977, instead of adding to the pile of probes heaped on BTI.

The question of SAR pipeline tariffs has been a hardy annual in Railway budget debates for nearly a decade and successive transport ministers have explained that without huge surpluses from the pipeline division helping to subsidise loss making divisions, such as rail passenger transport (R286m in the red last year and R350m this year), rates increases of up to 140% would have to be imposed to wipe out deficits on socio-economic services.

OIL PRICES

55

FM 16/3/79

Why it's dearer inland

On the recommendation of the Board of Trade (BTI), government has rejected price equalisation of petroleum products.

Under strong pressure from inland consumers, Economic Affairs Minister Chris Heunis in 1977 instructed the BTI to look into the desirability of uniform oil pricing and its likely effect on commerce and industry.

Although the BTI's arithmetic has been largely overtaken by across-the-board price rises of 9,2c a litre since January, differentials remain unchanged because they are determined solely by transportation costs to the country's 30 pricing zones or "grids."

Also, through no fault of its own, the BTI report has been overtaken by imminent changes in geography of SA's energy production: government's determination to move away from reliance on imported oil to a domestic oil-from-coal policy means that the centre of gravity of the oil refining industry will move from the coast to the Highveld, reversing the oil flow and reducing the disadvantages of inland oil consumers.

Pipeline problem

The BTI says the major factor in existing geographical price differentials is SAR's pipeline tariffs which it implies are out of line with costs.

According to revised SAR estimates for 1978/79, pipeline revenue will be R158,1m against expenditure of R35,2m — a surplus of R122,9m after allowing for depreciation and interest.

Nonetheless, the price equalisation of, say, 93 octane motorgas could not result in a change of more than 1,5c/litre in the March 1979 price in Johannesburg, which is less than 4%.

In its search for an alternative to the grid system, the BTI looked at three possibilities: simple average prices, constant railage payments, and an equalisation fund. All three fell down because they were either too complicated or too expensive. For example, to set up an equalisation fund would require an initial investment of R15m and the system would cost R3,5m a year to administer. The oil companies told the BTI that more than 2m sales and cost documents would have to be analysed and compiled each month from information generated at more than 500 depots. At least 100 experts would be required to balance the distribution costs and price receipts of nine oil companies whose annual railage costs at current rates are about R170m.

With the weight of the evidence against equalisation, BTI concludes that steps designed artificially to introduce uniformity would not be in the national interest because, *inter alia*:

- The present price structure is suitable. Apart from the question of railway pipeline tariffs, it is cost-orientated and distributes costs among customers to induce the location of industries on the basis of comparative costs;
- The equalisation might involve difficulties in or with the BLS countries and other neighbouring states; and
- In general, the relative importance of oil in the pattern of input costs of industry and other sectors is so limited that any beneficial effects claimed for equalisation would be trivial. However, if it were not, equalisation would encourage industrial concentration in the PWV.

ADDING UP OIL

	92 octane petrol	87 octane petrol (inland only)	Diesel fuel
	cents per litre		
Oil company selling price (including customs & excise duty of 10,341c/l plus 1c gst)	33,74	33,14	33,31
Retailer's margin	1,86	1,86	2,79
Retail price at coast	35,60	—	36,10
Railage to Johannesburg	3,50	3,50	2,40
Retail price Johannesburg	39,10	38,50	37,50

PETROL SALES BY PROVINCE

	1970	1976
	%	
Cape	26,1	23,8
Natal	14,2	15,9
Transvaal	49,1	50,8
OFS	10,6	9,5

Methanol seen as alternative for petroleum

PRETORIA. — Methanol appeared to be the most attractive alternative transport fuel which could replace petroleum, Professor R Dutkiewicz of the University of Cape Town said here yesterday.

Reading a paper at a one-day symposium on alternative transport fuels, Professor Dutkiewicz said the reason was that its cost was lower than that of Sasol fuel.

"In high compression engines the cost for a vehicle kilometre is likely to be half of that of a petrol vehicle using Sasol fuel," he said.

Methanol could in the long term be used in high compression engines, but in view of the large numbers of existing petrol and diesel engines it was considered that a third Sasol plant was required, he said.

After analysing potential transport fuels, he had found that while hydrogen would be an attractive long-term solution, it was unlikely to make an impact on transport before the end of the century.

Electric vehicles were likely to make a significant impact on transport in the future, but they were unlikely to do more than replace about 16 percent of petrol requirements.

"The most attractive fuels in the medium term are petrol and diesel from Sasol, and the alcohols ethanol and methanol.

Ethanol does not appear economically attractive on the large scale, though small-scale production as a by-product is possible.

'Most attractive'

"Methanol appears to be the most attractive alternative with a cost lower than that of Sasol fuel."

In the short term methanol could be used as an extender for diesel and in the long term it could be used in high compression engines, Professor Dutkiewicz said.

"The methods for producing methanol are well established and a plant can be built within 24-30 months of a decision on plant parameters. A large amount of research and development work has also been done on the application of methanol to internal combustion engines.

"While more detailed work is required on specific modifications which may be required, there does not appear to be any unsurmountable problem in using methanol as a blend with petrol, or as a dual fuel system with diesel.

"The 100 percent methanol engine is not very different from conventional petrol engines except for an increased compression ratio. The production of such engines should not pose any problems for motor manufacturers" he said. — Sapa

Electric vehicles 'have a role' in future transport

PRETORIA. — Electric vehicles would obviously have an effective role to play in future transportation in South Africa when liquid fuels would be scarce and highly priced, Dr R B Anderson of the Council for Scientific and Industrial Research said here yesterday.

Speaking at a one-day symposium on alternative transport fuels arranged by the Institution of Mechanical Engineers, Dr Anderson said the energy route through normal electricity channels was viable, especially in a coal-based economy.

However, the electric vehicle was still a specialized development which must be handled mainly by experts and it would take some time before the private car was available, especially as a second car.

"Nevertheless as an immediate objective it is considered necessary to start manufacturing and using these vehicles, especially of the commercial type, including buses, to gain basic experience in their application under fleet conditions and using price structures based upon more reasonable quantities than on high-cost prototypes," he said.

It appeared some adjustment would be needed regarding the cycle life and energy density of new battery systems to optimise the operating cost vis-a-vis the performance required. For example, batteries having high energy density with a high cycling performance could be economically employed for long-distance heavy transportation.

Possibly a battery-change system would prove viable under these circumstances, Dr Anderson said.

Ethanol from maize 'helps food production'

PRETORIA. — For South African conditions, the production and use of ethanol and perhaps some other solvent, such as ethyl acetate, propanol or butanol, could play a very extensive role in solving the fuel crisis, Dr R E Robinson of Sentrachem said yesterday.

Addressing a one-day symposium on alternative transport fuels arranged by the SA Institute of Mechanical Engineers, Dr Robinson said it was strange that the production of ethanol from agricultural materials should raise so much emotion and lead to so much discussion.

Dr Robinson said the concept of using maize to make motor fuel provoked an emotional reaction, but few people realized that the production of ethanol from maize could result in producing more food than it destroyed.

The maize food content was in three forms — proteins, fats, oils and starch.

The first two were not destroyed in the production of ethanol. A by-product called dried distillers grains and solubles (DDGS), which contains 30 percent protein (as compared with maize at only 12 percent), was recovered.

"DDGS contains, in addition to the original maize protein, the yeast cells introduced in the fermentation process.

"All that has in fact been removed from the maize to produce alcohol is the starch, which is not a particularly good food anyway," Dr Robinson said. — Sapa

Methanol viability needs research

PRETORIA. — Technically no insoluble problems existed regarding the introduction of methanol as a fuel in internal combustion engines, but work still needed to be done before the economic viability of such a move could be accurately assessed.

This was the conclusion reached by Dr K F Bennett of the Energy Research Institute in a paper on "utilisation of methanol in motor transport" read at a one-day symposium on alternative fuels for motor transport.

"If it was decided to introduce methanol as a fuel in South Africa, car manufacturers and fuel distributors would know the problems to be expected and could take the necessary corrective action to ensure that the transition from petrol to methanol would be relatively smooth." — Sapa

Fuel from wood — Russia ahead

PRETORIA. — It appeared that Russia was well in advance of Western powers in their research into deriving liquid fuels from wood, according to a paper read here yesterday at the one-day symposium on alternative fuels for motor transport.

The authors of the paper, entitled "The potential in South Africa for obtaining fuel from wood", were Mr D Garbutt and Mr P V van Breda, both of the Union Bark and Milling Co-operation.

"On the subject of the need for research into wood hydrolysis, we would like to mention that for every speculative publication we have encountered from Western sources containing many ifs, buts and maybe's, we have come across a number in the Russian literature, containing hard facts derived from completed laboratory research and factory trials on wood hydrolysis and fermentation." — Sapa

Methanol — 'a cheap liquid fuel'

PRETORIA. — Within a reasonably short period methanol could be produced in South Africa by existing commercialized technology in sufficient quantities to have a significant impact on the country's motor fuel needs, Mr J Norton, of AECI Ltd, said here yesterday.

Speaking at the symposium on alternative transport fuels Mr Norton said coal-based methanol, although significantly more expensive than gasoline produced from refined petroleum, was one of the cheapest liquid fuels based on coal.

In the future, when an increasing proportion of the country's motor fuel was likely to be

U.C.T.

SPES BONA

(1) 55
~~(2) 185~~
~~(3) 260~~

18 The Star Friday March 23 1979

Steenbras hydro-electric plant will save R30m yearly

~~THURSDAY~~ 5 APRIL

Own Correspondent

CAPE TOWN — The second stage of the R65m Steenbras pumped storage hydro-electric scheme will come on stream this month and by the end of the year Cape Town will have saved more than R6m on the cost of providing electricity.

The schemes consists of a new reservoir upstream from Steenbras, in the Hottentots Holland Mountain above Gordon's Bay, and a lower reservoir between the town and Sir Lowry's Pass on the lower slopes of the mountain.

A tunnel through the mountain connects the two reservoirs. At night, when demand is low and electricity relatively cheaper, water is pumped from the lower to the upper reservoir.

During the day peak periods when electricity becomes much more expensive, water is released from the upper to the lower reservoir. It passes through turbines just above the lower reservoir and generates electricity.

There are four turbine generators, which are reversible machines acting to pump the water uphill at night. The first was brought into commercial operation in mid-January and the second will be working by the end of the month.

By July all four will be in use.

At present Escom supplies Cape Town with more than 50 percent of its electricity and in off-peak periods can do so more cheaply than the city's Table Bay and Athlone power stations.

But peak period demand increases the overall cost of Escom electricity.

The scheme serves to reduce dependency on Escom at peak periods and so cut costs.

Within 10 years the scheme should have paid for itself and thereafter "it's profit all the way," according to Mr D C Palser, Cape Town City Electrical Engineer.

BENEFIT

By 2000, the schemes should be saving about R30m a year. After 40 years, its estimated minimum lifespan, the scheme should save up to R70m a year.

An additional benefit of the scheme, the first in South Africa, is that power failures from other electricity sources could be overcome within minutes by releasing water from the upper reservoir for up to two hours while repairs are done.

FRIDAY

R.L.2-A ... ecture: Arts Students Council
Faction fights in colonial
Zimbabwe" - Ian Phimister -

N.S.L.T. ... lm Show: Projects Comm.

Educatio ... rican Music Concert/Workshop
he Soul of the Mbira" by
ohat Mujuru - M.S.C. -

Rhodes Ro ... lth and Fitness class

T.B. Davi ... ting: Social Science Students

Old Stude
Dining ... o: Leo Marquard Hall

Beattie T ... : Arts Students Council
en in Love" starring
n Bates & Glenda Jackson

Rhodes Ro ...): German Society

Yellow Lev
Students' ... Rock, Disco: Croquet Club
with Joe Multi

SATURDAY 3

Baxter Thea ... 21 ... n Show, CABARET, Champagne.
- RAG -

MONDAY 2 APRIL

Beattie Theatre ... 13. ... Historical Society
6: "Gone West",
vement west" (52 mins)

B.106 (Beattie) ... 13. ... : Muslim Students Assn.
lysis of the Revolution
n" by Yusuf Amien

Upper Sports Hall
Students' Union ... 20.00 ... dancing

Hahn One ... 20.00 ... Underwater Club

2/.....

Star
BUSINESS

Consensus needed in race to find SA's future fuel

STAR 23/3/79.

(55)

By Ann e Colley

Just what fuel should replace petroleum as South Africa's source of energy is currently the subject of some hot debating with this week's seminar at the CSIR on alternative transport fuels the latest in a long line of discussions.

The urgency of the situation leaves SA with no alternative but to consider only the proven alternatives to oil and the consensus of the meeting was that the only economically and technically proven method currently available is Sasol's synthetic petrol — the oil from coal.

"Sasol fuel will form the backbone of South Africa's future energy supplies. But it cannot fulfill the total demand," as UCT's energy expert Professor Richard Dutkiewicz explained.

And this is where the heated debating so often begins. Yesterday's meeting looked at the two alcohols, methanol and ethanol, electric vehicles and hydrogen fuel as possible supplementary sources of energy.

But as Professor Dutkiewicz pointed out hydrogen may be an attractive long-term solution, but because of storage and production problems it is not likely to make any impact on the transport scene before the turn of the century.

Electric vehicles too have problems like poor power-to-weight ratios and high capital costs to overcome before they can be economically viable.

This leaves the two alcohols as the most promising supplementary supply sources. But which to choose?

AECI, the only producer of methanol, and Sentrachem the only producer of ethanol are slowly dividing the industry into two camps, and the battle between the two "gasohols" is only warming up, as yesterday's seminar showed.

Energy experts are looking at both alcohols primarily as extenders — fuels to be mixed initially with petrol and perhaps diesel to make these petroleum products go further. The longer term view looks at these fuels for use in engines adapted to burn these fuels alone, without petrol.

But neither fuel has been used in South Africa either as an extender or pure fuel on any large scale and costing remains an unclear issue.

A vicious circle in fact exists around both alcohols — the customers want to know the costs before they will indicate their interest while manufacturers want to know their market before they can do the final development and calculations cost.

But estimates have been made. It appears that methanol is a lower cost fuel but that its plant is more expensive than that needed to produce ethanol.

At the moment however the energy industry can only guestimate and talk and so the debate goes on. Professor Dutkiewicz appealed to the delegates to stop talking and do something. It is time to break the vicious circle that surrounds these alcohol fuels and get to work because these forms of energy which are more efficient than Sasol's oil-from-coal will, it is hoped eventually replace synthetic petrol as the major source of South Africa's power.

(1) 55

R 50-billion — the bill for self-sufficiency

SOUTH Africa will have to spend as much as R50-billion to become self-sufficient in fuel production and chemical industry production based on fossil fuel feedstocks and raw materials.

This estimate emerged at a conference on alternative transport fuels in Pretoria this week.

It underlines the fact that money, more than technology or raw materials, is likely to be the main stumbling block to self-sufficiency in fuels and in much of the heavy chemical industry.

Addressing the conference, Sentrachem's Dr R E Robinson suggested that the country had the wherewithal to become almost entirely self-sufficient in fuel production by the year 2000.

His reasoning was based partly on the case for more alcohol production from agricultural products such as maize, which could be relatively cheap.

Others at the conference, including the University of Cape Town's Professor R K Dutkiewicz, urged a start on yet another Sasol immediately and preferred the ethanol-from-coal route.

The conflicting views highlighted the growing debate about which road South Africa should choose in an effort to thumb its nose at the oil crisis and remain in the forefront of coal and bio-alcohol based fuel and chemicals technology.

Crops

The central argument is fast crystallising into a vegetation versus coal-based fuel tussle.

The Minister of Economic Affairs, Chris Heunis, indicated in his announcement of the doubling-up of Sasol 11 that he tends towards ethanol from coal on the grounds that farm crops are too cyclical and uncertain a base as an alternative.

Yet men like Dr Robinson have a point in arguing that only the starch from, for instance, maize would be necessary for ethanol production and that should ethanol plants be established, as Sentrachem would like, this would encourage expansion, diversification and intensification of suitable crop cultivation, making it a great deal more reliable as a source of raw materials.

In either event, there is a clear case for exploiting methanol or ethanol as fully as possible on cost grounds.

Both routes offer the hope of considerable savings when compared to 100 per cent reliance on oil and petrol from coal.

Of course, uncertainties about inflation, the rate and direction of technological developments and political events make all long-term predictions highly speculative.

Yet the conflict between the need for urgent decisions and the advantages of waiting to see how the wind will blow must be resolved.

Cash is key in production of fuel, chemicals

By STEPHEN ORPEN

Opportunities for world leadership already thrown up by the country's fuel and chemical feedstock predicament include:

Rates

- The fact that Sasol 2-plus-2 is already the world's largest single industrial project, at a total cost which by the mid-eighties is likely to work out around R8-billion at money rates then.
- The fact that the enlarged second Sasol is now the largest single project on the books of the major contractor, America's huge Fluor Corp, which in 1978 took on work worth some R4-billion, including only a little less than R2-billion for coal-conversion in South Africa.
- The fact that AECI is ready to consider a coal-based chemical plant with a final output believed to be about 750 000 tons a year, mainly of ethanol.

This compares with the 300 000 tons a year from the company's latest coal-based, R100-million ammonia plant, easily the largest of its kind in the world.

This plant produces ammonia. The much larger plant would be similar but would produce methanol instead via gasification.

AECI is already supplying ethanol as an additive for petrol and the colossal new plant could provide for an ethanol fraction of more than 10 per cent in most of the country's petrol.

- The fact that AECI's new R230-million Coalplex plastics and general chemicals generator is also the largest coal-based project of its kind anywhere, and is now running at design rates, subject only to the need to shift chlorine output from the present 70 to 100 per cent of capacity, which should be achieved by mid-year.

South Africa's lead in the application and experience of coal-based fuel and chemicals technology began with AECI's No 2 ammonia plant in 1932 (the coal base was then the conventional wisdom) and was reflected in 1955 by the country's first PVC plastics production, using carbide produced from anthracite, at 10 000 to 12 000 tons a year.

Coalplex produces 100 000 tons of PVC a year, and total exports in 1979 should reach 30 000 tons compared with 20 000 tons last year, at a time when a doubling of the price for the raw material for oil-based PVC plants has made the rewards of exporting highly attractive.

South Africa is now the world leader in the commercial production from coal of petrol, PVC and other plastics and ammonia/nitrogen, primarily for fertiliser.

Reasons

It is also arguably in the forefront in experience in the commercial production of pharmaceuticals, dyestuffs, pigments and synthetic rubber products with coal as the basis.

For economic as well as political reasons, the edge the country has been able to enjoy through force of circumstance must not be allowed to be lost by default.

Pretoria needs to follow its own example in opting speedily for the doubling up of Sasol 11 by displaying like courage and sound judgement in resolving the ethanol-methanol controversy.

as Artemis or Aphrodite had borne. As Godmother (Θεομητηρ), Deipara (Θεοτοκος), Pathfinder (Ὁδηγητρια), she was the chief favourite of the Eastern Empire, and her picture was carried at the head of every procession and hung on the wall of every hut and hovel, as it is still wherever the Greek Church goes. In the year 610, when Heraclius sailed from Carthage

its western portal with
v outburst can be read
means Saint Bernard,
15 founded his Abbey
In him, the religious
first and second cru-
lse. He was a French
lived a century later.
ux and Saint Bernard
d incarnates what we
further from us than
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s the strange mixture
lf-abandonment, the
te, the miracles, and
ercian Order, which
l its churches under
Saint Bernard in his
gin's eye. Tradition
afterwards gave to
Murillo the subject of a famous painting, told that once, when

8510

Saudis to block oil price rises

(55) Star 27/3/79.

The Star Bureau

LONDON — Saudi Arabia, the world's biggest oil exporter, will oppose any further increase in the official price of Opec oil this year when the Oil Ministers of the 13 member states meet at the end of next month.

But Sheik Yamani, Saudi Arabia's Oil Minister, warned in London yesterday that he expected several Opec countries to impose their own temporary increases while the oil shortage caused by the Iranian revolution continued.

Speaking at an international energy conference, he said that although Saudi Arabia did not intend to raise its prices again this year, other producers were concerned at the high prices being paid for oil on the open market.

"Some member countries feel that the oil companies are making windfall profits and they want to get part of those profits back into their own treasuries."

As the producer of about a third of Opec's output, Saudi Arabia effectively controls the organisation's prices.

It is reported from Teheran that Iran's top oil official, Mr Hassan Nazih, has flown to the southern oilfields to promote an early resumption of crude exports.

The government is believed to want to hold an oil auction next week which would bypass the 14-company Western oil consortium that formerly produced and exported the bulk of Iranian crude.

Highly placed sources are quoted as saying a barrel of light crude would fetch 24 dollars.

Sources said the new regime would hold oil production to about 4-million barrels a day. Before the work stoppages the country produced 6,5-million barrels a day. — The Washington Post News Service.

he was reciting before her statue the 'Ave Maris Stella,' and came to the words, 'Monstra te esse Matrem,' the image, pressing its breast, dropped on the lips of her servant three drops of the milk which had nourished the Saviour. The same miracle, in various forms, was told of many other persons, both saints and sinners; but it made so much impression on the mind of the age that, in the fourteenth century, Dante, seeking in Paradise for some official introduction to the foot of the Throne, found no intercessor with the Queen of Heaven more potent than Saint Bernard. You can still read Bernard's hymns to the Virgin, and even his sermons, if you like. To him she was the great mediator. In the eyes of a culpable humanity, Christ was too sublime, too terrible, too just, but not even the weakest human frailty could fear to approach his Mother. Her attribute was humility; her love and pity were infinite. 'Let him deny your mercy who can say that he has ever asked it in vain.'

Saint Bernard was emotional and to a certain degree mystical, like Adam de Saint-Victor, whose hymns were equally famous, but the emotional saints and mystical poets were not by any means allowed to establish exclusive rights to the Virgin's favour. Abélard was as devoted as they were, and wrote hymns as well. Philosophy claimed her, and Albert the Great, the head of scholasticism, the teacher of Thomas Aquinas, decided in her favour the question: 'Whether the Blessed Virgin possessed perfectly the seven liberal arts.' The Church at Chartres had decided it a hundred years before by putting the seven liberal arts next her throne, with Aristotle himself to witness; but Albertus gave the reason: 'I hold that she did, for it is written, "Wisdom has built herself a house, and has sculptured seven columns." That house is the blessed Virgin; the seven columns are the seven liberal arts. Mary, therefore, had perfect mastery of science.' Naturally she had also perfect mastery of economics, and most of her great churches were built in economic centres. The guilds were, if possible, more devoted to her than the monks; the bourgeoisie of Paris, Rouen, Amiens, Laon, spent money by millions to gain her favour. Most surprising of all, the great military class was perhaps the most vociferous. Of

FINANCE

55

Japan plans international energy pact

161

28/3/79

(Argus) Correspondent

TOKYO. — Japan is to propose an international energy agreement in which participants will invest a fixed amount of their GNP in development of new energy sources.

Government sources say this will be a major Japanese initiative at the Tokyo summit of seven major industrial countries in June.

Officials of the seven countries held a preparatory meeting in Tokyo last week to set the agenda for the summit, and agreed that it was dangerous to continue depending heavily on Middle East oil in view of the region's political instability.

Japan is in charge of producing a working paper for the summit on energy problems.

INVESTMENT

Government sources say it is likely that a figure of 0,5 percent of the GNP will be suggested for annual investment in research and development of new energy sources.

Japan for a start is working out a plan calling for it to:

- Intensify its efforts in oil development projects outside the Middle East.
- Diversify energy needs by using more coal and natural gas.
- Develop new technology for liquefied coal, terrestial and solar heat.

So far, Japan's investment for energy purposes has been concentrated in building up oil stockpiles.

Government sources said it was hoped that long-term energy strategy would emerge from the Tokyo summit.

Opec unleashes oil price free-for-all

RDM 29/3/79

LONDON. — Opec's decision to raise its oil prices and to allow large optional premiums on light crude output appears to be leading to an essentially free market place where many producers will charge as much as they can, say oil analysts and industry sources.

"The Opec announcements represent a face-saving formula to preserve the cartel's appearance of unity, with some members holding close to the new base price and others charging what they like," says an analyst, Mr Michael Unsworth, of Grieveson Grant & Co.

Industry sources say the new Opec prices should serve to raise North Sea oil prices, possibly to between $18,50 and $19 a barrel to match the proposed $18 plus price on high-quality North African light crude.

The small differential between the potential North Sea price and the probable North African level would reflect the way Opec prices exclude transport costs.

A potential advantage lies with the Aramco consortium in Saudi Arabia, consisting of Exxon Corp, Mobil Corp, Texaco Inc and Standard Oil Co of California, if the kingdom holds its price at the lower end of the new spectrum.

Analysts say it remains to be seen if Saudi Arabia will move to impose resale price or other conditions which would limit the extra profits which the Aramco members stand to gain in these circumstances.

The outlook for oil prices later on this year will depend primarily on Opec production levels, particularly in Iran and Saudi Arabia, and on the ability of Western nations to cut consumption.

Several analysts say further upward pressure on oil prices appears likely on present evidence.

Surcharges on prices above the official Opec price will depend on what consumer governments do to control spot-market prices and urb consumption, says the Iraqi Oil Minister, Sheikh Tayeh Abdel Karim.

"I don't think the marrket will stabilise unless consumer countries limit consumption," he says.

But the Opec conference had to state that its 13 members were free to introduce surcharges because of exceptional market circumstances.

The oil market had been in a chaotic situation, with some prices going up to $25 a barrel, he said.

He was happy with the outcome of the Opec conference. If consumer states wanted to help control prices, they should cut out oil companies from their role as middlemen in the market, and negotiate supplies directly with producers.

Kuwait's Oil Minister, Sheikh Ali Khalima al-Savah, has threatened to blacklist oil companies which sell his country's oil to developing nations at above the official Kuwaiti export price.

Kuwait is imposing a $1,20 a barrel surcharge on higher minimum prices for its oil from April 1.

He said: "We feel it our duty to see that our oil goes to underdeveloped countries at our price, and not at the price which the oil companies think they can get."

In Tokyo, the Bank of Japan's Governor, Mr Teiichiro Morinaga, said Opec's 9% increase would be easier to deal with than the quadrupling of oil prices in 1973.

The impact would become apparent gradually, so it would not be difficult to take measures to prevent resultant inflation.

The Japanese Ministry of International Trade and Industry will urge oil refineries and trade houses to make no undue price increases.

The ministry will also guide trading houses to avoid a rush to buy spot crude oil at high prices in the world market.

User industries and the public will be called on to refrain from making hasty purchases of oil-related goods in anticipation of a rise in their prices.

In Canberra, the National Development Minister, Mr Kevin Mewman, told Parliament that the Opec decision would at first affect only the 30% of Australian oil requirements derived from imports.

There would be no change in the price of domestic crude before July 1.

Between now and July 1, the Government would consider the implications of the Opec decision for the Australian economy and then decide whether to include the Opec rise in the domestic price.

Austria will be hurt less by oil price increases than larger industrialised countries, says Professor Adolf Nussbaumer, State Secretary for Economic Coordination.

He said Austrian public and private consumption would not be directly affected. Exports might be, but the impact would be delayed because Austria exported largely to developed European countries.

He doubted whether the new prices would have much impact on economies this year, but said the OECD might eventually have to revise average growth rates of industrialised countries downwards. — Reuter.

Heunis: No petrol price increase planned

CT. 30/3/79

(55)

THE government had no intention of increasing the price of petroleum products in the immediate future, the Minister of Economic Affairs, Mr Chris Heunis, announced in Cape Town yesterday.

The announcement was being made to avoid speculation about possible increases as a result of the recent Opec crude oil price rise, he said.

At this stage it was not clear how the price South Africa had to pay for its crude oil would be affected by the Opec increase.

An increase in South Africa would depend on whether or not the proceeds of the levy imposed on petroleum products earlier this year would be adequate to cover additional costs arising from the latest crude oil hikes, Mr Heunis said.

"In this connection I wish to emphasize that the government regards the stimulation of the economy as being of a high priority, as reflected in the Budget speech of the Minister of Finance, and that the government consequently endeavours to avoid placing any obstacles in the way of more rapid economic growth.

Mr Chris Heunis

"In view of this consideration the government has no intention of increasing the prices of petroleum prices in the immediate future," Mr Heunis said.

However, the high prices South Africa had to pay for oil called for fuel conservation in all possible areas. Fuel saving benefitted the country's balance of payments and also reduced costs and fought inflation.

Mr Heunis expressed his appreciation for the public's general co-operation with the application of the fuel-saving measures and urged people still disregarding them to observe them strictly.

He also announced that following an investigation into the effect of withdrawal from the market of power paraffin, it had been finally decided not to withdraw this product. Sapa

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OIL PRICE HIKE

West dismayed

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The world's major oil exporting countries will push up the basic price of a barrel of oil from $13,34 to $14,55 on Sunday, but the actual increase will be steeper.

With the exception of Saudi Arabia and perhaps the United Arab Emirates, most Opec members will charge a premium of not less than $1,20 a barrel and perhaps as much as $4.

In effect, Opec formally scrapped the phased 14% price rise this year adopted at its last meeting in Abu Dhabi in December. Instead, it decided to implement on April 1 the $14,55 a barrel price originally due next October under the Abu Dhabi plan.

This is already the price most Opec members are getting by charging a premium of around $1,20 a barrel on top of the official first quarter price of $13,33 a barrel, which under the Abu Dhabi price plan was to rise to $13,84 on April 1.

The big question now is how much of a premium they will be able to charge on top of the new official second quarter price of $14,55 and whether this premium will also be consolidated into the official price when Opec meets again in June to consider prices for the rest of 1979.

There is no doubt that further oil price rises this year remain a real possibility.

The current price surge has been made possible by the unexpected cut-off in Iranian exports to the world market, which other producing countries partly off-set by increasing their own sales. Now those countries have informally agreed to lower sales again to make room for a resumption of Iranian exports at a level of about 2,5m to 3m barrels a day, well below the 5m b/d levels achieved under the Shah.

Meanwhile, the 9% price increase agreed for April 1, instead of only 5% under the Abu Dhabi agreement, together with the threat of additional surcharges, has been received with dismay throughout the industrial West.

The *OECD* calculates that every 10% rise in the oil price shaves about 0,25% off growth in its Western industrial member countries, raising inflation by about 0,4% and adding to their collective payments deficit.

increases in nylon raw material costs," says Joffe. "This should put local products on a level with the imported item."

Despite opposition from mass distributors, who import on a large scale, producers are confident the application will go through fairly soon.

The home leisure industry is in better shape. Sales of braais, gas cookers and outdoor furniture are expected to show an increase this year.

"Those outdoor products not restricted to camping, such as braais and gas cookers, have not been affected by reduced demand," comments Cadac MD Stan Findlay.

CONSTRUCTION

Pulverising news

FM 3/8/79

A total saving of R16m a year could be made on energy and other costs if the construction industry made optimum use of pulverised fuel ash (ash from coal burnt in power stations) as a building material. This is the estimate of Paul Bates, director of D&H Ash Resources within the Darling & Hodgson group, which is promoting the use of pfa in SA.

While there is nothing new in this concept — ash from older stoker boilers is used for clinker bricks and some is being used as backfilling in mines — there is abundant scope for increased use. Escom's 18 coal-fired power stations dump about 10 Mt/year.

Bates reckons SA could comfortably use about 1 Mt/year in cement mixes, road construction, and backfilling open-cast mines. Costs of extracting pfa aren't high. "To produce 0,5 Mt of cement costs around R100m, while the same tonnage of extracted pfa would cost R0,5m," he calculates. Plant already installed by D&H, with an extraction capability of 50 000-70 000t/year, has cost in the region of R100 000 — mainly materials handling and storage facilities.

Of Escom's stations that burn coal to the pfa stage, only Grootvlei has an extraction plant, while plans are on the drawing board to handle dry ash at the Duvha station near Witbank. There is plenty of room for expansion, with only four not fitted with electrostatic precipitators that produce pfa to consistent fines suitable for use with cement.

SA is ahead in using pfa as a filler in mines, but lags in other applications. France uses some 4 Mt/year and by law some cements have to have up to 45% pfa content. About 6% of materials used in major construction in the US is pfa, or fly ash as it is known there.

Main drawback has been transport costs in bringing the pfa from outlying power stations to where it is needed, but with gravel (used in road construction) shortages in urban areas foreseen, this could change. Another problem is lack of innovation by provincial and city authorities, borne out by the fact that no practical trials using pfa on blacktop roads have been undertaken (except as a filler), although it was used on the landing strip at Secunda.

Escom emphasises both cost and environmental factors. "It'll reduce unsightly dumps and can be used to fill the holes being dug on opencast mines," says a spokesman. "It'll also stop road-builders carving up hillsides for their gravel requirements."

It remains to be seen how the R240m a year cement industry, currently operating at about 70% capacity, reacts to the idea.

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ENERGY

~~1 JULY 1979~~ ~~1/6/79~~ ~~14/6/79~~ ~~31 JULY 1979~~

1-7-79 —

22.2.79 — 31-12-79

... MINISTER: Mr. Speaker, the hon. member should put that question on the Order Paper. [Interjections.]

Hansard 7 Col 482

Nuclear Non-proliferation Treaty

21/2/79

*2. Mr. N. B. WOOD asked the Minister of Foreign Affairs:

Whether a decision has been taken in regard to the signing of the Nuclear Non-proliferation Treaty; if so, what decision; if not, when is it expected that a decision will be taken.

†The ACTING MINISTER OF FOREIGN AFFAIRS:

No, the matter is still under consideration.

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D.N. 27/4/78

The oil drought nears

186

192

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Proven reserves of oil will be exhausted by 1996 and probable reserves 12 to 15 years later. That is the forecast in a report to the Economic Commission for Europe, which groups North America, the Soviet Union and Western and Eastern Europe.

The report says the West cannot rely on OPEC countries for continued vast supplies because in the long run exporters will find it pointless to accumulate foreign currency reserves whose value is easily eroded. It is therefore essential to allow the oil exporters to participate in international decisions on monetary affairs to build up trust.

The report estimates that world demand for OPEC oil will be almost 3 000 million tons by 1990, compared with 1 360 million tons in 1975. OPEC's current maximum production capacity is about 2 000 million tons but several OPEC members are known to be trying to reduce their output.

Even Eastern European countries — which traditionally get most of their oil at concessional rates from the Soviet Union — will turn to OPEC for purchases by 1985, because of an expected fall in the Soviet Union surplus. That will drop from about 11 per cent of total production in 1980 to just four per cent in 1990.

Oil will be exhausted even more quickly — by 1991 — if there is a return to the pre-1973 consumption growth rate of 17,9 per cent. The forecast says, however, that in 30 to 35 years, there will be enough technology to exploit oil at present unreachable.

These reserves might meet the estimated gap of 2,8 billion tons expected in the year 2010.

Oil demand is made up of two main categories, reducible and non-reducible. Reducible demand, namely fuel, should fall sharply in the coming decades because of the estimated higher cost. But non-reducible demand, in particular where oil is used as a raw material, will grow rapidly.

Demand for liquid hydrocarbons in the petrochemical industry should continue to rise at about 8,5 per cent annually until 1990, rising to 750 million tons in 1990 from 220 million tons in 1975.

As sustained development of supplies can meet the demand but will be successful only if prices are increased gradually. And sudden price rises will cause grave economic crises around the world, the study says.

It urges governments to enforce strict policies to conserve energy and to ensure that resources reach the priority areas of non-reducible usage. Prices alone will not be enough to achieve this optimal allocation. Consumption planning and internationally co-ordinated energy measures will be vital, the report says. —

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For full text see Acts 1979

REPUBLIC OF SOUTH AFRICA

GOVERNMENT GAZETTE

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VOL. 167]

CAPE TOWN, 11 MAY 1979

KAAPSTAD, 11 MEI 1979

[No. 6435

DEPARTMENT OF THE PRIME MINISTER

No. 1007. 11 May 1979.

It is hereby notified that the State President has assented to the following Act which is hereby published for general information:—

No. 46 of 1979: Atomic Energy Amendment Act, 1979.

DEPARTEMENT VAN DIE EERSTE MINISTER

No. 1007. 11 Mei 1979.

Hierby word bekend gemaak dat die Staatspresident sy goedkeuring geheg het aan die onderstaande Wet wat hierby ter algemene inligting gepubliseer word:—

No. 46 van 1979: Wysigingswet op Atoomkrag, 1979.

GENERAL EXPLANATORY NOTE:

________ Words underlined with solid line indicate insertions in existing enactments.

ACT

To amend the Atomic Energy Act, 1967, so as to provide for the recovery of losses and damages caused to the Atomic Energy Board, and for matters connected therewith.

(English text signed by the State President.)
(Assented to 3 May 1979.)

BE IT ENACTED by the State President, the Senate and the House of Assembly of the Republic of South Africa, as follows:—

Insertion of sections 18A and 18B in Act 90 of 1967.

1. The following sections are hereby inserted in the Atomic Energy Act, 1967, after section 18:

"Accounting officer.

18A. The president of the board or an officer of the board designated by that president shall be the accounting officer charged with the responsibility of accounting for all the moneys received, and for all payments made, by the board.

Recovery of losses and damages.

18B. (1) If any person who is or was in the employ of the board caused the board any loss or damage because he—

(*a*) failed to collect board moneys for the collection of which he is or was responsible;
(*b*) is or was responsible for an irregular payment of board moneys or for a payment of such moneys not supported by a proper voucher;
(*c*) is or was responsible for fruitless expenditure of board moneys due to an omission to carry out his duties;
(*d*) is or was responsible for a deficiency in, or for the destruction of, or damage to, board moneys, stamps, face value documents and forms having a potential value, securities, equipment, stores or any other board property;
(*e*) due to an omission to carry out his duties, is or was responsible for a claim against the board,

the accounting officer contemplated in section 18A shall determine the amount of such loss or damage, and may order, by notice in writing, the said person to pay to him, within 30 days from the date of such notice, the whole or any part of the amount so determined.

(2) If any person who is in the employ of the board and who has in terms of subsection (1) been ordered to pay an amount, fails to pay such amount within the period stipulated in the notice in question, the amount

OIL

The search goes on ...

55

IT'S AN ever-present fear — the blow out that could sink a rig — but the men drilling for oil off the South African coast live with it in their relentless search for the precious fluid.

Up to 80 of them, engineers, geologists, technicians, drillers and roughnecks, live for months at a time in almost monastic seclusion — no women, no liquor — tending the giant drill as it bores into the seabed up to 250 metres below them.

This week South Africa' oil exploration corporation, Soekor, took the lid off its 14-year search for oil — so far fruitless but with ever-increasing indications of hope.

The latest signs came only days ago when geological data at the F-P1 well, 143 kilometres south of Mossel Bay, had a "show" of oil, producing almost instant speculation that the search was over.

But for the fundis at Soekor this was only the latest in a series of "shows" which give them heart to continue the search — a search they will not give up while there is any significant chance of producing oil.

For oilmen a show is only the first indication that there may be hydrocarbons in the bottom of the hole they have been drilling. In this case the show arrived 2 249 metres into the seabed.

"We have proof there is some oil in the formation," said a Soekor spokesman.

Testing

"But the reservoir is not marvellous and there is no real indication that the oil will flow."

To get a flow the well will have to be tested, a laborious process involving the insertion of a casing into the well which is then blocked at bottom and top. The casing is then perforated by explosive charges at the required depth, a pipe is run in and if there is the correct combination of factors oil should flow.

The testing costs R50 000 a day and takes two to three days to complete, but before the F-P1 well is tested the rig will drill through to the "basement", rock formations in which they know there is no chance whatsoever of finding oil.

By DICK USHER and VIV PRINCE

Anyone is entitled to obtained a concession to drill for oil in South Africa, provided they can prove they have the expertise and the capital to sink a well within six months.

And the capital costs are of necessity very high. Each well on land costs about R350 000, while the offshore wells come in at about R3,5 million each.

Simply because Soekor has temporarily halted the land search does not mean they think there is no oil on land in South Africa.

"We had signs at Wakkerstroom, Utrecht, Dannhauser and signs of gas in the Cape," said the spokesman.

But the signs offshore have been more promising.

Since offshore drilling started 40 wells have been sunk, 24 by Soekor, 8 by Soekor and associates, and 8 by other companies.

Of these one has fulfilled the legal definition of a "discovery," a gas strike made by Superior in 1968.

brakes were on again and we didn't drill a well that year.

"But the halt was invaluable because it gave us an opportunity of evaluating data we'd collected and deciding on more prospective areas for the future.

"Now, with the downfall of the Shah of Iran we're going flat out again," he said.

Manpower

"We have a serious manpower problem. We cannot get trained seismologists. During the slack periods the bright men get bored and go off to Canada and other places and then when things start moving again we have to start from the beginning and train people all over again.

"There is actually a phase lag of about four years in our oil search. It takes one year to do the regional seismic work and decide whether there is a vague possibility of something, and another year to do the detailed seismic work.

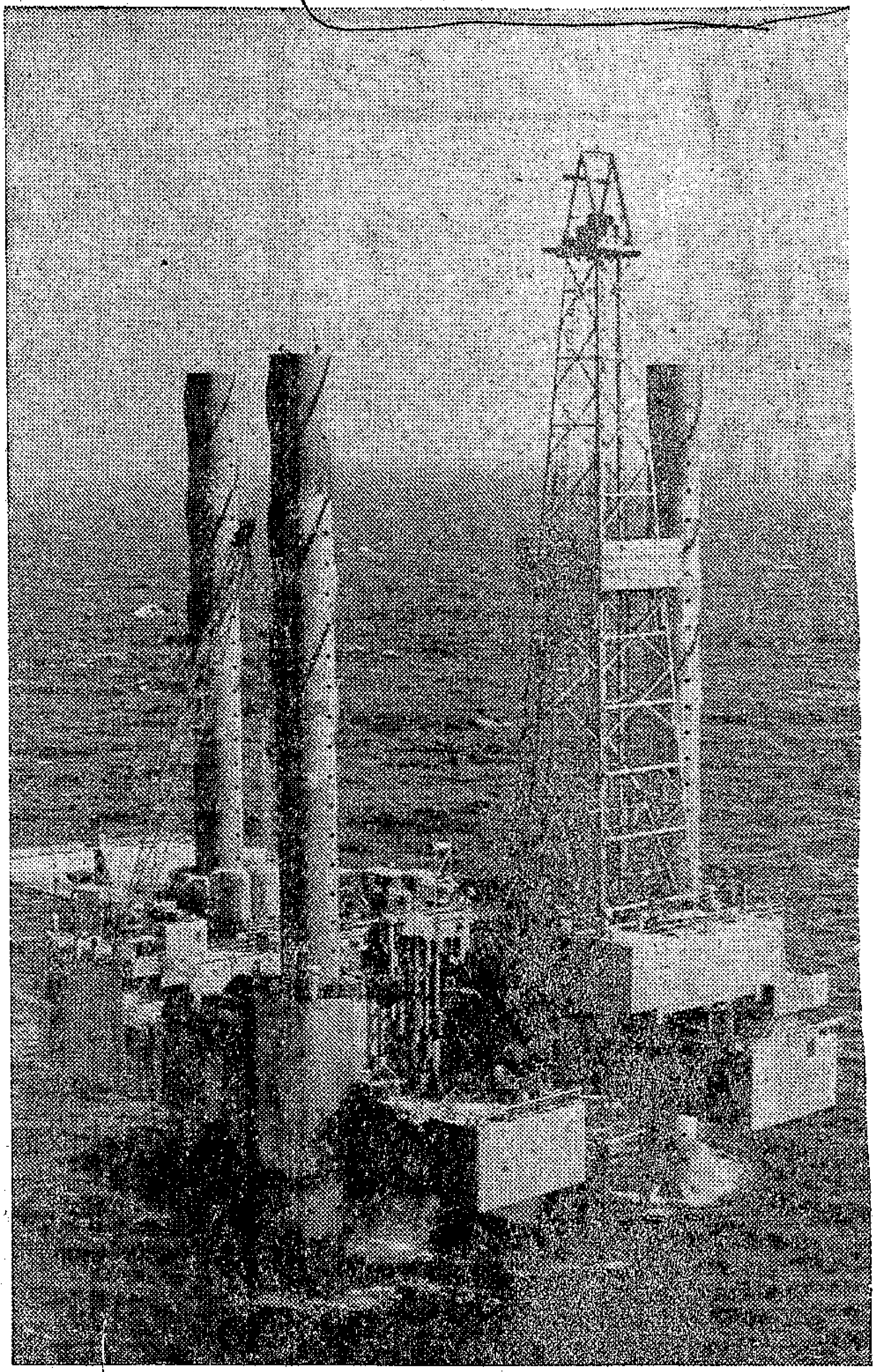
These are the trappings of the industry with the million dollar touch.

In legal terms an oil discovery is 500 barrels per day per well or 5 000 barrels per day per field.

But a Soekor spokesman stressed: "Off shore we are looking for quite a lot of oil or it will not pay at all. Minimum would be 5 000 barrels per day per field."

Meantime the relentless search goes on. A Soekor man admits: "We are busting ourselves to cope with two rigs." It's a price the oil men willingly pay for black gold.

SUNDAY TRIBUNE, MAY 27, 1979



The never-ending hunt for 'black gold' continues off South Africa's coast

It's a long slow process that has so far consumed R138 million, but the hunt goes on.

The first search was on land where 126 wells were drilled in the first years, 67 by Soekor and the balance by other companies.

"At the moment we believe there is virtually no chance of finding oil in economic quantities on land. We have reason at the moment to forget about land and concentrate offshore," said one spokesman.

But in spite of Soekor's pessimism about finding oil on land in South Africa a couple of optimistic concessionaires still battle on — one in the vicinity of Hartebeespoort Dam.

Since then there have been eight definite gas shows, two oil shows and two shows of either oil or gas.

"The history of the oil search in South Africa is just like Jody Scheckter, foot flat, either on the accelerator or the brake," said a Soekor spokesman.

Urgent

"At the moment everyone's working their guts out, we're breeding new guys to do the work and it's all go. In the early days, in 1965, we had two rigs working in the Karoo even before we had the seismics done but then things slackened off.

"Around 1973 things became urgent once more and we were going flat out again. We drilled nine wells in 1973 and 1974, but by 1975 the

"But that's assuming we have the manpower and if we don't then it takes from one to two years to recruit and train the people."

But through all this technology is the one fear of the imponderable the men cannot rule — that of a blow out.

It happens when "a gas bubble comes up and says 'howzit'," taking the men on the rig by surprise and foiling the massive valve system installed at the head of the well to prevent just such an occurrence.

Danger

In that case, the amount of gas blowing out of the well is enough to reduce the specific gravity of the sea to almost zero, destroying the buoyancy of the rig and sinking it.

"The gas comes up and the rig goes down," and a spokesman.

There has never been a blow out on a South African well, but the danger is always there.

As part of the training of the new recruits to the oil search, Soekor is getting a blow out prevention drill simulator, not unlike the equipment airline pilots train on to cope with emergency situations.

Iran sees Saudi backing for new round of oil-price rises

9/6/79
RDM

TEHERAN. — Iran will press for a further rise in the price of oil at the Opec meeting on June 26 in Geneva, says the chairman of the National Iranian Oil Company, Mr Hassan Nazih.

He thinks Saudi Arabia and the United Arab Emirates will also ask for an increase at the Geneva conference.

Iran's oil exports are now around 3 200 000 barrels a day, and its new policy is to decrease oil exports.

He repeated a previous statement that Iran is aiming at freeing its economy from dependence on oil.

Giving a breakdown of the countries buying Iranian oil on nine-month term contracts, Mr Nazih said 32% of exports went to the US, 18% to Japan and 16% to Britain.

Algeria, the Libyan Jamahiriyah and Iraq had agreed to decrease their production at March's Opec meeting to allow Iran to regain its market share when exports resumed on March 5 after a 10-week break.

All the term contracts signed by Iran with foreign customers included a clause allowing Nioc to increase the price of crude unilaterally.

Iran has twice raised the price of its oil since April, and Iranian light crude now costs $18,47 a barrel and heavy $17,74.

* * *

THE INTERNATIONAL Energy Agency's executive director, Mr Ulf Latzke, says he favours some control over spot oil market prices, creating a system "somewhere between a totally free market and a totally controlled market".

He says controls would run counter to the original IEA philosophy, based on the principle that shortfalls in IEA member countries' oil supplies of up to 7% should be met through the flexibility of free-market mechanisms, and bigger shortfalls should trigger the agency's emergency oil-sharing programme.

But he is not sure anyone foresaw the surge in spot-market prices which has resulted from a supply shortfall of only 4% to 5% as at present.

The kind of partly free, partly controlled market envisaged would not provide a perfect solution, but could have a moderating influence on prices.

He declined to go into more detail, or to say whether the IEA secretariat was preparing proposals on controls.

Commenting on the IEA annual report which warned that IEA countries might overshoot their target oil import ceiling of 26-million barrels a day in 1985, Mr Latzke singled out six main deficiencies in existing policies.

They included energy price structures which were still not encouraging enough conservation or indegenous IEA production, and insufficient efforts to encourage conservation in transportation and heating. The other four requirements were boosting production and use of coal, steady expansion of use of nuclear energy, an improvement in the investment climate for oil and natural gas and greater research and development efforts to boost non-oil fuel supplies.

Mr Latzke said all the IEA projections would have to be revised because of the cut in Iranian production, which the report did not take into account.

IEA officials responsible for drawing up the report described the forecasts as little better than guesses at this stage, but said everything pointed to a gap between oil supply and demand in the year ahead.

* * *

PRESIDENT Carter said in Washington yesterday after conferring with the West German Chancellor, Mr Helmut Schmidt, that Western Europe and the US must act together on oil policy to the extent permitted by national interests.

Mr Cearter said they had spent more time on the energy question than on any other problem.

Administration officials say President Carter is encouraged though cautious over indications that Congress might be willing to give him some degree of authority to deal with the energy crisis.

They said his meeting with congressional leaders covered several ideas, including the development of synthetic fuels, increased coal production and the standby rationing plan.

* * *

THE LIMITATIONS Of domestic refining capacity and international supply agreements make it difficult for Britain to consider rectifying its petrol shortage by imposing North Sea export restrictions, says an Energy Department spokesman in London.

Commenting on a BBC television news report that the Government was seeking urgent export limitation talks with North Sea producers, he said the scope for adjustment appeared to be small.

The department was studying the question, however, and the Energy Secretary, Mr David Howell, was is expected to comment further.

The spokesman said substantial oil export restrictions could lead to retaliation from multinational companies which supplied Britain from other parts of the world in exchange for the right to export part of their North Sea production.

Britain exports 35% of its daily domestic requirement, which approaches 2-million barrels.

Exports are running at about 45% of the North Sea's output, which has been running between 1 300 000 and 1 500 000 barrles a day in recent months.

The BBC report said refiners, whose plants were geared to handle a mixture of British and Middle Eastern crude oils, would oppose any restrictions for both technical and economic reasons.

* * *

VENZUELA will propose that Opec members unite their prices and set up a special fund for developing countries with $88 000-million supplied by the oil producers, says the Venezuelan Mines Minister, General Humberto Calderon Berti.

Venezuela will table these proposals at the Geneva meeting of Opec.

The special fund, which would be used to assist developing countries, would be the best defence against those who attacked Opec, he said.

* * *

JAPAN'S International Trade and Industry Ministry believes a French proposal to apply a ceiling to import prices of crude oil by advanced industrial nations is impractical.

The proposal, designed to form an oil-importing nations' cartel, was put to the Japanese Minister of International Trade and Industry at a ministerial meeting of the International Energy Agency in Paris last week.

The proposal may be submitted to the Tokyo economic summit this month.

Both France and Japan have means of supervising crude oil import prices, but it would take too much time for other advanced industrial nations to enact legislation for that purpose. — Reuter.

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Pressure on Opec to again raise oil prices is growing

14/6/79

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The Star Bureau

LONDON — Pressure for higher crude oil prices from members of the Opec countries is increasing only a fortnight before they meet in Geneva to discuss prices.

Indonesia yesterday announced its fourth price increase in less than six months. The latest surcharge will add two to three dollars a barrel to crude.

Ecuador, one of the smallest Opec members, has set a new peak for contract prices by raising the cost of crude exports for this month by 32 percent to 26,80 dollars a barrel.

At the same time Iran has reduced some of its major supply contracts to companies such as British Petroleum and Shell by between 13 and 14 percent for the third quarter of this year.

Iran claims that the cuts are to enable it to meet additional requests for contract supplies, but it is thought to be selling extra quantities on the spot market to gain a premium of from 14 to 15 dollars a barrel.

The volume of oil sold on the Rotterdam spot market has increased to almost eight percent of the world's traded supplies.

Six months ago it was only about five percent, according to information gathered by the European Commission in Brussels.

This was disclosed yesterday by Dr Guido Brunner, the Energy Commissioner, who said that the oil flowing into Rotterdam was attracted by the high prices prevailing there. He added that the situation was "very worrying."

The expansion of the volume of spot trade is expected to lead to stronger pressures from France for controls to be placed on the market, including a ceiling price for crude sold there. This proposal has so far been resisted by several other EEC countries, notably West Germany and Britain, as well as by the United States.

The European Commission has now stopped supporting the idea but calls for a more efficient monitoring system to keep track of spot prices.

● Dr Brunner yesterday unveiled an energy savings plan which includes freezing Community annual oil imports at the 1978 level of 470m tons until 1990, and boosting coal consumption by 25 percent.

FM 15/6/79 (35)

OIL SUPPLIES

Pinch and squeeze

Oil rationing in SA is a fact, although oilmen and government officials prefer to call it euphemistically "pre-rating" or "allocating."

This week oil companies started the back-breaking job of monitoring 400 000 oil consumers in commerce, industry and farming. Deliveries are being cut back by percentages on 1978 offtake which sectoral leaders have told government they can tolerate.

Government refuses to disclose details of the cut-backs, because it fears it will be inundated with angry protests. According to statements published so far, the savings seem to range between 7,5%-10% for manufacturers, to about 20% for agriculture and transporters.

Government officials say this may not be enough. Inflows of crude oil supplies are at 60%-70% of December 1978 levels with no immediate prospects of improvement. A further turn of the screw may be necessary if no relief emerges from the June 26 meeting of Opec oil ministers.

According to Economic Affairs Minister Chris Heunis, the Department of Commerce will be advised of each consumer's offtake during 1978 and his future monthly consumption based on sectoral savings promises. In the case of new businesses, "special arrangements" will have to be made to fit them in to the general pattern. A chilling feature of the arrangement is that government expects the supply equation to be eased marginally by the fact that some consumers will probably go out of business as a result of the cost/supply squeeze.

Says Heunis: "In some sectors of the economy production methods will change, for instance, by using less oil and more of other means of production. Certain business undertakings will become more profitable, others less profitable. Some of these adaptations will be painful and will cause some disruption in production and employment."

As a result of last week's price increase, the tax/levy content of a litre of fuel is now more than 50%. The 54,[illegible] litre price of 93 octane motorgas on the Reef is made up as follows: general sales tax 2,39c, the State Oil Fund contribution [illegible] 16,75c and total tax (including excise duty and contributions to Sasol 2) 10,34c. The remaining components are 2,51c retailers' margin and [illegible] SAR transportation charges. To this must be added 19c representing the wholesale selling price, which includes oil company margins and the theoretical landed cost of crude oil

(55) F.M. 15/6/79

OIL SUPPLY

SA's enforced diet

The vital question government oil officials were asking this week was whether Saudi Arabia would exhibit both the political will and the muscle to stabilise world oil markets at the next Opec price conference in Geneva on June 26.

The downward trend of crude oil supplies reaching SA refineries continues, following a 40% reduction in the physical volume of imports in the first quarter. In the final quarter of 1978 SA was importing about 250 000 barrels a day (b/d), according to official sources, so the current intake has to be around 150 000 b/d and it is still dropping.

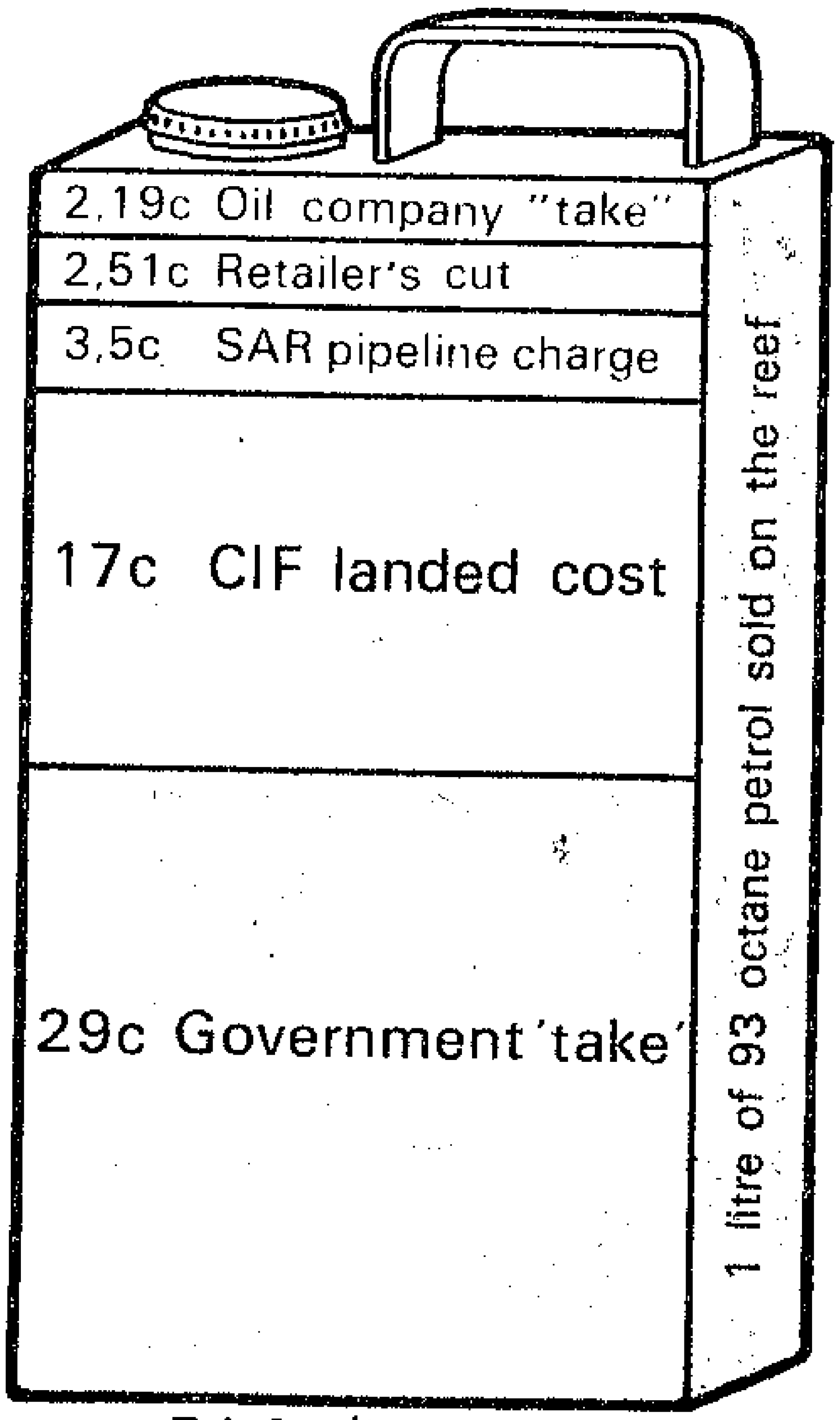
Although the bigger oil majors operating in SA have not been cut off from the integrated supply systems of their parents, the allocations have fallen so low that supplies have to be augmented by sporadic purchases on the open market. A number of the smaller operators, however, have been left to their own devices to obtain their requirements.

Stocks of crude and refined product, landside and on the sea, may be down to 50 days compared with previous levels of 42 days of crude and a similar stock of refined product in the pipelines and depots. In addition, of course, are the reputedly vast strategic reserves. With little prospect, therefore, of recouping the stock situation to first quarter 1979 levels, Economic Affairs Minister Chris Heunis wants the country to ride out the crisis on a 60% oil diet.

Oil industry sources have little comfort to offer. International markets remain confused and panic-stricken because herd-like, buyers have decided that prices can only go in one direction — up.

By the time Opec oil ministers meet Tuesday week, Saudi Arabia will have been trying for six months to moderate price rises. It has merely succeeded in creating a many-tiered structure in which the traditional price hawks have diverted ever larger percentages of their production away from the international majors to the spot market. This means that the oil companies themselves have been drawn on to the open market, bidding up prices against governments and independent refiners.

Usually, the spot market accounts for a marginal portion of total oil trade, 3%-4% or 30 Mt-40 Mt a year. However, the market generates as much frenzy as, if not more than, a boom stock exchange with a shortage of scrip, because many of the cargoes sold change hands many times. Buyers like SA and Israel, on whom there are political constraints in the formal oil sector, often find themselves the fall guys because the knowledge of their special problems, plus the fact that they have the wherewithal, feeds the greed of sellers.



54,2c/litre

Usually, the spot market represents a pool of stocks designed to correct temporary imbalances in the pattern of international demand. It is drawn upon by oil companies and government agencies to overcome periodic shortages of certain products and crude grades to beat the long time lags involved in correcting such imbalances in the normal manner of changing supply and refinery programmes.

Even at the best of times the market is as volatile as the products it trades. In the present situation it is a veritable cauldron which is being kept artfully on the boil by producers who have cut back on their normal supply agreements with government and oil majors and are diverting just enough supplies to the so-called Rotterdam market to keep the increasing number of spot cargo buyers on the edge of panic.

Firing expectations

This, in turn, fires up the profit expectations of oil traders who begin to take positions on the market rising even further. The situation has led to a good deal of tension between the Europeans, who have somehow always regarded the Rotterdam market as something of private preserve, and hard-pressed buyers from SA, Israel, New Zealand, Japan and, lately, the US.

With countries like SA given little option but to take up offers at $35-$40 a barrel, producing countries react to transactions at these levels with mock horror, often accusing the oil majors of redirecting crude obtained at posted prices

(about $18 a barrel on average) and selling it at whopping premiums. This again creates a pretext to lift posted prices.

As one Rotterdam analyst puts it: "There is a risk that when the price reports move out of the trading area into a largely uncomprehending outside world, they can acquire a new and monstrous — and quite unintended — existence as the sole arbiter of free market functioning."

Conceivably, it would be simple for Saudi Arabia to stabilise the market. It merely has to press for the price of its benchmark crude, Arabian Light, to be lifted to $20 a barrel and raise production to its technical upper limit of 11m b/d from the present 8,5m b/d. Or it could threaten to do that. The present world oil gap is between 1,5m-2m b/d and because the market is so finely poised on real and imagined fears it would not take much additional oil to take it off the boil.

Oil industry sources expect a compromise. To appease the price hawks Saudi Arabia may agree to lift the price of its marker to a level somewhere between $18 and $20 a barrel, while at the same time it will probably increase production to about 9m-9,5m b/d to restore calm on the Rotterdam market.

If this happens, a measure of relief for SA is on the cards, but it will not be soon and it will not be much.

with selected major categories of disease. Clearly, this is an entirely hypothetical situation. However, these competing risks life tables not only provide an indication of the relative importance of various disease categories to both the overall mortality experience and also to expectation of life of the three communities, but also, since there is an approximately linear relationship between the reduction of mortality and the percentage increase in life expectancy, any improvement will give rise to a proportional improvement in the expectation of life. Thus, if the mortality associated with any of the diseases included in Fig. 6 are reduced by 50%, then the increase in the expectation of life will be 50% of the improvements indicated.

With the exception of Neoplastic Diseases and Diseases of the Circulatory ... the 'coloured' ... stand to gain most from measures ...lected diseases included in Fig.6. ...ous and Parasitic Diseases, ... the implementation of relatively

...e Colonial Mutual Life ...ancial assistance.

Hansard 13 15/6/79 col 1030

Koeberg nuclear power station: safety planning

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*10. Mr. S. S. VAN DER MERWE asked the Minister of Economic affairs:†

(1) Whether any attempt has been made to obtain reports on the causes of (a) the leakage incident at the nuclear power station at Harrisburg in Pennsylvania, (b) the escape of radio-active gas and water at the nuclear power station near Chicago, Illinois, and (c) the closing of the Palisades nuclear power station in Michigan in the United States of America, for the purposes of safety planning at the Koeberg nuclear power station; if not,

(2) whether reports will be obtained; if so,

(3) whether a comparative study of the safety situation at the proposed Koeberg nuclear power station and the circumstances which led to the incidents at each of these power stations in the United States of America is contemplated; if not, why not.

†The MINISTER OF ECONOMIC AFFAIRS:

(1)(a), (b) and (c) Yes;

(2) falls away; and

(3) yes. A preliminary assessment of the causes in respect of the incident referred to in 1(a) has been made by ESCOM and the Atomic Energy Board and a study of the implications for the Koeberg nuclear power station has been initiated. Investigations in regard to the incidents referred to in 1(b) and (c) are still being made in

REFERENCES

1. Department of Statistics (1977). Census of Hospitals and Establishments for In-Patients. Report 20-06-01. Government Printer, Pretoria.

2. Department of Statistics (1977). Report on Deaths 1974. Report 07-03-10. Government Printer, Pretoria.

3. Department of Statistics (1976). Report on Bantu Deaths in Selected Magisterial Districts 1974. Report 07-03-08. Government Printer, Pretoria.

4. Department of Statistics (1976). South African Statistics 1976. Government Printer, Pretoria.

5. Department of Statistics (1974). Report on Bantu Deaths in Selected Magisterial Districts 1968 to 1971. Report 07-03-04. Government Printer, Pretoria.

6. South Africa. Act 58 of 1970...

7. Department of Bantu Administra... the Department 1974/5. Report... Pretoria.

8. Chiang, C.L. (1968). Introduct... Biostatistics. Wiley, New Y...

9. City of Cape Town (1977). Ann... Health 1975. p.110. Cape T...

10. Department of Statistics (197... Marital Status and Type of Dw... Report 02-05-08. Government

11. Martins, J.H. (1975). Region... University of South Africa, B... Report No. 46, Pretoria.

12. Knutzen, V.K., Bourne, D.E. (... the Xhosa. S.A. Med. J. 51, ...

13. Department of Statistics (197... Diseases, Injuries and Causes... Government Printer, Pretoria.

14. Department of Health (1978). A Guide to the Health Act, No. 63e of 1977, p.17. Department of Health, Pretoria.

15. Department of Health (1978). Infant Mortality Rates in South Africa. Epidemiological Comments Dec. 1978, 1-21.

* * * * * *

Reds seek to engulf another oil state vital to West

Star 20/6/79

BEIRUT — Marxist guerillas appear to be preparing for another effort to bring down the conservative Sultan of Oman, ruler of an area of vital interest to the oil-hungry West.

Diplomats said the Popular Front for the Liberation of Oman (PFLO) began to regroup and reorganise its forces soon after the balance of power in the Persian Gulf was transformed by the overthrow of the Shah of Iran.

Commando units have resumed operations in Oman's Dhofar province which borders on South Yemen, Russia's closest ally in the Arab world, the diplomats said.

Oman, with 1 600 m of coastline, overlooks the Straits of Hormuz — a narrow deep water channel through which more than 100 tankers a day carry oil to the industrialised world.

In the early 1970s, the Shah sent thousands of troops to Oman to reinforce the Sultan's 19 000-strong army — which has about 700 British contract officers — in fighting the protracted Dhofar rebellion. In 1975, Sultan Qaboos declared the revolt crushed.

"Oman is too rich a prize to be left alone," a diplomat said.

The PFLO reported that one of its units fought an 11-hour battle with Omani troops north of Taqa last month and killed the British commander.

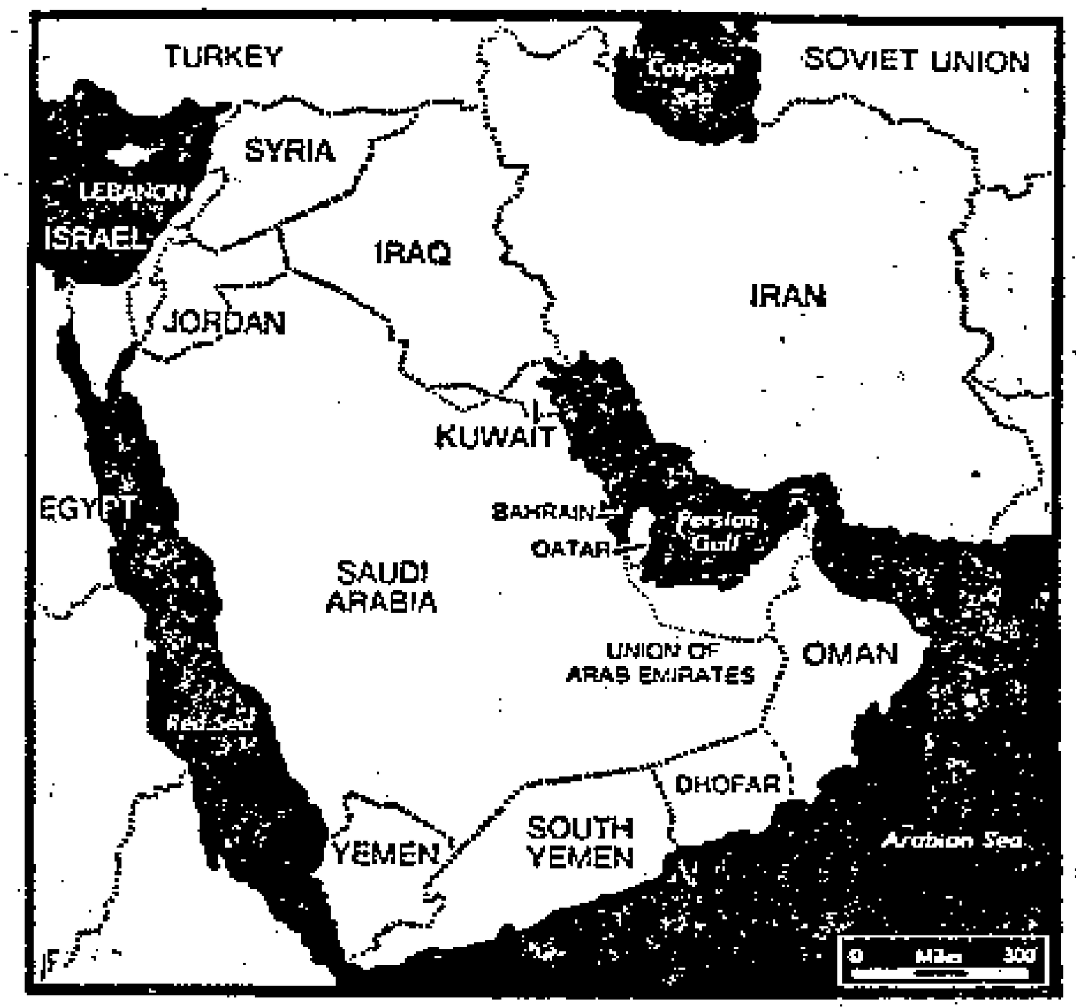
The PFLO said it lost three men in the battle, including Salem Abu Nasser of the organisation's policy-making central command.

"The revolution will continue until all its objectives have been fulfilled," it said.

The PFLO draws most of its support from South Yemen and the border between Yemen and Oman bristles with minefields and electronic listening devices. But they appear to have failed to stop infiltration.

The United States, already facing an oil shortage, is said to be considering military support for Oman.

Sultan Qaboos is the only Arab ruler who has expressed unqualified support for Egyptian President Sadat's peace pact with Israel. PFLO reports that Egypt has moved about 7 000 troops to Oman have not been confirmed. — Sapa-Reuter.



0001

0002

0003

4	124	420								
1	108	442	838	104.8	19.2	19.1	0.1		1	+100.8
2	98	448	870	108.8	- 0.8	- 1.6	0.8	+3	9	+314.4
3	112		890	111.2	-13.2	-15.8	2.6	+5	25	+544.0
4	130							+7	49	+778.4
				805.2				0	168	238.8

Fluctuations

	1st	2nd	3rd	4th		
0001			0.2	19.8		
0002	-1.8	-17.8	-2.8	19.2		
0003	-0.8	-13.2				
	-2.6	-31.0	-2.6	39.0		
	-1.3	-15.5	-1.3	19.5	=	+1.4
	-0.3	-0. 3	-0.4	-0.4	=	-1.4
Seasonal fluctuations	-1.6	-15.8	-1.7	19.1		

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For full text
see Acts 1979

REPUBLIC OF SOUTH AFRICA

GOVERNMENT GAZETTE

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VOL. 168] CAPE TOWN, 22 JUNE 1979 / KAAPSTAD, 22 JUNIE 1979 [No. 6517

DEPARTMENT OF THE PRIME MINISTER

No. 1324. 22 June 1979.

It is hereby notified that the Acting State President has assented to the following Act which is hereby published for general information:—

No. 74 of 1979: Second State Oil Fund Amendment Act, 1979.

DEPARTEMENT VAN DIE EERSTE MINISTER

No. 1324. 22 Junie 1979.

Hierby word bekend gemaak dat die Waarnemende Staatspresident sy goedkeuring geheg het aan die onderstaande Wet wat hierby ter algemene inligting gepubliseer word:—

No. 74 van 1979: Tweede Wysigingswet op die Staatsoliefonds, 1979.

GENERAL EXPLANATORY NOTE:

[ ] Words in bold type in square brackets indicate omissions from existing enactments.

________ Words underlined with solid line indicate insertions in existing enactments.

ACT

To amend the State Oil Fund Act, 1977, so as to provide further for the imposition of a levy on certain petroleum products; to make new provision for the issue of certain guarantees by the Minister of Economic Affairs; to validate certain levies imposed retrospectively; and to repeal certain provisions; and to provide for incidental matters.

(English text signed by the Acting State President.)
(Assented to 13 June 1979.)

BE IT ENACTED by the State President, the Senate and the House of Assembly of the Republic of South Africa, as follows:—

Amendment of section 1 of Act 38 of 1977.

1. Section 1 of the State Oil Fund Act, 1977 (hereinafter referred to as the principal Act), is hereby amended by the substitution for subsection (1) of the following subsection:

"(1) There shall be paid **[as a charge to the State Revenue Fund]** into the State Oil Fund, controlled by SOF (Proprietary) Limited, a company incorporated in terms of the Companies Act, 1973 (Act No. 61 of 1973)—

(*a*) as a charge to the State Revenue Fund—

(i) an amount of 7,4 cents of the customs or excise duty on a kilogram of liquefied petroleum gas paid into the State Revenue Fund;

[(*b*)] (ii) an amount of 4 cents of the customs or excise duty on a litre of petrol, aviation spirit, kerosene, distillate fuel or residual fuel oil paid into the State Revenue Fund, in respect of which no rebate or refund is applicable; and

[(*c*)] (iii) an amount of 1 cent of the customs or excise duty on a litre of kerosene, distillate fuel or residual fuel oil paid into the State Revenue Fund, in respect of which a partial rebate or refund is applicable and which, after application of the rebate or refund, is not less than 1 cent;

(*b*) such moneys as may accrue to the State Oil Fund by virtue of section 11 of the Petroleum Products Act, 1977 (Act No. 120 of 1977), or any other law; and

(*c*) with the concurrence of the Minister of Economic Affairs and the Minister of Finance, such other moneys as may accrue to the said fund from any other source.".

Amendment of section 1A of Act 38 of 1977, as inserted by section 1 of Act 30 of 1979.

2. Section 1A of the principal Act is hereby amended—

(*a*) by the substitution for subsection (1) of the following subsection:

"(1) The Minister of Economic Affairs may in consultation with the Minister of Finance by notice in

(55)

For full text see
Acts 1979

REPUBLIC OF SOUTH AFRICA

GOVERNMENT GAZETTE

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VOL. 168]

CAPE TOWN, 22 JUNE 1979

KAAPSTAD, 22 JUNIE 1979

[No. 6515

DEPARTMENT OF THE PRIME MINISTER

No. 1322. 22 June 1979.

It is hereby notified that the Acting State President has assented to the following Act which is hereby published for general information:—

No. 72 of 1979: Petroleum Products Amendment Act, 1979.

DEPARTEMENT VAN DIE EERSTE MINISTER

No. 1322. 22 Junie 1979.

Hierby word bekend gemaak dat die Waarnemende Staatspresident sy goedkeuring geheg het aan die onderstaande Wet wat hierby ter algemene inligting gepubliseer word:—

No. 72 van 1979: Wysigingswet op Petroleumprodukte, 1979.

GENERAL EXPLANATORY NOTE:

[ ] Words in bold type in square brackets indicate omissions from existing enactments.

________ Words underlined with solid line indicate insertions in existing enactments.

ACT

To amend the Petroleum Products Act, 1977, so as to extend certain control of petroleum products; to prohibit the publication of certain information regarding petroleum products; to regulate afresh certain presumptions with reference to criminal proceedings under the said Act; and to further regulate the disposal of certain moneys; and to provide for matters incidental thereto.

(English text signed by the Acting State President.)
(Assented to 13 June 1979.)

BE IT ENACTED by the State President, the Senate and the House of Assembly of the Republic of South Africa, as follows:—

Amendment of section 2 of Act 120 of 1977.

1. Section 2 of the Petroleum Products Act, 1977 (hereinafter referred to as the principal Act), is hereby amended by the substitution for paragraph *(a)* of subsection (1) of the following paragraph:

"*(a)* for the purposes of ensuring a saving of petroleum products, regulate in such manner as he may deem fit, including the imposition upon any person of any duty in connection therewith, or prohibit—

(i) the use of any petroleum product for any purpose specified in the regulation or notice, as the case may be, or for the performance of any act so specified in a manner so specified;

(ii) the purchase, sale, supply, acquisition, possession, disposal, storage or transportation or the recovery and re-refinement of any petroleum product so specified;".

Insertion of sections 4A and 4B in Act 120 of 1977.

2. The following sections are hereby inserted in the principal Act after section 4:

"Prohibition of publication of certain information.

4A. (1) No person shall publish in any newspaper, periodical, book or pamphlet or by radio, television or any other means—

(a) information in relation to—

(i) the source, manufacture, transportation, destination, storage, quantity or stock level of any petroleum products acquired or manufactured or being acquired or manufactured for or in the Republic;

(ii) the taking place and particulars of negotiations in respect of the acquisition of petroleum products for the Republic and the transportation thereof; or

Rapport 1/7/79

Olie-lek kan goud laat gly

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SUID-AFRIKA het vandeesweek met gemengde gevoelens die vasstelling van 'n nuwe olieprys deur die Opec-lande dopgehou. 'n Uitermate hoë prys sou 'n verdere styging in die goudprys verseker het, terwyl 'n meer realistiese prys, wat vir die wêreldekonomie baie voordele inhou, noodwendig die goudprys moes afdruk.

Die kompromisoplossing van twee pryse, Saoedi-Arabië wat olie lewer teen 18 dollar per vat en die res van Opec wat hul pryse op 23,50 dollar per vat vasgestel het, bevoordeel Amerika.

As gevolg hiervan kan die waarde van die dollar teenoor ander geldeenhede styg en die swakker neiging in die goudprys die afgelope paar dae kan dalk nog vir 'n geruime tyd voortduur.

Die goudprys het reeds Donderdag en Vrydag skerp begin daal en het Vrydag gesluit teen $277,50 per ons. Goudaandele was ook deurgaans swakker en dit het ook die res van die Beurs negatief getref.

Maar dalk is daar vir Suid-Afrika ook voordele is, kan die goudprys maar met soveel as 20 dollar per ons daal sonder dat die land as geheel skade ly.

Die invloed van sê 20 dollar in die goudprys op die goudmyne sal gering wees en selfs teen 'n gemiddelde prys van 260 dollar gaan die Vrystaatse myne in September vanjaar nog steeds rekord-dividende betaal.

Die pryse van goudaandele is natuurlik baie meer sensitief en die skerp daling van Vrydag kan maklik vandeesweek voortgesit word. En dit beteken weer van die aandele aansienlik styg en baie laatslapers weer 'n kans kan kry om 'n belang in Suid-Afrika se goudmynbedryf te kry.

Die jongste olieprysstygings het ook verseker dat daar nou nie meer twyfel kan wees oor die lewensvatbaarheid van ons Sasol-projekte nie, terwyl die steenkoolprys per ton nou vir ons te laag begin lyk.

● Intussen het die Britte die groen lig gegee vir die verskaffing van olie uit die Noordsee aan Suid-Afrika. ...uit die jongste olieprysvasstellings.

Die meeste, indien nie al ons olie nie word tans op die vrye mark aangekoop teen pryse heelwat hoër as die amptelike of kontrakpryse van die Opec-lande. Die dubbelprysstelsel en die wrywing tussen die Opec-lande behoort 'n gunstige uitwerking op die vryemarkprys van olie te hê.

Daar is ook nou minder aansporing vir die lande om doelbewus tekorte te skep en daardeur die prys op te druk.

Die verhouding tussen die olie en goudprys is vir Suid-Afrika van groot belang en 'n laer olieprys met 'n laer goudprys is veel beter as die omgekeerde.

Ons olie-invoere word tans geraam op tussen 150 000 en 200 000 vate per dag en 'n daling van 5 dollar in die prys per vat kan 'n jaarlikse besparing van tussen 280 miljoen dollar en 370 miljoen dollar beteken.

Indien dit die hoër syfer

ONTHOU ons Krugerrandwedstryd waarin u die goudprys eerskomende Woensdag moet raai. Koepon en besonderhede op bl. 4.

C.T. 2/4/79

(254)

Move to eliminate gas bubble at nuclear plant

WASHINGTON. — Moves to eliminate the huge gas bubble that is the immediate problem in the crippled Three Mile Island nuclear plant in Harrisburg, Pennsylvania, could begin today with plans continuing for a precautionary evacuation of up to 200 000 residents.

Thousands of residents fled the area surrounding the nuclear power station yesterday, meanwhile, abandoning homes, schools and businesses.

The 1 000 cubic foot potentially-explosive bubble just above the reactor's overheated core has had a steady increase in its oxygen content. This has raised the danger of igniting the highly-flammable hydrogen gas in the chamber.

An explosion could burst through the reactor vessel and possibly also the 1,3 metre-thick concrete containment shell which is the last obstacle to releasing radiation into the atmosphere.

If the core melts even partly, it will get so hot that it will melt through the steel floor of the reactor room and begin to bore its way through the earth beneath it.

In theory it could melt all the way through to China — realizing the fears of the "China syndrome", in which heat and radiation released by a nuclear leak would effectively "drill" a hole through the earth to China, on the other side of the globe.

The Nuclear Regulatory Commission Chairman, Mr Joseph Hendrie, said here yesterday that the main problem was to find a way to deal with the bubble so that the reactor could be cooled down.

Meanwhile, the commission is blanketing the countryside 25 kilometres from Three Mile Island with devices to monitor and record accumulated radiation. So far the devices have recorded radiation accumulation of up to 81 millirems.

A equivalent in man has the same biological effect as one RAD of x-rays. A typical chest x-ray produces a dose of about 0,03 RAD (three-hundredths of a radiation absorbed dose).

Officials are suggesting that 81 millirems (81-thousandths of a rem) is not serious, particularly measured against the federal standard for minimal health risk of 500 millirems.

● The Nuclear Regulatory Commission said yesterday there had been a sabotage threat against the crippled nuclear power plant in Pennsylvania. No details were given. — Sapa-AP

● **Koeberg: 'We can't be sure', page 2**
● **US nuclear safety 'remarkable', page 4**
● **Picture, page 4**

Radiation levels being checked yesterday as a group of workers left the site of the Three Mile Island nuclear power station near Harrisburg, United States.

Heunis sees Escom over Koeberg today

Own Correspondent

JOHANNESBURG. — The Minister of Economic Affairs, Mr Chris Heunis, is to meet Escom officials today to discuss safety measures at Cape Town's Koeberg nuclear power plant after the disastrous radiation leakage from a United States atomic reactor.

Mr Heunis made his announcement last night as the other Cabinet member responsible for Koeberg, the Minister of Mines, Mr Fanie Botha, gave assurances that the R900 million South African plant was being built to the highest possible safety standards.

Mr Heunis said he had received constant reassurances that all necessary safety precautions were being taken at Koeberg, but decided to meet Electricity Supply Commission officials today after news of the

To page 2

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From page 1

atomic reactor leakage near Harrisburg, Pennsylvania.

Mr Botha, who is responsible for the Atomic Energy Board, which supervises safety at Koeberg, said it was not necessary to call a special review meeting in his department because the AEB "constantly reviews safety aspects".

"I would like to set everyone at ease by saying that we are complying with the highest possible standards," he said.

But Dr Jan Giliomee, national secretary of the Cape-based Society for the Protection of the Environment, which has campaigned against the siting of nuclear power stations near populated areas, said last night, in spite of assurances that the best safety measures were being used, accidents continued to happen.

Responding to Mr Heunis and Mr Botha, he said: "I don't for one moment think they are not trying their best, but just as people build aeroplanes which crash, so they build nuclear power plants which from to time leak radiation."

Dr Giliomee, an associate professor in the Department of Agriculture at Stellenbosch University, said he had strongly argued against the nuclear power station siting at Koeberg near Cape Town, but had "given up because they were so determined to build it".

"You can't stop Koeberg now because so much has already been invested," he added.

He explained he had urged construction of the plant in a remote part of the Cape West Coast.

"No matter what safety measures are incorporated, there is always a certain amount of radioactivity," he said.

"The authorities say that, in Cape Town, the radioactivity from Koeberg will only raise the level to that in Johannesburg, which, being closer to the sun and for other reasons, has a certain minimal level of radioactivity.

"My argument is that we don't want any increase in Cape Town because every little increase raises the likelihood of people contracting diseases."

Dr Giliomee said radioactivity from nuclear power plants could cause blood cancer and genetic aberrations.

It could also severely affect the environment because water used to cool reactors was pumped back into rivers and seas at higher temperatures.

CT. 2/4/79 (254)

Koeberg: 'We can't be certain'

Staff Reporters

REACTIONS in Cape Town yesterday to the US nuclear plant crisis show that the major fear on atomic power is the unknown — the unknown causes of mishaps and their unknown consequences.

The chairman of the City Council executive committee, Mr Bill Peters, summed it up yesterday with the acknowledgement that it was unlikely that any of the councillors soon scheduled to visit the Koeberg nuclear plant currently under construction at Duinefontein would be qualified to decide if safety standards were adequate. Worse still, he added, they could not be certain that the experts who would meet them there could be sure.

"The purpose of our visit to Koeberg is to see what developments are taking place there, and if there is a likelihood of any trouble," he said. "I don't really see how we can evaluate it, and I don't suppose they'll be able to tell us much. If the people responsible for the American plant could have known what would happen, I don't suppose they would have ever built it."

The director of the Energy Research Institute at the University of Cape Town, Professor R K Dutkiewicz, said that what was happening at the Harrisburg nuclear power station in Pennsylvania was the sort of occurrence that could happen to any nuclear plant. "But ours is newer and different, and I don't think you can draw any comparisons".

Professor Dutckiewicz believed that analysis of what led to the malfunction at Harrisburg could lead to appropriate precautions being incorporated into the design of the Koeberg plant, which has more than three years to go before coming on stream.

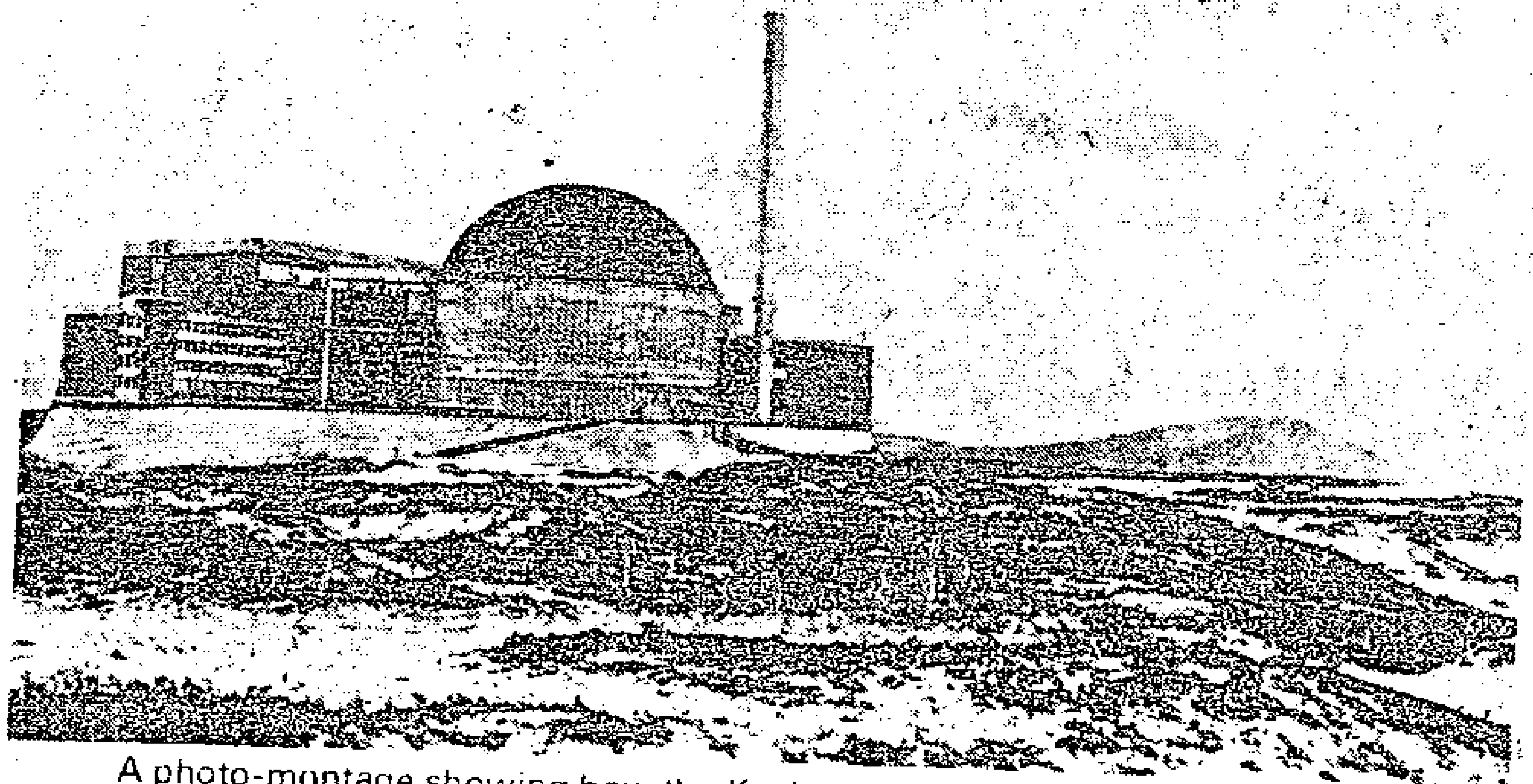
Like other nuclear authorities, he readily conceded that the plant could never be 100 percent safe, but maintained that chances of a major disaster were remote.

However, a City Councillor, Mr Tom Walters, said the plant would put Cape Town in "a very desperate situation". Millions of litres of hot water would be pumped into Table Bay from the plant every day, he said, which might "well affect the cycle of currents", the sewerage from the Green Point outfall and marine life.

It might happen after an accident, with Cape Town "bosomed in the mountain", that radiation would be reflected off Table Mountain into the City.

Mr Walters said he was responsible for getting the executive committee to visit the plant to investigate its danger and safety factors. If it was found that satisfactory answers were not given by experts at the plant, the council would have to call in its own experts to express an opinion and demand whatever action was necessary.

"I've been very unhappy for a long time about the project, and I've been most unhappy about it being placed there (Melkbosstrand)". The plant should have been placed in a remote area such as Kakamas, and not "next door to Table Mountain".



A photo-montage showing how the Koeberg nuclear power station will look.

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C.T. 3/4/79 (254)

Koeberg A-leak 'could force 30-year pullout'

Science Reporter

SHOULD a major leakage occur from Koeberg power station, it might be necessary to plough over all land within a 15 km radius to a depth of 30 cm, or evacuate the area totally for more than 30 years.

This was the view of the former chief nuclear engineer of Escom, Mr J R Colley, expressed in a "Koeberg — warts and all" interview requested by the Cape Times two years ago.

According to the calculations of the Atomic Energy Board, all land between 100 km and 200 km downwind would be subject to "an unacceptable level of contamination".

People living in the path of windborne radiation would inhale radioactive material, mainly Iodine-131. This material is absorbed by the thyroid and, if breathed in sufficient amounts, could cause thyroid cancer up to 30 years later.

An extreme leakage could account for up to 6 000 deaths in that period but Mr Colley gave the assurance that if the wind were blowing in any direction other than Cape Town "the casualties would be far less".

If the fallout of Iodine-131 occurred on grass it could be ingested by cows and contaminate their milk. In the event of a major leakage, all milk taken from animals within a certain radius of Koeberg would have to be destroyed over a period of several weeks.

If longer-living radioactive materials were leaked, such as Caesium-137, which has a half-life of 30,3 years, then land up to a 15 km radius would have to be ploughed over and the topsoil buried at least 30 centimetres deep. The alternative would be to evacuate the area for more than 30 years, Mr Colley said.

He pointed out that this was an assessment of what would happen in the one hundred million to one chance of a major accident in the reactor core.

• An American report published in New York last December assessed South Africa's proposed nuclear plants as "among the world's safest". They added that, for security reasons, the plants were being built to withstand a direct hit by a missile.

Companies will not pay out on radiation damage

Science Reporter

INSURANCE companies will not pay out for radiation damage emanating from the Cape's new nuclear powerstation at Koeberg.

This emerged yesterday when a statistician was approached to assess the meaning of an Escom assurance that the chances of major leakage from the powerstation was "a hundred million to one".

"The figure is meaningless unless we are dealing with concrete amounts which can be quantified in some way. It doesn't mean that for every hundred million powerstations there will be one major accident — if that were so we'd have to wait a few hundred years for Harrisburg to happen.

Leakage

"At best you can accept that Escom thinks the chances of a major leakage are pretty small. But if you want to know what the risk means in practical terms, money for instance, ask the insurance companies. They are the experts in risk assessment," he added.

The general response from a number of insurance companies and brokers approached by the Cape Times yesterday was that they had "no provision" for radiation damage to property.

"We will include a radiation clause on a personal life policy for a further premium but our fire and accident policies specifically exclude radiation damage," a spokesman for a major insurance company said.

A broker said that he would probably be able to offer life cover at normal rates to workers at the station both before and after the plant came into commission "but if this became a generalised request from the public we might have to rethink our approach".

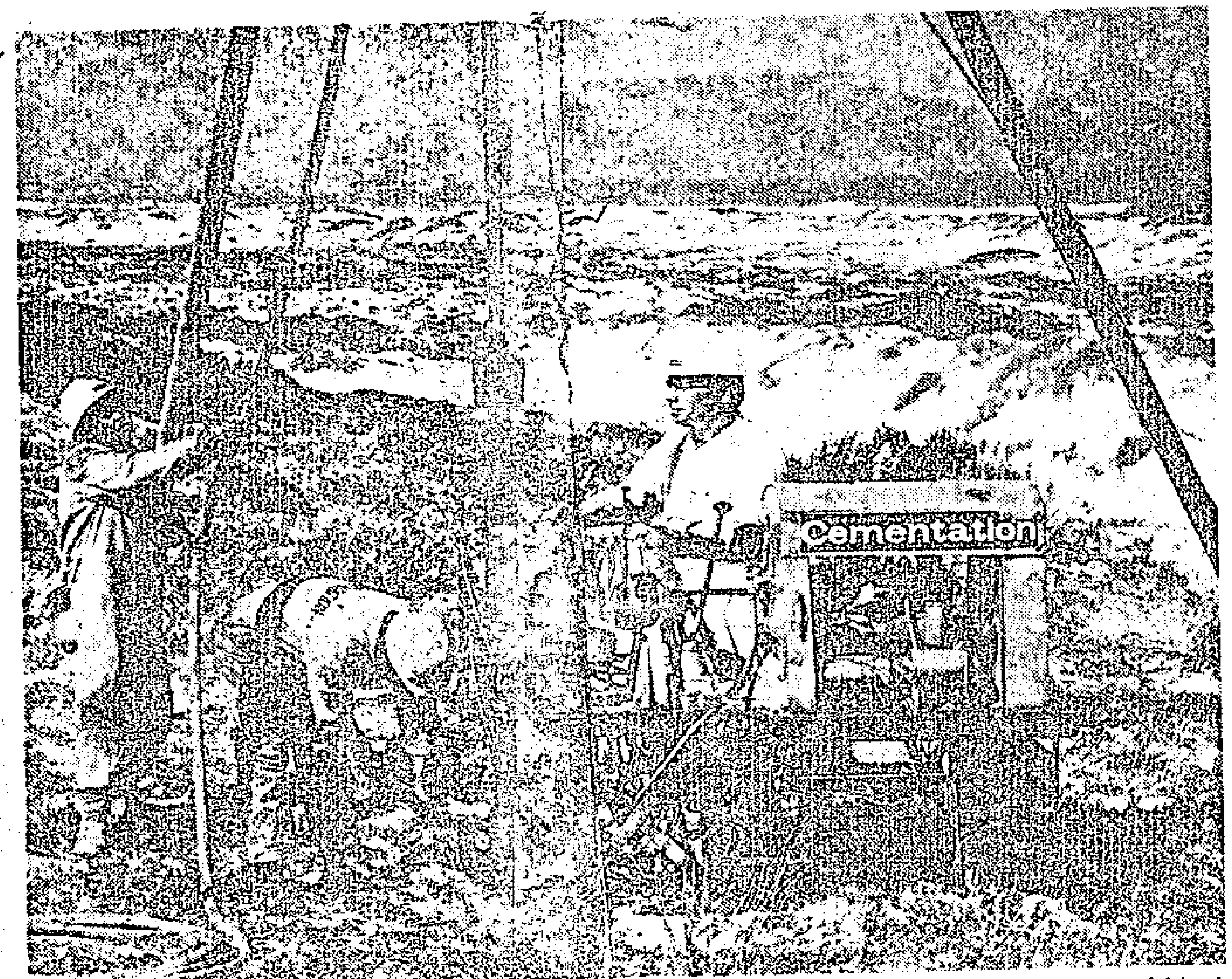
None of the companies questioned would comment when asked if they thought possible radiation damage from powerstation fallout was a "good risk" in insurance terms.

Research

• Dr G G Garrett, a member of the University of Cape Town's energy research unit, warned scientists at an energy symposium in Cape Town four years ago that "doubts about safety (of nuclear power plants) may in fact necessitate some downrating and destroy their marginal economic advantage".

He added that "catastrophic failure without prior warning from slow leakage" was in principle possible for light water reactors.

In assessing the degree of risk he pointed out that the effects of radiation and thermal shock (heat rise and loss) on construction materials were unknown, that stress corrosion in stainless steel piping used in such power plants was "virtually impossible to predict" and that "much of the available laboratory data is inapplicable".



A flashback to 1975 — core samples are taken at the site earmarked for South Africa's first nuclear power station. In the background: Table Mountain and the City.

Towns in nuclear fallout area unprepared

Science Reporter

NO MUNICIPALITY lying within an 80 km radius of Koeberg nuclear powerstation, the main fallout area, has made any arrangements to handle radiation problems and most reacted as if they had only just wakened to the danger.

Mr J R de Villiers, town clerk of Goodwood, said he hoped the summer southeasters would "blow any leakage away" but pointed out that Goodwood lay in the heart of a low pressure system which had already caused problems with concentration of effluent gases from nearby fertiliser and oil refinery plants.

"This would make any leakage problem even worse and would tend to concentrate radiation," said Mr De Villiers.

A spokesman for the mayor of Bellville, who asked the Cape Times not to use his name, said the municipality had no contingency plans for evacuation "and anyway where on earth would all the people go?"

Mr W P Visser, town clerk of Brackenfell, said "any thinking person would be scared no matter how safe the machinery is said to be" as there was always the human element. He cited the size of the investment in Koeberg and asked: "Can we stop the development now?"

Mr D Smit, town clerk of Durbanville, said he knew of the danger only from what he had read in the newspapers. The local authorities involved now had to ask direct questions and get some straight answers. Although Durbanville did not lie in line of sight from Koeberg and was protected by rising ground he still felt disturbed at the potential for disaster.

The mayor of Parow, Mr J T Louw, said he hadn't thought about it and hadn't been informed of any possible dangers. "I know nothing about Koeberg but I have full trust in those involved. The people involved could not be so stupid as not to learn the right lessons from Harrisburg - obviously they know what they are doing."

Mr J S de Villiers, town clerk of Milnerton, said he had asked the town council to discuss the issue at its next meeting.

"You must decide if you are going to live with the risk and must bear the public in mind. We should be able to trust that the authorities have taken all the risk factors into account and have proven scientifically that it is alright to go ahead with Koeberg."

• Dr A G MacMahon, director of the Western Cape's Emergency Services Centre, said yesterday that plans were being drawn up to cope with "all nuclear emergencies including any risks associated with Koeberg power station". The plans were not yet completed but this would be done "well before the operating date for Koeberg in 1982".

SA study of US nuclear accident

PRETORIA. — It was of great importance that the Harrisburg nuclear mishap should be seen in the right perspective, the president of the South African Atomic Energy Board, Dr Ampie Roux, said here yesterday.

Commenting on the stricken nuclear plant at Three Mile Island and the possible effects it could have on South Africa's first scheduled nuclear plant at Koeberg, Dr Roux said the facts of the accident would be studied thoroughly to establish whether safety measures at Koeberg were to be increased.

He said nuclear reactors of the type at Harrisburg were designed "on the grounds of a philosophy of in-depth defence and they have numerous security systems which support each other". — Sapa

The combined movement did some good as the various columns captured over 80 prisoners, and must have killed and wounded a few. They also got over 2 000 cattle and some wagons. Our Body Snatchers shot a woman in the arm and have been much
chaffed about it … s moving about in
the bush among Bo … woman was not a
bit angry as she … surrender, so Kemp
took them away t … m.

6th September … Rustenburg. Just
before dinner, … 50 Carabiniers, two
guns and a pom- … urprise a Boer
laager sixteen … and bread and butter
at 12.30 a.m. a … rd boiled eggs and
some tinned thi … ts of any sort were
allowed, but I … wanted to take
more ambulances … to take as little
as possible. … ne Boers were there
we should have … ded would have to
remain on the … pany could be got
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tonga would do.

631 Hansard 9 (631) 6/4/79 FRIDAY, 6 A

Koeberg nuclear power plant

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*6. Dr. A. L. BORAINE asked the Minister of Economic Affairs:

(1) Whether he has recently had discussions with officials of Escom about safety standards at the Koeberg nuclear power plant; if so, when;

(2) whether any assurances were given in this regard; if so, what assurances.

†The MINISTER OF ECONOMIC AFFAIRS:

(1) Discussions are being held on this subject from time to time, the last of which took place on 2 April 1979.

(2) Safety standards were laid down by the licensing branch of the Atomic Energy Board and are applied in accordance with the safety standards laid down by the Atomic Energy Act, 1967 (Act 90 of 1967). Only after technical details about the reported failure at the nuclear power station in the U.S.A. become available, ESCOM will be in a position to report to me meaningfully on the safety aspect.

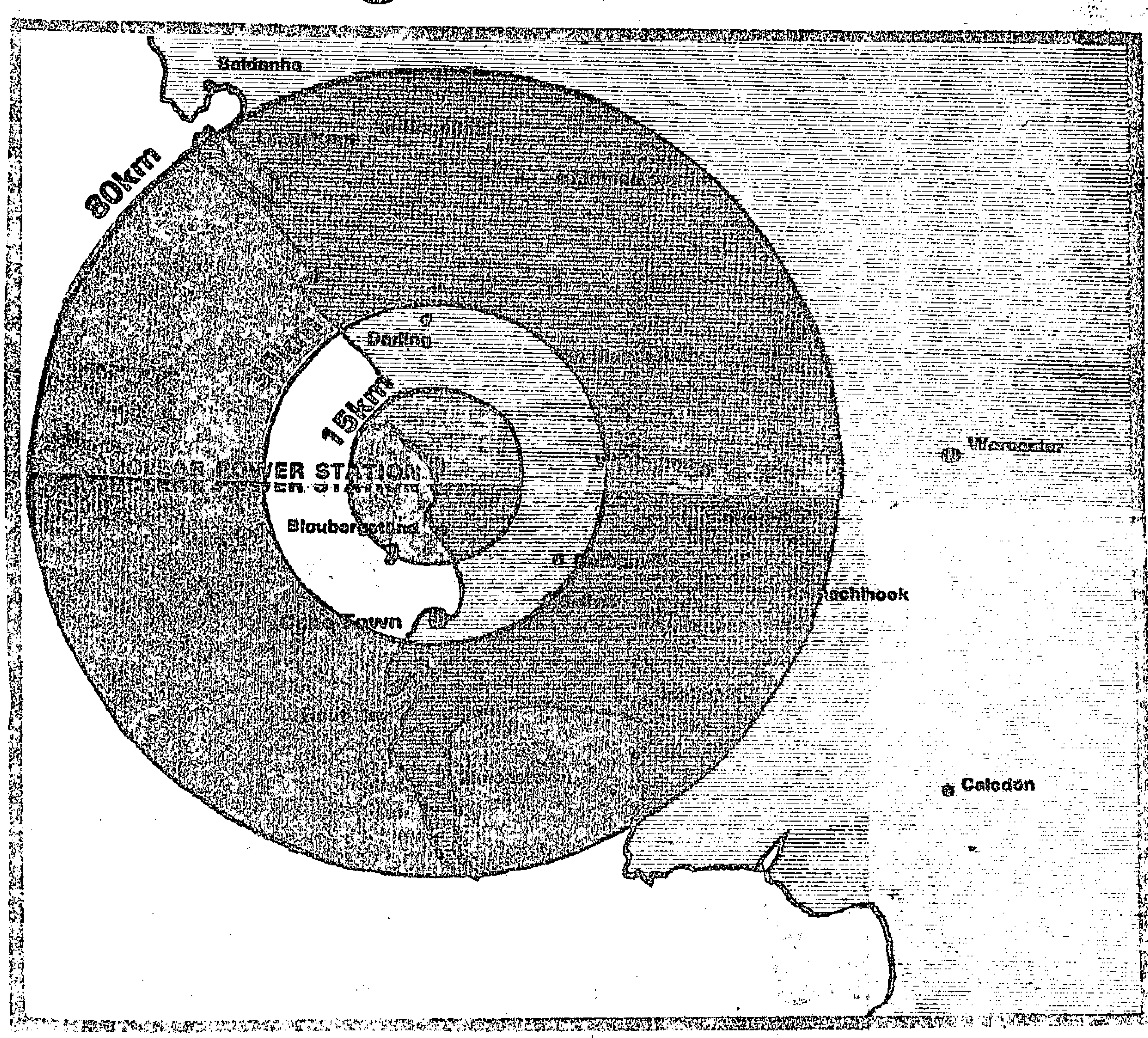
Dr. A. L. BORAINE: Mr. Speaker, arising out of the hon. the Minister's reply and with reference to the second part of the question, can the hon. the Minister give us the assurance that, in the light of the widespread concern arising from the incident at Harrisburg, that we will be given further assurances once the report has been received?

The MINISTER: Mr. Speaker, we shall do so as soon as the technical information becomes available. I shall then also inform the House. I think that we ought not make a public issue of this in the meantime since we are at the moment not dealing with facts.

We marched all night and were near the laager by daylight. A kaffir said there were quite 150 or 200 Boers in a laager

CT 3/4/79

Koeberg: The 80km radius



The map shows some of the municipalities lying within an 80km radius of Koeberg nuclear power station, all of them well within the fallout area. So far as can be ascertained, none have made any contingency plans for use in the event of a major leakage from the station.

● Report page 3

Koeberg reactor to be more powerful

By BOB MOLLOY
SCIENCE REPORTER

NUCLEAR reactors planned for Koeberg are built on the same principle as the American reactor which overheated at Harrisburg but the South African reactors will generate a larger amount of electrical power.

And South African engineers from Escom observed the faulty Harrisburg reactor in operation last November while on a familiarization tour of nuclear plant in the United States.

Mr R P A Myburgh, managing director of Escom in the Western Cape, yesterday assured the Cape Times that there were differences in construction.

"The two sets of reactors were built by different companies and there are important differences in construction. Our engineers observed the second Harrisburg reactor while it was undergoing power testing," Mr Myburgh said.

It is understood that the Harrisburg reactor was built by Babcock and Wilcox and the Koeberg reactors were designed by Westinghouse for construction by French contractors. The Koeberg reactors will generate 922 megawatts as against the Harrisburg output of 792 mw for the number one reactor and 808 mw for number two, the reactor which is now overheating.

The second reactor was not yet "on line" when the Escom observers saw it five months ago which means that it has not yet completed a year of operation.

● The type of reactor to be used at Koeberg is a "light water" (ordinary water) reactor. At the time this design was chosen there were 273 LWR stations out of 374 in operation around the world, more than half of these in the United States.

Nuclear-power reactors are simply heating plants for boiling water. The steam is then used to turn electrical generators which produce electricity.

In light-water reactors differences of design occur in the ways used to carry the heat to the steam plant.

The simplest reactor has circulating water which boils in the core itself and the steam is taken directly to the turbines. This is the boiling-water reactor or BWR.

In a pressurized water reactor, the type to be used at Koeberg, a coolant is passed through the core at a high pressure which prevents boiling. This primary coolant gives off its heat in a heat exchanger and produces steam without touching or mixing with the water. The pressure is higher in the PWR than for any other reactor.

It is essential that the heat produced in the reactor is kept below a critical level and this is done during normal operation by constant circulation of the coolant.

First reports from Harrisburg were that a fault had occurred in the steam plant. Since then there has been a news black out but it is clear that the coolant was unable to carry out its function and a rising core temperature increased pressure inside the vessel by a reported 800 percent and caused the first explosion.

600 000 await order to leave homes in US

HARRISBURG. — More than 600 000 people awaited the order to evacuate their homes yesterday as scientists battled to control a radioactive leak at the Three Mile Island nuclear plant.

The scientists reported that the plant, damaged last Wednesday when a cooling system failed, was beginning to cool down. But they were still worried by a potentially-explosive hydrogen bubble in the reactor core.

State officials were preparing plans to evacuate 24 000 people from an eight kilometer radius of the plant. If the situation warranted it, the figure could go as high as 637 000 people from a 32 km radius.

The evacuation plans can only be implemented by Pennsylvania's Governor, Mr Dick Thornburgh.

The US President, Mr Jimmy Carter, reflecting the anxiety felt by millions of Americans over the leak, said on a flying visit to the plant on Sunday that health and safety should be the main concern.

"If we make an error, it should be on the side of caution and safety," he said.

The US Government's chief scientist at the plant, Dr Harold Denton, of the Nuclear Regulatory Commission, admitted that the hydrogen bubble problem had not been anticipated in designing the reactor.

But Dr Denton insisted the bubble was shrinking and the overall situation was "stable".

Besides a general evacuation, authorities were trying to decide how some 1 200 convicts from local prisons and about 5 000 nursing home patients could be transported to safer places.

In an evacuation, emergency centres would be established up to 160 km from the crippled plant.

Pregnant women and preschool children, who are most susceptible to radiation exposure, were urged last Friday to leave their homes if they lived within eight km of the reactor. — Sapa-Reuter

N-plant 'over-reaction'

PERTH. — One of Britain's leading nuclear experts yesterday accused the world press of over-reacting to the Three Mile Island nuclear power plant accident in Pennsylvania.

Sir Francis Tombs, chairman of the British Electricity Council, told reporters here that the over-reaction by the press had created a mistaken public impression of the nature and importance of the accident.

"It is inevitable that the press should over-react to these things and there has been a lot of sensational reporting about the incident."

Melkbosstrand: nuclear power station

Hansard 5 (3/4) 7/3/79

*17. Mr. B. R. BAMFORD asked the Minister of Economic Affairs:

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(1) How many (a) South Africans and (b) aliens are employed at the nuclear power station under construction near Melkbosstrand;

(2) whether work permits are required in respect of the aliens employed;

(3) what (a) bachelor and (b) married accommodation is provided for alien employees;

(4) who is responsible for the (a) employment, (b) working conditions and (c) discipline of such aliens;

(5) who is in charge of the expenditure of funds on social facilities and functions at or in connection with the station.

†The MINISTER OF ECONOMIC AFFAIRS:

(1) (a) 1 365 and

(b) 1 112;

(2) Yes, in respect of all aliens temporarily in the country;

(3) (a) prefabricated single quarters and

(b) dwelling-houses;

(4) (a), (b) and (c) the contractors and ESCOM;

(5) each contractor and ESCOM in respect of their own employees. After completion of the station ESCOM will provide recreational facilities for use by its station staff.

Hansard 5 (332)
7/3/79.

Cabora Bassa Scheme

376. Mr. T. ARONSON asked the Minister of Economic Affairs:

(1)(a) What power has been supplied to the Republic by the Cabora Bassa Scheme since his reply to Question No. 114 on 10 February 1978 and (b)(i) at what cost and (ii) over what period was the power supplied;

(2) whether he will make a statement on the matter.

The MINISTER OF ECONOMIC AFFAIRS:

(1) (a) 7 394 588 566 kWh and

(b) (i) R29 148 221,94 and

(ii) 28 January 1978 to 28 January 1979;

(2) no.

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ENERGY

1 APRIL 1979 — 30 JUNE 1979

'Cannot compare reactors'

ARGUS 2/4/79 055 (2)56

THE director of the Energy Research Institute at the University of Cape Town, Professor R K Dutkiewicz, said today it was not possible to compare the Harrisburg reactor with the proposed Koeberg reactor because they were different reactors.

While the events at Harrisburg should be cause for concern, because reactors always carried some risk, there was still time to incorporate additional safety factors into the Koeberg plant.

He thought that most of the lessons to be learnt from Harrisburg would be technical in nature.

The Koeberg site, 30 km from Cape Town by road was in a less inhabited area than the Harrisburg reactor. Thirty kilometres was 'not a bad distance,' he said.

'Nuclear plants are never completely safe,' said Professor Jan Giliomee of the University of Stellenbosch, who has issued numerous warnings since 1976 on the dangers of a nuclear plant so near to Cape Town.

'Being such a complicated piece of equipment there is always the chance that something will happen. All power stations have numerous small incidents every year. It's all just a matter of degree.'

INSPECT SITE

City councillor Mr Tom Walters said the council's executive committee was to inspect the Koeberg site about April 10 and evaluate the risks.

'The nuclear plant should have been put way out in the bundu, not next to a major city and residential area,' he said.

The Minister of Economic Affairs, Mr J C Heunis, said today he would talk to Escom officials about safety measures at the nuclear power plant being built at Koeberg.

N-plant

(Continued from Page 1)

overriding concern is the health and safety of people. If we make an error, it should be done on the side of caution and safety.'

Meanwhile, federal and state officials, were preparing an evacuation plan on a scale never attempted in peacetime in the US.

Officials prepared a three-stage evacuation, with the widest-scale scheme involving all people in an area of 3 255 sq km around the plant.

Private cars would be the major form of transport, with school buses, trains and other means used as backups.

Emergency centres would be set up in safe areas 160 km away.

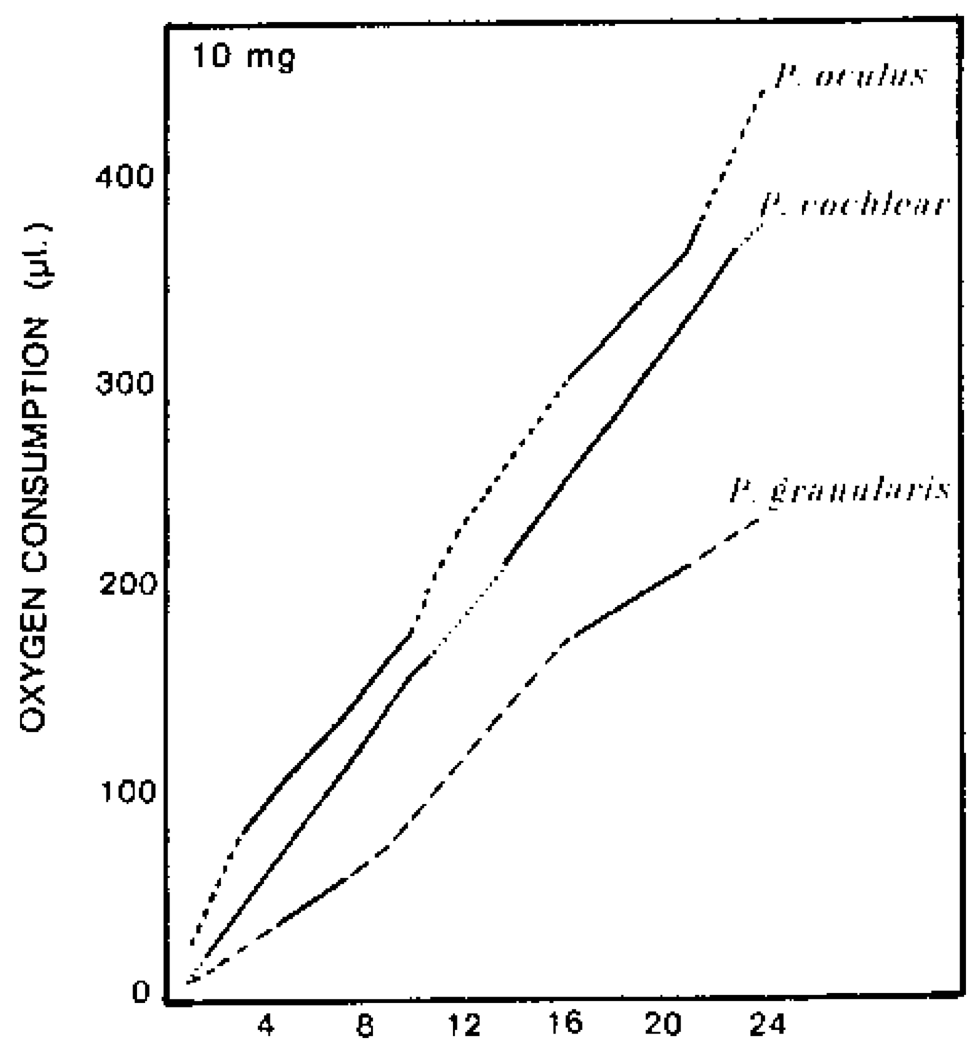
The final decision was up to Pennsylvania's Governor, Mr Richard Thornburgh.

Pregnant women and small children living within 8 km of the plant were evacuated on Friday. They are most susceptible to the effects of radiation.

An indication of the deep concern felt at Middletown, the community closest to the reactor, was shown yesterday at the Seven Sorrows Roman Catholic Church.

A priest told worshippers their archbishop had granted a general absolution of sin, a rite generally given only to soldiers in wartime. — Sapa-Reuter-AP.

RDM 3/4/79



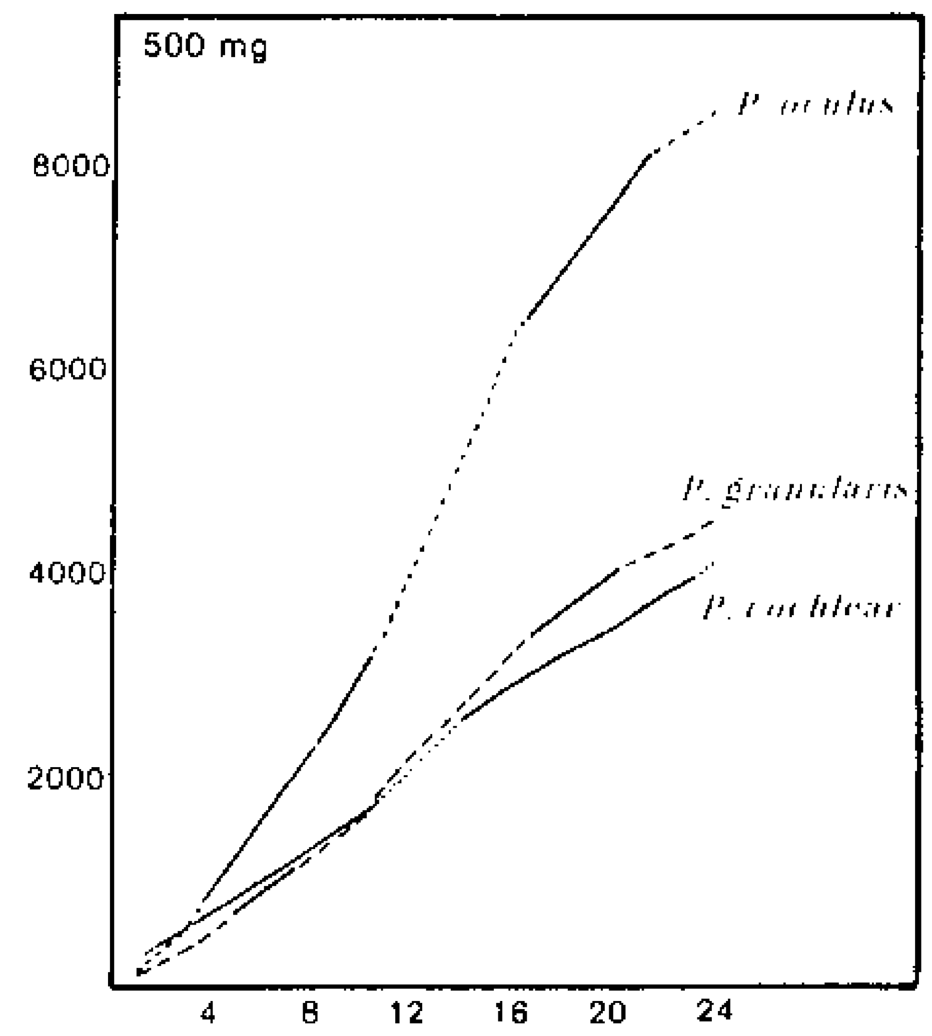


Fig. 6. *Patella* spp. Cumulative plot [...] r 24 h in relation to tidal and diur-
nal cycles. Dotted portions of lines [...] tidal cycle. Data for standard indi-
viduals of 10, 100 and 500 mg tissue [...] metabolism can be calculated by the
conversion 5.05 µl O_2 = 1 calorie

of large individuals increases
that of small individuals decli
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different rates of respiration
and large limpets in air and wa
3). Thus, the daily respiration
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exposed more than juveniles and
spire faster in air than water,
increasing their respiration du
tide.

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drop in respiration at night fr
rate at 17°C in water to that a
air (Fig. 5C), the Q_{10} being 7.
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only keeps down day-time rates
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sults in a considerable saving
at night when air temperatures

ta presented above, showing the
f temperature on aerial and
espiration and the rates of oxy-
mption during simulated tidal
r different-sized individuals,
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nsumption (and hence respira-
gy losses) for the 3 limpet spe-
se are shown in Fig. 6, from
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iture in the mid-shore *Patella*
ich experiences an abundant
ly, is much higher than in the
species. The lower-shore *P.*
nd the upper-shore *P. granularis*
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re than *P. oculus*, and this is
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hlear occurs very low on the
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fic competition most algae are
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y calcified and have a low cal-
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able and longevity high: up
s. These circumstances favour
h and low reproductive output

Coal cheaper than N-power

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LONDON. — A report to be published this year by the International Energy Agency will claim that electricity can be produced from coal-powered stations more cheaply than it can from nuclear stations at present UK coal prices when both are running at base load or effectively full capacity.

This conclusion accords with the views of Mr Anthony Wedgwood Benn, the Energy Secretary, who said recently in an interview that he believes coal may be relatively cheaper as a base-load power station fuel.

Much of the basis of the report, which will be published by the Coal Research Division of the Agency, was put before a conference on the fast-breeder reactor last year by Mr Michael Prior, an Agency economist.

Mr Prior's paper makes it clear that no final conclusions may be drawn because the forecasting uncertainties are so large.

Future coal prices are the most important variable.

It is understood that the Agency investigations show they may rise at under 1% a year in real terms until the year 2000.

In contrast, the Government view, expressed in a paper by the Department of Energy to the Energy Commission last year, is that the rise may be 1,5% to 2% or even more, showing a real cumulative rise of around 15% by the mid to late 80s.

The Agency assumes that considerable productivity increases will be gained from new "super-pits" at Selby, the Vale of Belvoir and elsewhere.

Mr Prior's paper concludes that the fast-breeder reactor, which still awaits a decision on its future use, "will be introduced at a capital cost which will make it uneconomic with respect to both thermal nuclear and coal at almost any conceivable fuel price."

Nuclear station capital costs constitute the second of the important variables in the discussion of coal/nuclear economics, the third being the internal discount rate.

The paper uses two discount rates: 5%, which is the rate currently applied by the Treasury to all energy projects in the public sector — and 10%, which was its previous rate.

The conclusion is that "the cost margin for coal is significant at 10%, though small at a 5% discount rate."

The lower discount rate is more favourable to nuclear plants because of their much higher capital costs.

The paper admits that the advantage to coal would decrease if requirements for sulphur emission control, which may be applied in the future, were to become law.

The reports are likely to cause controversy when they are finally published.

At present the Energy Department's view remains that of the Energy Commission paper, which concludes that "overall, a nuclear station does appear to have an advantage in this respect (escalation of fuel prices) unless coal does very well indeed."

The Central Electricity Board is, similarly, convinced of the cost advantages of nuclear stations at base load, and even the National Coal Board seems to have conceded much of the base-load costs case.

RDM 3/4/79 (55)

What happened at Three Mile Island?

As American scientists work against time to prevent a lethal spread of radiation from the crippled Three Mile Island nuclear power station, South Africans are wondering about the implications of the disaster for other power complexes, such as Koeberg in the Cape

CHUCK MITCHELL asked South African scientists to explain the possible causes of the radiation leak in America.

WHILE American nuclear experts remain unsure of the exact cause of the radiation leak and resultant choas at the Three Mile Island atom plant near Harrisburg Pennsylvania, energy officials in South Africa are speculating on the possible causes of the plant's system failure.

The Three Mile Island plant, which became commercially operative in May of 1978 is known as a Pressurized Water Reactor (PWR), which is similar to the Koeberg nuclear plant near Cape Town.

The theory behind the production of electricity by the reaction of atomic fuels, usually uranium, is actually quite simple and is supposed to be perfectly safe.

The radioactive fuel rods are encased in a cylinder shaped reactor which stands about 30 metres high. The reactor itself is encased in two other protective shields of concrete, which are more than a metre thick. In between the fuel rods are Boran rods, each about as thick as a polony, which act as brakes on the system. When the control rods are pulled up the fuel rods come in contact with each other and nuclear fission begins.

The fission creates a tremendous amount of heat. Water is passed through the reactor to cool the system and is turned to steam. The steam is used to drive turbines, which in turn drive generators and create electricity.

To stop the reaction the control rods are lowered between the fuel rods and the fission ceases. The control room for the Three Mile Island plant is located in a different part of the complex and the lowering of the control rods is done by remote control. The possibility of human error causing the disaster at Three Mile Island is almost non-exisitent.

According to Escom officials one of the causes of the near runaway reaction at the Three Mile Island plant could have been a failure of the system operating the control rods. If the control rods could not be lowered between the fuel rods, the reaction would go on unchecked and the heat created could cause a leak of radition from the reactor.

The possibility of a melt down, which is literally the melting of the protective casing around the reactor due to the extreme heat caused by the uncontrolled reaction, is extremely remote and despite the panic at Three Mile Island this possiblity is virtually discounted.

The "China Syndrome" — which is a complete melt down of the entire protective casing of the reactor, including the outer one as the fuel rods melt their way to the earth's core — could only happen in theory, according to US nuclear experts.

Another possible cause of the radiation leak is the possibility of a water pump failure. Water is fed through the reactor to cool the system. If the pump system fails the heat caused by the fission of the fuel rods increases to a dangerous level and the possibilty of a radiation leak becomes a reality.

There is no possibility of a nuclear explosion at the plant, even though the fuel rods operate on the same chain reaction principle of an an atom bomb. The commercial uranium rods are quite different from the uranium rods used in a bomb.

What appears to be the main problem now at the Three Mile Island plant is the formation of a "hydrogen bubble" at the top of the 100 metre high concrete shielding of the reactor. The "bubble" is actually a collection of gases which have escaped from the reactor, probably through a faulty pipe, and have drifted to the top of the outer casing. The gas is highly explosive and it now poses a greater threat than the actual radiation leak. Safety officials are attempting to bleed the gas cloud into tanks and so far they have met with some success.

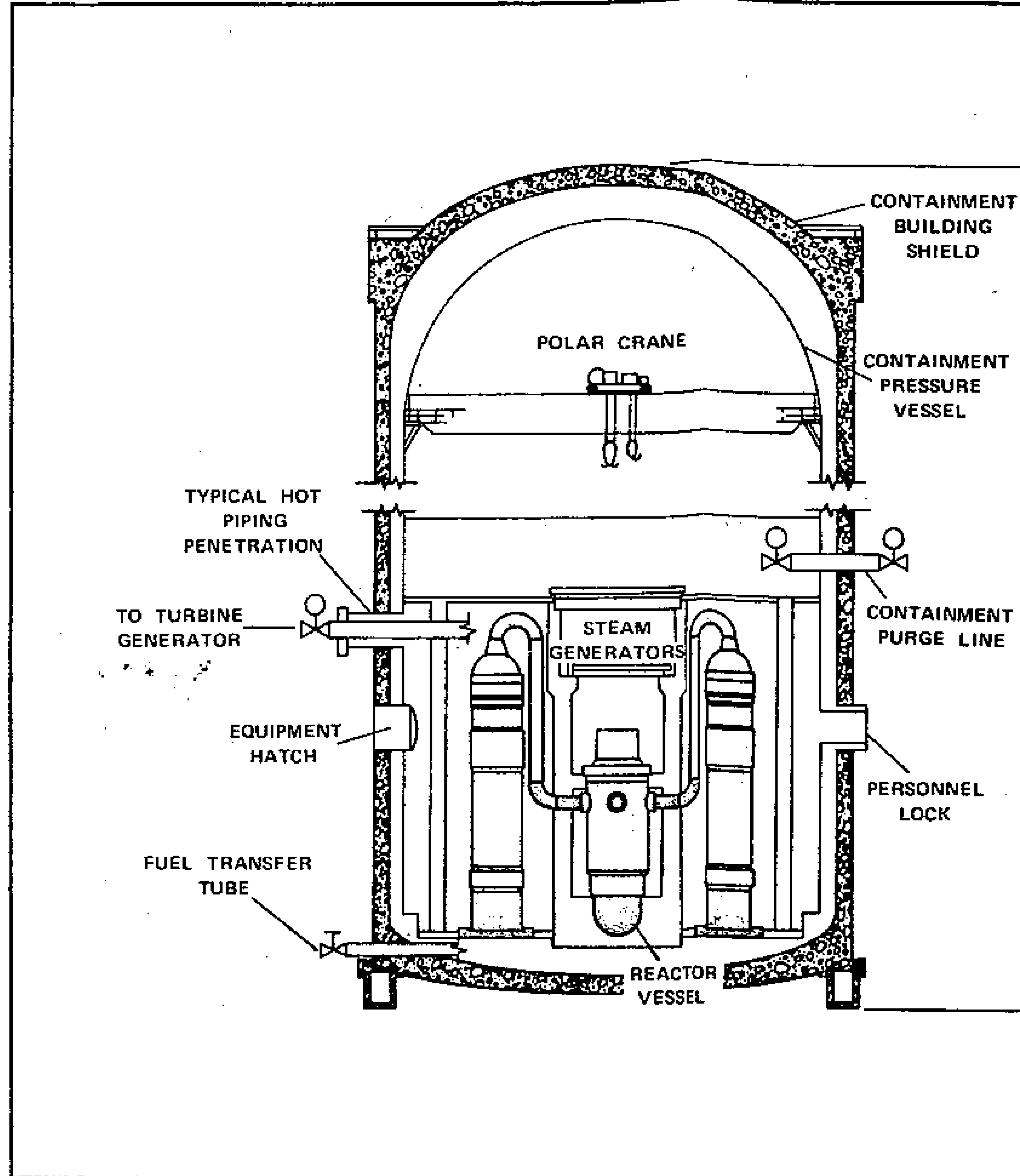
The radiation levels near the plant, although high, are far from catastrophic and, according to the latest reports received by Escom from the US Nuclear Regulatory Commission, they are now decreasing.

At it's height the amount of radiation given off at the plant site measured between 2 and 4 millirems per hour. A person living in Johannesburg absorbes about 130 millirems of radiation per year just from the sun's rays. The maximum safe yearly total of radiation absorbtion for a human is about 5 rems per year.

One chest X-ray causes some 50 millirems of radiation to be absorbed into the body and the average colour television watcher picks up more than 1 millirem per year. The food we eat gives off 25 millirems per year and the ground gives off 11 per year.

A recent Reactor safety study carried out by the US government showed that if 100 nuclear plants were in full operation in the US the probability of those plants causing the death of 100 people would occur once every 100 000 years. The probability of a tornado causing 100 deaths is once every five years. The probabilty of 100 or more deaths as the result of a plane crash is once every 2 years.

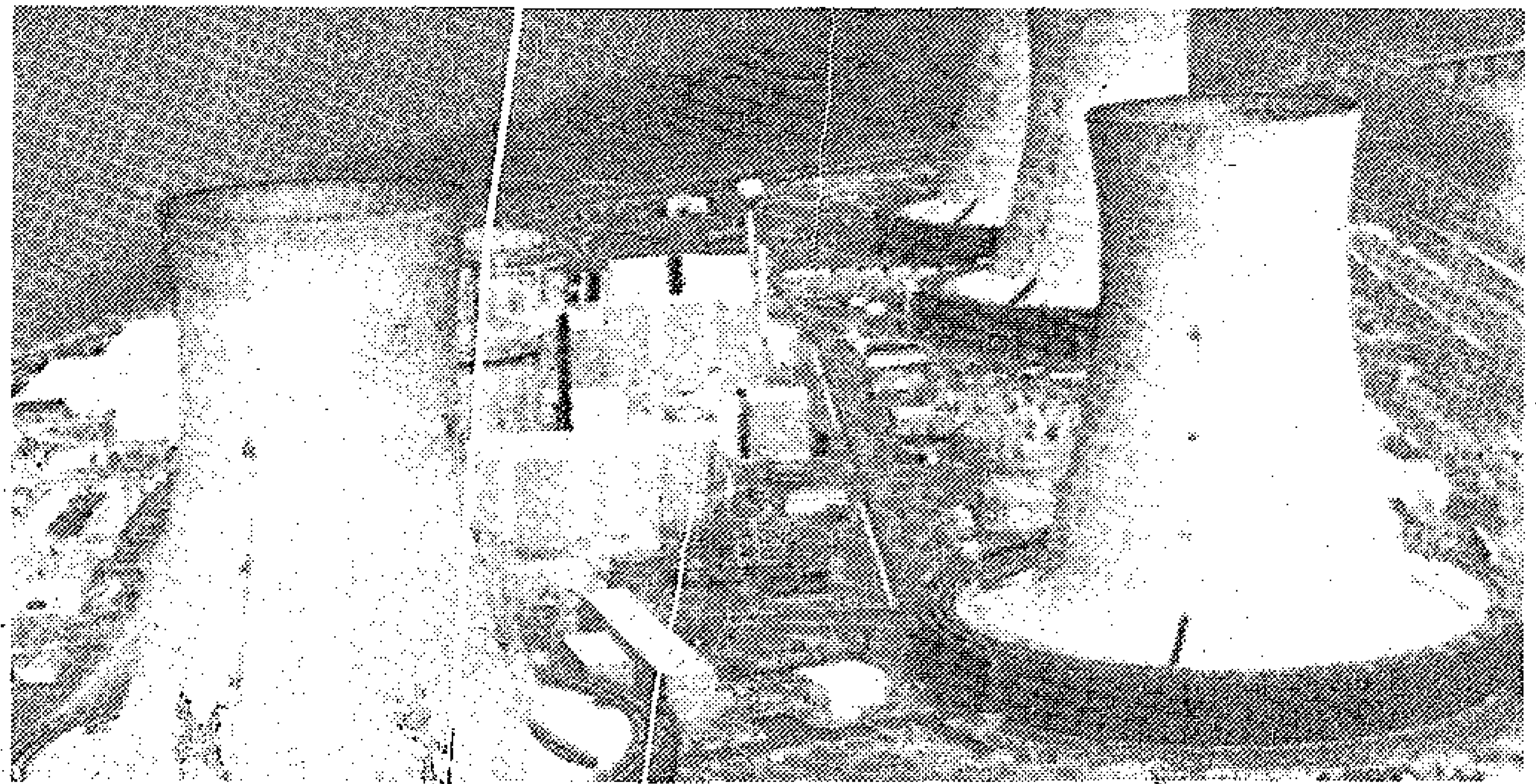
Safety officials at the rogue plant have made no decision yet on how to shut the reactor down completely. But for the moment the reactor seems to be cooling normally and temperatures have become stable, thus making an evacuation of people living near the plant unnecessary.

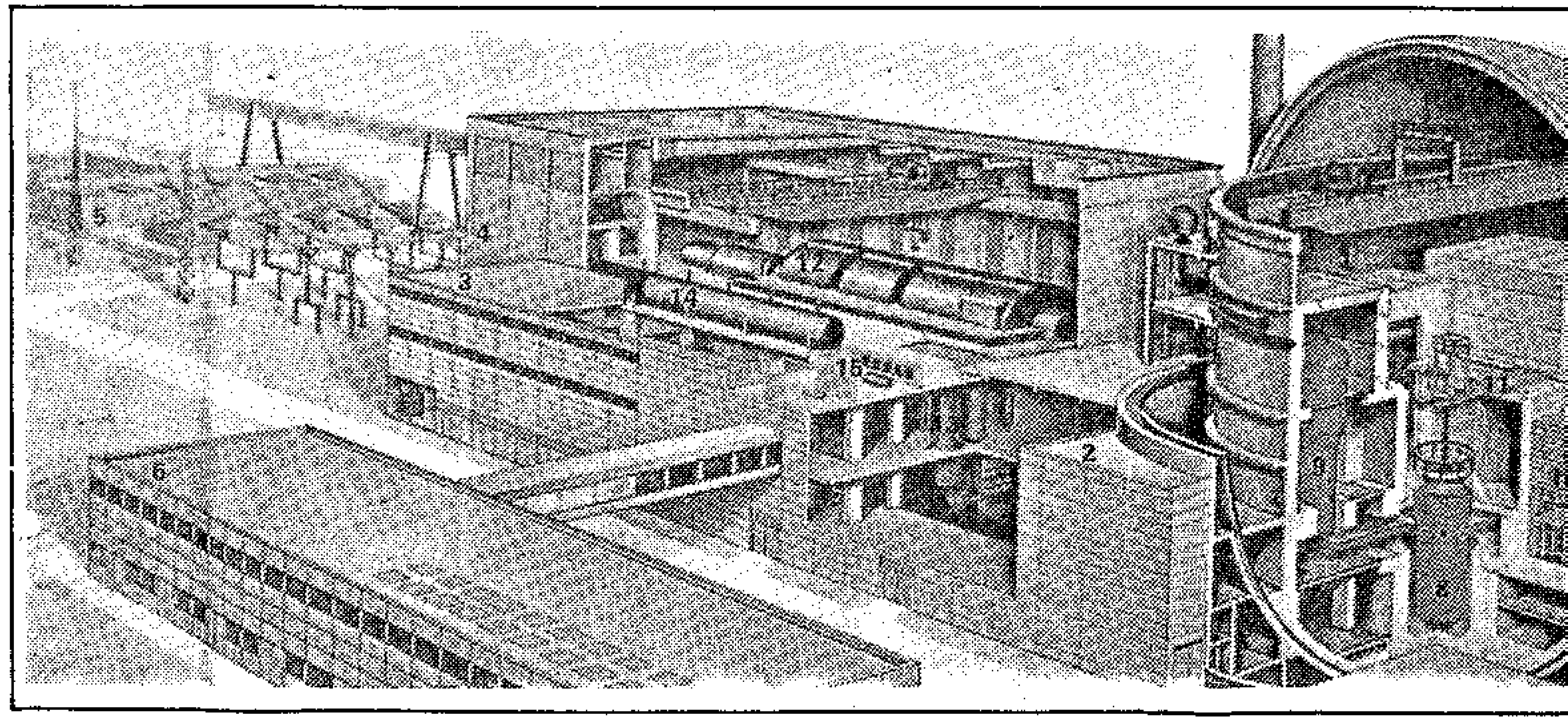


Right: The diagram shows the radioactive fuel rods and Boran control rods that are housed in the reactor vessel, the smallest of the three cylinders. A highly explosive "hydrogen bubble" has escaped of from the reactor vessel at Three Mile Island and now rests at the top of the outer shielding. Below: The cutaway diagram of a Pressurized Water Reactor is identical to the Three Mile Island plant in Harrisburg, Pennsylvania and the Koeberg nuclear plant near Cape Town. The structure on the right, which houses the small cylinder shaped reactor, is 100 metres high with two concrete walls, each about a metre thick.

Escom's disaster plans for Koeberg

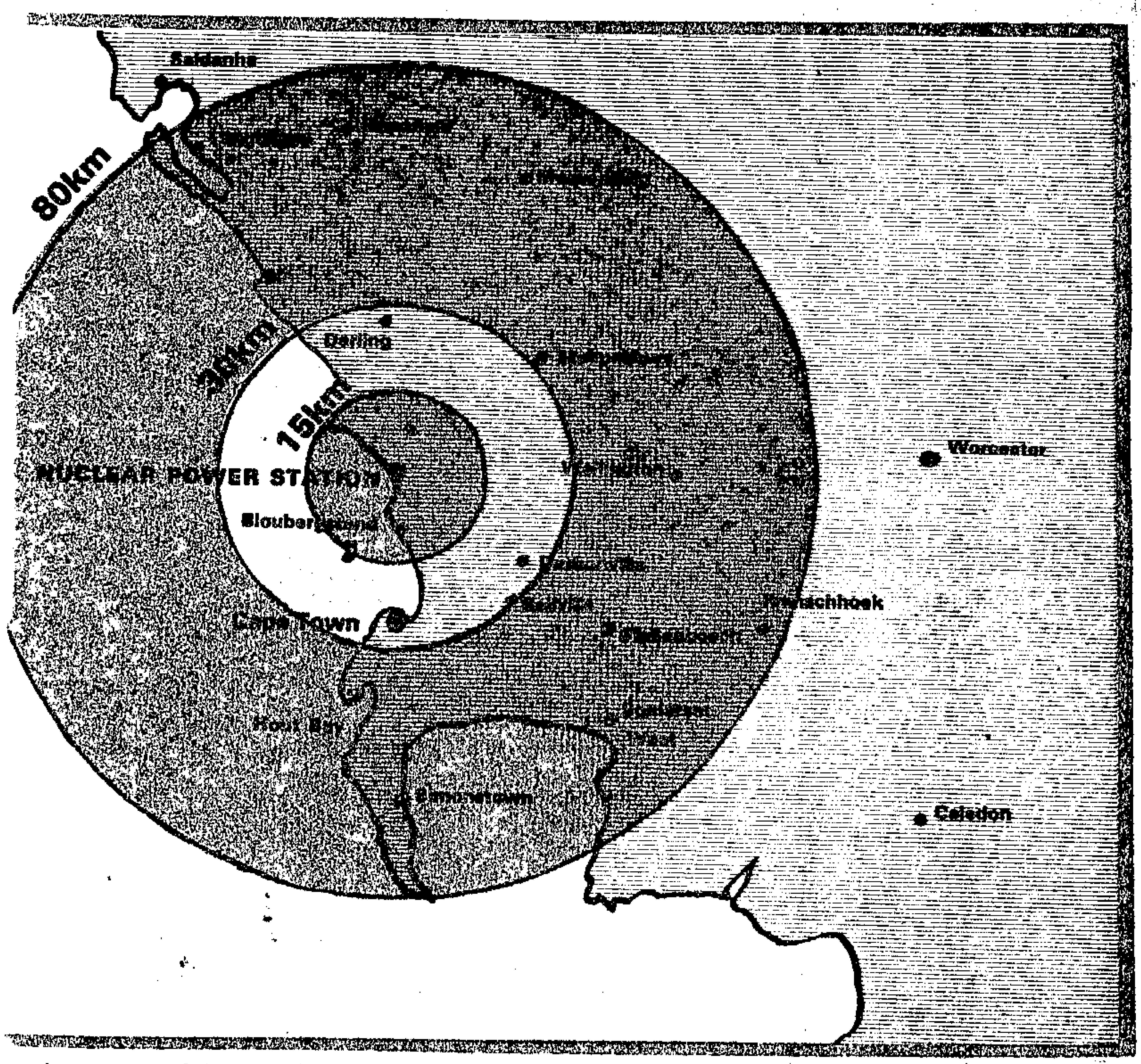
IN THE event of a similar disaster striking the Koeberg nuclear power station near Cape Town, Escom has made evacuation plans for the people living nearby, to minimize their exposure to radioactive material. The Koeberg plant is designed so that the plant could be shut down from a seperate control room, away from the disaster area. The most serious problem caused by a similar disaster at Koeberg would be the chance of a cloud of radioactive material being released which would be inhaled by people. The iodine cloud is absorbed by the thyroid and may eventually cause cancer 15 to 30 years later. Koeberg stores iodine tablets, which would be distributed to the population and would decrease the effect of such a radioactive cloud. The cloud could float 200 kms downwind. Escom officials claim that the possibility of such a radioactive cloud escaping from Koeberg in the event of a plant failure is one in a million years.





3/4/79 65

Koeberg: The 80km radius



ap shows some of the municipalities lying within an 80km radius of Koeberg nuclear power station, all of them ithin the fallout area. So far as can be ascertained, none have made any contingency plans for use in the event of a major leakage from the station.

● Report page 3

CAPE TIMES 3/4/79

Koeberg reactor to be more powerful

① 55 ② ~~56~~ ③ ~~260~~

By BOB MOLLOY
:IENCE REPORTER

EAR reactors planned for ;rg are built on the same principle as the American reactor which overheated at Harrisburg but the South African reactors will generate a larger amount of electrical power.

And South African engineers from Escom observed the faulty Harrisburg reactor in operation last November while on a familiarization tour of nuclear plant in the United States.

Mr R P A Myburgh, managing director of Escom in the Western Cape, yesterday assured the Cape Times that there were differences in construction.

"The two sets of reactors were built by different companies and there are important differences in construction. Our engineers observed the second Harrisburg reactor while it was undergoing power testing," Mr Myburgh said.

It is understood that the Harrisburg reactor was built by Babcock and Wilcox and the Koeberg reactors were designed by Westinghouse for construction by French contractors. The Koeberg reactors will generate 922 megawatts as against the Harrisburg output of 792 mw for the number one reactor and 808 mw for number two, the reactor which is now overheating.

The second reactor was not yet "on line" when the Escom observers saw it five months ago which means that it has not yet completed a year of operation.

● The type of reactor to be used at Koeberg is a "light water" (ordinary water) reactor. At the time this design was chosen there were 273 LWR stations out of 374 in operation around the world, more than half of these in the United States.

Nuclear-power reactors are simply heating plants for boiling water. The steam is then used to turn electrical generators which produce electricity.

In light-water reactors differences of design occur in the ways used to carry the heat to the steam plant.

The simplest reactor has circulating water which boils in the core itself and the steam is taken directly to the turbines. This is the boiling-water reactor or BWR.

In a pressurized water reactor, the type to be used at Koeberg, a coolant is passed through the core at a high pressure which prevents boiling. This primary coolant gives off its heat in a heat exchanger and produces steam without touching or mixing with the water. The pressure is higher in the PWR than for any other reactor.

It is essential that the heat produced in the reactor is kept below a critical level and this is done during normal operation by constant circulation of the coolant.

First reports from Harrisburg were that a fault had occurred in the steam plant. Since then there has been a news blackout but it is clear that the coolant was unable to carry out its function and a rising core temperature increased pressure inside the vessel by a reported 800 percent and caused the first explosion.

600 000 await order to leave homes in US

HARRISBURG. — More than 600 000 people awaited the order to evacuate their homes yesterday as scientists battled to control a radioactive leak at the Three Mile Island nuclear plant.

The scientists reported that the plant, damaged last Wednesday when a cooling system failed, was beginning to cool down. But they were still worried by a potentially-explosive hydrogen bubble in the reactor core.

State officials were preparing plans to evacuate 24 000 people from an eight kilometer radius of the plant. If the situation warranted it, the figure could go as high as 637 000 people from a 32 km radius.

The evacuation plans can only be implemented by Pennsylvania's Governor, Mr Dick Thornburgh.

The US President, Mr Jimmy Carter, reflecting the anxiety felt by millions of Americans over the leak, said on a flying visit to the plant on Sunday that health and safety should be the main concern.

"If we make an error, it should be on the side of caution and safety," he said.

The US Government's chief scientist at the plant, Dr Harold Denton, of the Nuclear Regulatory Commission, admitted that the hydrogen bubble problem had not been anticipated in designing the reactor.

But Dr Denton insisted the bubble was shrinking and the overall situation was "stable".

Besides a general evacuation, authorities were trying to decide how some 1 200 convicts from local prisons and about 5 000 nursing home patients could be transported to safer places.

In an evacuation, emergency centres would be established up to 160 km from the crippled plant.

Pregnant women and preschool children, who are most susceptible to radiation exposure, were urged last Friday to leave their homes if they lived within eight km of the reactor. — Sapa-Reuter

N-plant 'over-reaction'

PERTH. — One of Britain's leading nuclear experts yesterday accused the world press of over-reacting to the Three Mile Island nuclear power plant accident in Pennsylvania.

Sir Francis Tombs, chairman of the British Electricity Council, told reporters here that the over-reaction by the press had created a mistaken public impression of the nature and importance of the accident.

"It is inevitable that the press should over-react to these things and there has been a lot of sensational reporting about the incident."

CAPE TIMES 4/4/79 (1) 55 (2) ~~56~~ (3) ~~360~~

Demolition can be costly

Science Reporter,
Sapa—AP-Reuter

KOEBERG power station's estimated cost has risen 5 000 percent in 10 years and there are still three years to go before the first electricity flows out to the Western Cape.

First mention of costs was given in the late Sixties as R40m. Since then the figure has soared to R2 000m.

An Escom spokesman told the Cape Times yesterday the final cost would be "about three-quarters that of a coal-fired station" but said no final figure could be given. Gains would derive from siting, saving in coal, transport costs and the advantages from experience.

He rejected the views of an American economist who had said it would cost as much to demolish an obsolete nuclear power station as to build it and said Koeberg's life of 25 years would probably be extended to 40 years or more.

● The first nuclear plant demolished in the United States was built in the Fifties. It cost R11m and just over R5m and two years to get rid of temporarily. Machinery used to demolish the reactor housing had to be cut up and disposed of in shielded storage tanks.

The pieces of the station are stored in water but no decision has been taken as where to park the remains.

Corrosion experts insist that nothing devised to hold nuclear wastes is safe and that the material will eventually leak into the world water supply. One expert sees gold as the only material that will withstand decay for thousands of years.

● In Middletown, Pennsylvania, yesterday a top US government scientist said the hydrogen gas bubble that threatened a disaster at the crippled US atom plant has now dissolved.

Mr Harold Denton, sent by President Carter to oversee emergency repairs at the Three Mile Island plant, said: "We are over the hump."

He briefed reporters as thousands of residents who fled the area after last Wednesday's accident started returning to their homes and schools prepared to reopen today.

Mr Denton said he was convinced the bubble trapped in the sealed nuclear reactor was gone and experts could start to cool the reactor to what is called "cold shutdown". But he added that he expected problems.

The bubble, which at one point grew to 880 cu ft, was compressed between the reactor core and the top of its steel housing. Its presence prevented effective cooling of the reactor and damaged uranium fuel rods.

More reports — page 3

CAPE TIMES 4/4/79 ① 55 ~~②56~~

Similar cost, and N-power saves coal

Science Reporter

MR R P A MYBURGH, regional manager for Escom in the Western Cape, said yesterday that the estimated generating costs of Koeberg nuclear power station were comparable to that of a similar size coal-fired station.

"The present generating costs for Salt River, a much smaller coal-fired station, are 1,3 cents per kilowatt hour. This is because the station is not operated on a full-time full-load basis. If it were used to full capacity costs would be much higher as it is an old station and a lot of maintenance would be needed.

"A new coal-fired station sited as far from the pithead as Koeberg would generate at a cost of about four cents a unit, more or less the figure worked out for the nuclear station," Mr Myburgh said.

A further consideration was the fact that Koeberg would save the country about four to five million tons of coal a year, a commodity that was of increasing value both as an export and for use in the petrochemical and plastics industries.

An additional bonus was that the Railways would not be required to transport this amount of coal over long distances from the Transvaal.

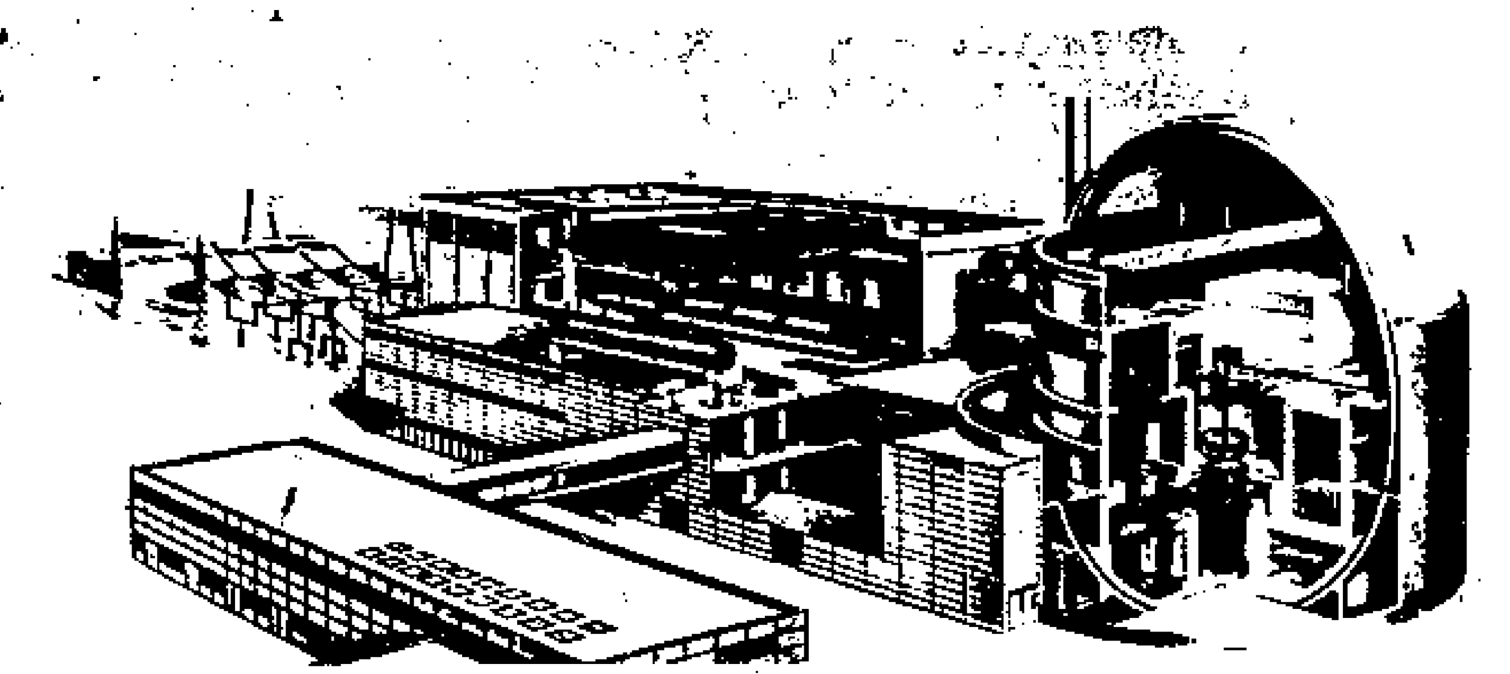
"There is also the strategic consideration of having a major power plant in the Western Cape capable of taking over should the powerlines from the Transvaal fail," Mr Myburgh added.

● A brochure on Koeberg issued in 1974 by Escom said the station would cost "about R500m". The core of each reactor would contain about 100 tons of fuel priced at "nearly R30m". Refuelling required a shutdown of each reactor for two or three weeks each year when about one-third of the fuel was replaced.

This means that refuelling costs for each reactor were estimated in 1974 as at least R10m. An Escom spokesman agreed that costs would "probably more than double by 1982", giving fuel bills for both reactors when in operation of about R40m a year.

No estimate has been given of other costs such as extra security staffing, disposal of spent fuel by contractors and storage of highly radioactive material on site.

An American economist has said that some substances produced in reactors could take as long as 100 000 years to decay to the stage where they could be regarded as harmless. For public safety, they would have to be monitored by skilled people during all that time.



Psychological profile to screen nuclear personnel

Science Reporter

ESCOM has plans to develop a "psychological profile" of unstable personalities which could be used to screen out people unsuitable for work in sensitive areas of the nuclear plant.

This emerged yesterday from a query to Escom on safety precautions against casual as opposed to planned damage to nuclear installations.

"At present staff are tested as a matter of course and we now have a fulltime doctor whose job it is to ensure that people are suitable not only physically but also mentally. Further tests are being developed and these will include the requirements for work in a nuclear power station," the spokesman said.

Checks on US reactors

WASHINGTON. — The United States Government yesterday ordered checks on seven nuclear reactors similar to the crippled unit at Three Mile Island in Pennsylvania.

The reactors are located in South Carolina, California, Florida, Arkansas and Ohio.

A spokesman for the Nuclear Regulatory Commission, said the operators of the reactors were ordered to run safety checks and report their findings within 10 days.

The White House press secretary, Mr Jody Powell, said inspectors were on full-time duty covering 31 of the country's 72 reactors. — Sapa-Reuter

(55)

SEE ACTS 1979
FOR FULL TEXT

REPUBLIC OF SOUTH AFRICA

GOVERNMENT GAZETTE

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Vol. 166] CAPE TOWN, 5 APRIL 1979
KAAPSTAD, 5 APRIL 1979 [No. 6391

DEPARTMENT OF THE PRIME MINISTER

No. 747. 5 April 1979.

It is hereby notified that the State President has assented to the following Act which is hereby published for general information:—

No. 30 of 1979: State Oil Fund Amendment Act, 1979.

DEPARTEMENT VAN DIE EERSTE MINISTER

No. 747. 5 April 1979.

Hierby word bekend gemaak dat die Staatspresident sy goedkeuring geheg het aan die onderstaande Wet wat hierby ter algemene inligting gepubliseer word:—

No. 30 van 1979: Wysigingswet op die Staatsoliefonds, 1979.

GENERAL EXPLANATORY NOTE:

________ Words underlined with solid line indicate insertions in existing enactments.

ACT

To amend the State Oil Fund Act, 1977, in order to provide for a levy on fuel; and to provide for incidental matters.

(English text signed by the State President.)
(Assented to 29 March 1979.)

BE IT ENACTED by the State President, the Senate and the House of Assembly of the Republic of South Africa, as follows:—

Insertion of sections 1A, 1B and 1C in Act 38 of 1977.

1. The State Oil Fund Act, 1977, is hereby amended by the insertion of the following sections after section 1:

"Levy on fuel and the utilization and investment thereof.

1A. (1) The Minister of Economic Affairs may in consultation with the Minister of Finance by notice in the *Gazette* or by notice in writing served on any person, whether personally or by post, impose a levy for the benefit of the Equalization Fund controlled by the SFF Association, a company incorporated in terms of the Companies Act, 1973 (Act No. 61 of 1973), on every litre of petrol, aviation spirit, kerosene, distillate fuel, residual fuel oil, naphtha, base oil, products of base oil or every kilogram of grease or liquefied petroleum gas which is manufactured, distributed or sold by an undertaking at any point in the Republic.

(2) The notice shall state the amount of the levy, the interest payable in the event of the non-payment of the levy, the person who shall be liable for the payment thereof, the product referred to in subsection (1) in respect of which it shall be payable, the person who shall be responsible for the collection thereof and the times when and the manner in which it shall be paid to a person mentioned in the notice and be handed over by that person to the Equalization Fund.

(3) The notice may exempt, in part or in full, any person from any provision thereof, or may contain a directive that the amount of a levy, where the levy is not imposed by notice in the *Gazette*, or the proceeds of a levy, shall not be disclosed by any person to any unauthorized person, or the notice may contain any appropriate condition: Provided that any such notice shall not contain any exemption from the payment of a levy.

(4) The moneys raised by means of a levy—

(*a*) shall be utilized—

(i) for the financing of any increase in the cost of purchasing crude oil or petroleum products; or fox

GOLD SHARES

217 79 55 FM 6/4/79

Reactions to Three Mile Island

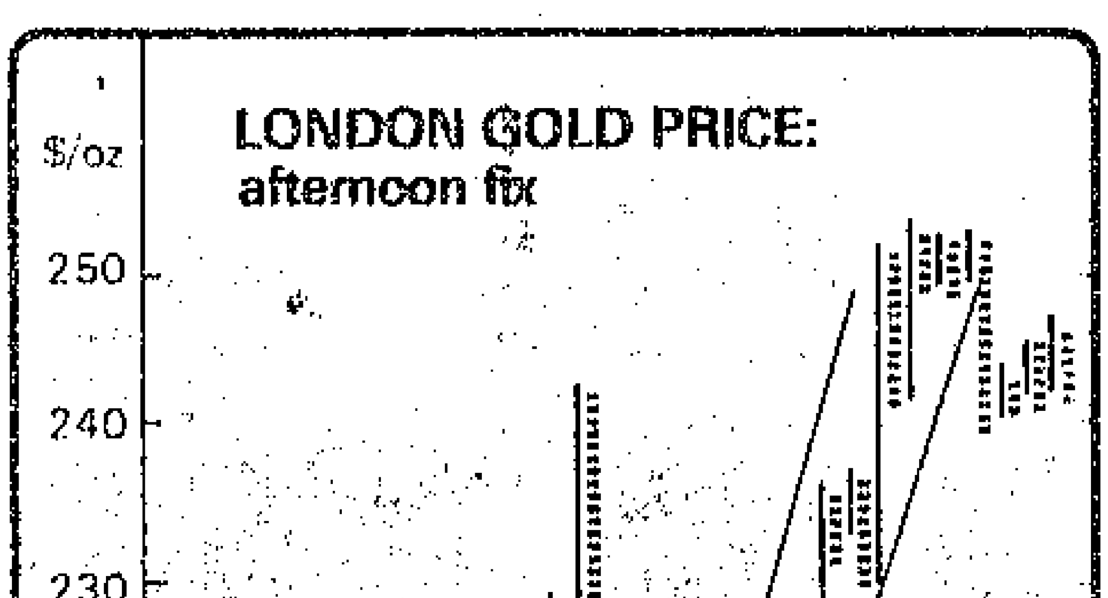
Will Three Mile Island sound the death knell of nuclear power plant construction? As far as Johannesburg is concerned, views tend to be coloured by whether investors are long or short of uranium shares.

Since last Wednesday, mines which are highly geared to uranium have taken a pounding. Afrikander Lease at one stage was 65c lower at 475c, Stilfontein hit 710c, down from 760c, while West Rand Cons shed 20c to a low of 355c.

The bear argument is easy to see. If nuclear power stations are going to belch radioactivity all over the countryside then no more will be built and uranium demand will eventually evaporate. Local mining companies with interests in uranium are already making contingency plans for just such an outcome.

But uranium bulls make some telling points.

If nuclear power station construction ceases worldwide, the developed countries will be faced with chronic power shortages within a very few years. There



is simply not enough coal and oil to satisfy the world's power needs and shortages could precipitate a recession worse than anything seen in the Thirties. That, the bulls reckon, is a more ghastly alternative than the relatively minor risk of nuclear accidents.

However, Three Mile Island could easily put a stop to eventual development of breeder reactors which produce their own nuclear fuel. If so, medium-term prospects for uranium could be tremendous. Conventional reactors are uranium-hungry and relying on them alone for nuclear power would mean revising projected uranium demand in the Nineties upward by a large factor.

SA uranium producers have thus far escaped the attentions of ecologists who have succeeded in delaying mining projects in Australia and Canada by several years. If the latest news from the US fuels further delaying moves by ecologists in other producing countries, SA could become a supplier of last resort and probably at considerably higher prices than currently available on spot markets.

Spin-off for gold

Finally, say the bulls, if nuclear power plant construction does grind to a halt, the result would be rocketing oil prices, followed by gold.

Most likely, of course, is that following Three Mile Island there will be a general tightening of the already strict controls on reactor management and eventually business will resume as usual. If that is the case there seems to be little point in being panicked into selling uranium stocks.

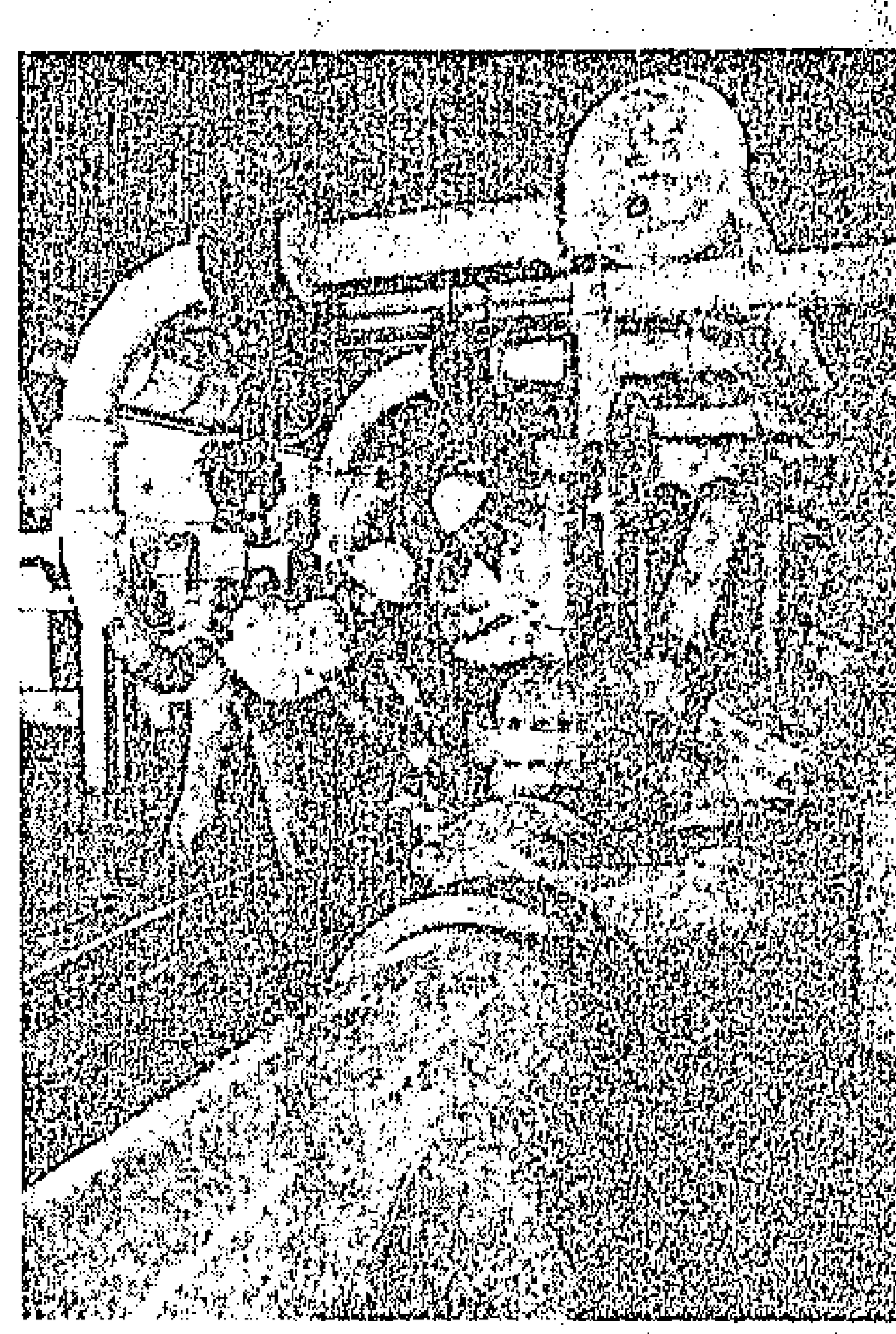
On the other hand, at least near-term, there could be other good reasons to steer clear of gold shares. Ahead of the IMF gold auction bullion was fixed marginally lower at $239,80 at Wednesday morning's London fix.

While bullion stays below $240, near-term chart indications are of further drops to the $220 region over the next few weeks before a swift recovery which could carry gold to the $300 range by year-end.

Four mines which have reported this week, all uranium producers or with uranium potential, drew up their annual reports before Three Mile Island. They have all valued ore reserves at a relatively conservative $200 or more gold price and are all reasonably optimistic on uranium's prospects.

Randfontein: Shareholders will get an up-to-date statement on the mine's position from chairman Bernard Smith later this month. Meantime, however, management faces a dilemma: As things are at present, the mine should exhaust its end-1978 R65m tax shield some time in the second half of this year.

Ideally, the mine would like to start establishing the proposed Cooke No 3 shaft complex before the present tax shield disappears. But events at Three Mile Island could have put a spanner in the works. Moving towards the south at Cooke section, uranium grades tend to rise and gold to fall, so if there is a reac-



Dewatering Randfontein . . . more ore to the mill

tion against uranium over the next couple of months and sales contracts are less easily agreed, a delay at Cooke No 3 is more than likely.

Smith will be reporting in a few weeks on progress at the mine's treatment plants. I understand that remaining problems affecting uranium production at both Millsite and Cooke section are relatively minor. According to consulting engineer Mark Madeyski, Cooke plant should reach its monthly 250 000 t rated capacity within the next couple of months.

It had been planned that the Millsite gold plant would be closed or used merely for treating old dump material. Now the plan is to keep the plant operating at full capacity initially from surface stockpile ore though with increasing amounts of underground ore from Randfontein section.

At Randfontein section de-watering is proceeding according to plan with a lowering of the water level to below 26 level slated to start within the next couple of months.

Though re-establishment of operations at Randfontein section will tend to restrain dividends, there is plenty of scope for last year's 450c total payout to be at least repeated this year even with tax payments in the offing.

Western Areas: As yet Nufcor has been unable to find an interested buyer for the mine's potential uranium output. And events in Pennsylvania could make things more difficult.

Pending a sales contract, preliminary development on the uranium-bearing Middle Elsburg reefs has started but could be stopped promptly if it turns out that no uranium buyer is forthcoming. In any event, with the exception of the E9EC reef, drilling results on the Middle Elsburgs are not particularly exciting. Mining the uranium reefs would mean a cut back in production from the gold reefs, so some fairly careful calculations are needed to ensure that a switch in emphasis is worthwhile.

Approaching target

There are no signs of a slow-down in the mine's relatively heavy capex programme. R14m capex is planned this year, effectively to maintain production.

The mine is gradually approaching its target 370 000 t monthly mill throughput. But with additional development needed, especially on the VCR, to maintain reserves and increase mining flexibility, the beneficial effect of higher mill throughput on unit costs could be offset. Management's objective is a steadily increasing dividend, though chairman Philip von Wielligh warns that this policy could be constrained if a uranium go-ahead is given.

Stilfontein: Under present conditions the mine's life is stated by chairman Johan Fritz at about five years. Last year development rates were insufficient to replace ore reserves and the tempo is to be increased this year, especially in the area beyond the Kromdraai fault.

Despite higher gold prices, no development is being done on the Commonage reef, and judging by gold and uranium values exposed in development on the Livingstone-Johnstone reef, prospects of any significant additions to reserves from this horizon are poor.

Much more important are Stilfontein's plans for re-treating its old dumps and current arisings for uranium. The treatment plant is now expected to come on stream in the latter part of this year and reach full monthly capacity of 270 000 t before the year-end. Uranium's contribution to earnings will be necessarily limited this year. Next year, Stilfontein's 85% share of the slimes retreatment project should result in additional earnings of around 150c per share assuming a uranium price of \$40.

This year, with capex planned at only R2,4m, there is scope for a dividend increase to around 80c even if bullion should average as low as \$225.

West Rand Cons: Gold's performance has resulted in a reprieve for the mine's gold plant with monthly mill throughput this year planned at 45 000 t. But more important are the mine's uranium developments. No details are given of contracts for the sale of uranium from Luipaardsvlei's ore, but expansion of uranium production capacity is not being funded with the help of consumer loans.

With capex this year planned at R4,8m, dividends could be under considerable restraint despite plans to fund part of capex with bridging loans. The stock of uranium available for sale at spot prices is relatively low, again a factor inhibiting earnings this year.

Near-term there can be little let-up in development rates on the uranium-bearing Bird reefs. So though uranium section mill throughput is set to rise marginally to 85 000 t per month this year, unit cost increases will probably be at least in line with industry averages. This year dividend prospects are not particularly bright, though a small improvement on last year's 17,5 cents total payout could be on the cards.

Jim Jones

SOWETO ELECTRIFICATION

FM 6/4/79

Out of the Dark Ages?

Is Soweto to be electrified at last? Community Council chairman David Thebehali claims the project will be off the ground within three months, following discussions with Plural Relations Minister Piet Koornhof last week.

Thebehali claims Koornhof gave his council authority to negotiate a loan for the R133m plan envisaged in the report of the so-called Ecoplan consortium.

Of the R133m, R40m will be provided by a consortium of banks — Barclays, Volkskas, Standard and Nedbank. The rest will be raised on the local capital market by way of two or more loan stock issues, to be handled by Volkskas Merchant and Barclays Merchant.

Bob Aldworth, MD of Barclays National, tells the *FM* that the cost of the R40m will depend on the rate prevailing when the money is drawn — probably not in 1979. The borrowing rate on the loan issue is likely to be around 9,35%, some 10 to 15 points above Escom, provided it carries a government guarantee. Although the interest charges will now be substantially lower than in 1977 (approximately 11,5%), the cost escalation since then more than negates that benefit.

Thebehali tells the *FM* that Soweto residents will bear the full cost of capital redemption, with no subsidies from government. He claims that a fixed payment of R2 per household each month will cover repayments.

When consumption charges are added, the average electricity bill of each household will be about R8, he claims.

This will clearly not be sufficient, however. The balance will probably have to be recouped in other ways — either through assessment rates levied under the new home-ownership scheme, or through an installation fee.

Of Soweto's 100 000 houses, about 20% are already electrified. Even in these, according to Ecoplan, installations are inadequate and will cost R21m to upgrade.

Costs of reticulation and power distribution for 128 000 consumers in Soweto, Diepkloof and Meadowlands will be a further R100m, excluding future price rises. The electricity account from the Johannesburg City Council for bulk purchasing power in 1985 is estimated at R12m.

The West Rand Board will not comment.

NUCLEAR POWER

Harrisburg fall-out

FM 6/4/79

55

After five worrisome days the Three Mile Island nuclear plant in the US finally had its runaway fuel core brought under control. There was little damage to either people or countryside near the Harrisburg, Penn, site.

But there is no doubt that the accident which sprayed radioactive waste into the air on March 28 has left a cloud of more dangerous fall-out hanging over the US nuclear power industry, indeed over nuclear — and uranium — development worldwide.

Even in SA, public pressure mounted this week to suspend work on the Koeberg nuclear station until a full report on Harrisburg is released. Escom insisted, however, that safety design specifications are continually up-dated and revised. The Minister of Economic Affairs is being kept fully informed, but clearly there can be no drastic decisions on Koeberg until all the facts about Harrisburg are known. There is still plenty of time to incorporate design changes.

Although nuclear power plants have been described self-effacingly as "just a complicated way of boiling water," what happened at Three Mile Island demonstrates what the pro-nuclear forces have always feared, but rarely conceded. Worse, the incident gives the anti-nukes the best example that the highest technological safeguards can be useless when human errors enter the equation.

There have been other nuclear accidents. An early one sent high doses of radiation leaking over 300 km of English farmland in 1957. And the most dangerous — even considering this week's alarm — occurred in a Tennessee Valley Authority plant in 1975 when a fire did $150m in damage and nearly brought the reactor core to that ultimate disaster — "meltdown".

But the Three Mile Island accident occurred in a heavily populated area. This immediately attracted attention from the media, which built up when the well-known nuclear engineer, President Jimmy Carter (who trained on nuclear submarines in the US Navy), flew to the site to demonstrate his concern. Worse, the accident followed by just a fortnight the release of a controversial movie, *The China Syndrome,* starring Jane Fonda and Jack Lemmon, which dealt with an eerily similar nuclear plant accident.

It could happen anywhere

What happened at Three Mile Island (a standard light water reactor built by Babcock & Wilcox) could happen anywhere, since all nuclear reactors operate on the principle that carefully controlled uranium fuel reactions are used to heat water into steam which in turn powers electric turbine generators. The steam is then condensed back into water and used to cool the hot reactor core, which consists of rods of enriched uranium pellets.

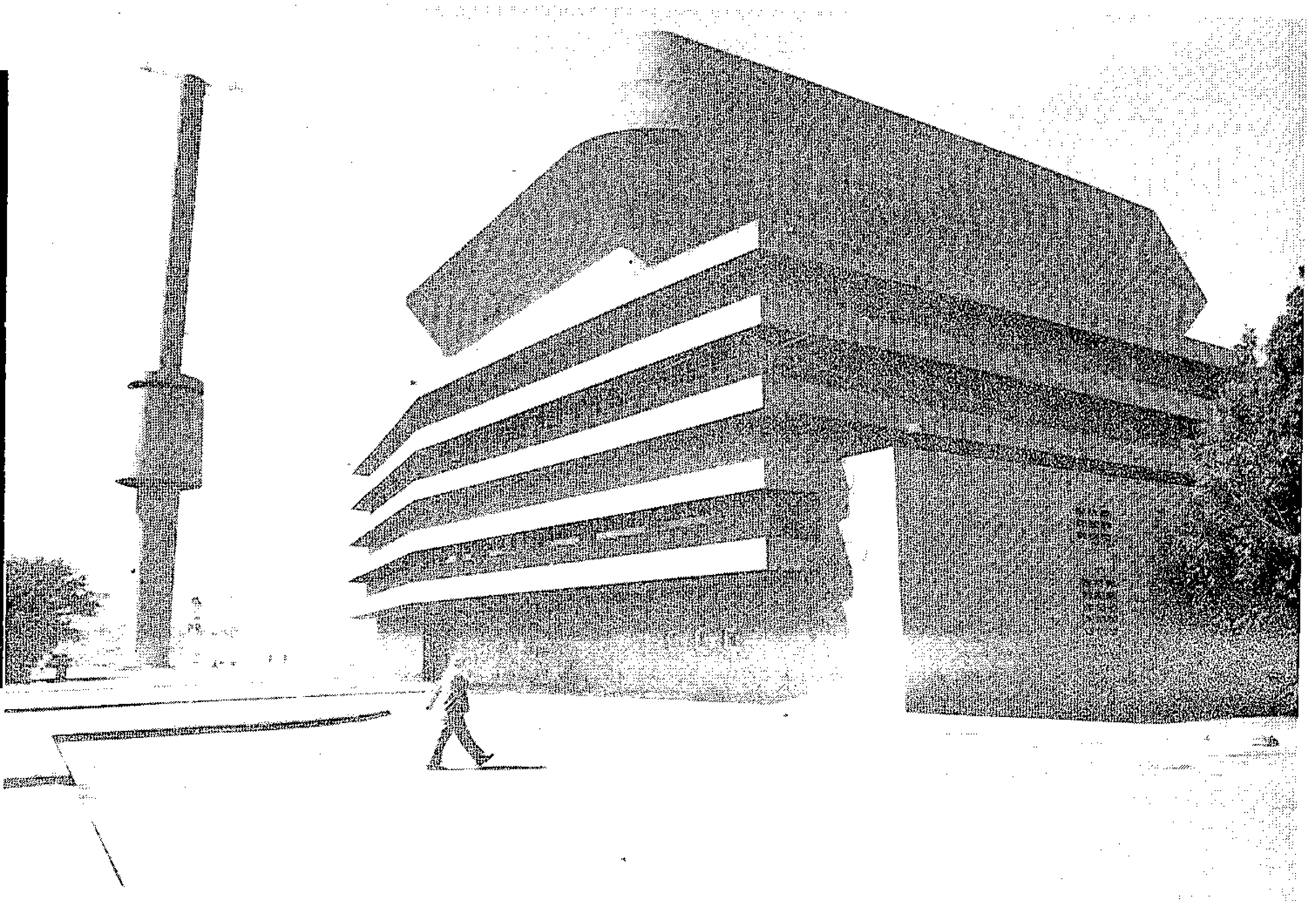
The first accident occurred when a series of pumps, which maintain the water pressure around the core, failed, thereby exposing portions of the rods. Without the cooling water, the exposed fuel turned mega-hot and damaged portions of the core. Unchecked, the ever increasing reaction would have begun to "melt down" the core itself, feeding on the steel jacket, the building and eventually burning into the centre of the earth.

Harder to cool than the reactor will be the debate that has exploded around Carter. He is a nuclear sceptic, but his visit to Three Mile Island was more than an attempt to head off a panic flight from the area. He underscored the dilemma by affirming his faith in nuclear power as an alternative energy source.

He has no choice; if the anti-nukes have their way, Carter's overall energy and economic plans are out of the window for the foreseeable future. Carter cannot halt, as was demanded this week, the construction of uranium powered generating plants now in the works, much less shut down the 72 plants currently in operation.

Carter must do more than resist efforts to have a national blackout on nuclear development. He must lead the defense against piecemeal closings being forced across the US as various state groups bow to environmental pressure groups. At latest count this week no less than 15 of the 72 reactors on line have been shut down, with court tests scheduled next week on an equal number.

As one of the world's major uranium producers, SA can ill afford a substantial setback to the development of nuclear power. As oil prices continue to soar, neither can the rest of the world.



Reactor at Pelindaba . . . we cannot afford a setback

Koeberg safety being studied

(55) RDM 11/4/79

THE ASSEMBLY.— The Minister of Economic Affairs, Environmental Planning and Energy, Mr Chris Heunis, said yesterday he would fully inform Parliament at a later stage if the Koeberg nuclear power plant was safe.

Replying to a question by Dr Alex Boraine (PFP Pinelands) he said officials of his department were studying the techncial aspects of incidents which caused the crisis at the United States nuclear station in Harrisburg, Pennsylvania.

He said he would provide the details in due course after the officials had provided a report.

Mr Heunis said discussions on the safety standards at the plant were being held from time to time. The latest discussion took place this month.

Safety standards were laid down by the licensing branch of the Atomic Energy Board and were applied in accordance with safety standards contained in the Atomic Energy Act, he said. — Sapa.

Sun. Trib. 8/4/79 (55)

(55)

> It seems to me the site of Koeberg was almost mathematically chosen to provide the maximum radiation effects on Cape Town

KOEBERG....

The ring of fear around the Cape

A DOCTOR working in the field of radiology at a Cape Town hospital said this week he would move to another city if the giant Koeberg nuclear plant, less than 30 kilometres from Cape Town as the crow flies, went into operation in 1982 as planned.

Interviewed at the offices of Cape Town city councillor Tom Walters — who is himself deeply concerned about the potential dangers of Koeberg — the doctor said he would not live in fear of the health damage Koeberg could cause him and his family.

He asked not to be named for fear of trouble from the Cape Provincial authorities.

He told me many other doctors in Cape Town were also afraid of the potential hazards of Koeberg.

He said: "Koeberg will increase the background level of radiation in Cape Town, and in addition there is always the possibility of a full-scale disaster.

"I have studied radiation biology extensively. I know radiation can cause leukemia and various forms of cancer, and in animals has been shown definitely to cause mutations.

"It is true that if Koeberg functions as planned, it will only raise radiation levels slightly, but the less radiation one is exposed to the better.

"I'd rather live somewhere else where there isn't a nuclear plant. It is incredible that they have sited this thing so near 1,5 million people.

"I am also concerned about the nuclear waste problems."

The doctor quoted a report on nuclear plants drawn up a few years ago by the Committee of Concerned Scientists in America.

The authors of this report stated that they had concluded that a reactor accident with major consequences was a real possibility in the coming decades.

They quoted a report in late 1973 by an American Atomic Energy Commission task force, which had studied the reactor licensing process in America.

This task force said that about 850 "abnormal occurrences" at reactors had been reported to the AEC in one 17-month period.

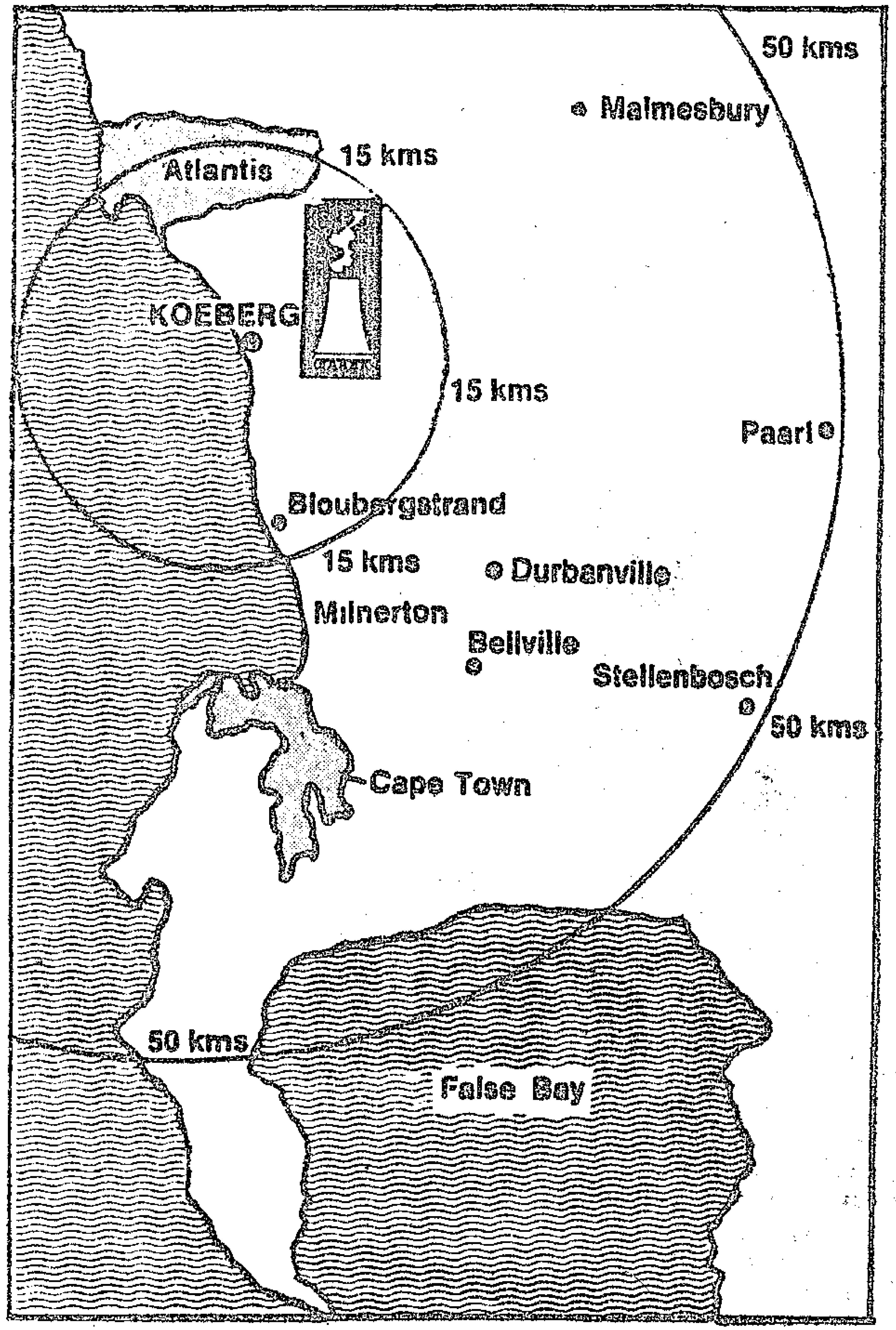
Its report stated: "Thelarge number of reactor incidents, coupled with the fact that many of them had real safety significance were generic in nature, and were not identified during the normal design, fabrication, erection and preoperational testing phases, raises a serious question regarding the current review and inspection practices both on the part of the nuclear industry and the AEC.

TOM WALTERS

QUOTE

We will be visiting Koeberg this month, I want to know why the hell we have this thing on our doorstep.

It's a pity officialdom only reacts when there is some disaster. To hear they are going to have another look at Koeberg's safety standards means they didn't look hard enough in the first place. — TOM WALTERS



MAP shows which towns are included in the 15 and 50 kms circles

"Remember that plutonium is used for making atomic weapons, which could make it highly desirable to seize."

Dr Giliomee said he would like to see extensive public debate on Koeberg.

"When Koeberg was first announced, it was all a tale of wonderful technology. Benefits to the Western Cape, and so on. Not a word about the danger.

"It is rather strange there has been so little debate so far in South Africa compared with other countries.

"The authorities must be made aware that we are worried and concerned, and want full explanations of the dangers, with full details made public of just what could go wrong."

Dr Giliomee also raised the question of increased general radiation levels in Cape Town and surrounding areas as a result of Koeberg.

"The total background radiation level might still be lower than that in Johannesburg, but it will be partly man-made.

"Perhaps humans are not adapted to this different, man-made radiation, and will be more susceptible to it.

"Anyway, any increase in radiation levels could lead to increased leukemia, lung cancer and mutations. Is this desirable? Not to mention the dangers of a disaster."

Mr Bill Robb, of the School of Economics at the University of Cape Town, who has studied environmental issues, said every expert would agree that there were risks attached to nuclear power plants. "Everything hinges on how great those risks are, and what we are prepared to risk.

"This is fundamentally a moral issue, a question of weighing up the safety of people's lives and property against money."

INVESTIGATION BY TONY SPENCER-SMITH

"This is particularly true when the increasing number of operating reactors which will be on-line in the 1980s and 1990s is considered."

Mr Walters, who recently persuaded the Cape Town City Council to make a tour of Koeberg with its experts to assess possible dangers to the people of Cape Town, said this week his function was to see the council put a stop to anything likely to endanger its citizens.

"We will be visiting Koeberg this month. I want to know why the hell we have this thing on our doorstep.

"We, as councillors, do not know enough about this plant. We are guilty by neglect. Up to now we sat around and did nothing.

"We must find out about possible meltdowns, leaks, what's going to happen to the deadly plutonium waste, that sort of thing."

Mr Walters said his fear about Koeberg increased by the disaster at Harrisburg, had not been allayed by any of the statements from South African officials this week.

"It's a pity officialdom only reacts when there is some disaster. To hear they are going to have another look at Koeberg's safety standards means they didn't look hard enough in the first place.

"I question whether a bunch of civil servants like Escom are competent to operate such a plant.

"And it seems to me the site of Koeberg was almost mathematically chosen to provide the maximum radiation effects on Cape Town, nestled as we are against Table Mountain."

Mr Walters quoted an article in the March 26 issue of the American magazine Time, which stated: "Are nuclear plants safe?"

"The answer depends on the definition of 'safe', if it means accident-proof, then the answer, as applied to anything from a bicycle to a steel mill, is no.

"A nuclear plant cannot blow up like an atomic bomb.

"A plant could, however, suffer a 'meltdown' if it loses the water used to cool its uranium core, overheats, ruptures the core's container and releases a deadly cloud of radioactive gases.

"In the event of such an accident, people close to the plant would die quickly, while others, living as far as a couple of hundred miles downwind of the plant, might die later of radiation-induced cancer."

Mr Walters asked: "Do we really have to have this mammoth thing so near us?"

The Cape Divisional Council, with state financial aid, is currently establishing a major "coloured" city called Atlantis only 15 km from Koeberg.

And plans for Atlantis, on the west coast north of Koeberg allows for a population of half a million people by 2010 — when Koeberg will almost certainly still be operating.

At that time, Atlantis will probably stretch down to as near as 10 kms from Koeberg — putting a sizeable chunk less than 15 kms from the huge nuclear installation.

In addition, the 'white' villages of Melkbosstrand and Bloubergstrand are both less than 15 km from Koeberg.

The terrible significance of this is that when he was Chief Nuclear Engineer of Escom, Mr John Colley admitted that, in the unlikely event of a nuclear disaster, land up to 15 kms windward of Koeberg would be seriously contaminated with longlife radioactive materials like Caesium-137.

He said top soil to a depth of 30 cms would have to be ploughed under or removed or it would be desirable or even essential to evacuate the stricken area for decades.

Any long-term evacuation of these populous areas within the 15 km zone would obviously have devastating social and economic consequences.

Large-scale industry is planned for Atlantis.

Mr Colley also admitted that up to 6 000 people in the path of the cloud of radioactivity, emitted in an extreme disaster occurring while the wind is blowing towards Cape Town, could die over 30 years from inhaling Iodine-131.

[illegible] substance can [illegible] thyroid cancer.

[illegible] fall-out of Iodine-131 occurred on grass, he said and was eaten by cows, their milk would be contaminated and would have to be destroyed for perhaps a few weeks.

Mr Colley said according to calculations of the Atomic Energy Board, ground to windward of Koeberg as far as 100 to 200 km away would be subject to an unacceptable level of radioactive pollution by Iodine-131.

Thus in the event of a disaster the entire Cape Peninsula could be polluted in this way.

And other towns within even an 80 km radius include Stellenbosch, Somerset West, Wellington, Paarl, Malmesbury and Moorreesburg, not to mention the rich rural areas in which they lie.

Mr Colley who left Escom some time ago, and no longer works in the nuclear engineering field, this week refused to comment on these figures other than to say: "What I said at the time was probably sound."

He told me: "I was talking about an extremely unlikely event. But as Dr Roux of the Atomic Energy Board has himself said, no-one can say anything is totally impossible.

"Obviously Koeberg will be looked at again in the light of Harrisburg. Any responsible body in any field would do so.

"One wants to make these things as safe as humanly possible."

Dr Jan Giliomee of Stellenbosch University, Secretary of the Society for the Protection of the Environment who has frequently spoken out about the potential hazards of Koeberg, said this week the events at Harrisburg could be just the first of a series of serious problems at nuclear plants.

"All this talk about million-to-one chances seems to me premature. Nuclear plants have not been operating very long and already we have a Harrisburg.

Dr Giliomee said it was too late to stop the completion of Koeberg's first reactor — due to go on-stream in 1982 — but appealed to the authorities not to build the second or any other reactors there, so close to Cape Town.

He told me: "The whole Atlantic seaboard from Cape Town to Atlantis is eventually going to be built up.

"The Koeberg plant will sit right in the middle of a future metropolis."

Dr Giliomee said he was worried about the danger of sabotage at Koeberg.

He was also concerned about the transportation of the plutonium waste from the plant.

He said plutonium was so toxic that one 300th of a gram in the lungs would cause death, and one 30 000th of a gram would greatly increase the risk of lung cancer.

"They are going to transport this stuff to Cape Town harbour for shipment overseas. Admittedly they have done a lot of tests on the containers which will be used. It is a dangerous thing to transport but perhaps they can.

"But what if terrorists hijacked one of the vehicles and threatened to blow it up in the heart of Cape Town unless their demands were met?

Mr Robb said [illegible] South Africa [illegible] pressing [illegible] had happened [illegible] risburg.

[illegible]

"The surprise [illegible] locally shows the ex[illegible] have not taken all pos[illegible] [illegible] into account [illegible] hope Koeberg doesn't [illegible] us".

Both Mr Robb and Giliomee said nothing made for peaceful purposes had the same p[illegible]tial for mass disaste[illegible] nuclear power plants.

Mr Robb accused authorities in this co[illegible] of deliberately keep[illegible] very low profile Koeberg to disco[illegible] public debate.

MEANWHILE IN THEUNITED STATES . . .

Why Joburg power costs too much

Sun Express. 8/4/79.

ELECTRICITY would be much cheaper in Johannesburg today had it not been for political pressures and a "totally baseless and broken" Escom promise of cheaper power.

Councillor Max Neppe, the man who led the city's eventually futile fight against Escom shouldering in on power supplies to Johannesburg's homes, this week pin-pointed for Expresscope the two broken pledges which lost Johannesburg the right to go on producing its own low-cost electricity:

- An unfulfilled policy that municipalities would only have to join the Escom grid if they could not produce power at a lower cost.
- Escom's pledge that — although Johannesburg's power was then cheaper — the commission would provide it ata lower cost in the future.

"Escom's electricity was more expensive when they stopped us building the southern power plant in 1968 — and it is still wildly more expensive today despite their pledge of cheaper power," said Mr Neppe.

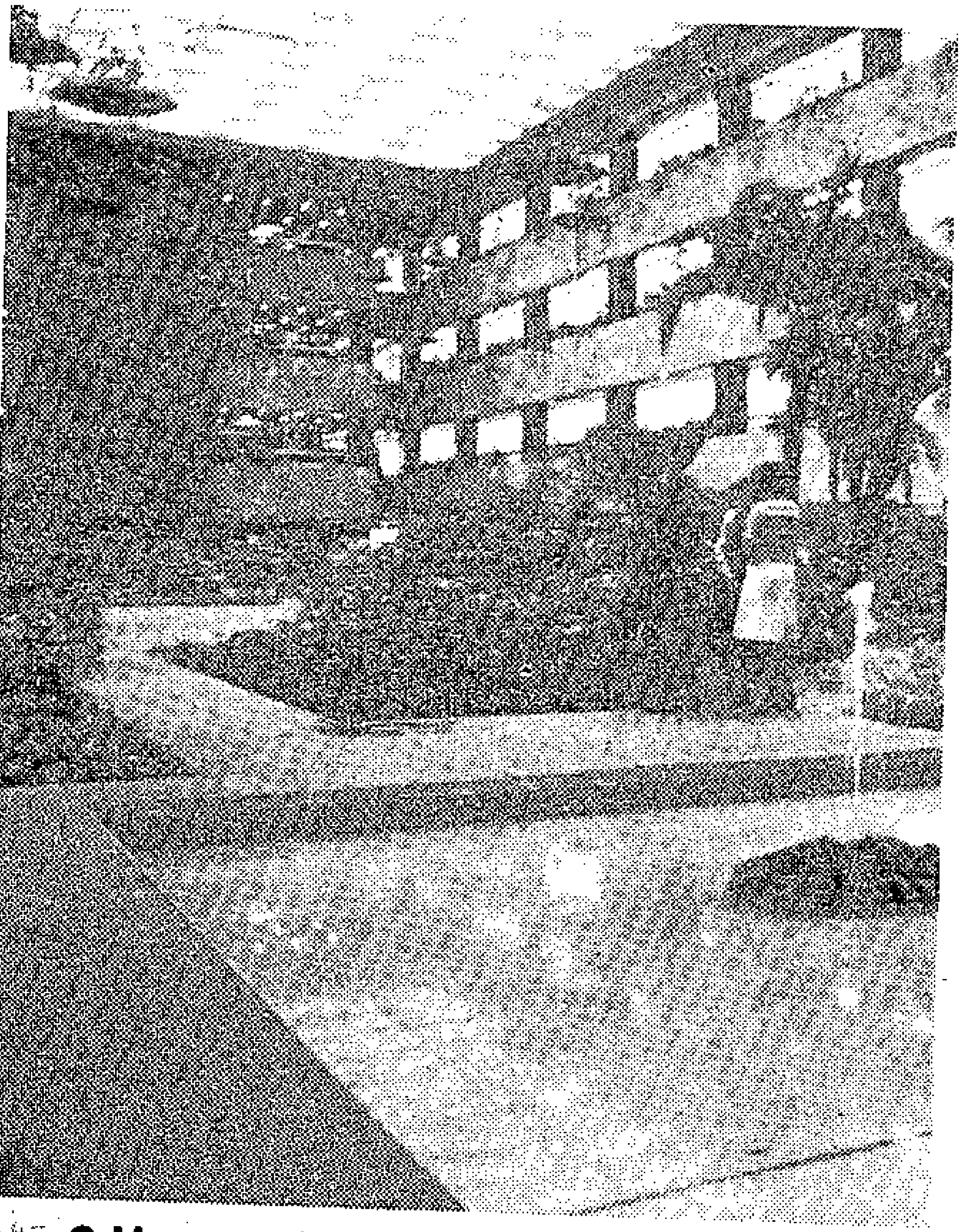
Escom's Johannesburg tariffs have increased by 123% in the past five years, while the city's share of increased electricity costs has been held at 19%.

In 1974 a householder's monthly bill was R20. Today it is nearly R70 — a far greater rate of increase than the overall cost-of-living combined with the inflation rate.

The Board of Trade and Industries' findings — that Escom made too much profit and seriously lacked effective management in planning and control — was welcome confirmation that Johannesburg had been right to fight to stay out of Escom's clutches, said Mr Neppe, who was chairman of the utilities committee during the 1968 struggle.

"We fought Escom all the way and, to the satisfaction of the Supreme Court which twice supported us, proved we could produce electricity at a lower tariff," said Mr Neppe.

Cape Town, Port Elizabeth and Pretoria were also able to produce power more cheaply than Escom before they were forced by the Government to link up with the commission's grid instead of increasing their own generating capacities.



● Megawatt Park . . . an Escom extravaganza

The Minister of Economic Affairs at the time, Mr Jan Haak, had laid down the policy that all municipal electrical supply undertakings would have to take their power from Escom unless they could produce at a lower cost.

But Escom's chairman, Dr R L Straszacker, gave evidence that the commission was able to provide Johannesburg with cheaper power than the city's scheme could provide.

Escom's tariffs were already higher than Johannesburg's at the time.

Dr Straszacker said, in 1968, that the position could not be maintained for long and that Escom would be able to provide much cheaper power in the future.

The city still produces nearly two-thirds of the power it needs but one of the system's remaining power stations — Orlando — is ageing fast and may soon have to be closed down.

This means that another third of the city's power will have to be bought from Escom at immense extra cost.

If Johannesburg had been allowed to build its third power station at Liefde en Vrede, the city would still be largely independent of Escom power — and there would not have been as much strain on the Orlando plant, which has had to produce as much power as possible to cut down on purchases from Escom.

Johannesburg's electrical distribution service is by far Escom's biggest customer — retailing 35% of the commission's power.

Despite this bulk of purchase, Escom levies a 108% surcharge on its standard tariff for Rand consumers.

This week, Dr Straszacker refused to comment on his 1968 statement and the ensuing tariff increases.

An Escom spokesman also refused to comment on the Board of Trade and Industries' indictments of the commission's profit-making and managerial deficiencies.

The city's fight to generate its own power needs was eventually lost when the Administrator, Mr Sybrand van Niekerk, refused permission for the raising of a R40-million loan to build a new power plant — and ordered the city to draw its extra needs from Escom.

Cape Town, Port Elizabeth and Pretoria were also prevented from expanding their generating capacity by provincial administration obstruction.

"Now we are being saddled with Escom's extraordinary system of taking its development capital from today's consumers — we are expected to pay now for development which future generations should sha[illegible]," said Mr Neppe.

9/4/79 DD

EDITORIAL OPINION

Shocking indictment

It will come as cold comfort to industrialists on the Border to learn that Escom makes too much profit and is poorly managed.

Border industrialists have been telling the government this, in as many words, for years, but it has taken a Board of Trade inquiry to prompt the Minister of Economic Affairs, Mr Chris Heunis, into the promise of some action.

Less than 12 months ago local industrialists, and the East London City Council, made a desperate plea to Mr Heunis for a reduction in Escom charges in order to attract industry to this area. They pointed out, and rightly so, that Escom's tariff structure was the biggest killer of industry on the Border.

An industry at Dimbaza, for instance, pays 96,4 per cent more in electricity bills than the same industry on the Reef. Yet in its annual report last year it was shown that Escom's profit on its Border operation was more than R2m., the third highest surplus of any of its undertakings. Small wonder, then, that the utility can spend R25m. on its new headquarters near Johannesburg.

The Board of Trade's findings are a shocking indictment of a State-controlled organisation and we hope that Mr Heunis takes urgent action to remedy the situation, particularly as far as the Border area is concerned.

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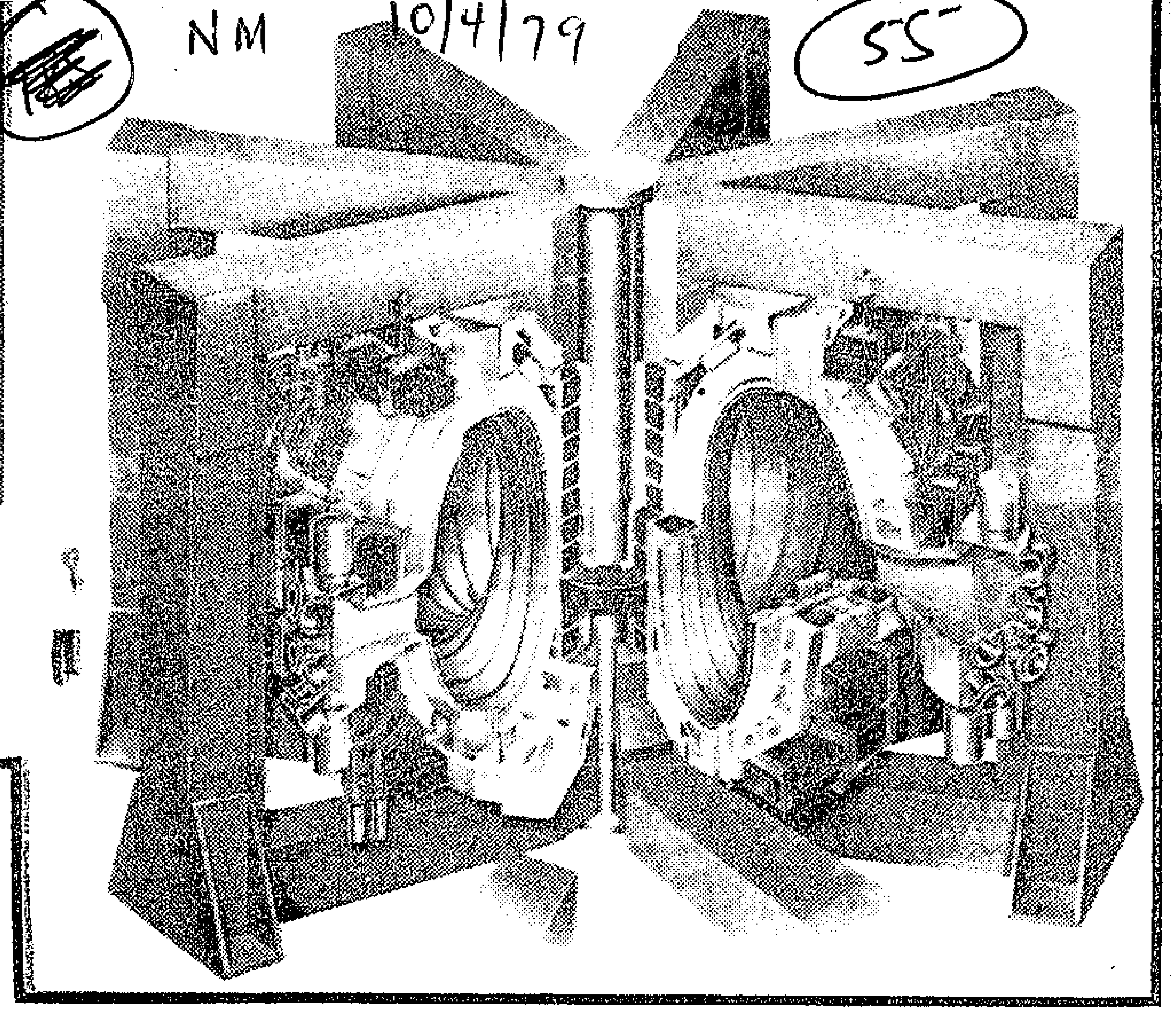
FUSION ENERGY

... when one litre of seawater can provide the energy equivalent of 300 litres of petrol



COMPLEX and powerful magnetic fields are used to confine the hot gas known as a plasma, which has to reach temperatures of around the 60 million °C mark before the fusion reaction takes place. This is a drawing of the fusion device now being constructed in Europe.

ALTHOUGH South Africa cannot compete with the multi-million-rand U.S. and European research programmes, the field of nuclear fusion is not being neglected in this country.

In the Plasma Physics Research Institute at the University of Natal in Durban, basic studies are conducted on fusion-related problems. At the Atomic Energy Board's laboratories at Pelindaba near Pretoria, a medium-sized Tokamak, appropriately called Tokoloshe, is in the final stages of construction.

"These two groups are helping to build up local expertise in the important field of fusion," says Professor Manfred Hellberg, head of the Durban institute.

A SOURCE of energy which, for all practical purposes might seem like an impossible dream in a troubled world.

Yet such a source, using the hydrogen in seawater as the basic raw material, is the ultimate objective of active multi-million-rand research programmes going on in many parts of the world.

Their aim is to control nuclear fusion, the energy which created the awesome fireball of the hydrogen bomb and which fuels the Sun.

Research in this field has been going on actively for more than 20 years and it is likely that a similar period will elapse before fusion energy "goes commercial" early next century.

The central role of energy consumption in modern society is well known. The world is now keenly aware of the potential exhaustion of fossil fuel resources and of the social stresses that result from sharply rising fuel prices.

LARGE SCALE

Controlled nuclear fusion offers the prospect of a major new source of energy which could be used for large scale generation of electricity. The size of plant required rules out its use on any smaller scale, such as in motor cars. Given enough electrical power, however, almost all other problems, even the impending shortage of naturally-occurring oil, fade away. The most unlikely things can be processed to provide substitutes for our precious petrol.

Fusion is potentially a final solution to the energy problem, a feature it has in common with both solar energy and nuclear energy from fission breeder reactors which manufacture more fuel than they consume.

But fission reactors — the familiar present day ones using uranium and plutonium — have evoked a great deal of protest on safety grounds from environmentalists.

Surely then, fusion reactors, using the same principle as the H-bomb, must be totally unacceptable?

LOW HAZARD

Not so, say the scientists. The amount of fuel used at any one time is only about one gram, precluding any danger of uncontrollable explosion.

BILL FAILL
Science Correspondent

One part of the fusion operation does generate radioactivity. But conservative opinion places the hazard potential as lower than that of the present fission reactors. No design problems in containing it are forseen.

What the scientists have so far achieved and what they are aiming to do is mind-boggling for the layman.

If fusion proves practical — and there is every indication that it is going to — the scientists will extract from one litre of sea water the energy equivalent to that in 300 litres of petrol!

To do this, they must take from the hydrogen in the water a heavy form called deuterium and heat it to several times the temperature of the Sun's interior.

If they can do this, and control and sustain the reaction for just one second, they will get a lot more energy out of the system than they have put in, mainly in the form of heat. This sequence would be repeated at short intervals to give a continuous output.

ELECTRICITY

It is then a matter of straightforward engineering to boil water with this surplus heat, use the steam to drive a turbine and generator, and so produce electricity.

The interior of the Sun is around the 15 million °C mark. To create a fusion reaction, temperatures of at least 60 million C are needed. It may be thought that with such temperatures any normal enclosing material would vaporize immediately.

However, there is so little fuel present at this instant of high temperature that the reverse problem exists. The reacting fuel would cool down immediately on contact with a material wall.

So, incredibly, the scientists use something non-material to contain and protect the reaction. Because of the electrical properties of the hot gas — called a plasma, by the way — it cannot penetrate a magnetic field. And so this is what is used to keep it in place.

The plasma is within the magnetic field which is itself in a doughnut-shaped steel vacuum chamber known as a torus.

The high temperatures are obtained principally by passing electric currents of half a million amps or more, together with auxiliary heating methods.

This kind of machine is called a Tokamak, an abbreviation of Russian words. The widespread use of this term illustrates the fact that since 1957 international co-operation has been close in this field of research.

Neither is all this a matter of theory. Last year at Princeton in America temperatures of 60 million C were obtained. Scientists there are confident that fusion power is possible and are already building a test fusion reactor, to be operational in 1981. The U.S. authorities funded this research to the tune of 325 million dollars in 1978.

In Europe, work has started on the R200 million Joint European Torus (JET) experiment. It is expected that five years will be needed for construction alone. Temperatures of over 100 million °C are anticipated, together with the other necessary conditions.

If JET and similar experiments are successful, the next step is a full-blooded fusion power reactor and a start to tapping the unlimited power supplies tied up in the sea.

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KOEBERG NUCLEAR MISHAP 'REMOTE'

A MERE 30 km from one of South Africa's most populated areas, the Peninsula, the mighty Koeberg nuclear plant is mushrooming.

It is due to be taken into operation early in the next decade on a site once roamed by the Hottentot and Strandloper.

And there it will stay, disgorging energy at least until the year 2020.

When it was first mooted there were not many antagonists. But over the years concern has grown and the bubble eventually burst with the Harrisburg experience.

Questions

The man in the street began asking questions.

The leading question was, obviously, why build at Duynefontein?

According to Escom, the site was chosen for a variety of reasons, chiefly economic. An exhaustive study was made of the South African coast and in particular, the Western Cape.

The study on the Western Cape coast was confined to Stompneusbaai to Duynefontein, Kommetjie to Cape Point, Cape Point to Simonstown and Gordon's Bay to Hermanus and a number of other areas which suggested themselves as meriting further investigation.

Good transport

Escom added that the reason for concentrating on coastal sites for a nuclear power station was largely economic.

It also had to be within easy reach of good transport facilities and situated near existing power lines to which, via substations, its output could be fed into the distribution system.

The transmission lines which will distribute the Koeberg electricity cost, in 1977 terms, R52 000 a kilometre.

Each kilometre farther from the city would have added R200 000 to the effective cost of the station.

Other factors taken into account when deciding on the Duynefontein site were transportation of construction materials and heavy equipment from Cape Town harbour and the Bellville railway yards, housing costs, transport, amenities and facilities for the construction personnel and subsequent station staff.

Foundations

The Duynefontein topography also afforded an adequately sized terrace within a few metres of sea level, reasonable foundation conditions, and a seabed which allowed for the establishment of an intake works to draw cooling-water.

Further queries directed at Escom, and the answers received, were:

Q: In the light of the Harrisburg experience, what would the possibility be of resiting the reactor core of Koeberg while still using the already constructed section?

A: Resiting the reactor core would be impossible, especially as the base for the reactor has been dug down to bedrock and nearly a million cubic metres of soil has been removed.

'Secondly, a very strong edifice of steel reinforced concrete has already been erected on the site. In the past it has been emphatically and clearly stated that the operation of Koeberg nuclear power station will not add significantly to the natural radiation of the Western Cape.

Koeberg will not add more than a few millirem a year to this natural radiation (110 millirem a year) which in some parts of India is as high as 1 500 millirem a year, more than 350 in some parts of France and up to 130 on the Transvaal highveld.

A man living next to the Koeberg power station will thus be exposed to less radiation than a man living a normal life on the Transvaal highveld.'

Q: What is the life expectancy of Koeberg?

A: Between 30 and 40 years.'

Q: Once it is no longer operational, what steps have to be taken to declare the area radioactive free?

Confined

A: 'No area in the world can be declared radioactive-free, as there is always natural radio-activity. In the case of a nuclear power station which has been taken out of commission, the radioactivity is confined to the containment vessel.

'The cost of completely dismantling a nuclear station is about 10 percent of its initial cost. There would be no significant radiation thereafter.'

Q: As far as safety features are concerned, how does Koeberg rate in relation to the world's other nuclear reactors?

A: 'The South African Acts regulating the operation of nuclear installations are ranked among the strictest in the world.'

Major mishap

Q: What are the chances of something similar to Harrisburg happening at Koeberg?

A: 'No man-made device is absolutely accident proof, but looking at the excellent safety record of the nuclear power generating industry since commercial operation started in 1956, one can assume that the chances of a major mishap occurring at a nuclear power station are indeed remote.'

Q: What effect will Koeberg have on the fauna and flora in the area immediately surrounding it?

A: 'As nuclear power stations are usually kept under strict security and properly fenced, the area surrounding them tends to become a wildlife refuge.

To an extent this is already happening at the Koeberg site, with an increase in bird-life.

'Warm water discharged at the site is also expected to encourage some species like rock lobster and black mussels to move out and other species to move in.

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The Natal Mer

SASOL 2

A giant in any language

THE RECENT decision by the Government to double the Sasol 2 complex at Secunda in the Transvaal at a cost of R3 276 million will bring the final cost of this gigantic project to a staggering R5 734 million.

Anyone visiting Sasol 2 cannot help but be impressed with the vastness of the project. Everything is huge and being done on a scale never seen in South Africa before. The factory complex alone covers an area of 400 ha. Its cooling towers soar 156 m into the sky, the equivalent of a 50-storey building, and each has a diameter of 117 m.

Even before plans to double Sasol 2 were announced 25 000 tons of steel, 95 000 tons of pipes, 66 000 valves and 340 000 cubic metres of concrete would have been used.

Sasol 1, built in the Orange Free State in the early 1950s, is believed to have been the world's first paying oil-from-coal project. It was from the lessons and techniques used here that South African technology developed to a stage where Sasol 2 could be planned and built.

SECRET

The process whereby coal is gassified and liquified to form petroleum products is a closely guarded commercial secret and a process on which the South African Coal, Oil and Gas Corporation holds world patents.

The main object of Sasol 2 will be to diminish the country's dependence on imported crude oil and to reduce the heavy outlay in foreign exchange to pay for these imports. The estimated saving in foreign exchange before the latest hike in the oil price was put by the Corporation's chairman, Mr. D.P. de Villiers, at about R350 million annually. When Sasol 2 comes into operation early next year this saving will be much greater.

The building of Sasol 2 at a time when the economy needed a boost has been a windfall for South African industry. About 20 000 people of all races are employed daily and at least 400 local consultants and contractors have contributed to its construction.

It has been estimated that about R1 405 million or 57 percent of the capital cost for the first stage of construction will have been spent in South Africa.

COLLIERY

The primary products for the oil-from-coal Sasol process are coal, water and oxygen. Coal comes from the Corporation's own colliery at Bosjesspruit nearby, water is pumped from the Vaal River and 13 000 tons of oxygen a day will be liquified from the atmosphere at the plant. To bring the coal to the complex a 14 km conveyor belt transports the coal from the colliery.

When in full production the mine will produce 12 million tons of coal a year or one seventh of South Africa's total annual production. The coal reserves are sufficient for 60 years.

In spite of its obvious advantages to South Africa the oil-from-coal Sasol process is not without drawbacks. The amount of capital needed, R5 734 million, is immense. It does not represent any permanent asset, since equipment has only a limited lifetime. As one critic has pointed out:

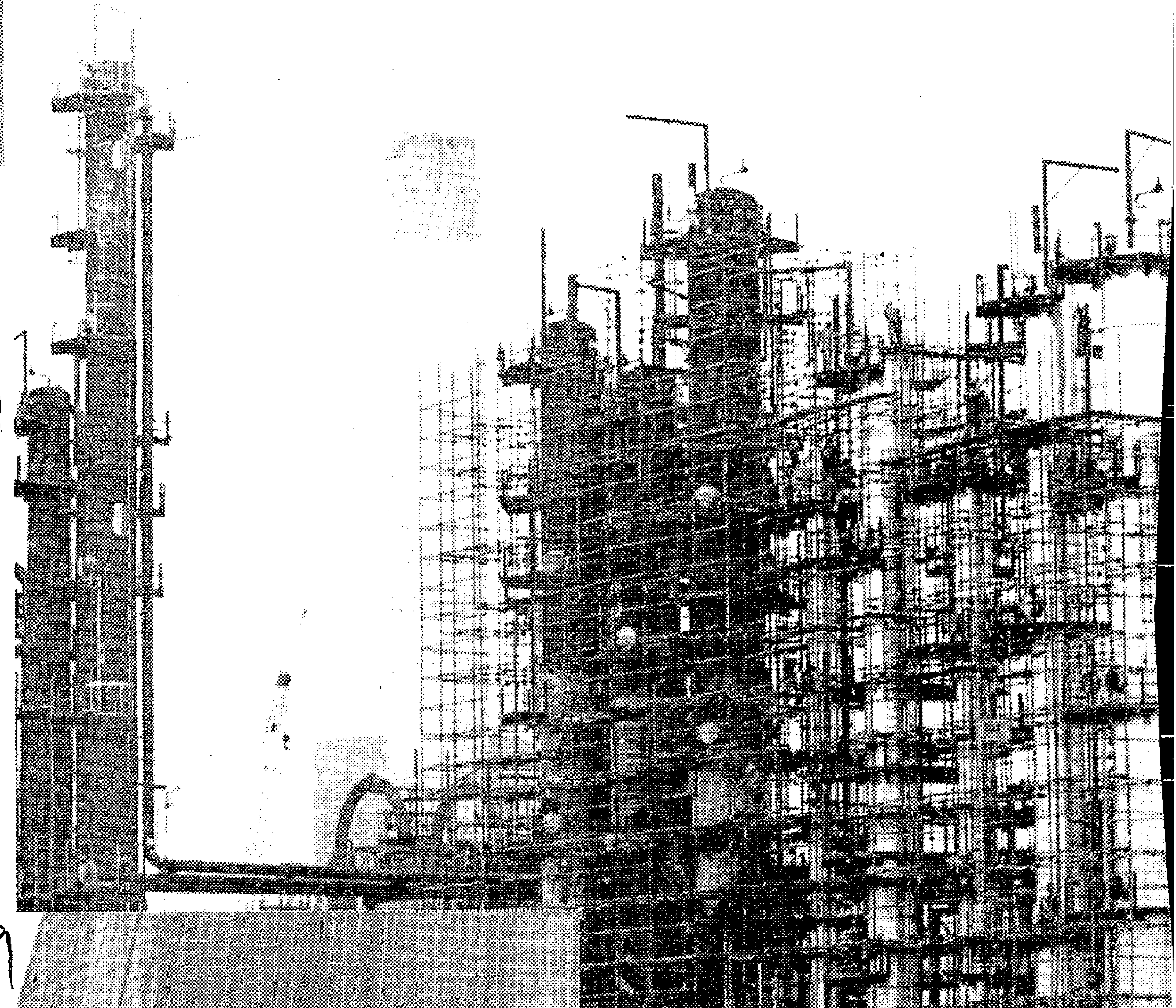
"Sasol 2 will produce nothing whatsoever, but only convert coal which is itself valuable, into a more convenient fuel. It is not apparently obvious that Sasol 2 represents the best way, or even a good way, of spending such a large amount of money."

FUEL COST

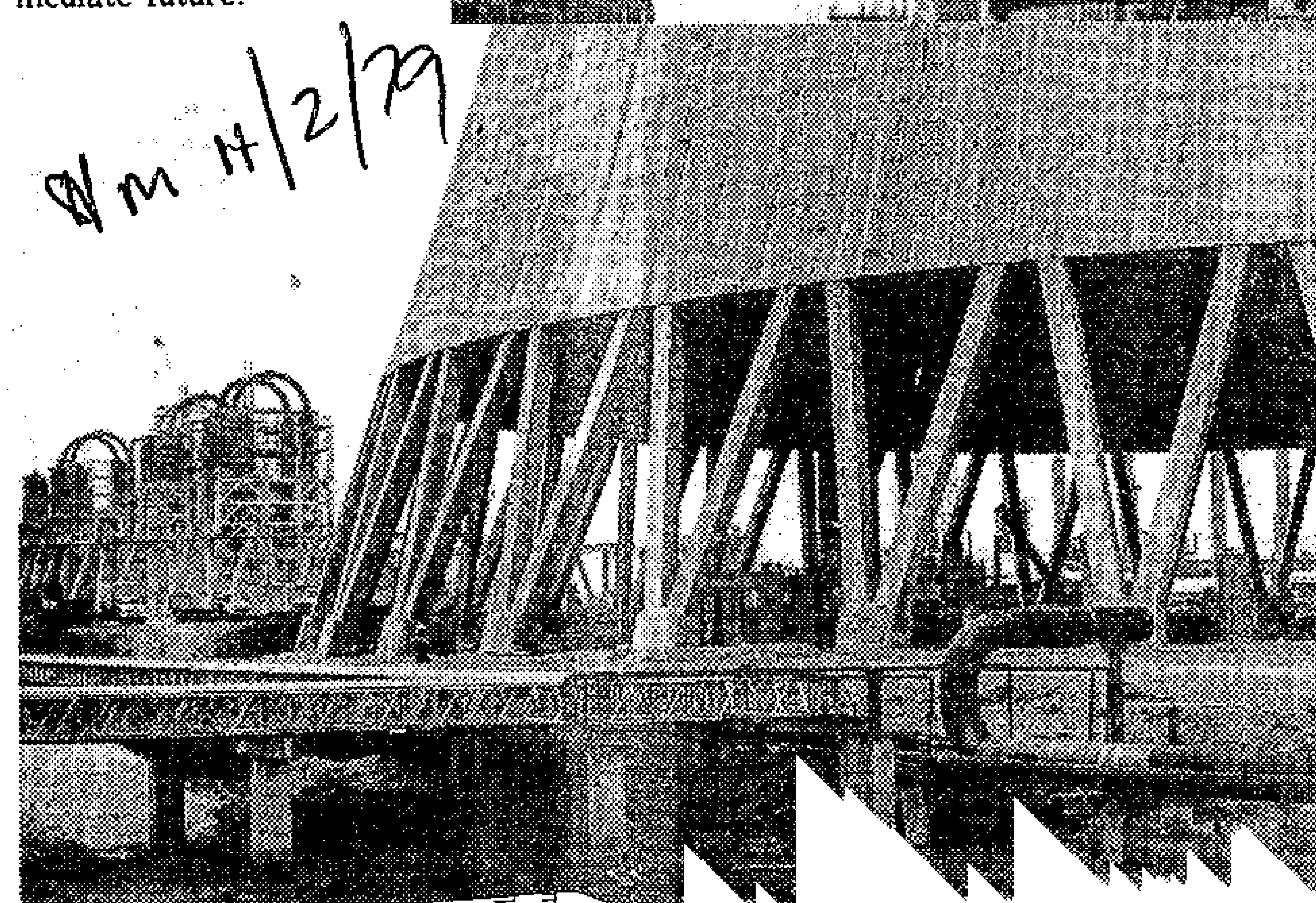
A secret guarded almost as closely as the production process, is the actual cost of making Sasol fuel. Spokesmen for the Corporation have stressed that the oil-from-coal process is "economically viable." However, engineers outside Sasol with whom I have discussed costs, estimate that it will cost more than 30 cents to produce one litre of Sasol petrol.

But until the Government agrees to release large sums of money into alternative sources of energy to power industry, agriculture and South Africa's armed forces, oil-from-coal at both Sasol plants appears to be our only salvation for the immediate future.

NM 14/2/79



WHEN in full production the doubling of Sasol 2 will produce 50 percent of South Africa's fuel needs. Workmen on the scaffolding can be seen erecting the maze of pipes and other components needed to produce oil from coal.



On the left the base of one of four cooling towers each 156 metres high and with a diameter of 117 metres — the biggest in South Africa — which will dominate the Secunda Sky-line.

PICTURES AND STORY
PETER SUTTON

Petrol to go up another 2c a litre

NM 13/4/79.

(55)

Mercury Reporter

MOTORISTS can expect a further increase of 2c a litre in the price of fuel because crude oil was costing the Government more than expected, according to the Minister of Economic Affairs, Mr. Chris Heunis.

The price of fuel, in fact, rose by 2c a litre yesterday, but consumers will not pay more — yet.

Mr. Heunis announced the increase yesterday. He said in a statement that as an "interim measurement" the Minister of Finance had "kindly agreed" to suspend part of the excise duty to pay the increased fuel bill.

Mr. Heunis said the price at which crude oil could now be obtained was substantially higher than that foreseen when he announced the levy for purposes of an Equalisation Fund on February 22.

An Automobile Association spokesman said that judging from the upward trend in world crude oil prices, "motorists can expect further increases before the end of the year."

The AA believed that the annual contribution by motorists, in direct and indirect taxation, is already "far too high".

Rise in petrol price is avoided

C Times 13/4/79.

55

By GORDON KLING

NEW MOVES intended to prevent an early increase in the price of petrol, and the adverse implications this would hold for the accelerating economic recovery, were yesterday initiated by the government.

The Minister of Economic Affairs, Mr Chris Heunis, announced an immediate increase of 2c a litre in the levy for the equalisation fund recently created to smooth out fluctuations in the price of crude oil supplies.

The rise, which Mr Heunis said was necessitated by substantially higher crude prices than forseen when the levy was introduced, would have meant an immediate increase in the price of petrol, but this has been avoided by a rebate in excise duty.

The rebate approved by the Minister of Finance, Senator Owen Horwood, is only an interim measure, but Mr Heunis yesterday emphasized that an early rise in the petrol price was unlikely.

Prices on world spot markets, where South Africa probably obtains the bulk of its supplies following the termination of its contracts with Iran, have softened from recent levels of more than $20 a barrel. But it is likely that the Republic is paying the substantial premiums now being applied to official Organisation of Petroleum Exporting Countries (Opec) price of about $14,54 a barrel.

The premiums, combined with the implementation on April 1 of Opec increases planned for October, has raised the cartel's price structure by about 25 percent since the beginning of the year.

No chance of Escom tariff cut — official

DD 13/4/77

(1) 55
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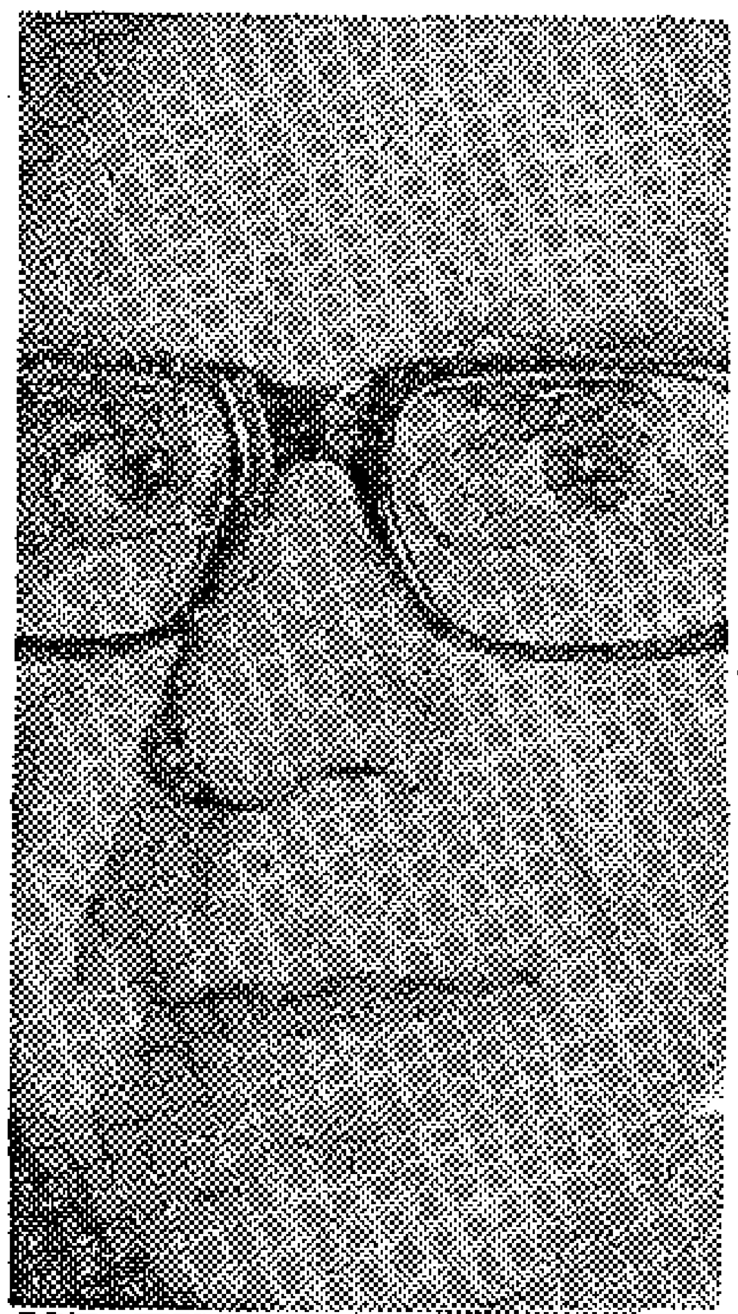
CAPE TOWN — A lowering of Escom's electricity tariffs was out of the question, the Secretary for the Department of Industries, Mr P. F. Theron, said here yesterday.

He issued a statement in a follow-up to last week's report by the Board of Trade and Industries which said Escom was making too much profit and seriously lacked effective planning and control structures in its management.

Mr Theron said: "As long as Escom's capital requirements remain on the present level and the availability of foreign capital remains uncertain, a lowering of Escom's electricity tariffs is out of the question".

The Minister of Economic Affairs and of Environmental Planning and Energy had requested that comments on the report be submitted to the Department of Industries.

"Such comments, together with those of Escom and the Electricity Control Board already received by him, would be considered by the government as soon as possible.



MR THERON . . . out of the question.

"The Minister has also requested that Escom will not at this stage release any comments to the press regarding the report, and for this reason I should like to furnish the following further explanations in order that more appropriate comments and representations can be made.

"The Board of Trade and Industries is satisfied with the new planning and control system developed by Escom".

This showed the profits supposed to be made by it and to which reference was made in the report, were not profits in the accepted sense.

"As state funds are not available to Escom, the commission made provision in its tariffs since 1971 for contributions towards a capital development fund. Until 1975 the contributions towards the fund and the resultant tariff increases were not substantial.

"However, in 1976 these contributions were increased considerably because foreign loans in particular were uncertain and very hard to obtain, while extensions had to proceed to make essential electricity available to the Republic.

"This obviously led to large increases in the price of electricity in 1976 and again in 1977.

"The contributions towards Escom's capital development fund were made strictly in accordance with the provisions of the Electricity Act. — SAPA.

(55) FM 20/4/79

NUCLEAR POWER

The fall-out from Three Mile Island

For the nuclear energy industries of the West, recent events on and around Three Mile Island appear to have been nothing short of disastrous. After a decade of steadily growing opposition to their activities, there was some cause for optimism at the start of the year that their opponents were losing the battle.

The West is generating nuclear power equivalent to about three billion barrels of oil a day — some 6% of its oil consumption. France was completing a decade of very successful construction designed to free itself from heavy dependance on imported oil. In Britain, the 100-day Windscale inquiry into the reprocessing of spent nuclear fuel had come out unequivocally in favour of the nuclear scheme and rejected every alternative proposal put forward.

In the US, where for two years the administration's policy has been to designate nuclear as the energy option "of last resort," President Carter was confidently expected to say this month that the option was nevertheless needed in large amounts — and quickly.

The nuclear accident, to the world's most popular type of reactor — the pressurised water reactor (PWR), such as that being built at Koeberg — is unquestionably a serious setback for nuclear energy in the US, and possibly much more widely.

At the turn of the year, of a total of 523 electricity-producing reactors operating, under construction, or planned round the world, no fewer than 283 were of this type. News of the first cancellation to be attributed to the accident came when the New York state power authority said it had convinced the trustees that it would "not be prudent to continue" with the purchase of a reactor of the same type from the same supplier.

Such an instant decision may seem harsh to the maker, Babcock & Wilcox, the smallest in sales of the US's four reactor vendors. But from what little reliable data has emerged so far about the chain of events leading up to releases of radioactive gas and liquids, the vendor seems likely to have to share some of the blame with the operator, and perhaps also with the US government's nuclear safety inspectors.

The most disturbing feature is that these three parties should have had so much trouble shutting the reactor down once it ran into trouble.

No full picture yet

A full picture may not emerge before the European nuclear conference in Hamburg next month.

The 523 reactors in service represent 405 000 MW of electrical capacity, divided about equally between the US and the rest of the world. Until the accident, the US was expecting to be generating 14% of its electricity with steam raised in nuclear reactors by the end of this year. Capital expenditure by US utilities on nuclear plant currently runs at $11 billion a year.

Carter's energy policy statement sidestepped the nuclear issue except in announcing a special investigation and an accelerated programme for doubling the nuclear inspectors, so that each reactor would have a resident on site.

He summed up his energy policy in these words: "Each of us is going to have to use less oil and pay more for it." But he also proposed to be less restrictive about two environmental hazards the administration has previously eyed more critically: lead in petrol, and sulphur emissions from burning oil.

Other countries have reacted in widely different ways to the accident. In Europe, the EEC's top industrial groups had just drafted a paper showing that, even with a low rate of economic growth, the Nine still needed to think in terms of 600 nuclear reactors in addition to 650 new coal mines by the year 2000.

But while engineers at Three Mile Island were struggling to shut the plant down, Len Williams, who heads the EEC's directorate of energy, was saying that the accident would prove a bigger blow to the world energy supply than the loss of Iran's oil.

France, with PWRs totalling about 35 000 MW operating and under construction, and aiming for 50%-55% of its electricity from nuclear sources by 1985, reiterated its intention of keeping its programme on course. It is spending around $3 billion a year on this programme, and plans to start building another five PWRs this year.

In fact, its electricity authority is already in trouble with the public for being short of generating capacity and for having a patchy grid that cannot always get electricity where it is most needed.

A certain smugness has characterised political statements in Britain, which is generating 13%-14% of nuclear electri-

consideration of strategy to be adopted for the total marketing program, with advertising recognized as only one element whose form and extent depended on its careful adjustment to the other parts of the program.

The soundness of this viewpoint was supported by case histories throughout my volume.[2] In the chapters devoted to the utilization of advertising by business, I had pointed out the innumerable combinations of marketing methods and policies that might be adopted by a manager in arriving at a marketing plan. For instance, in the area of branding, he might elect to adopt an individualized brand or a family brand. Or he might decide to sell his product unbranded or under private label. Any decision in the area of brand policy in turn has immediate implications that bear on his selection of channels of distribution, sales force methods, packaging, promotional procedure, and advertising. Throughout the volume the case materials cited show that the way in which any marketing function is designed and the burden placed upon the function are determined largely by the overall marketing strategy adopted by managements to meet the market conditions under which they operate. The forces met by different firms vary widely. Accordingly, the programs fashioned differ widely.

Regarding advertising, which was the function under focus in the Economic Effects volume, I said at one point:

In all the above illustrative situations it should be recognized that advertising is not an operating method to be considered as something apart, as something whose profit value is to be judged alone. An able management does not ask, "Shall we use or not use advertising," without consideration of the product and of other management procedures to be employed. Rather the question is always one of finding a management formula

city. Prime Minister James Callaghan told Parliament: "We have been very wise in concentrating upon a safer type of reactor."

Energy Secretary Anthony Wedgwood Benn underscored the point that Britain was operating and building reactors of the gas-cooled kind, of its own design, which are more elephantine not only in size but in their speed of response, thus allowing more time to take emergency decisions. With three stations nearing completion, it expects to be getting 20% of its electricity from reactors within two or three years.

Contracts have just been signed between the electricity supply industry and the Nuclear Power Company, Britain's reactor vendor, for the design and preparation of safety and manufacturing specifications for two new 1 300 MW stations, in north-west England and in Scotland, of the advanced gas-cooled reactor type. Construction is expected to start early in 1980.

The Babcock & Wilcox design at Three Mile Island is one of four PWR designs — three American, one German — currently being evaluated by the electricity supply industry in Britain, which a year ago persuaded the government that the PWR had enough advantages to justify a closer look.

Serious accident, but no disaster

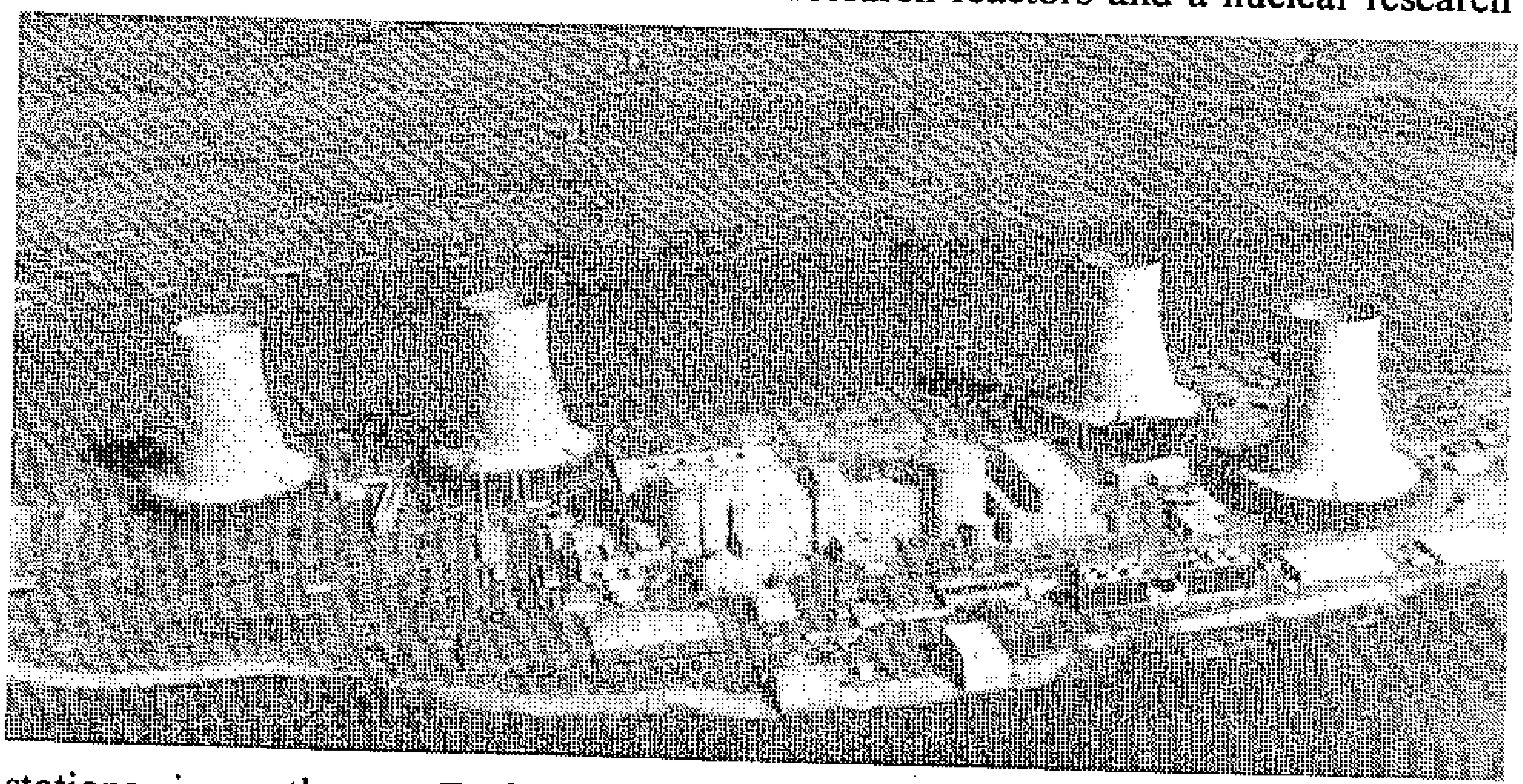
The Central Electricity Generating Board announced last week that it will be sending a small team to the US to investigate what its chairman, Glyn England, says "was clearly a serious accident, which will need careful study, but was no disaster."

In West Germany, where opposition to a large nuclear programme has grown strongly in the Seventies and — uncharacteristically for a democratic country — has been very violent, the accident provides fresh ammunition for the critics. The Germans have just ended their first major public inquiry into a nuclear project. This is the Gorleben Project, for a large plant for reprocessing spent nuclear fuel, remaking fresh plutonium fuel, and storing highly radioactive estates, at a site in Lower Saxony near the East German border.

British nuclear opponents, balked by the verdict at Windscale, turned up in force in Hanover to repeat arguments that the plant was unsafe, too soon, and unnecessary. The verdict, expected in a month or two, could still be influenced by the accident.

Germany once had a target of 50 000 MW of nuclear electricity by 1985. Today, the highest expectations are for only about half as much. It has 8 600 MW installed and another 10 000 MW under construction, with another 9 000 MW blocked by legal action.

Altogether, no fewer than 50 countries have laid the foundation for a nuclear power programme by investing in research reactors and a nuclear research establishment. More than a score have gone further and begun to invest in the complex industrial facilities associated with nuclear fuel.



Three Mile Island . . . where it was all at (above); and taking evasive action (right)

Eleven nations in Western Europe alone are making large-scale use of nuclear power. Only Norway and Denmark have no nuclear power plans, Norway preferring to rely on its off-shore oil, and Denmark on imported coal.

The "benign and removable" alternative energy sources such as solar, wind, waves, etc, have made little headway towards large-scale power generation.

Britain, for instance, picked wave power as its most promising new source, pursued four years of government-funded experiments, then was horrified to learn that extrapolations of these experiments indicated power costs of 20 to 50 times that of nuclear or coal-fired electricity.

The nuclear industry confidently expected a boom in business following the Opec oil price increases of 1973-74, and the commensurate increase in coal prices. What it failed to anticipate was the impact these increases would have on economic growth as a whole.

Nuclear power in most cases — France is an exception — was being planned as an increment in total generating capacity rather than as a replacement for oil. The three years of low growth which followed the Opec increases meant almost no orders for nuclear reactors in the US — in fact, many more cancellations and deferrals than new orders. Moreover, delaying new nuclear orders weighs in favour of prospects for fossil-fuel plants, which can take from two to six years less to bring on-line in the US.

Horrifying figures — hundreds, even thousands — are sometimes given as estimates of the numbers of people who might die in the event of catastrophic failure of a nuclear power plant.

Lord Rothschild, an eminent Cambridge scientist and former head of the British government's think-tank in Whitehall, gave a lecture on BBC television last autumn on the subject of risk and the public's unwillingness to accept the statistics of risk.

He then produced figures for the deaths which can be expected for producing 10 000 MW per year of energy from six different sources, based on past experience of the industries involved:

Coal	**50-1 600**
Oil	**20-1 400**
Wind	**230-700**
Solar heating	**90-100**
Uranium (nuclear)	**2,5-15**
Natural gas	**1-4**

It is worth remembering that the accident at Three Mile Island has done nothing to change these statistics.

2. a list of the forces that bear on the marketing operation of a firm and to which the marketing manager must adjust in his search for a mix or program that can be successful.

FUEL PRICES

(35) (2tt) FM 20/4/79

Another hike coming?

Last week's announcement that the retail price of oil-based fuels is to be subsidised by a 2c/litre cut in excise duty could herald dearer prices soon at the pump.

By surrendering the excise duty on petroleum products to bolster Economic Affairs Minister Chris Heunis's equalisation fund, Finance Minister Horwood will sacrifice R120m over a 12 month period. His arrangement with Heunis to suspend part of the duty, rather than opt for yet another deflationary price rise so soon after his growth budget, is unlikely to last more than a month or two if unsettled conditions in the international oil market persist. It would then be replaced by a hike in retail prices.

Crude oil supplies on international markets are almost certain to remain tight, and pressures will increase to impose production surcharges on the more sought-after grades of crude. Since December, most Opec producers have raised prices by means of surcharges by between 24% and 31%. Fears are now sweeping the oil market that Iran and Saudi Arabia are planning to impose surcharges which would take their light crudes from $14,54 a barrel to around $15,70 fob Gulf ports.

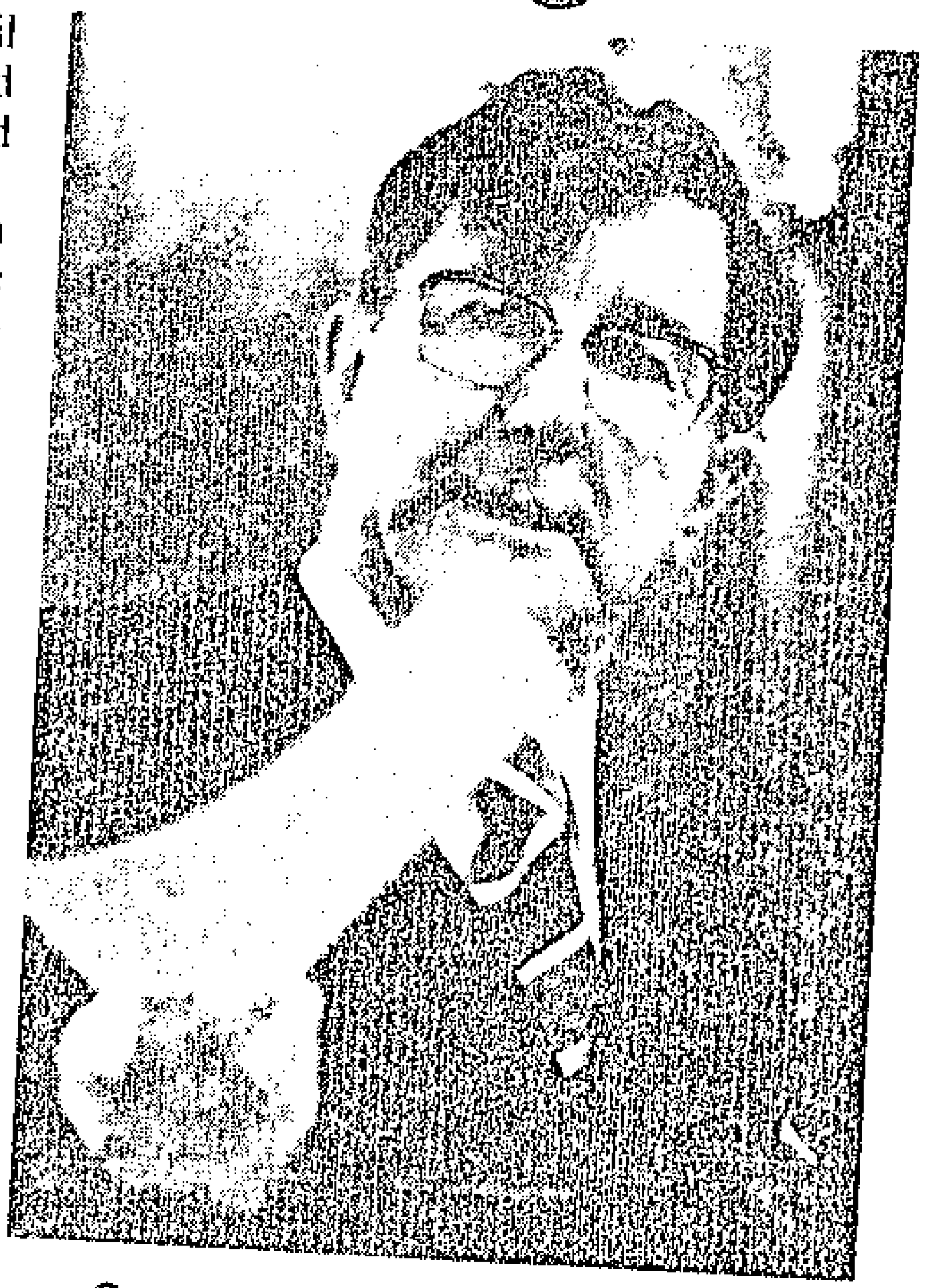
The implications for SA are clear. With nearly 75% of Opec production carrying large premiums — and the possibility that Iran and Saudi Arabia may make it a full house in the near future — SA acquisitions at $16-$18 a barrel since the end of December are clearly something of the past. Premiums charged to buyers with pariah status, such as SA, obviously respond a good deal ahead of price movements in formal markets, and if Heunis says his equalisation fund levy is running 2c/litre short, he is probably not kidding.

Premiums shoot up

Since the beginning of the year, the equalisation fund has been pumped up at the rate of at least 7,5c/litre. This is equal to about R12 a barrel, or a premium nearly equal to the second quarter official Opec price for Arab light crude — $14,54 a barrel.

If Heunis needs an additional 2c/litre (R3,20/barrel) to take the strain off the equalisation fund, it can only mean that the country's supplies are becoming even more expensive.

It therefore seems likely that, unless very special conditions develop in the oil markets (such as a sudden fall in demand to produce a glut), a further oil price rise in SA — the third since January — is on the cards.



Owen Horwood . . . R120m for petrol users

• More bad news for diesel users. From May 1, trucks using private roads will no longer qualify for the rebate on diesel, currently R89,75 per 1 000 litres. According to Dirk Odendal, Secretary for Customs and Excise, this is being done because "it is very difficult to administer." Rebates for passenger bus operators, and for non-moving vehicles such as cranes, are not affected.

The mines (in particular open-cast operations) and road construction companies will be worst hit. Alf Pexton, group buyer for Roberts Construction, reckons "this will make quite a difference to the cost of running vehicles."

SA oil: Press will be restricted

Argus 24/4/79

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Political Staff

UNAUTHORISED publication of details of South Africa's crude oil position carries a maximum penalty of a R7 000 fine or seven years' jail or both in terms of a Bill published yesterday.

The Petroleum Products Amendment Bill, introduced in the Assembly by the Minister of Economic Affairs, Mr J C Heunis, makes it an offence for any newspaper, periodicald, book, pamphlet or radio broadcast to publish information about:

- The source, manufacture, transportation, destination, storage, quantity or stock level of any petroleum products beng acquired or manufactured in South Africa.
- The taking place and particulars of negotiations about the acquisition of petroleum products and their transportation.
- Any statement comment, or rumour calculated directly or indirectly to convey such information.

Information can, however, be published with the written authority of the minister or of the controller of petroleum products or when people are required to do so by order of a court.

CT. 31/7/79

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US firms get go-ahead to seek oil aid from SA

WASHINGTON. — The United States Government, in a dramatic brushing aside of scruple, yesterday decided to allow American firms to seek vitally-needed oil-from-coal technology from South Africa.

The decision was announced yesterday by the Department of Energy at a House of Representatives subcommittee hearing.

It was immediately welcomed by the committee chairman, Congressman William Moorhead, as the most encouraging news the American public has had in recent weeks.

It comes in the middle of a drive by President Jimmy Carter to bring home to Americans how dangerously dependent they have become on vulnerable foreign oil resources.

Yesterday's announcement was made by the acting assistant secretary of state for energy technology, Mr John M Deutch. The chairman, Mr Moorhead, said the announcement was that American energy companies were now free to make their own arrangements to secure up-to-date technological information.

He described it as the most important first step the united states could take towards achieving some degree of energy independence.

"The resulting production of hundreds and thousands of barrels of oil from coal — a resource we have in ample quantity — can only mean our homes will be warmer, our industries less threatened by cut off or reduction of energy, and our sense of strength internationally restored.

Mr Moorhead said the subcommittee would immediately begin examining ways of providing incentives to accelerate the use of oil-from-coal technology.

Yesterday's decision came five months after two staff members of the House of Representatives banking subcommittee on economic stabilization, Mr Norman Cornish and Mr Edwin Webber, visited South Africa to examine the Sasol process.

They returned with a comprehensive report which has been studied by both the Department of Energy and the State Department. On a gross national product comparison the US would spend about 155 billion dollars to duplicate the Sasol programme.

Ethanol, methanol fuel in S.A. by 1980?

Finance Reporter

SOUTH Africa is expected to go into the full-scale production of ethanol and methanol as alternative fuels by early 1980.

The South African Forestry Council announced yesterday it is to engage consulting engineers to compile a cost and feasibility study on the possibility of erecting two small pilot plants for the production of the two alcohol-based fuels.

At this stage it has not been decided where the two plants will be, but both will manufacture alternative forms of energy from biomass — the scientific term used to describe the whole tree.

The council decided to take the initiative in the search for alternative fuels after considering a report prepared by Mr. Volly van Breda, chairman of the Wattle Bark Industry's marketing committee.

Widely used

Ethanol is already produced in Natal in small quantities as a by-product of the sugar industry. In Brazil, which also has an active sugar industry, ethanol-based fuels are widely used and account for some 60 percent of the fuels used by public and private transport.

Australia, too, which also has access to its own oil fields, has decided to spend R500 000 this year on ethanol research.

Earlier, Mr. van Breda said the Government should give support and financial aid towards the development of renewable fuel sources, such as alcoholics from biomass.

He also said the price set for the fuel should be economically attractive and that it should be exempt from excise duty.

Petrol companies

"Petrol companies should be required to blend this alcohol with their petrol, up to 20 percent, thereby reducing distribution and marketing costs and ensuring a uniform product and a stable market.

"The blending of alcohol with dieseline is possible and should be examined urgently."

55 FM 27|4|79

OIL SUPPLIES

Speak no good or evil

All but the most bland newspaper reporting on the oil business and other strategic goods will be outlawed by bills read a first time in Parliament this week.

According to senior government officials, the amendments to the Petroleum Products Act and the National Supplies Procurement Act are the result of the failure of the Ministry of Economic Affairs and newspaper editors to set up a system of voluntary clamps on oil disclosures.

On February 7 Heunis called in 46 newspaper editors and implored them not to publish reports on oil movements, acquisitions, sources of supply, local manufacture, and so on. According to officials, this did not have the desired effect because reports on "sensitive" issues continued to be published, some of which, they claim, scuppered delicate supply negotiations.

On March 29 Heunis called in newspaper owners and showed them draft legislation, based on Section 118 of the Defence Act, which he asked them to study and comment on. By the time the bills were published on Monday, officials claim, the Minister had not yet received the comments of the Newspaper Press Union, although they may yet be forthcoming. The fact that newspaper proprietors had meanwhile advised their editors not to publish "sensitive" oil stories without reference to the Minister or his departments is unlikely to stay enactment of the two measures.

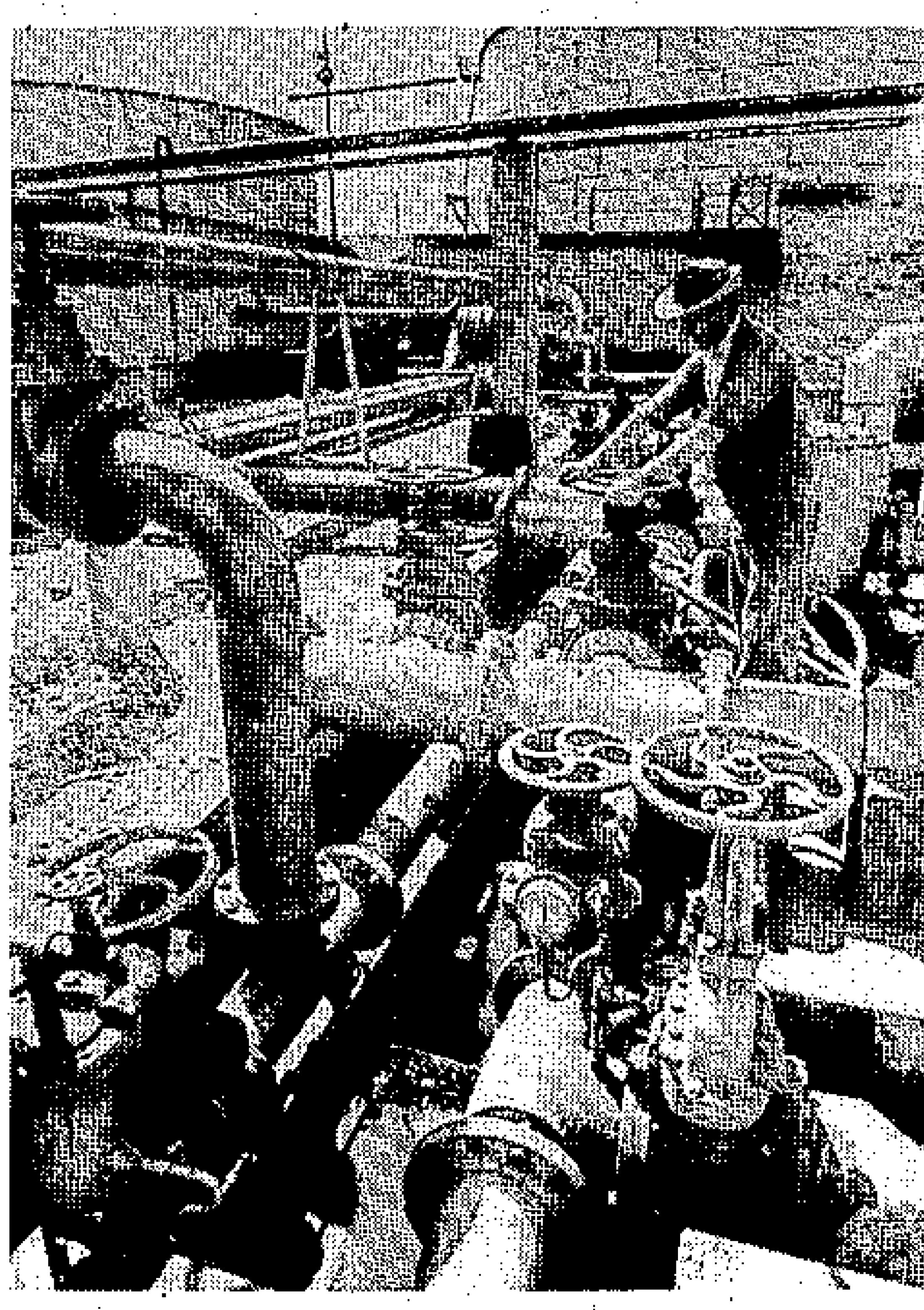
According to officials, there is no way of dealing with the problem on a selective basis, leaving the decision of what to publish to the discretion of editors. Instead, a blanket exemption from the provisions of the Petroleum Act amendment will be granted to newspapers except for a list of clearly circumscribed issues to be gazetted when the bill becomes law.

All strategic materials

The ban will apply in various forms to all strategic materials — ie, raw, intermediate and manufactured goods which cannot be obtained in the Republic — and to the activities of all firms which receive financial assistance in terms of the National Supplies Procurement Fund to stockpile strategic goods.

The draft legislation also outlaws reports on "the source, manufacture, transportation, destination, storage, quality or stock level of any petroleum products acquired or manufactured for or in the Republic," or "the taking place and particulars of negotiations in respect of the acquisition of petroleum products for the Republic and the transportation thereof," or "any statement, comment or rumour calculated directly or indirectly to convey such information or anything purporting to be such information."

Foreign correspondents will not escape the ban, for "any person who causes to be published outside the Republic anything of which the publication is prohibited shall be guilty of an offence." Likewise, articles written abroad by any SA citizen will make him liable to prosecution on his return.



Storing oil . . . staunching the information flow

According to government officials, offshore oil acquisition and ocean transportation have become the most sensitive areas of the oil business. Reports highlighting the Republic's vulnerability in the post-Shah period have not only affected the nerves of SA's suppliers, but also raised premiums where SA is identified as the buyer.

It is doubtful, however, whether government's publicity ban will overcome the problem. Officials concede their major difficulty is with the international petroleum press — which has highly reliable sources — and publications like *Lloyds List*, which reflect shipping movements.

At home, the proposed clamps could create some difficulty for the underwriters of the Sasol public issue, the prospectus for which is due in a few months' time. Unless Heunis exempts the prospectus from the new law, prospective investors in the Sasol group will have nothing but the vendors' earnings forecasts and government assurances to go by.

NUCLEAR POWER
12/5/79 (53)
The real meltdown

When Western energy ministers gather in Paris on May 21 for the annual meeting of the International Energy Agency (IEA), they will get some bad news. Everywhere, countries are falling further and further behind with their plans to build more nuclear power stations and so reduce dependence on imported oil.

Last year, the IEA reckoned its Western industrial member countries would be getting enough electricity from nuclear power by 1985 to save themselves 352 Mt of oil. But in its latest annual report, the IEA scales this figure down to 316 Mt, its third consecutive annual reduction.

Other figures tell the same story. Five years ago, the nine European Common Market countries predicted they would get 160 billion watts of electricity from nuclear reactors by 1985. But this has been cut every year since, and currently stands at 71 billion watts. World orders for new power reactors, which peaked in 1974 at 52, have drifted steadily downwards to 12 in 1976 and 15 last year.

Public fears about nuclear power safety are certainly a big factor in the great nuclear slowdown. In the US, the lead time for building a new reactor has now climbed to 12 years because of the growing difficulty of getting the necessary clearances and meeting ever-tightening standards. In Germany, three of the eight reactors currently under construction have been halted by legal action through the courts. Now the fall-out from the accident at Three Mile Island promises to strengthen the anti-nuclear case.

But the main reason for the slowdown, in the IEA's view, is anaemic economic growth that makes the high cost of building new nuclear power stations increasingly difficult to justify.

As a result of the nuclear slowdown, the world's dependence on imported oil is edging up again and Opec is exploiting this to increase prices. Companies are also losing interest in the nuclear business. General Electric and Babcock & Wilcox in the US, Germany's Kraftwerke Union and Sweden's Asea-Atome are all growing disillusioned with their nuclear investments as the order drought continues.

But IEA officials say the uranium producing countries, like SA, should not despair. At current rates of use, world uranium reserves are likely to last only as long as remaining oil reserves — say another 60 to 80 years. So uranium remains as scarce a commodity as oil.

The secret to stretching out uranium's energy-producing life is to develop new fast breeder reactors, which France and other European countries are now doing. If they succeed, the world will need uranium fuel for centuries to come.

WATER RESTRICTIONS

FM 4/5/79

The long-term view

(53)

The news that water restrictions for the Vaal area are to be introduced soon will horrify those who remember the bad times of 1966 when the whole economy of the Witwatersrand was endangered.

Could it really happen again? Has the Department of Water Affairs been caught napping? And why, since most of the dams in the area are still relatively full, are restrictions necessary at this stage?

Far from napping, it seems that the Department is right on the ball. Secretary for Water Affairs Dr J P Kriel explains to the *FM* that what has alarmed the experts is that the inflow into Vaaldam from December to February was only 1% higher than the lowest recorded in 56 years, in 1923. The inflow into Loskop Dam between November and March was the lowest in 42 years.

The Department is assuming that the present drought could continue for up to seven years, as has happened before. The steps now to be taken are thus planned to avoid a breakdown in supplies in two to three years time if the dry weather continues.

Restrictions will apply to the whole Vaal River system from Vaaldam to its confluence with the Orange River. The details are now being considered (Kriel won't say if everyone has to put away their hosepipes) but he stresses that although they may cause some inconvenience, they will not damage the country's economy.

The necessity for periodic restrictions was stressed in the Report of the Commission of Inquiry into Water Matters 1970, on whose recommendations the "variable draft system" for water supplies was adopted.

It is this system which is now being put into practice. The gist of it, explains the report, is that "by drawing from storage at a rate considerably higher than the assured (safe) yield during years of normal run-off, but restricting draft for a limited period during drought to a rate somewhat lower than the safe yield but consistent with essential requirements, it is possible to utilise beneficially *more* water from storage than if the draft is kept at all times to the assured yield."

Petrol price will rise again

Star 10/5/79 (55)

Political Staff

CAPE TOWN — The petrol price is on the way up again. That's the bad news. The good news is that it won't happen immediately.

The Minister of Economic Affairs, Mr Chris Heunis, also made it clear today that new ways of saving fuel were on the way. He's expected to deal with the whole question in Parliament later today.

The country's fuel position was serious after the upheaval in Iran, and high premiums now had to be paid for odd consignments of oil as they became available — "spot" purchases.

Government circles are gloomy about the short term supply prospects, but more hopeful for the longer term.

Mr Heunis, though, said even the long term situation was difficult.

Because the country was largely dependent on "spot" purchases, it faced an insecure supply position, so the "absolute necessity" for more fuel conservation was underlined.

Unless there was a drastic reduction in fuel consumption, additional measures would have to be introduced to achieve it.

Petrol may be rationed

Political Staff

HOUSE OF ASSEMBLY. — Petrol rationing or price increases — or both — could be on the way for South Africa soon, the Minister of Economic Affairs, Mr Chris Heunis, warned yesterday.

Speaking during the debate on his department, he left little doubt about the seriousness of South Africa's supply position and said that the time for "warnings" was rapidly running out.

Among the shocks he disclosed were that some companies might not be able to meet demand in the next few months and that South African "fortune seekers" were complicating attempts to secure regular supplies.

South Africa's major problem was that it had to buy oil as it was offered by the load.

These prices were between five and eight dollars higher than normal but were increasing and middlemen were capitalizing on the shortage.

The middlemen were complicating the issue and he appealed to them to stay out of "a highly complicated and specialised business".

Not all doors were closed to South Africa, but there were problems in obtaining oil at reasonable prices.

"If the rising prices of load offers continues, we will have little choice but to apply restrictions or increase prices — or both," said Mr Heunis.

OIL SUPPLIES

Plugging a loophole

Economic Affairs Minister Chris Heuni moved sharply this week to plug a loophole which enables some fuel consumers to avoid paying levies into the equalisation fund of the State Oil Fund (SOF). Government officials confirm that some major users of automotive fuels, particularly those with close overseas connections, have been importing refined stocks directly in order to avoid payment of the SOF surcharge which is payable at points of sale in the Republic. Direct purchases from foreign refineries are not against the law (at this stage), but if they are allowed to continue, they will undermine the broad public interest, say officials. While unwilling to identify the importers or the amount of their purchases, officials say mining companies are the main culprits.

Government is not impressed with the mines' argument that they, as large consumers of scarce production fuels like oil, are taking some of the procurement and distribution pressure off the oil companies.

At present the SOF Act (Section ...) empowers the Minister to impose levies for the benefit of the equalisation fund on automotive fuel, grease and ... "manufactured, distributed or sold in the Republic." To close the loophole the phrase "or imported by any person into the Republic" will be inserted in terms of the Second State Oil Fund Amendment Bill read a first time this week.

It is easy to understand Heunis' concern. Recent moves by government, in which Finance Minister Horwood agreed to surrender, for a limited period, ... litre of his excise collections in favour of the SOF, indicate that the cost of SA's oil imports is still causing headaches.

By importing direct, a consumer can save at least 7,5c a litre, or R12 a ... on the portion of the various levies known to be going into the SOF's equalisation fund. The ... a litre which consumers have been contributing ...

establishment of Sasol 2 for the past four years is collected in the form of an excise duty.

Officials indicated this week that government's procurement agencies have noted some softening of surcharges on offshore oil prices. While the landed cost of certain light grades is still over \$20 a barrel ex-Gulf, it is said that surcharges on heavier grades have stabilised and, on some transactions, even dropped.

According to a recent article in the US Journal of Commerce, SA has been paying up to 60% more than published crude oil prices. Claims the paper: "The fact that SA is willing to pay substantial premiums ... and in gold has enabled that country to secure the supplies it needs."

Financial Mail May 1...

c) Ander lede:

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Professor H.P. Pollak
Mnr W.J. September
Mnr Franklin Sonn
Mnr P.M. Sonn
Regter J.H. Steyn
Mnr R. Tobias
Professor R.E. van der Ross
Professor J.H. van Rooyen
Mev. S. Walters
Professor F.A.H. Wilson

...Boshoff
...n der Horst

...e Jaarvergadering van die Maatskappy uitgenooi en kies elke drie jaar 'n verteenwoordiger op die Beheerraad. 'n Verkiesing is in 1978 gehou en die ...

Friends (Quakers) en van die American Friends Service Committee deurgebring. Hy het 'n aantal konferensies in verskillende dele van die land bygewoon, baie vergaderings toegespreek en senior beamptes van die Carnegie Corporation, van Community Relations Services van die Departement van Justisie van die Amerikaanse regering, van die American Friends Service Committee en kollegas verbonde aan verskeie universiteite besoek.

Gedurende Augustus en September het die Direkteur Engeland, Nederland, Switzerland, Swede, Israel en Zambië besoek. Hy het vooraanstaande joernaliste, Suid-Afrikaanse diplomate, senior amptenare van die Suid-Afrika-Stigting en verskeie regerings betrokke by Suid-Afrikaanse belange ontmoet. Hy het besprekings gevoer met stigtings, trusts en opvoedkundige verenigings. As gevolg van sy besoek aan Nederland het hy 'n toelae vir die Konstruktiewe Program ontvang van die Algemeen Diakonaal Bureau van die Gereformeerde Kerken in Holland.

Professor J.L. Boshoff, ere-Fellow van die Konstruktiewe Program, het met 'n aantal instansies, wat universiteite in Natal en Transvaal insluit, en met verskeie handels- en industriële firmas in Natal, kontak opgebou.

(b) Konferensies

Gedurende 1978 het die Direkteur die volgende konferensies bygewoon:

...rensie, Nasionale Uitvoerende Komitee...dering van die Suid-Afrikaanse Insti...everhoudinge, Kaapstad (Januarie).

... Jaarlikse Vergadering van die Religious ...iends, Stutterheim (April).

...ongres van Sosiologie, Uppsala, Swede. ... voorgelê in Werkgroep 6 en vergaderings ... die Raad van die Internasionale Sosio...iging as die amptelike afgevaardigde ...ka (Augustus).

TREK

FM 11/5/79

55

In low gear

Activities: *Makes, markets and distributes petroleum products through 292 service station outlets. Trek Petroleum and Trek Oliemaatskappy are wholly-owned, while oil re-refiner Chemico is 70% held. There is also a 50% stake in Samco. Main shareholders are Shell (18%), Genmin (24%), FVB (21%) and Industrial Selections (7%).*

Chairman: *G Clark; managing director: D Masson.*

Capital structure: *19,4m ordinaries of 50c.*

Market capitalisation: *R22,3m.*

Financial: *Year to December 31 1978. Borrowings: long and medium term, R6,6m; net short term, R2,0m. Debt:equity ratio: 43,9%. Current ratio: 1,1. Net cash flow: R4,7m. Capital commitments: R769 000.*

Share market: *Price: 115c (1977-78: high, 123c; low, 75c; trading volume last quarter, 103 000 shares). Yields: 21,3% on earnings; 9,1% on dividend. Cover: 2,3. PE ratio: 4,7.*

	'75	'76	'77	'78
Return on cap %	16,0	25,1	25,1	26,2
Turnover (Rm)	85,7	121,2	151,1	155,2
Gross profit (Rm)	4,3	7,2	7,8	8,7
Gross margin %	5,1	5,9	5,2	5,6
Earnings (c)	12,0	17,1	20,1	24,5
Dividends (c)	6,5	8,0	9,0	10,5
Net asset value (c)	76	86	102	114

Judging by chairman George Clark's comments, the company may battle to show any appreciable growth this year after last year's 21,9% earnings hike on a 2,7% turnover increase.

Clark says "stricter conservation measures, increased cost of product and a reduction in the total market must have a negative effect." To overcome these influences Trek needs increased sales and lower operating costs. The company must also, says Clark, convince government that the 0,32c/l petrol profit on petrol sales allowed to the industry is too low, especially as bad debt risks have increased.

His only forecast to shareholders is that they can expect the broad-based oil company to produce "reasonable profits."

Trek's record in the past four years has been a 104% earnings increase and a 61,5% improvement in dividend. But medium-term growth may now be limited with a reduced total market. Last year processing and marketing of petrol products contributed a lower 66,7% (84,3%) of taxed profits, while investment income weighed in with 36,7% (29%). Re-refiner Chemico should produce a profit this year with recovery from its grease plant fire, although Clark says a shortage of used oils could limit potential.

Subsidiary Trek Petroleum reported its lowest ever volume increase of 2,8% (6,8%) despite opening 39 new service stations during the year. However this gain was achieved through granting greater credit. Debtors increased 19,8% while turnover was only 2,7% higher. The company is tightening up on debt collection, but near-term, bad debt write-offs are taking their toll.

The combined taxed profit of Trek Petroleum and Trek Oliemaatskappy was R3,2m (R3,3m), despite increased volume sales. This arose both as a result of higher bad debt write-offs and the inevitable time lag between rising crude oil prices and increases in retail prices.

The balance sheet remains sound with lower borrowings, satisfactory liquidity, and the interest leasing bill covered 8,3 times by gross profits. The remaining R561 000 goodwill has been written off.

The share, at 120c, yields 8,8%. Capex and debt servicing should not overly hinder distributions.

But while the yield may tempt income seekers there are few attractions for investors looking for near-term growth.

Des Kilalea

—results and dividends

Petrol Bill gets full support

C.T. 16/5/79 (55)

HOUSE OF ASSEMBLY. — All three opposition parties indicated yesterday that they supported the second reading of the Petroleum Products Amendment Bill which was introduced here by the Minister of Economic Affairs, Mr Chris Heunis.

The bill provides for the extension of control by the minister on petroleum products; the prohibition of the publication of certain information involving petroleum products; and other incidental matters.

Pledging the support of the Progressive Federal Party, Mr Derick de Villiers (PFP Constantia) said his party was satisfied, after a close examination of the bill, that its intention was not to restrict the activities of the press but to safeguard South Africa's oil supply.

However, he urged the minister to see if he could alter the provisions of the bill to allow the press some degree of information in order to retain the confidence of the public.

Mr George Bartlett (NRP Amanzimtoti) said his party supported the bill as it was clear that South Africa had to be very careful with its oil supplies.

The oil situation had been undermined in the past by newspaper reports which had publicized where South Africa had bought her supplies.

Mr Bartlett asked the minister to form a select committee to look into the matter.

Mr Theo Aronson (SAP Walmer), supporting the bill, said that if the choice was between the publication of harmful information and security, his party would choose security.

The public would obviously like to know where its oil products came from but he felt the same public would prefer not to know if it meant harming South Africa.

Petroleum products were the lifeblood of any country and it was therefore obvious that South Africa had to protect herself in this regard. — Sapa

86/ ibid.

87/ The assumption made here is that the same male juvenile/adult employment proportions in 1969 (juveniles being 7,38 percent of the male labour force) pertained in 1975.

88/ For 1969-75 the net inflow of females into the 16-60 age group was in excess of 300 000. For 1976-85 it will be in excess of 750 000.

89/ C.A.L. Myburgh, Updated Population Trends, op.cit., has argued that a 20-30% inactivity rate applies to African adult males in Rhodesia. This may be disputed as being high, on a number of grounds, e.g., that it considers the rate in abstract from the manner in which the reserve economy functions to absorb (and eventually repel) unemployed persons.

90/ Herein lies a 'paradox' for Malawi should it decide to re-enter the labour market. Being a low-cost supplier it would, under a new Chamber strategy, be left incapable of 'exploiting' its relative comparative advantage.

91/ The 'paradox' of the economy with high and growing unemployment also importing foreign labour, which prevailed for Rhodesia up to 1976, also applies to South Africa. See Francis Wilson, 'Unresolved Issues in the South African economy: Labour' S.A.J.E. December 1975.

92/ Michael Ward, op.cit.

93/ C.W. Stahl, op.cit.

94/ ibid., p.91.

95/ Rhodesia Herald, 13 September 1975.

According to the Star (4.10.1976) the number of Black Rhodesians illegally in South Africa is somewhere between 80 000 and 100 000, the majority being in the Johannesburg - Pretoria area.

96/ Rhodesia Herald, 9 January 1976.

97/ ibid.

98/ Roger Leys, Lesotho: Non-Development or Under-Development: Towards

ISBN 0 7992 0 262 2

All Opposition parties support petrol Bill

55

St 16/5/79.

THE ASSEMBLY — All three Opposition parties yesterday supported in principle the Petroleum Products Amendment Bill, which extends the Government's control over petroleum products and clamps down on the publication of certain information.

The support was given after an assurance from the Minister of Economic Affairs, Mr J C Heunis, that the Bill was not aimed at restricting Press freedom but at ensuring the continued supply of a strategic commodity for South Africa.

Speaking in the second-reading debate on the Bill, Mr Harry Schwarz (PFP, Yeoville) said the Opposition, by supporting the Bill, was placing its trust in the Minister in his handling of the powers he received in the proposed legislation.

ASSURANCE

The Bill provides, among other things, for a fine of up to R7 000 or imprisonment of up to seven years, or both, for publishing any information endangering South Africa's fuel supply.

Introducing the second reading, Mr Heunis said he had given the Newspaper Press Union and the oil industry an assurance that despite the prohibition, exemptions would be granted to enable the oil industry to operate efficiently.

Such exemptions would allow the Press to report on matters which would not affect the procurement, supply, shipping and stockpiling of petroleum products.

APPEAL

The minister said he had taken newspaper editors into his confidence earlier this year, but despite assurances of co-operation reports jeopardising negotiations with other countries had been published.

He said he did not want to create the impression that this had been done maliciously.

He appealed to the news media to liaise with his department even before the Bill became law so they could be closely informed on what could be published.

It was right that the public should be informed about fuel matters, but in such a way that the country's supply, and therefore security, would not be jeopardised.

SATISFIED

Mr I F A de Villiers (PFP, Constantia) said that after a close examination of the Bill his party was satisfied it was not aimed at restricting the Press but at safeguarding South Africa's supply of petroleum products.

Supporting the Bill, Mr G S Bartlett (NRP, Amanzimtoti) said: "We accept that our dealings with our oil supplies require a measure of secrecy."

The Bill was read a second time with the support of all parties.

'Encouraging' oil find south of Mossel Bay

Argus 16/5/79

(55)

By Bill Goddard

SIGNIFICANT traces of oil have been found in the seabed about 70 miles south of Mossel Bay and tests will now be carried out to determine whether or not it is an economically viable find.

The 'strike,' which was made by the giant American drilling rig Sedco K, was confirmed today by senior officials of the State-backed Southern Oil Exploration Corporation and is said to be the most encouraging find since the oil search started in South Africa 14 years ago.

Soekor's liaison officer, Mr Mike Leibrandt, said: 'We've found strong signs of oil on the edge of the Agulhas Bank, but it is now a case of carrying out tests to assess the value and decide if it would be an economic proposition to develop.'

Off Knysna

Slightly less promising finds were made both east and west of the site where the Sedco K is at present operating — south of Knysna and about 16 miles off Stil Bay.

Mr Leibrandt said an offshore strike would have to produce at least 30 000 barrels of oil a day for a minimum period of seven years to prove viable.

He said it would cost about R150-million to develop the well to production level and a further R250-odd million for operating costs over the seven years.

R2 000-m

'On the other side of the picture, however, is the fact that a find like this could save the country close to R2 000-million on crude imports over the minimum-yield period and would make us far more self-sufficient,' he said.

The assistant secretary of Soekor, Mr C M T Smit, said the viability test would involve drilling a series of step-out wells to determine the value of the find.

The oil find was made south-west of the spot where the drilling ship Glomar Sirte found gas in 1967.

Assessment tests indicated that the gas field, which was plugged, would supply the needs of a highly industrialised area like the Witwatersrand or Northern Italy.

TRANSPORT FM 14/5/79

55

Power plants

Methanol-powered vehicles were just capturing motoring imaginations when the government announcement to spend R3,2 billion on Sasol 3 swamped the headlines. Research into plant-produced alcohol as a fuel alternative continues, however, with a prediction that it will eventually drive everything, including earth-moving equipment.

"Alcohol fuels do not present any technically insoluble problems," says Dr Kevin Bennett, principal research officer at the University of Cape Town's Energy Research Institute. His own Passat has so far clocked up 30 000 km on blends ranging from 15% to 45% methanol in petrol. "Now we're working towards 100%," says Bennett.

After two years of research he explains, in layman's language, that running a spark ignition or compression ignition (the ubiquitous petrol and diesel) engines on methanol is only a matter of getting *inter alia* certain carburation, cylinder temperature, ignition timing and compression ratios right.

That is probably over-simplifying his findings, as the Institute has already evaluated such things as the calorific values and air/fuel ratios of 11 substances, from heavy diesel oil to pentane, in exploring ethanol's chances of being marketed alongside petrol and diesel at service station pumps.

Bennett says one of the most significant problems is vapour lock during warm weather. This makes restarting the vehicle difficult.

"The second phase of the research programme was conversion of a diesel Passat to diesel/methanol," he adds.

Initial tests show that some form of inlet manifold heating may be needed but, once this is overcome, much larger diesel engines will be converted. The third phase of research will be the installation of pure methanol engines for fleet trials to evaluate their performance under normal motoring conditions.

"Fuel costs would be about the same as now. Remember that in the Thirties racing cars were running on alcohol. We'll run a bulldozer on methanol by the time we've finished," says Bennett.

OIL SEARCH FM 18/5/79
Success at last?

(55)

Soekor's oil rig, Sedco K, drilling off Mossel Bay, struck oil again last week. The *FM* learns that the flow was more than a trickle, and possibly a significant "oil show."

Soekor is cagey about the importance of the strike. According to a spokesman, "Sedco K has just gone into oil, and the well is not completed yet. The quantity of oil will only be known when tests are completed."

Apparently this is not Soekor's first oil strike this year. Several boreholes have been sunk in the Mossel Bay area, all of which produced some oil. Rumour has it that the latest strike is the most promising and that the oil zone stretches over more than 50 km. Soekor quite correctly says such conclusions are premature.

Soekor's first (and last publicly disclosed) "oil show" was in November last year, about 140 km off Mossel Bay. But the 2m thick band of oil struck then does not justify economic production. Nonetheless, the strike revealed the presence of oil-bearing reservoir formations, thus pinpointing areas for further explorations.

Soekor has already announced that it is planning to step up its oil search this year. Expected spending is R37,8m, against R20,1m in 1978. This hike may be a reflection of the corporation's optimism, as well as of the urgent need to find oil in SA.

OIL SUPPLIES

The noose tightens

(55) FM 18/5/79

For the first time since the 1973 oil scare, government has been warned by the oil companies that pumps may run dry in certain areas if crude oil supplies do not improve in the next two weeks.

Oil companies have warned that their stock levels are near danger point. In the days when the prime source of crude oil was the Gulf states, the inventory cushion was about 12 weeks: six weeks of crude in tanks or on the water, plus six weeks of refined product in depots or in the pipelines.

Filling up . . . protection may be free, oil isn't

Some companies have cautioned that their outlets in certain parts of the country will run dry in the next couple of weeks if fresh supplies of crude are not forthcoming.

The shortfall warnings follow hard on the heels of the companies' recent communication to the Ministry of Economic Affairs that because of world-wide rescheduling of their parent firms' international supply chains, resulting in drastic cutbacks in their allocations, they have been forced, like Sasol (government's procurement agency), to rely almost totally on spot market acquisitions. According to senior government officials, this has had the effect of driving acquisition costs even higher. Recent deals have been done at premiums of up to $12 a barrel over the ruling Opec average of $16 a barrel fob.

Even allowing for economies and conservation, the minimum requirement to fuel stepped-up economic activity later this year will be 250 000 b/d, so that at the latest souped-up prices foreign exchange needs would run to more than $2 000m on an annual basis. Even now, government's Equalisation Fund is delicately poised between black and red. One more price push from offshore suppliers and Strategic Oil Fund levies will have to be raised.

At present, accretions to the fund are running at about 7,5c/litre on all petroleum product sales, including lubricants, plus 2c/litre excise duty on certain automotive fuels diverted to the fund on a temporary basis. According to government experts, every rise of $1 a barrel in the cost of acquisition needs to be balanced by an extra contribution of 1c a litre to the Equalisation Fund.

Officials stress that, while price may have exerted a sobering influence on consumers in the past, current economic priorities dictate that price stability should be strived for at all costs.

According to oil company returns, petrol consumption has been falling steadily since imposition of the last SOF levy of 6c a litre on February 23. Diesel use, on the other hand, continues to rise. This has a perverse economic effect: high petrol prices deflate consumer spending, high diesel prices inflate production costs and push up inflation. Either way, growth is inhibited.

The only alternative is to place physical curbs on offtake. Speed restrictions, high prices and curtailed pump selling hours have probably made SA the most disciplined user of petroleum products in the world. But these measures were designed primarily for balance of payments purposes during the 1975-77 recession.

Now that physical availability has become the prime bugbear, government is very close to a new strategy. The device to which officials are most attracted is one that is currently being applied in Greece at weekends, where half the country's passenger cars are banned from the roads. Cars with odd licence plate numbers are allowed out one weekend and cars with even numbers the next.

In SA the curbs would be applied on a daily basis — and to all vehicles, thereby forcing commercial fleet truck operators in particular to rationalise usage. If it is felt that cheating (the use of false plates) might spoil the system, government could issue vehicle owners with coloured stickers or other identity devices.

Ironically, SA's political standing in the international oil equation has never been less of a problem since oil producers began to impose destination embargoes in 1974. For the first time in five years, SA is probably on the same supply footing as most major consumers without domestic sources of production. Compared with California, where motorists have grabbed the last gallon at gunpoint, or Dublin which is witnessing mile-long queues at gas stations, SA probably leads the world in patient endurance of oil privations.

tar Tuesday May 22 1979

Warning: oil cuts or slump

84 22/8/79.

55

PARIS — Amid warnings that failure to reduce oil consumption could mean another major recession, the main consumer countries today launch projects to get more energy from such sources as coal and the sun.

CROSSROADS

Ministers attending the closing session of the International Energy Agency (IEA) conference will also give the go-ahead for research projects in energy conservation and on how to use oil more effectively, reports Sapa-Reuter.

Speakers at the conference have already said that if the programme of the IEA failed, the result could be another recession plus inflation of the type that hit the world in 1974-75.

The European Energy Commissioner, Mr Guido Brunner, told the opening session: "We have arrived at a crossroads. Economic growth based on surplus availability of cheap energy will not be possible any more."

The conference of the 20-nation IEA is taking place amid a continuing world oil shortage with supplies estimated to be about four percent below demand. The IEA has set a target of a five percent reduction in demand for imported oil this year.

The Star's correspondent in Paris reports that Dr James Schlesinger, the US Energy Secretary, echoed the general sombre tone, warning that the performance of the US and other countries since the last oil crisis was no longer acceptable in view of the "larger problems."

The Iranian revolution had brought forward the "day of reckoning" by reducing expected oil supply capacity by between 1,5-million and 2-million barrels a day.

The prospects for Opec capacity in 1985 had been brought back to between 35-million and 36-million barrels a day "at best" compared with 44-million to 45-million barrels forecast two years ago, Dr Schlesinger said.

Airlines worried by fuel prices

The Star Bureau

LONDON — The world's major airlines are coping well with cuts in fuel supplies of five to 20 percent and few services have been canceled in recent weeks because of shortages.

Of more serious concern, however, is the rising price of the fuel that is available.

Reports from Heathrow, London, suggest that supplies there are being maintained reasonably well.

Supplies at Amsterdam, Brussels and Copenhagen are however said to be "critical." In America such places as Miami, Washington and Boston are experiencing severe shortages.

Reducing energy consumption is key issue

LONDON — The Iranian political uprising, with its attendant widespread upward adjustments in oil prices and uncertainty over security of negotiated contracts, has been the single most important factor governing individual nations' central planning.

Latest international developments have merely accelerated the need for Western industrial countries to reduce energy consumption, a topic which will dominate discussions at the Paris meeting of the International Energy Agency which began yesterday.

Iran has now asked foreign buyers to accept supply cuts of up to 15 percent, while Kuwait is the latest Opec producer to follow Teheran's policy of setting higher oil surcharges. There are also unconfirmed reports that Saudi Arabia is releasing more oil to Third World countries and restricting liftings by the country's main operator, Arabian American Oil Co.

Reuters correspondents in world centres have assessed the impact of the oil crisis and its potential repercussions.

Normal

Robert Kearns writes from Tokyo that as the world oil picture becomes increasingly clouded, the yen has suffered on renewed concern about Japan's economic potential in the face of rising prices and stepped up competition for supplies.

Before the Iranian political upheaval, Japan had relied on Iran for over 17 percent of its supplies, and many analysts had based their forecasts on the assumption that the situation there was being restored to normal.

When Iran went ahead with a 60 cents a barrel price increase last week, officials of the Ministry of International Trade and Industry (MITI), who oversee Japan's oil situation, said that it signalled the start of another round of world oil price increases.

Supply

The officials pointed out that since Japan imports virtually all its oil, its economy would be affected more than other industrial nations. Economic Planning Agency officials attribute a substantial portion of the recently accelerated rise in wholesale prices, which jumped in April at a 2,2 percent annual rate, to rising oil related prices.

Bank economists believe that at least half the wholesale price rise can be blamed on oil price increases.

Japan's five-year-old oil supply programme, announced on April 20, projected oil demand would rise 4,3 percent annually, with imports rising 7,9 percent in the current financial year ending next March 31 to a total of 292 million kilolitres.

But officials said that this projection does not take into account rising prices, nor does it make any negative assumptions about possible supply problems.

Reserve

So far, with a government-mandated cushion of 88 days oil supply in reserve, the rising prices have yet to affect economic growth significantly, except for the threat to inflation, which the government is unlikely to keep below its target of five percent for the present financial year, Economic Planning Agency officials said.

Japan's predominant concern remains its ability to secure supplies and not price, MITI sources pointed out. They note reports that US buyers were showing a willingness to inrease spot market purchases, despite sky-rocketing asking prices of as much as 30 dollars a barrel has had less of an effect on the foreign exchange market than did news of a possible Iranian cutback.

One official cited the observation of American "futurist" Herman Kahn, widely read in London who argued that Japan, with its massive holdings of foreign exchange, and its proven ability to rapidly boosts exports, is far better able to pay for its oil than any other oil-import dependent country.

Recession

President Carter has proposed a package of mandatory and voluntary controls which he estimates would reduce oil consumption by up to 1,5 million barrels a day and satisfy the US five percent reduction pledge to the International Energy Agency.

Economists and oil analysts in Washington said the resulting higher oil prices would raise the odds of a recession in the US and increase inflation by about 0,5 percent.

The Treasury, which originally estimated 1979 oil imports at an average 9.5 million barrels a day, said the year's average will probably be about nine million barrels daily. Imports should be down to 8,5 million barrels a day by the year's end, it said.

In Britain, government sources said higher oil prices would eventually work their way through in all sectors of the economy but they were reluctant to estimate the likely resultant increase in inflation.

They noted that Britain would be cushioned from the short-term effects of the price and supply position by its North Sea supplies, but that these would not provide full immunity from the long-term effects.

Both Government and oil industry sources said supplies to all sectors were presently being maintained at or about last year's levels and there had consequently been little impact on industrial performance.

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But now, because of higher oil and imported raw material price, the average annual rate of inflation is likely to be around 14 percent, while December to December could see an increase in consumer prices of 16 percent, economists said.

Official economic forecasts have not yet been revised to take account of the latest oil market developments, as policy decisions are being postponed until after next month's elections.

Worried

Economists concede that an earlier forecast growth rate of 4,5 to 5 percent in the gross national product could be dampened slightly by the effects of higher oil prices, but they still consider growth likely to be above four percent this year.

But Italy has still taken no action to curb oil consumption, as agreed on by the 20 members of the IEA, and industrialists are worried about the effects such cutbacks could have on production.

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From Zurich, Marcus Ferrar reports that rising oil prices are already boosting inflation in Switzerland, the consumer price index, which last autumn was rising by only 0.9 percent annually, increased by 2.6 percent in the latest April month.

National Bank general manager Pierre Languetin said if it were not for oil price rises, the April figure would have been about nine percent.

Opposition

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Switzerland depends on oil imports for three quarters of its energy supplies, a proportion which has remained unaltered since the last oil crisis in 1973/74.

Energy consumption rose 5,1 percent last year, and consumption of oil products by 5,6 percent.

Strong opposition in referenda to government atomic power station building programmes has dimmed prospects for substituting oil imports. Energy Minister Willi Ritschard told Parliament emergency legislation will be needed to maintain supplies if any of the present atomic power stations have to be closed, even temporarily, in the aftermath of the Harrisburg accident.

Deficit

French economists say rising oil and raw material prices present the major threat to the French Government's economic targets, Robin Staniforth reports from Paris.

Most private sector economists believe that as a result of higher than expected import prices inflation will be in double figures in 1979 compared with the official target of eight percent, while real GNP growth will be little more than three percent against the official 3,7 percent goal.

A projected slight trade surplus may end up as a deficit and unemployment is likely to worsen significantly, they say.

Prime Minister Raymond Barre recently advised that Opec oil price increases are likely to raise the French 1979 oil bill 15-billion francs above original estimates.

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Growth

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The worsening oil situation is likely to boost Dutch inflation and the current account balance of payments deficit, and depress economic growth, economists said, Roger Jeal reoprts from Amsterdam.

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Higher oil prices could also depress real gross national product growth to nearer the two percent rate seen in 1978 than the 2,5 percent forecast for this year by the planning office, the economists said.

Domestic

Belgium's Economics Minister Willy Claes attempted to combat spiralling oil prices and lower supplies when he introduced a new energy saving plan at the start of May, John Bartram writes from Brussels.

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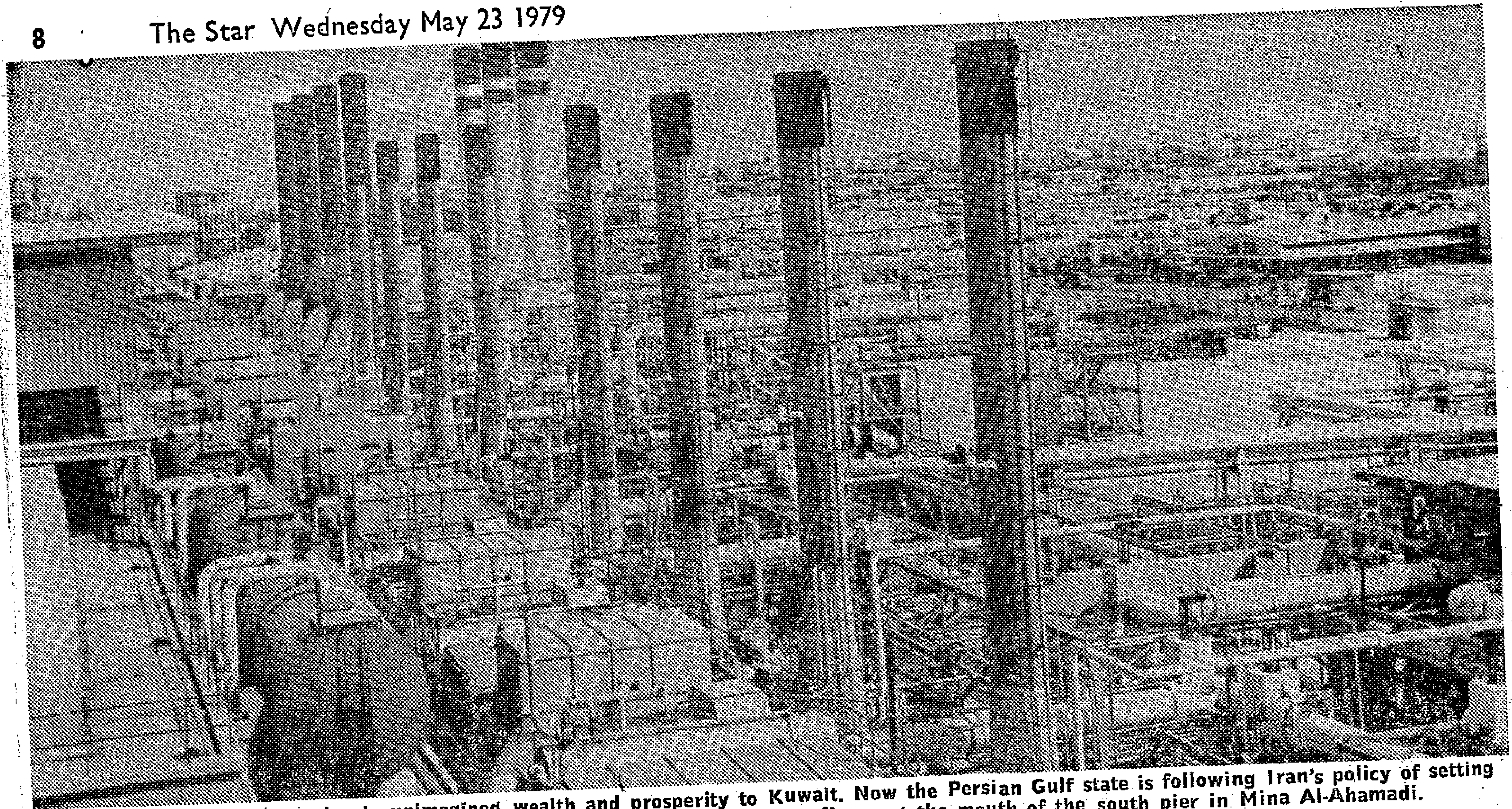
Claes fears the inflation rate which has bottomed out at an annual 3,7 percent and is now rising again, will spurt ahead if swift action is not taken, while Belgium's target of a 2,8 percent rise in real GNP this year could also be threatened. Oil supplies are now nearly six percent below normal levels, a spokesman for the economics ministry said. — Reuter.



...il has already brought previously unimagined wealth and prosperity to Kuwait. Now the Persian Gulf state is following Iran's policy of setting higher oil surcharges. The picture shows the Kuwait Oil Company's refinery at the mouth of the south pier in Mina Al-Ahamadi.

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Robert Kearns writes from Tokyo that as the world oil picture becomes increasingly clouded, the yen has suffered on renewed concern about Japan's economic potential in the face of rising prices and stepped up competition for supplies.

Before the Iranian political upheaval, Japan had relied on Iran for over 17 percent of its supplies, and many analysts had based their forecasts on the situa-

note reports that US buyers were showing a willingness to increase spot market purchases, in spite sky-rocketing asking prices of as much as 30 dollars a barrel.

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President Carter has proposed a package of mandatory and voluntary controls which he estimates would reduce oil consumption by up to 1,5m barrels a day and satisfy the US five percent reduction pledge to the International Energy Agency.

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The agency said the cabinet meeting also discussed Saudi Arabia's draft budget and oil revenue expected in the current year.

US budget deficit

WASHINGTON. — The US first quarter budget deficit on a national income accounts basis fell to an annual rate of $18,4 billion from $20,8 billion in the previous quarter, the commerce department said.

The first quarter deficit compared with a $52,6 billion deficit in the first quarter of 1978. — Reuter

Campbell Karg wins a Loerie

AT THE Loerie '78 film festival for locally produced commercials Campbell Karg Studios, advertising agency Goodgoll, Said Campbell-Ewald and Southern Life Association won a Loerie award for a 45 second commercial titled "Man in Bank".

Campbell Karg Studios produced the commercial for Southern Life and was the only Cape Town production house to win a Loerie '78 award.

This is the first year that these awards have been presented and the festival was supported by advertisers, agencies and production houses throughout the country. It has established itself as being a high point in the advertising calendar. Although not international, it is South Africa's parallel to the Cannes Film Festival.

Pictured from the left is Mr Graeme Hill, marketing manager of Southern Life, Mr Rob Murraybrown, producer, Mr Colin Campbell, director, and Mr Richard Morris, account director, Goodgoll, Said Campbell-Ewald.

Average gold prices

JOHANNESBURG. — The average London 3pm gold fix for the year to date is 240,01 US dollars an ounce.

The average 3pm fix for the first quarter of 1979 was 238,10 dollars while the current running average for the second quarter of the year to date is 244,54.

The highest fix for the year to date was yesterday's 3pm fix at 262,00 dollars and the lowest 216,55 (January 15 at 1030). — Reuter

Emphasis on coal to replace oil

PARIS. — Industrial Western nations resolved yesterday to put heavy emphasis on coal energy to replace dwindling, increasingly expensive oil.

Ministers of 20 nations belonging to the International Energy Agency, founded to counterbalance the petro-dollar might of Opec, agreed in a joint communique that "greatly increased coal use is required to meet growing energy demand in the medium and long term".

The communique, summing up a two-day IEA conference, said the shift to coal "is both desirable and possible in the light of the world's abundant coal reserves . . ."

The weight given to coal was noticeable compared with the communique's attitude to nuclear power. It said only that plans for nuclear plants should be carried out "in timely fashion and exceeded wherever possible" but emphasized the need for more security measures around reactors.

The agency even issued a special paper on coal, urging that it replace oil in power plants.

It called for "a favourable investment climate, energy pricing policies which allow coal to develop its full competitive power," and demanded that nations enunciate their coal policies more clearly.

The communique also urged the construction of transport systems and ports to handle coal.

It said that agency member states could double the role of coal in industry by 1 quadruple it in 2000.

The agency conclu conference with a w that unless action was available energy s would not be sufficient tain even "moderate e growth". — Sapa

ON (CONT'D)

Gold Fields Industrial plans R1m rights issue

JOHANNESBURG. — Goldfields Industrial Corp Ltd proposes to raise about R1m through a rights issue of ordinary shares at a price to be determined later, the company said in a statement.

The last day to register for rights will be June 22. The offer will open on June 29 and close on July 20.

The new ordinary 50c shares to be issued in terms of the rights offer will rank pari pasu on allotment with the existing ord shares of 50c each, but will not participate in the final dividend to be paid for the year ended March 31.

As a preliminary to the rights issue the company proposes to increase its authorized share capital to R2,5m from R1,5m through the creation of a further 2m new ordinary 50c shares.

Of the net proceeds of the rights issue, about R450 000 will be used to enable the company to acquire ownership of the trading centre from which a subsidiary group operates — the Koppel Gilbert Building in Isando — and the balance for working capital requirements. — Reuter

When Iran went ahead with a 60 cents a barrel price increase last week, officials of the ministry of international trade and industry, who oversee Japan's oil situation, said that it signalled the start of another round of world oil price increases.

The officials pointed out that since Japan imports virtually all its oil, its economy would be affected more than other industrial nations. Economic planning agency officials include a substantial portion of the recently accelerated rise in wholesale prices, which jumped in April at a 2,2 percent annual rate, to rising oil related prices.

Bank economists believe that at least half the wholesale price rise can be blamed on oil price increases.

Japan's five-year oil supply programme, announced on April 20, projected oil demand would rise 4,3 percent annually, with imports rising 7,9 percent in the current financial year ending next March 31 to a total of 292m kilolitres.

But Miti officials said that this projection does not take into account rising prices, nor does it make any negative assumptions about possible supply problems.

So far, with a government mandated cushion of 88 days' oil supply in reserve, the rising prices have yet to affect economic growth significantly. Except for the threat to inflation, which the government is unlikely to keep below its target of five percent for the present financial year, economic planning agency officials said.

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PARIS. — EEC energy commissioner Guido Brunner told a press meeting at the two-day International Energy Agency (IEA) conference oil price rises for the nine EEC countries this year average 24 percent and will reach 30 percent by the end of the year.

US energy secretary James Schlesinger said the Iranian revolution reduced expected world oil supply by 1.5 to two million barrels a day and IEA officials added that the current gap between supply and demand in the 20-nation organization is between three and four percent.

But they said the shortfall in Sweden is about eight percent because of an exceptionally severe winter. Sweden and Denmark are urging the conference to implement the IEA's emergency oil sharing scheme, but conference sources said there was no immediate evidence of broad support for the Scandinavian move.

Japan declines oil offer

TOKYO. — Japanese oil importers have declined an offer from Kuwait of about 150 000 tons of spot crude oil at 31 dollars a barrel, oil industry sources said.

They said the price was too high compared with about 16 dollars a barrel at which Japan was buying oil on long-term contracts or direct deals with Kuwait.

Japanese trade and industry ministry officials said yesterday Japan will voluntarily curb highly priced spot crude oil imports.

They said that by refusing to pay the higher premiums demanded for spot crude oil, consumer nations may be adding to the pressure among members of the organization of oil exporting countries for a substantial price increase when they convene in June. — Reuter

Star 23/5/79.

Oil crisis could cause giant jobs upheaval

Own Correspondent

PARIS — If the growing imbalance between world energy demands and supplies is not corrected, industrial countries will face problems of unemployment that will shake their political and social foundations in a way not experienced since the 1930s and 1940s.

This warning is given by Dr James Schlesinger, the United States Energy Secretary, after the two-day ministerial meeting of the International Energy Agency in Paris.

The members produced guidelines for a co-ordinated increase in the production, use and distribution of coal, to increase the oil equivalent from 475 million tons in 1976 to 1 500-million tons by the end of the century.

Suggestions by Denmark and Sweden for an oil-sharing scheme within the IEA won little support.

A proposal by Denmark for a voluntary allocation system, and a formal request by Sweden for the introduction of compulsory sharing, were referred to the IEA's governing council for discussion with the major oil companies.

Mr David Howell, the British Energy Secretary and chairman of the meeting, said the Swedish request would be discussed "along with other ways of dealing with Sweden's particular problem."

The consensus of the Ministers was that existing stocks ought to see the Western world through to the end of the year. Nevertheless, they saw the future as "bleak."

Urging "immediate and strong action" to halt the growth in demand for oil, the Ministers said in a communique: "If nothing is done to change present trends, available energy supplies will not be sufficient to support even moderate growth."

The Ministers resolved to study the operations of the spot oil market in Rotterdam for their "impact on a fragile market."

They also resolved to intensify conservation schemes and fuel efficiency measures, and, noting that nuclear power predictions had been repeatedly lowered in recent years, they warned that "undesirable economic and social consequences would result if more nuclear power were not available."

The French Government, having refused to introduce mandatory controls on petrol consumption, has launched a massive publicity campgain to persuade motorists to drive more thoughtfully.

● Algeria has stunned world markets by calling on crude oil customers to accept a price rise of 2,45 US dollars a barrel — pushing it to 21 dollars a barrel, a 48,9 percent increase since the end of last year.

CT. 23/5/79

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Petrol cuts: price rise or rationing

(55)

By Harvey Thomas, Motor Editor

The Minister of Economic Affairs, Mr Heunis has set May 29 — next Tuesday — as the day on which new fuel restrictions will be formulated to cut South Africa's foreign oil bill by up to 50 percent.

With the supply and cost of crude oil described by some sources as "near critical," Mr Heunis and his fuel advisers will make vital decisions that day. They will decide whether to introduce rationing. This could take the form of a coupon system or by the oil companies being told to reduce supplies to all customers by a required percentage.

They will also consider a further petrol price increase. Informed sources believe that "we will be lucky to get away with 50c a litre." This price is more than 10c higher than the price of a litre of premium fuel at the moment.

Further options open to Mr Heunis are a ban on inter-town travel at weekends and closing the fuel pumps for more days in the week.

The Government is also believed to be considering the "odds and evens" system of fuel conservation as an option.

It can be applied in various ways.

All cars with number plates ending in even numbers can be banned from the roads on certain days or week-ends, with the ban on the odd numbers operating on the next weekend.

Similarly, filling stations can be instructed to supply fuel to even-numbered cars on certain days and odd-numbered cars on others.

Mr Heunis, at his meeting on Monday night with representatives of organised industry, commerce and agriculture warned that South Africa's crude oil bill had now jumped to a projected R4 000-million a year and that ways had to be found of reducing the outflow of foreign capital by up to 50 percent.

He has been quoted as saying: "It is now no longer a question of whether there are going to be stricter measures, but of just how strict, they are going to be."

'Horrific'

He asked delegates to report back to him before the crucial meeting next week on how these savings could be effected.

These committees are urgently investigating ways in which South African businessmen and farmers can save foreign exchange.

"The problem is primarily one of supply," said an oil expert. "We have been unable to find a stable source and so have to buy on the spot markets. These are not always reliable or even available and when they are, the price premiums are horrific."

Today, a campaign to cut agriculture's consumption of 2 000 million litres of diesel fuel a year by 10 percent was launched.

It is a joint venture by the South African Agricultural Union and the Division of Agricultural Engineering of the Department of Agricultural Technical Services.

The Prime Minister, Mr P W Botha hinted in Cape Town last night that South Africa could counter an oil embargo by cutting off chrome supplies to the West.

● **Oil crisis could cause giant jobs upheaval. — Page 9.**

● **Reducing energy consumption is huge issue. — Page 8.**

Soekor answers the big question

(55)

By GORDON KLING

REACTING to a dangerous mixture of suspicion, ignorance and rumour, the State oil exploration undertaking, Soekor, this week lifted the lid on hitherto secret aspects of its growing activities in an attempt to explain where South Africa stands in the search for one of the most valuable resources on earth.

Journalists from throughout the Republic attended an all-day session with Soekor in Johannesburg, where they were engulfed in a complex sea of information, much of it classified, as authorities attempted to enlighten minds on intricacies at the search end of what is known throughout the world as "the biggest business".

And the journalists left with the current answer to the multi-million-rand question: Do *we have it?*

The answer is: "Yes, we have no oil".

What Soekor has been trying to say all along — through the feverish excitement generated by some strike, the rumour, the misplaced optimism of politicians and through the depths of despair on dry hole after dry hole — is that oil and gas indications worth following up have been found on the continental shelf of South Africa.

The indications, or "shows", as they are termed in the industry, occur regularly where there is little chance of any commercial find, and the quality of the best shows to date has not been enough to encourage private enterprise to resume exploration programmes abandoned years ago.

Soekor admits that even its "hot area", off Mossel Bay, would not be likely to interest private companies.

However, it can point to a more encouraging outlook from the growing bank of data on the offshore areas and strategic considerations of an uneconomic discovery, as justifying its efforts.

And few would doubt that the R128 million spent so far has been worth it. Not just because worthwhile discoveries of oil and gas could be made, but because South Africa in particular cannot afford not to look.

Where not to . . .

If Soekor does not know precisely where to look, it does know where not to look, which is useful information when one is conducting an offshore search.

Those closest to the overall Soekor programme believe that oil will probably be found some time this year — oil which could be produced on the surface, unlike previous shows which were essentially oil which could not be produced because it could not be extracted from the type of reservoir which held it.

Having said that, however, they are quick to add that this does not, by any means, imply that this oil would be in quantities worth producing.

At present Soekor thinks that it could be marginally financially viable to develop an offshore field producing 5 000 barrels a day, using about 10 wells at 500 barrels each.

Below this the group would still try its best, but costs of between R3 million and R4 million for a basic well are merely the beginning of a minimum capital-cost rpoject of some R100 million.

Such an amount is "peanuts" in the parlance of Soekor's deputy technical director, Dr Ken Graham, in respect of any good discovery. The figures associated with even a small commercial field go into the realms of a Midas dream, but he maintains that there are no grounds for romanticisng on the findings so far.

The search on land is off, as far as Soekor is concerned, and about R100 million of the R128 million spent so far has gone into the sea, says one of the group's financial executives with a wry smile.

One certainty is that more money will be pumped into the offshore programme — not too quickly, though, because the pace in terms of manpower and plain spadework would not permit effective utilization of any new big cash injection.

As for the prospects, it all goes back to having to pay to know.

Severe petrol curbs coming

By GERALD REILLY

THE Government is poised to impose severe new curbs on fuel consumption to counter what threatens to be an unprecedented fuel crisis.

The Minister of Economic Affairs, Mr Chris Heunis, refused to say yesterday when the curbs would be announced, but a statement is expected early next week.

There are five main options open to the Government:

- Further restrictions on fuel selling hours;
- Taking cars off the road for one or more days a week;
- Oil companies could be ordered to supply bulk users with up to 20% less than their normal quotas;
- And the final solution — comprehensive rationing.

The Government has been forced into a more stringent conservation programme by the almost insurmountable difficulty of finding adequate and regular supply sources, and the escalating price of crude on the spot market.

Mr Chris Heunis, Minister of Economic Affairs, said yesterday South Africa would know soon after the end of this month what Government measures are to be taken to save fuel.

- The Secretary for Commerce and Consumer Affairs, Mr T F van der Walt, has stressed yesterday that no measures have been announced by the Government concerning a rise in the price of petroleum fuels.

CT. 25/5/79 (55)

SA starts test on nuclear fusion

Science Reporter

SOUTH AFRICAN researchers are about to begin testing the next stage of atomic power — nuclear fusion — in a giant magnetic bottle based on a Russian design and renamed Tokoloshe.

The details have been given in the latest issue of the SA Journal of Science. The purpose of the magnetic bottle is to contain the plasma, or hot gases, generated at temperatures too high to be contained by any normal material.

When in operation the plasma is held tightly in a ring shape by a powerful magnetic field.

The project, begun in 1975 by the Atomic Energy Board, is aimed at building a medium-sized "tokomak", or Russian design nuclear fusion device.

Fusion generates the kind of temperatures usually only found in the heart of the sun or at the moment of explosion of a hydrogen bomb. It would be impossible to contain such temperatures, ranging from 50 million to 350 million degrees C, with normal material.

Hence the use of a magnetic bottle in which the magnetic forces holds the fiery plasma in suspension, ensuring that it does not come into contact with the outer container.

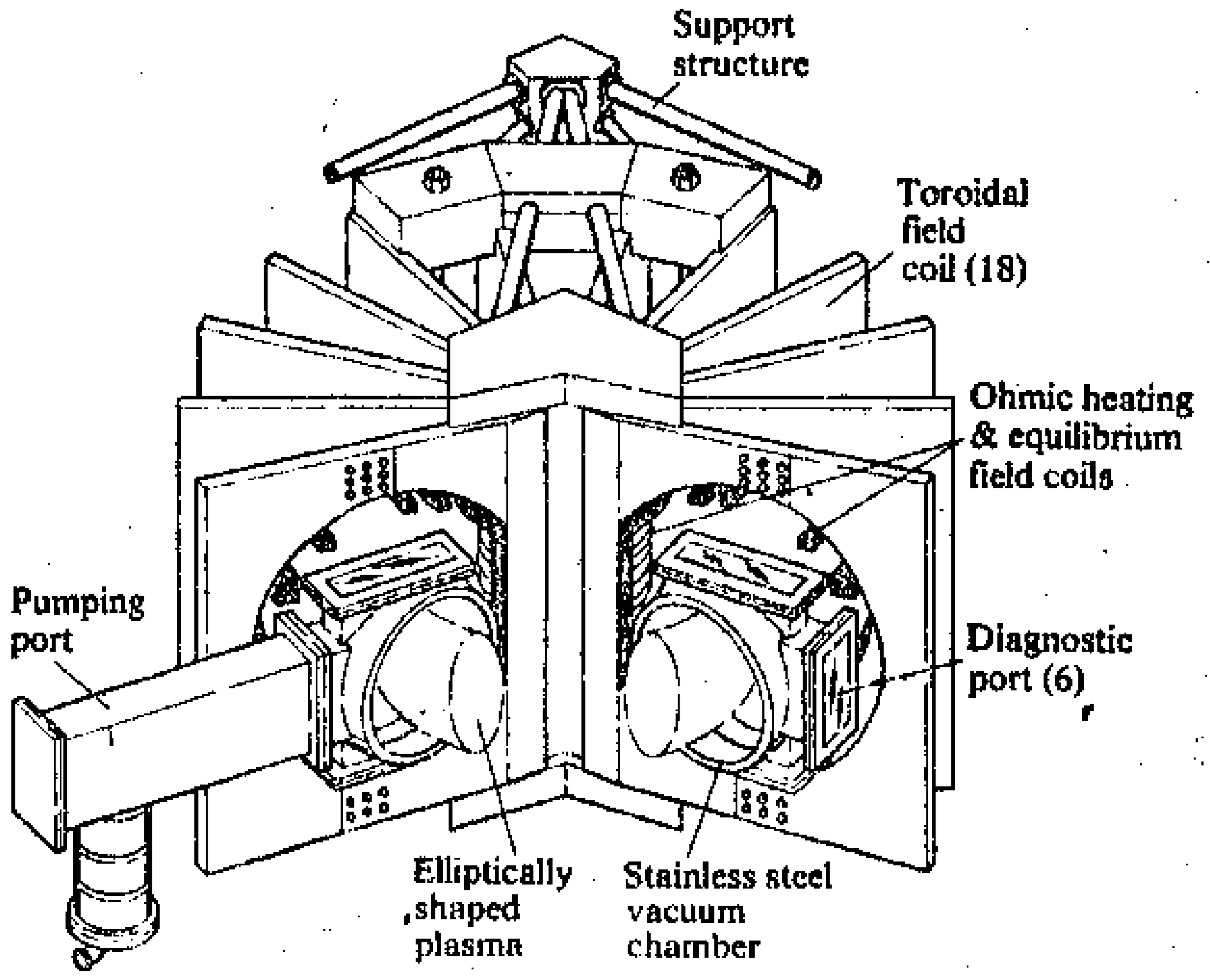
Successful fusion reaction, which has never been achieved, would enable man to use the hydrogen abundantly available in the sea. It is known that one litre of sea-water contains as much energy as do 300 litres of petrol.

The process is also regarded as much "cleaner" and less radioactively harmful than are ordinary reactor processes used in the generation of electrical power.

Assembly of Tokoloshe began last year and the device is now almost complete. An extensive series of tests are expected to be carried out within a few months.

The journal said that "because of the rather complex and sometimes even inconsistent behaviour of tokomaks", the South African machine was named Tokoloshe, after a mischievous African spirit.

"We are determined not to let the machine live up to the implications of its name," the writer added.



A schematic view of the tokomak system, showing the main components. The plasma will be generated in the stainless steel vacuum chamber and held away from its walls by a powerful magnetic force.

Sund Times 27/5/79 (55)

THE OIL CRUNCH HAS COME


HEUNIS

And what it could mean to you

- **Petrol at least 46 cents a litre and sharing your car with neighbours**
- **Motoring only every other week-end and queueing for transport**
- **Evenings at home, restricted sport and dearer food and clothes**
- **Staggered working hours: Start earlier and get home later**

SOUTH AFRICANS this week face their biggest change in life style since the start of the Great Trek.

Economics Minister Chris Heunis meets commerce and industry on drastic measures to cut South Africa's fuel bill by as much as 50 percent.

By TONY HUDSON, MARIAN SHINN and JACK BRICKHILL

After talking to commercial, industrial and official sources the **Sunday Tribune** discovered that measures under consideration include:

- Increasing the price of petrol by at least 20 percent to a minimum of 46 cents a litre.
- Odds and evens weekends. This means that on one weekend cars with uneven registration numbers are banned from roads and even numbers the next. This could be extended to cover the week.
- Petrol rationing.
- Limiting fast lanes on freeways to cars with three or more passengers. These lanes can be monitored by TV cameras mounted on overpasses.
- Reducing fuel supplies to garages by as much as 20 percent.

crisis first hit South Africa in 1974.

The reports of the impending fuel cuts have led to calls for the four provinces to re-allocate their transport spending. The emphasis now is on building provincial roads and highways, with diminishing amounts being spent on improving urban transport.

Statistics released by the Council for Scientific and Industrial Research show that 75 percent of transport is urban and 25 percent uses country roads.

The associate professor of transport engineering at the University of the Witwatersrand, Professor Richard Brown, called for

To Page 3

SUNDAY TRIBUNE 27/5/79 (55)

From Page 1

Petrol crisis: Get ready to queue

co-ordination at the top to stop spending millions on provincial roads that would have minimum usage and diverting the money to improve urban transport.

He said municipalities were beginning to talk about re-allocating their finances to boost commuter services.

The Treasury has been asked by the Department of Transport to increase subsidies for urban transport. Subsidies now run at more than R10 million a year and the urban transport section of the department is considering subsidies of between 25 percent and 50 percent for bus and taxi services. The ur-

plans

● Heavy cuts in fuel supplies to bulk users.

● Cuts in hours and days that petrol will be on sale.

Even if introduced in part, these measures will change the life style of every South African. The cost of living will soar, bringing with it socio-economic problems for lower-income groups, including pensioners and blacks.

In urban areas commuters will face longer queues at bus stops and stations. Some local authorities will battle to face the increasing demand on public transport.

Trolley buses

Transport sources say the worst hit area will be Johannesburg, where bus services are already operating at capacity. It is believed emergency plans have been drawn up to reintroduce trolley buses but a sudden switch to public transport could cause short-term chaos.

Port Elizabeth, where there is no commuter rail service, faces a serious problem if a switch to public transport should occur but Durban and Cape Town have spare rail and bus capacity.

People will have to use suburban shops more, spend evenings at home, end weekend jaunts and share their cars with neighbours.

Because of the cost of travel people will want to live closer to the urban hub, causing a drop in prices of homes in dormitory towns.

In addition:

● Country hotels, already battling to make ends meet, will be hard hit. Many may be forced to close.

● City cinemas and restaurants may face lean times as people eat and entertain closer to home.

● The popularity of suburban cinemas will return.

● Prices of food, clothing and luxury items will rise.

● Oil products such as those containing synthetic fibres will be scarce.

● Sports fixtures, private flying, motor-racing, water-skiing and speedboating could be restricted as they were when the oil

Mr Marshall Cuthbert, general manager of Durban Corporation transport, says staggered hours should be considered to increase peak-operating periods of buses. The service for whites is underused and uneconomic.

"We will cope with increased numbers on these buses but maybe not too comfortably. People might have to put up with coming into work earlier and going home later," he said.

On the economic front, the outlook is even gloomier.

The chances are that the hesitant upward trend could reverse as the man in the street, already short of cash, retreats into his castle. Hopes of a consumer-led recovery will fade.

Industry will bear the brunt of the burden because it uses the most fuel.

A spokesman for the Natal Chamber of Industries said industry had done as much as possible to save fuel. Further cuts could change its structure for the worse.

South Africa's oil exploration corporation, Soekor, has spent R138 million on its 14-year search and has drilled 166 wells — 126 on land and 40 offshore.

There have been several shows of oil and gas, but only one has met the legal definition of a discovery, a gas strike made by Superior in 1968. This strike contains between 2 000 million and 6 000 million cubic metres of gas, it is estimated, but no attempt has been made to exploit it.

The latest show came about 10 days ago in the F-P1 well, 143 kilometres off Mossel Bay. It will be tested in about six weeks.

Sunday EXPRESS Business

EDITED BY PENELOPE GRACIE

Joe Stegmann . . Sasol MD

Public invited to invest R500-m in Sasol

IN LINE with recent Government thinking, the man-in-the-street and institutions are being invited to participate in the profitable Sasol group of companies.

This is the first time in history that the State has opened up a State organisation to public participation.

The public is being invited to subscribe more than R500-m to finance the extension of Sasol 2.

In an equity offer some R20-m will be offered to the man-in-the-street and R480-m will go to financial institutions like pension funds and insurance companies.

It is thought that the shares which will be listed on the Johannesburg Stock Exchange, will have a value of around R2 each, and a holding of Sasol shares will ease the pain of ever rising fuel prices for the South African motorist.

With an investment in Sasol he will be able to reap some benefit, through dividend income, when the price of fuel rises. For Sasol, having a fixed capital cost, albeit enormous — R6 000-m for developing Sasol 2 and 3 — it is able to derive great advantage when the price of fuel products increases.

In an announcement this weekend, the managing director of Sasol, Joe Stegmann, said a scheme had been arranged to allow public participation. A new company, Sasol Ltd, has been formed to be the parent of the Sasol companies.

From the start Sasol 1, which turned in R114-m pre-tax profit last year, will be wholly-owned by Sasol Ltd and the two new Sasols, currently being developed, will be held 50% each by Sasol Ltd and the IDC.

When the latter two are commissioned and become profitable they too will also become wholly-owned subsidiaries of Sasol. The public will be invited to buy shares in Sasol Ltd. About 10-m ordinary shares with an estimated value of around R2 each, will be offered to the public and financial institutions will be invited through a private placing of convertible debentures and ordinary shares to subscribe for the remainder.

The debentures of the same value as the shares will have a conversion date towards the end of 1980. Although it is rumoured that the ordinary shares will be pitched to yield less than 8%, the attraction for the small investor lies in the fact that income should rise rapidly.

As Sasol points out, Sasol 1's profit after tax has more than doubled in the last three years from R30,1-m to R73,3-m and private investors will participate in 60% to 70% of the Sasol 1 profit.

It is planned that between 60% and 70% of the ordinary shares in Sasol Ltd will lie in private investors' hands, a percentage which will decrease when Sasol 2 becomes a wholly-owned subsidiary of Sasol Ltd.

Provision has been made, however, for this and a R300-m rights issue is programmed to again lift the public interest to around 60%. (The same will apply when Sasol 3, running profitably, is introduced.)

There is little doubt that Sasol and its many advisers will ensure that the offer is attractively pitched. It wouldn't do to have the issue fail.

Stegmann said the prospectus should be complete by the second half of June. It's on the cards that the institutions will plump for the debentures which give a tax advantage rather than the shares.

A great deal hinges on the issue. It's the first time the Government has been brave enough to float off an interest in a "strategic industry" to the private sector — a move that is to be commended.

However, the private sector operates on returns on investment and as this is likely to be the single largest investment for most institutions they will be more than usually conscious of returns.

The other factor hanging on this issue is the interest rate pattern. Taking R500-m plus out of circulation over a two year period, if it does nothing else, will psychologically push up rates

Star 28/5/79

(55)

R1 000-m plan to beat the fuel crisis

By Harvey Thomas, Motor Editor

Plans to save South Africa about R1 000-million a year to offset the foreign oil bill will be submitted to the Minister of Economics, Mr Chris Heunis, tomorrow.

The crucial fuel meeting in Cape Town to be attended by Government officials and representatives of organised commerce, industry and agriculture, will pave the way for what have been described as "drastic new fuel conservation measures."

An announcement is expected this week.

The amount businessmen believe they can save on foreign exchange may offset the likelihood of coupon petrol rationing, but experts warned today that some form of rationing "is almost inevitable."

Sources on the seven committees now readying plans to effect a major reduction in the outflow of foreign capital, indicated today that potential savings "are substantial."

I understand that a saving of R1 000-million a year is considered possible.

In the motor industry, for instance, using South African replacement parts instead of imported parts could save up to R200-million a year.

Supply cuts

Introduction of coupon petrol rationing is considered unlikely "unless Mr Heunis has information that the situation is expected to deteriorate even further."

But informed opinion is that the oil companies may be instructed to cut back supplies by the re-

The average price is now 18 cents, according to official figures.

The acute shortage of petrol has virtually eliminated competition as a means of keeping prices down.

● Soaring price — See Page 3.

"This would be a cost-free and most effective conservation measure," said a source.

"The biggest culprits in fuel wastage are farmers and commercial users. If their supplies are arbitrarily reduced, this would mean a substantial saving."

Experts have emphasised it is difficult to anticipate the exact measures Mr Heunis is likely to favour but based on current conditions he may:

- Close fuel pumps again on Saturday, thus limiting weekend travel.
- Ban cars with even-numbered licence plates on designated weekends and cars with odd-numbered plates on others, although policing would be difficult.
- Increase the price of petrol. It is expected that the new price will be "at least" 50c a litre, up by more than 10c.

Queued 24 hours for petrol in US

By Harvey Thomas

A Johannesburg businessman, Mr Eddie Keizan, cut short his visit to California after spending more than 24 hours queueing for petrol.

"South Africans seem to believe that the oil crisis is aimed at this country," he said on his return to Johannesburg yesterday.

"After my travels in America and Europe this month I can assure them this is an inernational problem and South Africa is just part of it.

"In 10 days on the American West coast I spent more than 24 hours in petrol queues, often abandoning a queue because the filling station had run out of petrol.

"I cut short my visit by a day as I was unable to travel where I wanted to.

"In Britain last week the price of petrol went up again to 40c a litre and there was speculation that rationing may be introduced.

"I discovered that the price of fuel in South Africa is still cheaper than in most parts of the world except the United States."

Rationing likely in Britain

The Star Bureau

LONDON — British oil companies say petrol and oil are to be rationed in Britain for at least the rest of the year.

Supplies are down about 10 percent and are expected to be cut by a further five percent next month.

Heating oil supplies for factories, homes and offices will be reduced by as much as 30 percent to allow stocks to be built up for next winter.

Oil prices going up

The Star Bureau

NEW YORK — Petrol prices have risen across the US by an average of 3 cents a litre this year and are certain to continue to climb.

OAU plans to hit SA

LUSAKA — The OAU sanctions committee meets in Lusaka today to discuss tightening oil sanctions against South Africa.

A spokesman said the committee was trying to find ways in which the organisation could assist Southern African countries to be less dependent on South Africa.

The committee consists of seven countries, including Zambia, Sierra Leone, Ghana, Libya, Algeria and Gabon. — Sapa.

Soekor launches gas-to-fuel probe

By Jaap Boekkooi

Soekor, the State oil exploration corporation, is making an urgent study of a scheme to convert natural gas from the offshore field near Plettenberg Bay into methanol for transport fuel.

First indications are that the gas field — discovered in the early 1970s and a 'giant' by world standards — could be turned into 1 000 tons of methanol a day for the next 15 years.

It would provide six percent of South Africa's present imports.

Soekor's public relations officer, Mr Mike Leibbrandt, today confirmed the study. He said it proposed putting up a sea platform above the gas field at a cost of R35-million, and a R70-million gas-to-methanol conversion plant.

The exciting part of the plan is that provisional studies estimate the cost of the methanol would be 12c to 14c a litre

Drastic fuel steps this week

RDM 28/5/79.

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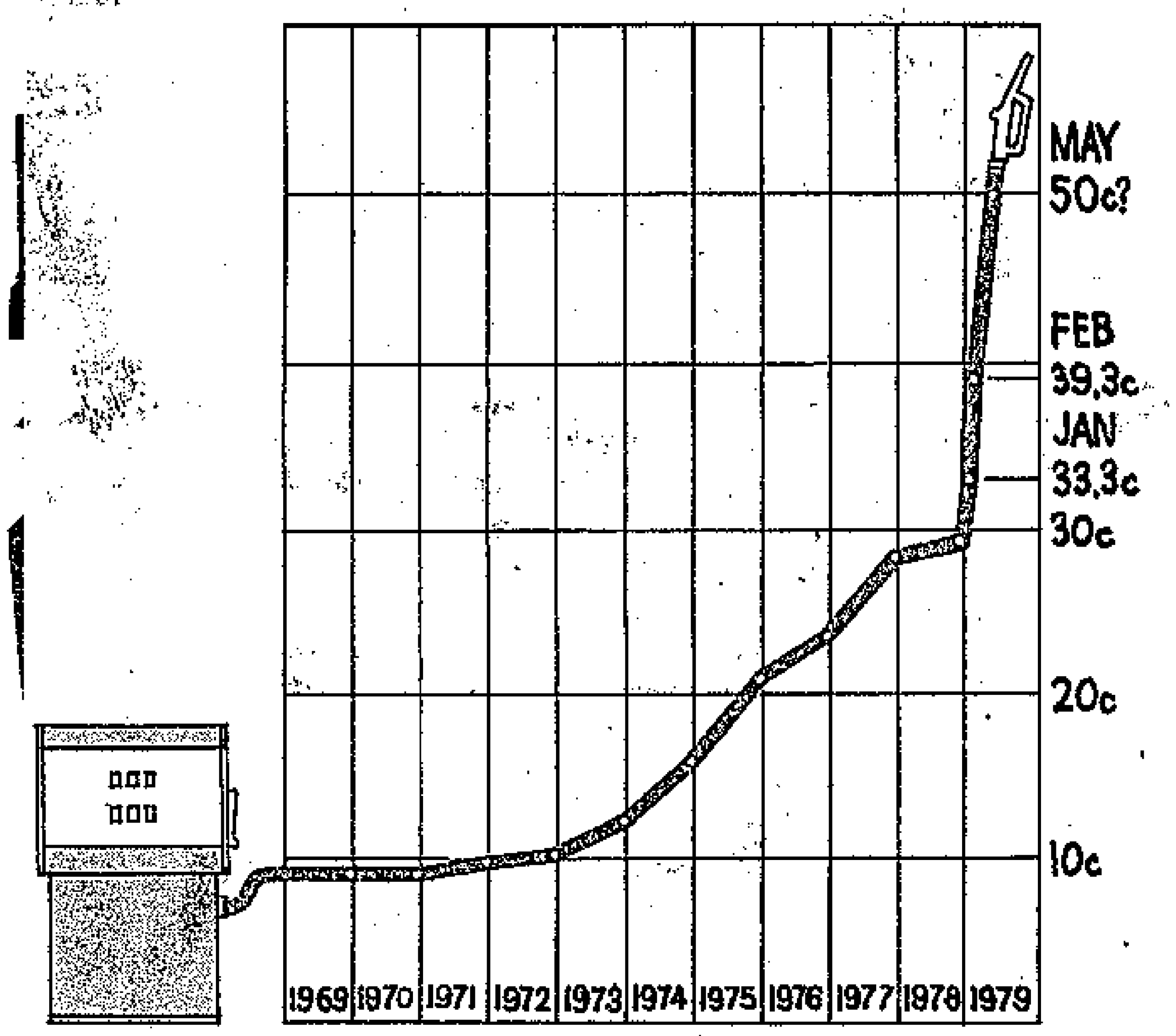
By GERALD REILLY
Pretoria Bureau

DRASTIC fuel economies, and what authorities say will be a staggering petrol price rise, will be announced later this week by the Minister of Economic Affairs, Mr Chris Heunis.

South Africa is caught in an energy crisis which has the West in its grip. Only the most severe conservation measures can stave off a disastrous fuel shortage.

South Africa is in a most serious position. Because of international politics it has difficulty in finding regular and adequate supply sources.



The soaring cost of petrol in South Africa is shown in this graph. If predictions are correct the price will rocket soon to 50c a litre (R2,10 a gallon). This will mean it will be five times more expensive than it was 10 years ago. The last increase, in February, was to 39,3c a litre.

The country has to shop on the spot-market where prices have gone sky-high.

South Africa has substantial strategic fuel reserves. But, it is understood, the Government has no intention of tapping these reserves to ease the crisis.

The situation has gone far beyond the "appeal" stage. Savings must be ruthlessly enforced, one source said.

Decisions on conservation measures will be taken after a meeting between Mr Heunis and representatives of commerce and industry tomorrow.

A basic consideration, before the Cabinet approves curbs and price hikes, is that minimum harm is done to Government attempts to stimulate the economy.

Informed sources say it is impossible accurately to forecast a price rise. But an "educated" guess is about 25%. This would bring the price of premium to 50 cents a litre on the Highveld.

Mr Heunis is expected to decide on a price which will avoid smaller increases in the foreseeable future.

The crude-oil price on the spot-market has reached $37 a barrel — nearly three times more than the basic Opec price of $14,5.

At this price the fuel bill would soar to an astronomical R4-billion per year — which would place an impossible strain on the balance of payments even with a high gold price.

Among the options to conserve fuel are:

- Further restrictions on fuel-selling hours.
- Taking cars off the road one day a week on the odds-and-evens system.
- Restrictions on Sunday motoring.
- Oil company cuts to bulk users and suppliers like garages, commerce and industry.

The last of the options is the most likely as a reduction can be achieved by applying the squeeze at the source.

The "final solution" — rationing — is highly unlikely because of the high administrative costs estimated at about R20-million a year and the abuse to which it could be exposed.

But Mr Louis Rive, the Postmaster-General, would not comment on whether rationing tickets, which had already been printed, would be issued.

Economists are concerned about the inflationary effects of the fuel price rise. The rate has already reached an unacceptably high 12,8% for the 12 months to the end of April

Even Saudi moderation can't halt non-stop surge in oil prices

RDM. 30/5/79

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FOR SEVERAL weeks the Organisation of Petroleum Exporting Countries' oil pricing structure has been in chaos, writes KEVIN DONE, ebergy correspondent of the London Financial Times. Individual countries have leap-frogged ahead of each other, indiscriminately adding extra surcharges with little reference to the quality of the crudes they produce.

Algeria has taken the argument into a new realm by asking its crude oil customers to accept an additional $2,45 a barrel on all its oil sales. Since February when surcharges were introduced by Abu Dhabi and Qatar the gap between the price set by Saudi Arabia for its Arabian light, Opec's marker crude, and the prices being charged by other Opec members has been widening.

But the fiction has been maintained that the marker price, on which the whole Opec price structure has been founded is still only $14,55 a barrel. Other producers were simply adding temporary surcharges to take advantage of a tight market.

Algeria has taken a determined lead, as one of Opec's more resolute price hawks, to dispel the fiction. It maintains that the new increase, which will push up the price for its high-quality Saharan Blend to $21 a barrel, has nothing to do with surcharges.

It is merely recognising the reality that the market price for the Opec marker crude is now at least $17 a barrel in the Gulf. The established differential for its high quality, light low sulphur crude is $4 a barrel, which also takes into account its freight advantage over Gulf producers because it is situated so much nearer to the major markets of North-west Europe and North America. Straightforward addition produces a price of $21 a barrel, an increase of 49% in just under five months.

Under the terms of its contracts with the oil companies Algeria cannot strictly impose its new increase until July 1 at the earliest. But with the present scramble for crude supplies, the oil industry believes it has little alternative to accepting the Algerians' request for a higher price, and it admits to having meagre grounds on which to challenge the logic of the Algerians' case.

If Algeria's action succeeds — and Mr. Nordine Ait Laoussine, executive vice-president of Sonatrach, the State oil company, claims that 85% of its crude oil buyers have already agreed to the new price levels — it rudely exposes the anomalous moderate pricing stance Saudi Arabia has tried to maintain since the beginning of the year.

It is virtually sure that Saudi Arabia will have to bring the price of the market crude more in line with the rest of the market at the Opec meeting in June.

This year's increases are unlikely to rest there, however. Senior executives in the oil industry are braced for the marker crude price to reach as much as $20 a barrel by the end of the year, which would be an increase of more than 55% since the beginning of 1978. The increase envisaged by Opec last December was no more than 14,5%.

The recent rash of haphazard increases imposed by producers as diverse as Kuwait, Venezuela, Abu Dhabi and Iran suggest that it is only at a much higher price level that the market will be able to regain any signs of stability. This thinking is already being reflected by senior members of the Opec secretariat.

Dr Fahdil Chalabi, the deputy secretary general of the organisation suggested recently that the new "rational" price should be over $19,50 a barrel.

The Opec marker price would have to reach this level

says his country will try to restore some order to the oil market by attempting to reunify the price structure, but his room for manoeuvre appears strictly limited.

It is probable that at the Opec meeting in Geneva next month Saudi Arabia will have to give way to mounting pressure to bring its prices into line with those set by other producers.

Iran is charging $17,17 a barrel for its light crude, which traditionally has been kept to within a few cents of the price of Arabian light. Iraq is asking $16,40 a barrel for its Basrah light, the other major Middle East crude of this quality.

By maintaining its price of $14,55 a barrel Saudi Arabia is more than $2 a barrel below the market and with its present disinclination to push its production up to a higher level, there appears little it can do to moderate the surge of price rises.

The oil conservation lobby in Saudi Arabia has been growing in strength in recent months. At the same time, the political constraints on the Saudis' freedom of action have been tightened by its entry into the ranks of the militant Arab countries that are rejecting the Egyptian-/Israeli peace treaty engineered by the US.

With the recent events in Iran to add to its discomfort, Saudi Arabia appears singularly ill-equipped to prolong its traditional rôle as the leader of the moderates in the Opec camp.

Theoretically it still has the extra production capacity available — it could produce a maximum of 10-million to 11-million barrels a day against the present ceiling of 8 500 000 b/d — to deal a sufficiently hard psychological blow to the oil market to cause prices to fall back. It appears that the Saudis no longer believe it to be in their best interests to use their production capacity to control the market.

By the time the Opec Oil Ministers convene next month, the Saudis will have been trying to moderate price increases for the past six months. But the net result has been to create a multi-tier price system which has caused unprecedented disorder in the oil markets.

If Saudi Arabia is unwilling to increase production, there appears to be little reason why the present tightness in the market should not allow the more hawkish Opec producers to continue leading up the spiral in oil prices for the rest of the year. According to oil industry consensus there is still a shortfall of supply against demand of about 4%, or 1 500 000 to 2-million barrels a day.

The latest meeting of the major oil-consuming nations in Paris last week gave no great cause for believing that the industrialised countries are yet ready to act with sufficient unity of purpose to cut oil demand to the point where it will undercut the upward price spiral.

Indeed the latest confused pronouncements of the US Administration in particular have served only to add several dollars to the price of oil in the spot market.

Concern is growing in many countries about the difficulty of rebuilding stock levels in time for next winter. In the US this anxiety was shown in an Energy Department directive to oil companies to produce more heating oil at the expense of other products, such as petrol.

At the same time the US oil industry is coming under pressure from the Government to refrain from making large-scale purchases of crude oil and products in the spot market for fear of driving prices even higher. *Such purchases can only fuel the Opec countries' case for charging higher term-contract prices, it is argued.*

This careful approach ap-

tive oil industry journal, Petroleum Intelligence Weekly, "US refiners have been pushed on to the world's spot markets for scarce crude and products by Government instructions to build up distillate stocks much faster and to much higher levels than last year".

It is not clear how the US Energy Department squares it target of rebuilding high stock levels with its pledge to the International Energy Agency to cut back its oil consumption by 5%, or about 1-million barrels a day.

The result, however, is that many US refiners, including apparently the majors, such as Exxon and Mobil, have come into the spot market in competition with European and Japanese buyers.

The spot market accounts for a small percentage of total world crude trade and its behaviour is extremely volatile. For much of the past five years spot prices in the main markets, based on the refining complexes of Rotterdam, the Mediterranean, the Caribbean and Singapore, have lagged behind the main trend of contract prices. But it only needs a small change from surplus to shortage to send spot prices shooting ahead of the general market.

Since the second half of last year spot prices have been hardening, but in recent days they have climbed to unprecedented levels. Isolated cargoes have reportedly been sold at more than $33 a barrel and Kuwait has succeeded in selling a 150 000-ton cargo of its rather heavy crude at $32 a barrel in an auction.

One major reason for the US companies coming into the spot market so heavily could lie in the changing pattern of oil distribution that is emerging around the world.

Oil companies' apparent frenzy to buy up whatever oil comes available on the spot market is at first hard to reconcile with what is only a relatively small imbalance in the world's overall pattern of supply and demand. But it seems that the international oil majors are suffering acutely because the producing countries are directing more oil away from the companies' integrated systems towards either ...

Mediterranean, on Sicily and Sardinia, which are reportedly working at high capacity.

This oil will eventually find its way into the markets in the form of refined products available only at high spot prices. In the meantime the amount of crude available to the majors' refining systems is being reduced by just enough to maintain the general lack of stability in the market.

In addition, the four US majors which share in Aramco (the Arabian American Oil Company) — Texaco, Mobil, Exxon and Socal — have had their crude oil entitlement reduced by Saudi Arabia by 500 000 barrels a day from the earlier level of about 7 100 000 b/d.

The Saudis are holding more oil back for Petromin, thp State oil company, for direct government-to-government deals with Third World countries, such as India and Bangladesh. The oil is still going into the world system, but it is being diverted away from the majors' supply chains.

The Aramco partners have also met with only limited success in signing new supply contracts with Iran. The new regime is in any case putting pressure on all its customers to reduce their recently signed contracts by up to 20% or 30% to allow it to direct more oil into other deals. The result will be to reduce further the amount available to the majors.

It could also have the effect of increasing the importance of the spot market as the main source of marginal supplies for the large international oil companies, thus increasing pressure on prices. Several EEC countries have decried the influence of the spot market and have put forward proposals to control its influence.

The spot markets are only a reflection, however — albeit in an extreme form —of the disorder in the wider market. As Mr David Howell, the UK Energy Secretary pointed out, proposals for control are unrealistic. "It is not a constructive approach to try and suppress or circumvent the operation of a market."

Until demand is suppressed sufficiently to bring ...

'SA not ready for fuel cuts'

Star 31/5/79

(55)

THE ASSEMBLY — South Africans were not psychologically ready to accept the full implications of the fuel shortage because they had not been adequately informed, Mr Derick de Villiers (PFP, Constantia) told the Assembly yesterday.

The Minister of Economic Affairs, Mr J C Heunis, agreed but said his hands were tied because he could not disclose the facts without revealing vulnerable aspects of South Africa's security situation.

Speaking during the third-reading debate of the Oil Fund Amendment Bill, Mr de Villiers, the official Opposition's spokesman on energy matters, said the information media had either failed to convey the message to the public, or they had not been adequately used to inform the people on the implications of the situation.

Because of this the public was not ready to accept the consequences South Africa might face if the country did not do what was necessary.

Mr N B Wood (NRP Durban Berea) said it was accepted that the fuel problems South Africa was facing would get worse.

He appealed to the Minister to take steps that would be of long-term benefit to South Africa, such as the building of yet another Sasol oil-from-coal project.

Replying to the debate, Mr Heunis said the important element for South Africa in the world oil crisis was not in respect of the country's balance of payments but in the world-wide shortage of crude oil.

The shortage of crude oil in the world made it necessary for South Africa to adapt its fuel consumption patterns.

Essential needs were economic growth and the creation of job opportunities.

Economic growth could not be hampered too much in order to reach the fuel consumption levels required.

The Bill was read a third time with the support of all parties.

Heunis eases clamp on oil news

RDM. 31/5/79

(55)

HOUSE OF ASSEMBLY. — The Minister of Economic Affairs, Mr Chris Heunis, yesterday amended clauses in the Petroleum Products Amendment Bill and the National Supplies Procurement Amendment Bill relating to the prohibition of publication of certain information regarding petroleum products.

Mr Heunis said he had decided to amend the first Bill following discussions with the Newspaper Press Union.

The clause, as it stood, prohibited the publication of information by persons in any newspaper, periodical, book or pamphlet, or by radio or any other means, information relating to the source, manufacture, transportation, destination, storage, quantity or stock level of any petroleum products acquired or manufactured for or in the Republic.

The amendment now provides for the Minister to enter into agreements with any person to exempt them from the provisions of the clause and to regulate the publication of anything referred to in the clause.

Any agreement reached shall be published in the Government Gazette, and may not be unilaterally cancelled except in the case of a serious breach.

If there is a dispute over an alleged breach of the agreement, a tribunal will rule on the issue.

The Bill was adopted in committee and read a third time with Opposition support.

The National Supplies Procurement Amendment Bill was also taken through all its stages yesterday with Opposition support, and a similar amendment by Mr Heunis was accepted.

The Bill makes it an offence for any person to disclose any information relating to any goods or services acquired by the State — in terms of the existing Act — without the written authority of the Minister of Economic Affairs.

People dealing with such matters officially or in a court of law are excluded.

Conviction for the offence carries a maximum fine of R7 000 or seven years' jail.

Another section states that whenever the Minister deems it necessary for the security of the country, he may, by notice in the Government Gazette, prohibit the disclosure of any information relating to any goods or service, or of any statement, comment or rumour calculated to convey such information.

Mr Heunis said South Africa could not delude itself that it could use more petroleum products than it could obtain.

He said said he was unable to fully inform the public of the problems facing the Government at this stage on the oil procurement situation.

"The problem was not so much one of cost, as the increased earnings of gold, platinum and other minerals could largely offset the increased prices.

"The fact is that there is a worldwide shortage of crude oil," he said.

Mr Derick de Villiers (PFP Constantia) said the public, in spite of the oil crisis, was still largely ignorant of the complete nature of the problem.

Speaking in debate on the third reading of the Second State Oil Fund Amendment Bill, Mr De Villiers said there was much ignorance of the nature of the oil shortage.

The media had failed to convey to the public the fundamental problem, and there was not yet a psychological readiness for the oil shortage.

The man in the street must be made aware of the consequences if fuel conservation efforts did not succeed, he said. — Sapa.

Heunis warns on levy

THE ASSEMBLY. — The Minister of Economic Affairs yesterday warned some large consumers of petroleum products that they should not try and avoid payment of a levy to the State Oil Fund by importing petroleum products themselves.

Mr Heunis was introducing the second reading of the Second State Oil Fund Amendment Bill, which provides for the imposition of a levy on imported petroleum products.

He said certain large consumers had indicated they would not buy petroleum products locally, but would import them and in this way escape payment of the levy.

"When I approached Parliament earlier this year for enabling legislation to impose levies on petroleum products, I indicated that all sectors of the economy should contribute equally, not only to our efforts to save petroleum products, but also to the payment of the levies imposed. I also pointed out that to achieve this goal no exemptions could be granted.

He proposed an amendment to bring imported petroleum products within the scope of the levy. — Sapa.

MR CHRIS HEUNIS . . . exemptions possible aesia to ...

Star. 31/5/79. (56)

Opec: Oil price up soon?

The Star Bureau

LONDON — Another rise in the official price of oil from the Organisation of Petroleum Exporting Countries is foreseen as likely within four weeks following further increases by individual member states.

Libya, one of the most militant of the producers, set a record price for long-term suppliers yesterday when it demanded 21,50 US dollars a barrel compared with the present official Opec price of 14,50 dollars.

Only the biggest producer, Saudi Arabia, is now still selling at the official price and Oil Minister Sheik Yamani will come under intense pressure to move into line when Opec meets in Geneva on June 26.

The Libyan move trumps similar increases by the other major Opec producers of high-quality light oils — Algeria and Nigeria.

The only other producer of these oils is Britain and the North Sea companies are expected to raise their prices from two to two-and-a-half dollars a barrel in the next few days.

Most North Sea producers were reluctant to follow the first increase — by Algeria — but they now appear to accept that the concerted action by the African producers has set a new market price for light crude.

Output from the three African countries averaged 5,8-million barrels a day in the first three months of this year, which is just under 20 percent of total Opec production.

● Oil producers are warning the Carter Administration they will be forced to shut down some drilling operations soon because they cannot get the diesel fuel needed to power their rigs.

Sugar cane fuel idea defended

NM 1/6/79 55

"THE INCREASED use of the internal combustion engine and the consequent enormous increase in the use of petrol makes it an absolute necessity to find a alternative fuel. Such a fuel is alcohol."

These and other prophetic words were written several decades ago by Sir Harry Ricardo, author of many books and one of the world's most respected experts on internal combustion engines.

He goes on to point out that alcohol is a vegetable product, the consumption of which involves no drain upon the world's fuel stores, and which can be produced in quantities to meet the world's demand.

"By using such a fuel, mankind is adapting the

sun's energy to the development of motive power; by using mineral fuels he is consuming a legacy, and a limited one at that, of heat stored many thousands of years ago.

"In one case, as it were, he is living within his income; in other, he is squandering his capital," said Sir Harry.

These words are now quoted in the present day setting by Mr. O. d'Hotman de Villiers, of Durban, a sugar technologist and cane breeder of distinction.

He is a more-than-enthusiastic proponent of the idea of obtaining motor fuel — ethyl alcohol or ethanol — from sugar cane, and last month originated a well-reasoned article on the subject in the Mercury.

MR. O D'HOTMAN de Villiers points out the sort of cane growth that could be used to solve South Africa's petrol crisis. The picture was taken many years ago in Rhodesia but the yields of over 250 tons a hectare are more than twice what is now being obtained on Natal sugar farms.

FALLACY

Only a few days ago, however, we published a review of a book by a French author, Jean-Albert Gregoire, in which he denies the possibility of turning to alcohol as a motor fuel.

The world, says Mr Gregoire, will be reduced to chaos before alternative energy sources can be found.

"But Mr. Gregoire, in all his catastrophic views, is making such a monumental miscalculation that I feel compelled to denounce it to the public and to the Government, with all the forcefulness such a fallacy demands," says Mr. de Villiers.

"Indeed, when he states that alcohol will yield only a trickle of energy in the future, this shows appalling ignorance of the advances being achieved in agricultural science."

Mr. de Villiers' arguments made good sense when they were first publiched in the Mercury

NEW BREEDS

In a nutshell, they amount to this: the problem of liquid fuel for internal combustion engines can be solved economically by the cultivation of new breeds or more or less wild cane — ethacane — of tremendous growth power selected exclusively for the production of ethanol instead of sugar.

Land not at present under sugar is available to produce a further 10 million tons of cane. This would yield nearly 850 million litres of ethanol a year — enough to make a 13 percent blend with petrol.

This blend is ideal for present motor vehicles without any modifications to their engines.

"Until special ethacanes can be bred, a start can be made with the commercial sugar cane NCo 376, now accounting for 65 percent of the land under cane in South Africa," says Mr. de Villiers.

"Its growth power, with proper fertilisation, is close to what I'd expect of the first ethacanes."

SENSE

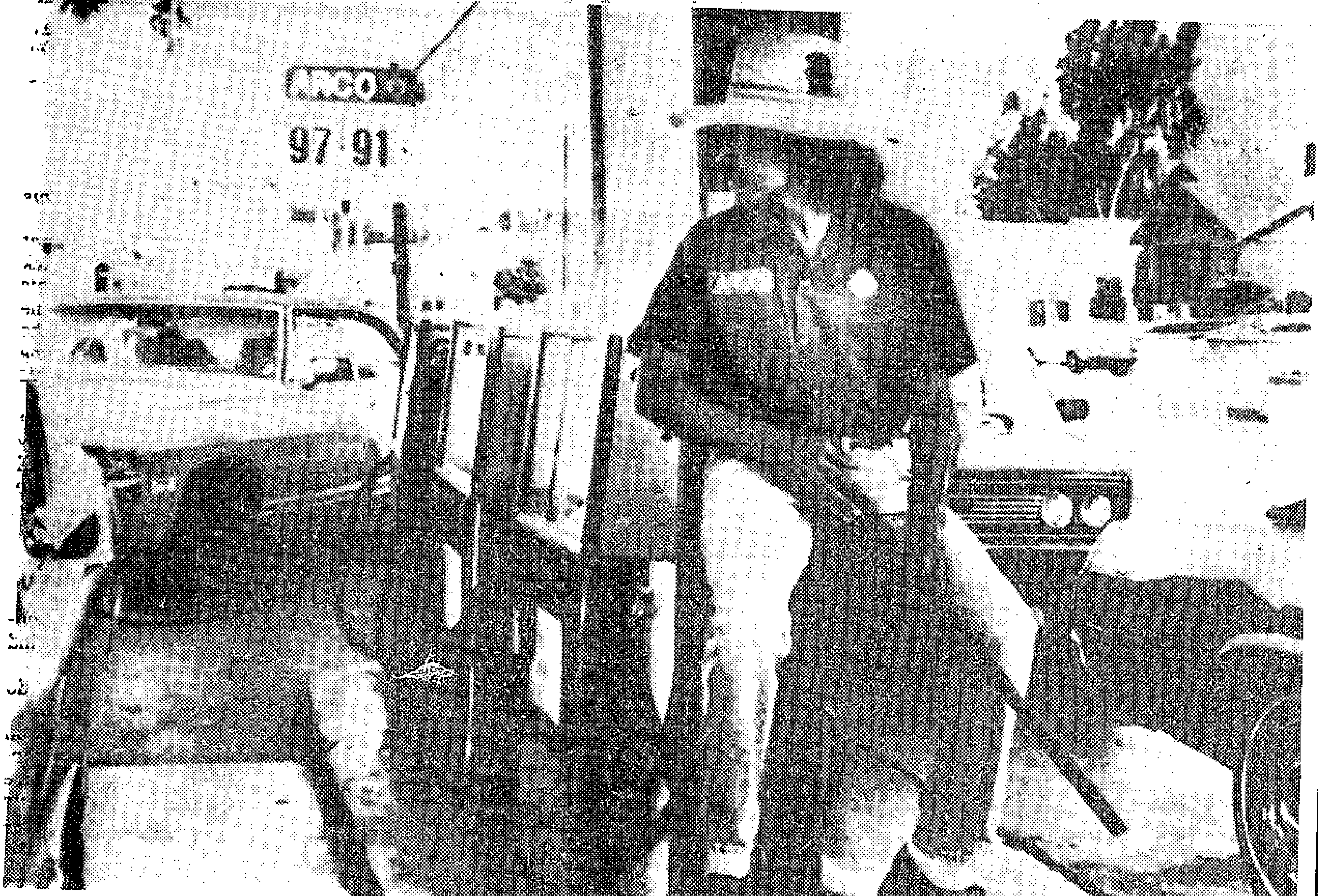
In light of Brazil's moves to beat the oil squeeze his ideas make even better sense. There all cars run on a mixture of 80 percent petrol and 20 percent sugar cane alcohol. All official vehicles from now on will run on pure alcohol.

Volkswagen, holding [illegible] percent of the Brazilian car sales market, are to introduce a new alcohol-run car. This is expected to cause demand for alcohol to rise sharply.

I think it is only fair to add that South Africa has for various reasons, been more aware of an impending oil crisis than most nations. We have stock-piled and we do have Sasol, the only operating oil-from-coal plant in the Western world.

But Mr. de Villiers' ethancane approach is novel and if implemented could put us a step ahead even of Brazil, for we can crop cane the year round as opposed to six months in South America.

It is not known whether his ideas are receiving attention in official quarters. Contacted earlier this week, an official of the Ministry of Economic Affairs said that the minister, Mr. Chris Heunis, would be making a statement on ethanol in due course.



In the panic rush for threatened petrol supplies, a fuel station manager in California discourages motorists from cutting into queues by displaying a shotgun.

Oil — the worst is yet to come

RDM 1/6/79. (55)

World oil shortages could trigger off another major recession. **ADRIAN HAMILTON** reports from London.

THERE is an even chance that within the next month the West's present oil difficulties will develop into a major crisis, forcing governments to take more urgent action to curb demand. Prices could double on last year's — a rise, in simple monetary terms, every bit as great as after the 1973 Middle East war.

By next winter, supply shortages may have eased. But only because the world would be living with an inflationary recession as difficult in its way as that of 1974-75, as Emil van Lennep, secretary-general of the Organisation of Economic Co-operation and Development (OECD), has gloomily predicted.

This latest crisis is no simple re-run of the last one. It has come not with a bang of grand announcements from the Organisation of Petroleum Exporting Countries (Opec) but with squeals of recrimination about localised shortages and rising prices.

The energy problem is "not self-evident to the people of my country", the United States Energy Secretary, James Schlesinger, said bitterly after a day of barracking from other Western oil-consumer countries at the Paris meeting of the International Energy Agency. "US drivers think the Declaration of Independence entitles them to consume 60 % of the world's gasoline," he said.

In Saudi Arabia Crown Prince Fahd blamed it all on "profiteering by the oil companies". And in Britain the new Energy Secretary, David Howell, well aware that this country, with its North Sea oil, may face the greatest pulls between its own consumers and its international obligations, tried to calm anxious motorists by stating there was no need to panic.

The more sanguine are not simply whistling in the dark. Broadly there is no overall shortage in the non-communist world at the moment, or at least there shouldn't be. Demand is something over 49-million barrels a day; supplies are thought to be running at a little above this level, at nearer 50-million barrels a day.

The immediate difficulty is that supply is about two-million barrels a day below last year's. Normally demand falls in summer, and the companies build up stocks for winter when consumption can exceed supply by as much as four-million barrels a day.

Thanks to the prolonged troubles in Iran, companies have started this summer with stocks well down, probably slightly below the Government's mandatory minimum of the equivalent of 70 days consumption in storage. To rebuild stocks they probably need supplies to run at about three-million barrels a day above consumption. Yet Iran is allocating barely more than half the quantity of exports, at three-million barrels a day, than it did last year.

Worse, Saudi Arabia, which was prepared to allow production to rise above 10-million barrels a day over the winter to make good some of the shortfall in Iranian crude oil, is now insisting on keeping to a production ceiling of 8 500 000 barrels a day. Angry about the Israeli-Egyptian treaty and isolated by the fall of the Shah, Saudi Arabia, like Kuwait or Abu Dhabi, is simply refusing to rescue the Western consumer from what it regards as the results of his own folly and lack of restraint.

Under any circumstances this would make for an uncomfortable summer and a nail-biting winter as the oil industry went into colder weather and increased heating and fuel oil demand without a sufficient cushion of stocks. This time the effect on the market has been made all the more confusing by the fact that supplies are not evenly spread among the companies.

The result has been near havoc in the market-place. The major companies have chopped short-term contract supplies to the independent and smaller retailers.

Prices in Rotterdam, where the few quantities of oil can still be obtained, have rocketed. Premium gasoline has gone from less than \$30 a tonne to over \$400. Naphtha, on which the petrochemical industry is based, is virtually non-obtainable. Crude oil, when it can be obtained at all, has nearly doubled in price in a few weeks.

It is easy enough to say, as the consuming countries did at last week's IEA meeting, that with a modicum of self-restraint and a 5 % voluntary reduction in demand, the situation can be contained. Since the overall shortage is not that great, no government is anxious to introduce emergency measures and perhaps cause even greater panic.

But the question is, can the matter be left to the chaos of the market in this way, and at what cost? Already countries such as Denmark and Sweden, which have traditionally bought much of their supplies on the open market, have been hard enough hit to ask their fellow countries to share out supplies and implement the agency's emergency measures.

The companies, after their experience in the last crisis, are by no means happy to be left with the burden of managing an international reduction in supply and demand.

They face potential legal action from their customers for failing to deliver, particularly in the US, and there will be cries of anguish — there already have been — from the smaller companies left in the cold. The companies stand to make truly staggering profits from the price rises, partly because of the re-evaluation of their stocks and partly in real terms of harder prices throughout the market. But this will make their task only more unacceptable.

Nor can anyone see an end to the price increases. Rotterdam is perhaps serving 2 % of the market. The remainder is going through the systems of the oil companies and on longterm contracts. "Everyone," as an oil supply manager put it late last week, "is gunning for it". The companies hate it because they see it giving them all a bad name. The producing countries resent it because they see it throwing up prices far higher than they are obtaining. The consumer governments fear it because they see it leading, as in 1973, to far higher prices from the producing countries.

Yet without a sharp curb in demand or an input of new supply, there is no way that the Rotterdam market pressures will ease. The supply side looks bleak because, in the politics of the Middle East, the Saudi Arabians are in no mood to go out on a limb to help the West on supply. They and their fellow moderates in Opec may, however, prove more restrained on price. It is hardly in the interests of Saudi Arabia to cause another severe recesssion in the West, with all that this implies for inflation in the price of imported goods and a devaluation in the value of Saudi foreign holdings.

But their room for manoeuvre here is limited. So long as the Rotterdam market goes mad and consumers seem willing to pay the price to secure supplies, there is little that the moderate exporting countries can do to hold in check colleagues such as Algeria, who need the money and who have fewer qualms, without confronting them with increased supplies.

The demand side of the equation is even more delicately balanced. So far, consumption of petrol, far from falling, is still shooting up in most countries. Part of this may be explained by motorists topping up their tanks in the expectations of trouble ahead. Once this process is complete, and as motorists face higher prices and reduce consumption there is always the hope that the market will go off the boil.

But so long as consuming governments fail to take action to ensure a drop in demand, there is an equal chance of a scramble for available supplies and even higher prices. Overhanging the market at present is the ever present spectre of what would happen if the Americans start buying direct supplies from Rotterdam.

The failure of the US to curb its mounting imports remains the biggest single cause of the present oil problems. Yet the structure of American price controls, which allows companies to pay high prices for additional supplies with only a small effect on overall prices, actually encourages such action, all the more so now that the administration is faced with the political backlash from the shortages there.

"The Iranian Revolution," James Schlesinger said on coming out of the IEA meeting, "has brought forward the day of reckoning."

It may well have some longterm benefits in doing precisely that. But what Schlesinger left hanging in the air, as he expressed his intention yet again to resign, was what the US will do about it. That remains crucial.

(55) FM 1/6/79

OIL CRISIS

Growth in a vice grip

If adverse developments on international oil markets had been planned to undermine SA's position, it is hard to imagine a more effective conspiracy than that which has now been provided by the fates.

Until December 26 last year, the Republic survived intermittent flare-ups in the five-year-old Arab oil crisis because it had a loyal friend in the Iranian Shah, and because of the sheer professionalism of the oil multi-nationals and their integrated supply systems which overcame political hurdles without breaking the destination embargoes imposed by most oil-producing nations.

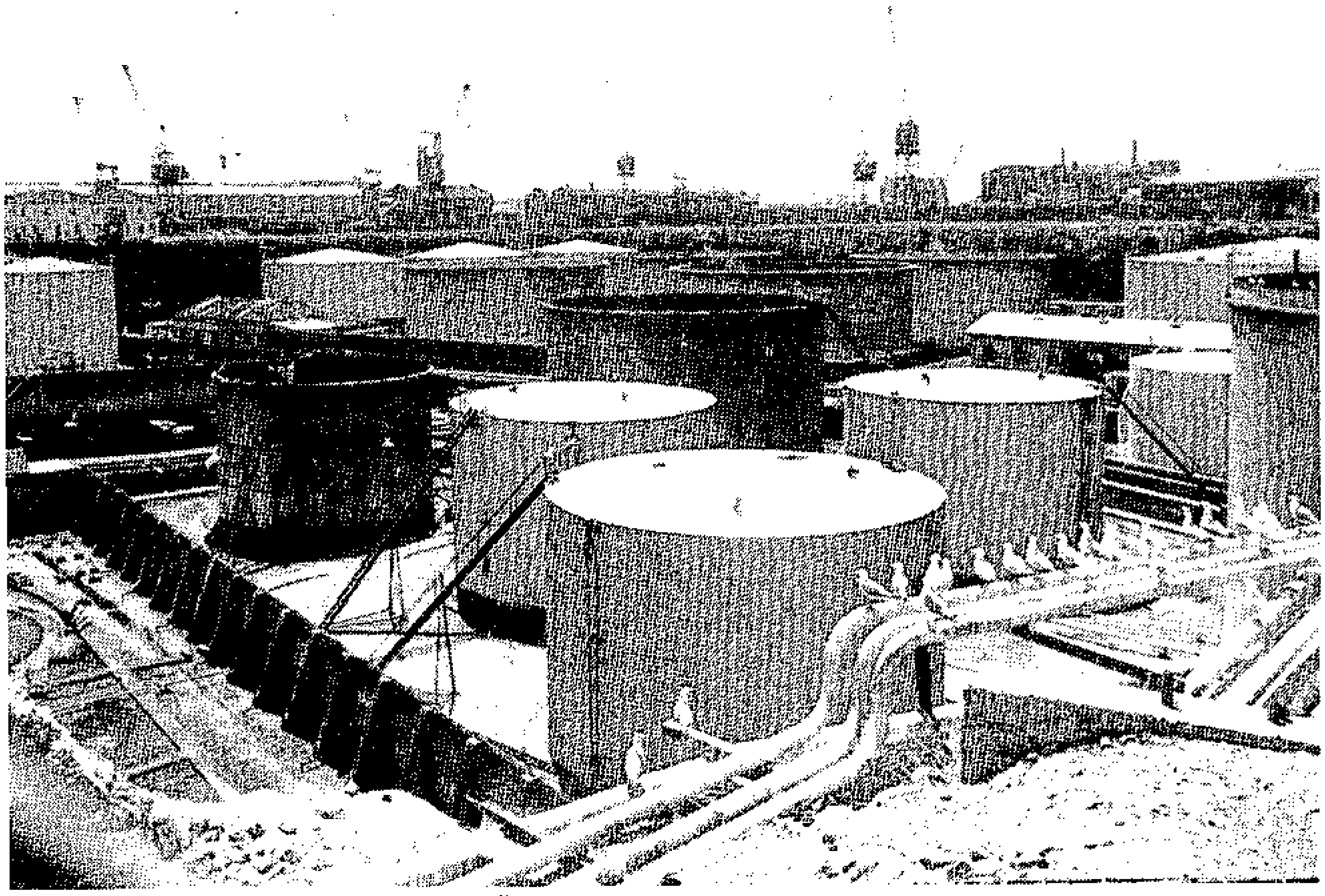
At this week's crisis summit in Cape Town, when Economic Affairs Minister Chris Heunis and his Oil Working Group met major consumers in the corporate and farm sectors to work out a new conservation strategy, representatives of the oil majors and government's procurement agencies had a grim tale to tell.

They told commerce, industry and the SAAU that the Iranian revolution had resulted in major structural changes in the international oil business. Quite by chance, during the 10-week interruption of Iranian supplies which chopped 6m barrels a day off the world's supply slate, the Opec cartel discovered that revenue increments responded more readily to cutbacks than to organised price increases followed by a higher rate of crude oil production. The great haste with which the Shah pursued his social and industrial revolution drew excessive supplies on to the market and had threatened to destroy Opec price unity on a number of occasions.

In the aftermath of the revolution, during which Iran has come back to the market at barely 60% of 1978 production levels, Opec has discovered that the secret of an effective cartel operation is collusion, not competition.

According to oil industry sources, the current shortfall of supply against demand is no more than about 4%, or 1,5m-2m barrels a day, just enough, it seems, to have induced near-panic. The major producing countries have responded to the apparent lack of success of consuming nations to trim their offtake to balance supplies by reducing the volumes of their term contracts with governments and oil companies, thereby reducing international oil markets to a state of controlled frenzy.

In the 2,5 months Iran was off the market, Saudi Arabia and Kuwait filled the role of swing producers and raised their liftings more than 3m barrels a day; but now, ostensibly to help the new Iranian Islamic Republic to get on its feet, production has been cut back to accommodate Iran's re-entry.



Oil storage tanks . . . what price to keep them full?

The quantum leap of crude oil prices that followed this step in February, when Qatar and Abu Dhabi started loading surcharges onto their prices, has rapidly eroded the steadying influence the oil majors used to exert on troubled markets. The concept of a benchmark price for crude, on which all Opec posted prices used to be based, is now no more than a fiction. For although Saudi Arabia, the world's largest exporter, still charges the agreed price of $14,55 a barrel for its Arabian light marker crude, this has had no restraining influence on its Opec colleagues who are charging up to $3 a barrel more, with little regard to quality differentials.

With so many panic-stricken buyers about, producers have been diverting an increasing percentage of their oil from oil majors with term contracts to uncontrolled sectors of the market, ie independent traders and refiners, government agencies, and the international spot market. In order to meet their contractual obligations, the oil companies have themselves now been pitched headlong into the hurly-burly of the informal market — and this, they say, has only served to drive prices even higher.

The implications for SA will be clear from Chris Heunis's oil statement, expected late this week. Last week, government officials told the *FM* that unless some-

ECONOMIC GROWTH

Slipping on oil

49 55 FM 1/6/79

Hopes that the economy would grow from strength this year, to use Owen Horwood's budget phrase, are fading. The main reason, of course, is the fuel crisis. No matter what the details of government's conservation plan, it can only be deflationary.

Barclays' Johan Cloete says that the expected fuel price hikes will hit the economy where it hurts most — in the consumer's pocket. Since many fuel users will willingly pay higher prices rather than cut consumption, spending on other items is bound to suffer. And if demand for fuel is slashed, it is unlikely that output can be sustained.

As Anglo American's Aubrey Dickman put it this week: "If demand (for energy) remains relatively inelastic at increasing prices, then the shift in relative prices must mean cuts in expenditure on other goods. If the price increase is accommodated by offsetting money creation then the further acceleration of inflation will only postpone, but not prevent, an inevitable recession."

Growth for the year is likely to be closer to 3% than 4%, reckons Cloete. His view is borne out by official estimates that the rise in real GDP in the first half of 1979 will probably not be more than 2,5% — the same as last year's growth rate. If government's 4% target for the year as a whole is to be reached, a big boost in consumer spending will be needed after July.

Senbank's Louis Geldenhuys is worried that this will not materialise. Inflation is still too high to loosen purse strings he says, and the extra cash on hand after July's tax cuts will be whittled away by sharply higher prices in consumer goods. This week's hikes in dairy and plastic prices show what he means.

Savings have also been depleted over the past few years so that some of the fatter pay packets are likely to go into savings accounts, repeating last year's performance when the repayment of loan levies was matched by a rise in bank and building society deposits.

Out of reach

Before the fuel crisis, reckons Geldenhuys, a 3,5% growth rate would have been on the cards. But further predictions are impossible until the extent of the cutbacks is known.

Merton Dagut, of Nedbank, also believes that the 4% target is out of reach. However, expansionary measures already in force should give enough impetus for a 3%-3,5% growth rate this year, with one proviso: government's response to the fuel shortage must be "sensible," he warns.

Poor crops and unacceptably high inflation are two of the major restraints on growth, notes Volkskas' economist At Engelbrecht. He also doubts that the much-heralded consumer boom in the second half of the year will be as buoyant as many hoped. Like Cloete, he plumps for a growth rate of close to 3%.

Simon Brand . . . how long will the smile last?

Although exports are still rising, Engelbrecht adds, an international recession could knock them later in the year. And a rising dollar combined with lower oil imports could lead to a slump in the gold price.

Despite some economists' gloom, government planners are sticking to their guns.

The PM's economic adviser, Simon Brand, says a 4% growth rate is still possible. However, he admits that this forecast takes no account of harsh fuel saving measures. "These will probably affect growth," he says. He points out, however, that further stimulation could be applied — at the risk of higher inflation. With private consumption and investment sluggish, speculation is that Horwood may resort to pushing up government spending.

Some economists remain optimistic, however. RAU's Geert de Wet is working on a growth target of 4,1%, although he concedes that his forecast does not take account of petrol rationing. De Wet sees increased export prices and volumes as the economy's saving grace.

Wilsey Kilian, of the Stellenbosch Bureau for Economic Research, is also sticking to his earlier forecasts of a 3,8% growth rate. New orders are already in the pipeline, he reckons, and factory output is noticeably higher.

Mnr H.W. Middelmann
Eerw. M.T.L. Moletsane
Professor A.D. Muller
Sheik A. Najaar
Mnr Victor Norton
Professor N.J.J. Olivier
Mnr L. Phillips
Professor H.P. Pollak

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Friends (Quakers) en van die American Friends Service Committee deurgebring. Hy het 'n aantal konferensies in verskillende dele van die land bygewoon, baie vergaderings toegespreek en senior beamptes van die Carnegie Corporation, van Community Relations Services van die Departement van Justisie van die Amerikaanse regering, van die American Friends Service Committee en kolleg- verbonde aan verskeie universiteite

58 74 55

SA won't use its gold muscle to get out of the oil price squeeze

The Minister of Finance, Senator Owen Horwood, remains confident about the economic prospects of South Africa, and even though the oil question was a worry, at least South Africa was blessed with gold and a host of other strategic metals and minerals.

In an interview with the Minister and the senior deputy Governor of the Reserve Bank, Dr Gerhard De Kock, in Cape Town, this week, we talked about the economy in general and the outlook in particular.

We discussed a host of topics: gold, interest rates, inflation, financial rand, the health of the South African economy, the outlook for overseas loans, oil.

Herewith some of the highlights.

Oil spectre

Undoubtedly the most worrying problem at the moment is the question of oil and the effect the rising price of oil is having on world economies, which in turn puts something of a question mark over South Africa's exports.

But for the spectre of the oil question, the Government's hope of seeing the inflation rate back into single figures this year may well have come true.

Though there is public concern that the inflation rate is now above the 1[illegible] percent mark, part of that figure is due to imported inflation and part is due

percent in April 1975 while the Swiss inflation rate in March was nearly twice as high on a year-on-year basis.

"Though the Swiss rate is nothing compared with the double digit figures of others, it just shows you what is going on," Senator Horwood pointed out.

He also pointed out that in South Africa it was cost inflation — not demand inflation — and that Government had kept to its sights over money supply and Government spending.

South Africa, of course, is blessed with abundant minerals and metals which the world wants — gold and platinum being the most obvious examples. And Government is especially pleased at the strength of the country's mineral exports at a time when imports are also costing more.

Government would obviously like to see our major trading partners on a sounder footing — but SA exports are not likely to be seriously hit — unless there is a considerable world-wide downturn. As an exporter of strategic minerals we are less vulnerable to an export downturn.

Colin Campbell in the market

'We are one of the best risks in world'

But the big unknown is what will the impost of higher oil prices do to investment capital? Will it still flow?

From oil and inflation we turned to:

Gold

Given South Africa's gold wealth, I asked whether it was feasible, and if it had been given serious thought, for South

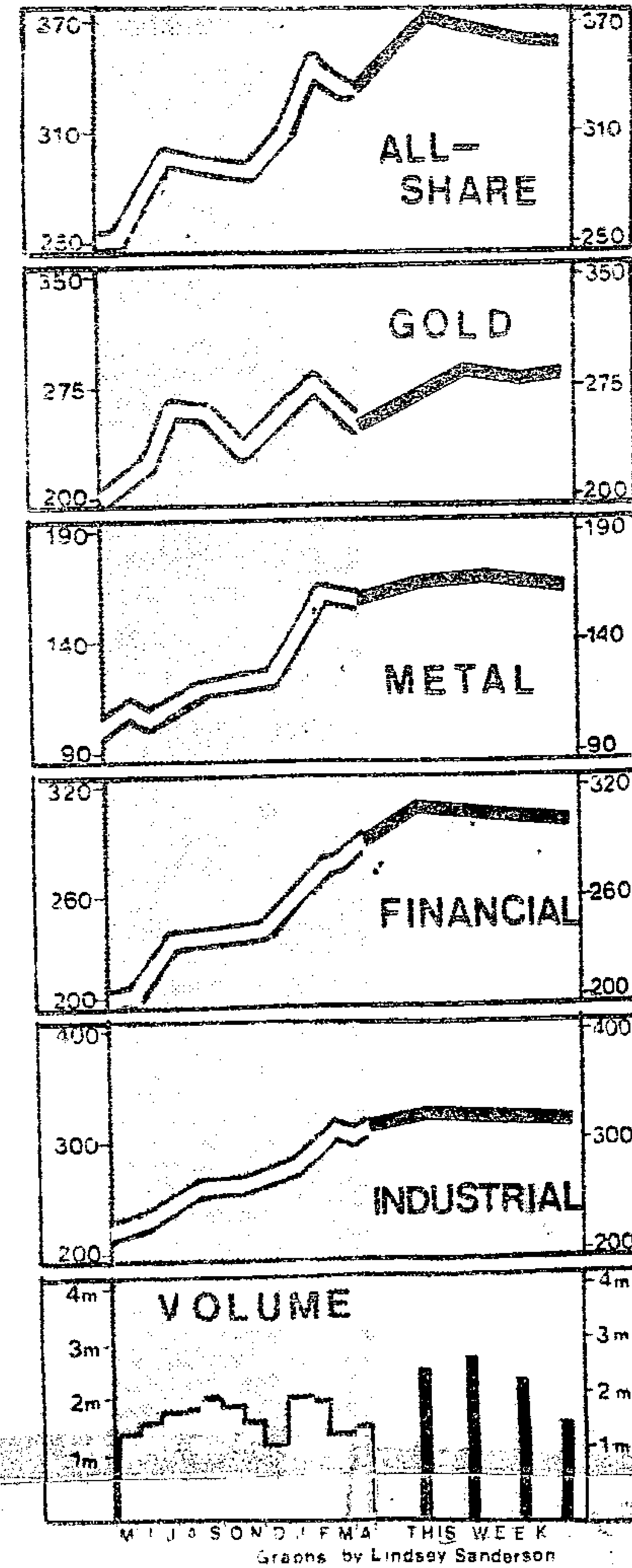
therefore investment.

Liquidity within the system was certainly high (building society inflows now pass the R1 000m mark) — and one of the problems was to get 'stagnant' money on the move.

What the Minister would like to see is more "good, old, solid private investment" capital.

But with the March Budget greenlight that private investment is to be encouraged in "State" projects (and the Sasol invitation is an example of this) perhaps more will flow.

The country does not need overseas loans at the moment — but what has been a very pleasing aspect, and a measurement that South Africa is again looking attractive to would-be lenders — is that the terms of potential loans to South Africa have improved, and so has the length of loans.



Graphs by Lindsey Sanderson

These graphs chart the performance of The Star share indices for major divisions of the Johannesburg Stock

— the distortion of last year's introduction of GST.

An April 1979 measurement over an April 1978 included GST on the one side but not on the other. Come the time when the comparison is made between two months of different years in which GST is included in both, and the comparisons should not be as startling.

But inflation is not a problem peculiar to South Africa — "The Economist" last week reported that thanks to rising oil prices German inflation in April was running at 3.5 percent against 2.9

... about the Minister is concerned about the health of the world economies, he points out that the oil price blow of 1979 comes at a time when economies are moving up. In 1973 when the oil price explosion first hit the world, economies were hit when they were in a recession.

One area of hope now is that though some of SA trading partners may be weak, others are much stronger. And Western Europe is compensating for other weak areas.

So a serious downturn in America, say, would not be that bad for us because other areas could compensate.


Senator Horwood . . . overseas lenders again knocking on our doors.

... Africa to enter oil-for-gold swops.

The feeling of both Senator Horwood and Dr de Kock was that the Reserve Bank was doing a fine job in marketing the country's gold, and that in the bullion market what must be preserved is order and stability.

For South Africa to change its gold marketing policy would be disruptive. Rather sell the gold in the normal way and earn the foreign exchange with which to buy oil.

That South Africa has the potential to do direct barter deals with the oil producing nations by offering its gold for oil goes without saying — and it has been a thought which has crossed many a mind.

The oil-for-gold idea was particularly current about six weeks ago when the bullion price started to test new highs — but at the time the Reserve Bank dismissed the idea as just another market rumour.

But undoubtedly the strength behind today's gold price is the inflation threat and the oil problem. Another important factor is the rising US trade deficit.

But of interest to bullion followers is that the gold price has been rising while the dollar has remained relatively firm, and that it has risen against the traditionally strong currencies.

Unlike his predecessor, Senator Horwood does not make projections as to where he sees the gold price in X weeks time, but he did make some observations on the current demand position.

An especially welcome sign in today's bullion market is that there is not only a strong monetary demand but also a solid industrial demand. Unlike previous patterns in the gold market, industrial demand is not falling ...

... five to seven year loans."

With the Soweto troubles now a memory, and with the economy looking in much better shape, overseas lenders are again knocking on the doors.

"South Africa is one of the very best risks in the world, bankers tell me," the Minister said.

Financial rand

This has gone very well and the estimated amount of applications approved was about R200m to R240m. The Reserve Bank plans to furnish further details of where the applications have come from and where the money is going, but one promising sign for the country was that some applications had been for real estate.

Will the FR continue to rise?

The sharp run up from about 65c US pre-De Kock to the current level of around 90c US has been quite an improvement over a very short time. How much further it has to go depends on market forces.

The mechanics of the FR has inhibited the movement of share prices — but as there have been overseas sellers of SA shares into the Johannesburg market in order to create the financial rands, it means that somebody here has been buying South African shares.

South Africans are buying back the farm — something which Government is very pleased to note.

That the commercial rand had also moved up was particularly pleasing.

Overall then, the economy is looking alright, confidence is coming back into investors' hearts, and the country's strategic exports should cushion South Africa against the worst effects of oil price disruptions.

... exchange over the past week, together with volumes of trading. The shaded areas of the graph cover the average of the previous 12 months' dealings for comparison

JSE THIS WEEK
ANNE COLLEY

It was one of those good news/bad news weeks on the JSE. With the oil price bubbling higher and the producing nations making anxious noises about supplies, world wide investors turned once again in force to the hedge investments. Gold touched fresh peaks, platinum was quoted higher, silver was in demand.

The bad news was that gold shares on the JSE were slow to follow the bullion price not only because of financial rand complications but also because the bullion price is reacting like a yo-yo. And because of the memory of the previous gold rushes, it is only the professionals (who can sit and watch market movements on a minute by minute basis) who have the ability to trade with the skill that is necessary to make profits.

The other bad news was the host of price increases which were announced for a host of household products. While oil prices will hit companies, household price rises are likely to hit discretionary income — and may well undo most of the good which will be generated from the reduced income tax rates effective July.

Particularly sensitive on the industrial board were motor and related companies. In a list of the 20 worst performers over the past week, at least seven shares with motor/transport connections featured — Toyota, Williams Hunt, McCarthy ...

... debut at placing price recently, continued unloved and was traded at 120c this week ... with a 13% ... opening.

Though it could be ... that the ... problem has by and large been discounted by the market, the uncertainty over just what kind of package Minister Chris Heunis will eventually unveil is keeping investors at bay.

Another reason cited by analysts is the unwillingness of investors to commit free funds ahead of the Sasol issue.

There were some good company results — CNA for instance is still looking for further growth despite oil and its problems. And the week ahead sees publication of Anglo American figures.

Coal shares still glowed, but De Beers fell under profit taking and financial rand considerations. The weaker LME copper price — a weakness generated by fears of a recession in the world's industrialised countries — pulled back Messina. Though there is a market thought that Messina may come in for strong buying attention once the Western leaders make up their minds whether they are going to recognise the new Rhodesian Government or not, LME factors for the moment hold the upper hand.

The fluctuating free market platinum price also took some of the steam out of platinum counters. But as The Star said last week, metal prices are going through a ...

Dr de Kock . . . financial rand market has gone extremely well

while the price rises — partly explained by the wide use of gold in the electronics industries

Interest rates

Does the Government have a deliberate policy to try to keep interest rates low? Was the Treasury Bill rate an "honest" rate?

The TB rate was the function of supply and demand, and was an honest rate, came the reply.

What uncertainty there is concerning interest rates in the market place — and there is a feeling that rates are beginning to harden and [illegible] beginning to move [illegible] — was probably due to the uncertainty of the Sasol issue details.

Doubling back to the economy in general we touched on the surplus capacity still within industry. Though the economic projections were certainly brighter than there were in October two years ago, it would be some time before there was the much more demand to encourage increased production facilities — and

As the upswing gathers momentum, more confidence should be born

Curfin, Robbs.

Caravans International which made its market

py patch which is leading to sharp movements both ways in related shares

'Minister had no plan to meet the crisis'

Oil: Heunis was caught off guard

Sun. Times Bus. 3/6/79 (55)

CHRIS HEUNIS

THE SUDDEN world-wide oil drought and the quantum leap in the price of crude to above $35 a barrel on the world spot market, has caught Minister of Economic Affairs Chris Heunis unprepared.

According to business leaders who discussed the oil situation with the Minister this week, this explains why he has delayed any announcement giving details of what is to be done about the price of petrol, about fuel rationing, or both.

The chief executive of a major industrial group told Business Times: "The Minister was quite open with us. He said there was no contingency plan that he felt could be automatically accepted as the correct answer to the crisis.

Precipitous

"He was not prepared to rush ahead with decisions that might prove precipitous. First he wanted to know what all concerned had to say.

"We welcomed the consultations, and his consensus approach. But it was naturally worrying to realise just how serious the implications of the crisis could be.

"It was clear that price was not the Government's main problem. The country is simply unable to get all the oil it needs. The crunch has come in supplies."

Blamed

Another industry leader blamed the U.S. for the supply squeeze.

"It emerged from the discussions in Cape Town that the sources of supply, including the spot market, are being drained by frantic American buying, for underground stockpiles as well as current consumption," he said.

"The Americans are still not ready to tackle the problem at the roots. They are too preoccupied with keeping their own supplies flowing."

Government is well aware of the threat to economic growth triggered by

By STEPHEN ORPEN

the rapid escalation in energy crisis.

To maintain even the modest 4% growth target set for 1979 could require more than R5 000-million in foreign exchange to pay for oil imports at today's prices.

The gold price would need to top $300 an ounce to offset that.

Moreover, with the Saudis now likely to go along with the Arab hard-liners, there is every chance that there will be strong pressure at the forthcoming Opec meeting in Geneva for an increase of at least $2 a barrel in the price of benchmark crude.

Adamant

At the same time, both public and private sector leaders are adamant that there is no need for undue alarm.

They point out that the gold price has been rising faster than the oil price and that the incremental increase in gold revenue, as the price rises, is swelling all the time.

"The rule of thumb has been that the country earns an extra R200-million for every $20 increase in gold price. But we are now talking about considerably more than that for each $20 rise," explains one gold analyst.

Consumption

He, and others, also make the point that with higher fuel prices, less fuel is likely to be consumed, especially if the higher price is supported by physical controls over consumption — like rationing.

Also, the more the oil price rises, the better the country's prospects for coal and other commodity exports at higher prices.

The danger is, simply, that if the price of crude rises fast and far enough, the market for South Africa's exports will stop growing, and even shrink, as the importing countries are forced on the defensive by the damage to their own economies by the fuel crisis.

At the current price of 39 cents a litre (some $1,70 a US gallon), petrol in Johannesburg costs much the same at the pump as in Britain.

Comparable prices for other countries are $2,27 a U.S. gallon in Italy, $2,20 in Switzerland and Belgium, $2,12 in Denmark, $2,08 in West Germany, $1,99 in Austria and only 85 U.S. cents in America.

A 50% hike in the Johannesburg price (to 58,5 SA cents a litre) would rocket South Africa to the top of the petrol price league, on $2,56 per U.S. gallon.

Expected

However, rather less than 50% is now expected. Something just under 50 cents a litre seems more likely.

A price of 48 cents a litre would put the Johannesburg price on a par with Denmark.

A price of 50 cents a litre would mean a fivefold climb in the price in less than 10 years, and a rise of more than 100% in less than three years.

55

52,5!

That's the petrol forecast

By GEOFFREY ALLEN

PETROL prices are expected to soar by a pocket-denting 12,5c a litre — and perhaps as early as tomorrow.

If the increase goes through petrol will cost 52,5c a litre.

This is even higher than the maximum forecasts of the past fortnight which have pegged the ceiling price at 50c a litre.

Speculation on an increase follows comments by the Minister of Economic Affairs and Planning, Mr Chris Heunis, that "it is no longer a question of whether there are going to be stricter measures, but of just how strict they are going to be" and a deadline of May 29 set as the dateon which he and advisers would decide what measures to impose.

Sources close to the oil industry say that 12,5c a litre would be a "realistic" answer to South Africa's oil-supply headache.

In the past two weeks, Mr Heunis has made it clear that he hopes to cut the country's oil bill by up to 50 per cent, and price increases as high as 20c a litre have been bandied in the oil industry.

Realistic

However, oilmen say 12,5c a litre would be more realistic because it would not cripple the country's economy while providing a reasonable response to the wildcat, world speculative oil prices which have gone in recent days to R30 a barrel, R18 above the Opec base price.

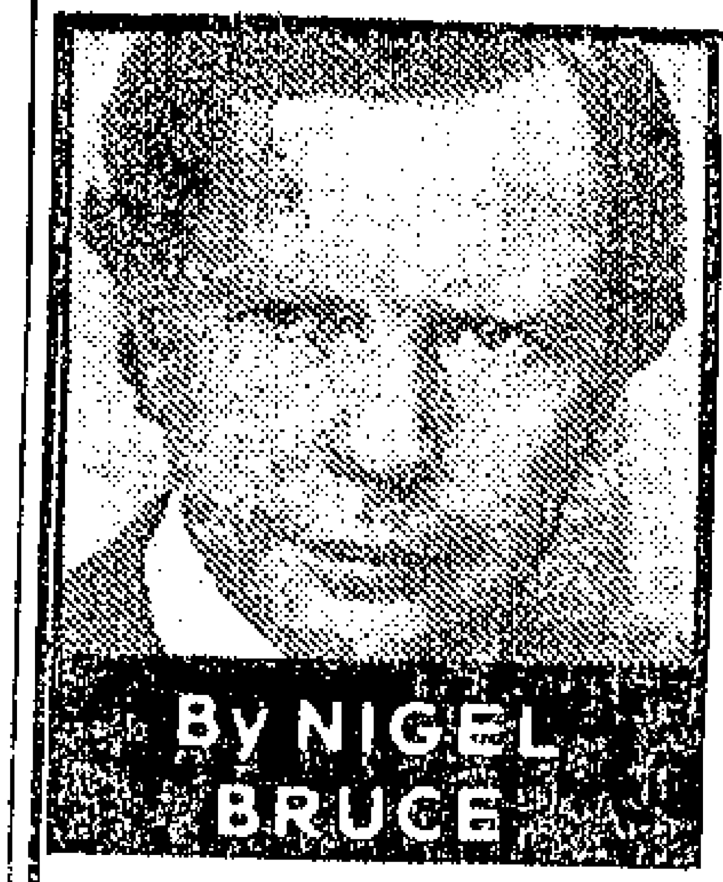
It is also probable that Mr Heunis will move this week to curb petrol sales hours with a cut-off for buying petrol at midday on Friday and shortened hours of sale on Wednesday, probably also until midday.

Other options include banning inter-town travel at weekends; allowing cars with odd and even registration numbers to be fuelled only on alternate days; taking cars off the road on certain days of the week; ordering suppliers to cut petrol station quotas by 20 per cent or more; and wartime style petrol rationing, using coupons.

On May 11 Mr Heunis underlined the critical oil situation in Parliament when he said the country had failed to secure a regular supply of crude oil and was obliged to buy oil by the load — "spot purchasing".

He said the price for spot purchases was normally R8 to R15 higher than basic Opec prices, but the price was increasing because of middlemen capitalising on the shortage.

Sun Times Bus. 3/6/74



Fuel decision delay is an aggravation

WHAT a pity that Economics Minister Chris Heunis has once again postponed a decision on fuel prices. Delay is aggravating our economic difficulties.

This is especially so as fuel price rises are not the only cost shocks we are getting at present. Indeed, price rises are going pop all around us.

To be sure, meat one day, milk the next. Then plastic containers. And eggs, coal and tyres are just around the corner.

The fact is, however, that we are paying the price of having an economy that in certain important areas — for reasons of mistaken public good — is not allowed to respond timeously to changes in supply and demand.

The current increases in our cost of living — and those around the corner — stem mostly from a delay in adjusting administered prices — including the price of fuel.

Having been served the bitter pill, we are bound to swallow it. For if we grasp at palliatives instead, matters will be much worse in the months ahead.

It is not as if we as a nation cannot afford to pay up. The prices of gold and our other mineral exports are responding well in relation to our rising oil bill.

Moreover, to reason that we face disaster because the price of gold has not yet produced enough additional earnings to cover a sudden upsurge in oil import costs is quite absurd.

It takes no account of the fact that as the price of fuel rises, consumption patterns will change — indeed are already changing — which will reduce demand for oil imports.

Nor should economic growth objectives necessarily be imperilled. What should happen in time is that different firms will, because of price rises, see their earnings rise, while others will see them fall. But the total product need not be less, other things being equal.

Of course, the time that it takes for established consumption patterns to change could be a problem. That is why we must face up to realities now so that the appropriate business decisions can be taken quickly.

Certainly, in these circumstances it would be wrong for government to cushion price rises by applying subsidies, for they would be mere palliatives.

It would also be wrong to throw the mildly expansionist monetary policy into reverse. For the current price rises have not been caused by excessive demand meeting an inadequate supply.

The South African economy is in far better shape to weather the current fuel crisis than that of almost any other non-oil producer.

The trade surplus is growing, the financial rand discount is narrowing, net reserves are rising and as the money supply is still under tight control inflation should in due course be contained. This may be delayed, as it was by GST last year, but it assuredly will come.

While government may not be quite certain right now what to do about uncomfortably sharp short-term inflationary pressures, what it must not do is very clear; it must not change monetary and fiscal policies now, part from setting moves in motion to bowler hat officials who control prices by regulation.

So far as consumption curbs are concerned, as industry consumes three quarters of total liquid fuel consumption, so a large motor manufacturer tells me, that is surely where government should aim to achieve the greatest volume of savings.

And if the productivity award achievements reported elsewhere in this edition are anything to go by, a significant liquid fuel saving potential certainly does appear to exist in that sector.

Star 6/6/79

(55)

Use gold to buy oil

The proposed further rise in the petrol price to around 50 cents a litre will probably have a disastrous effect on the economy in that it is bound to set in train yet another round of price increases and push the rate of inflation towards 15 percent in 1979.

Such a rate of inflation could well turn the present optimism about the recovery of SA's economy off and precipitate another round of economic depression. This must be avoided at all costs at this time when the Info scandal and external political pressures have produced a crisis in confidence in Government circles.

There are two possible ways in which the increase in the price of petrol could be avoided. One is for SA to enter into a direct barter of gold for oil with one of the oil-rich countries. After all, the high price of gold is a direct result of the high price of oil and it, therefore, seem more logical to use the advantage of the high price of gold to offset the impact of the high oil price rather than cripple the economy by setting off another disastrous round of inflation by passing on the increased cost of oil to the consumer.

Any idea of a direct barter between SA and an oil-rich country would doubtless be resisted by the oil cartel because it would undoubtedly put in jeopardy some of the huge profits they enjoy. The second alternative which would be more acceptable to the oil companies would be to employ the large increase in government revenue from the increase in gold price to subsidise directly the petrol price and keep it at around 40 cents a litre. As the increased revenue is around R200-million for every 10 dollars' rise in the gold price, there should be quite enough money in the Minister of Finance's "kitty" with the present price of gold to subsidise petrol and keep the price at 40 cents.

C H Wyndham
5 Cecile Road,
Norwood.

THE 15-CENT RISE — AND HOW IT WILL AFFECT YOUR LIFE

Heunis has changed our lives

CAPE TOWN — South Africa's lifestyle will change radically as a result of the fuel conservation measures announced last night by the Minister of Economic Affairs, Mr Heunis.

Mr Heunis's tough package — made necessary by the soaring cost and scarcity of crude oil — included:

- Petrol and diesel up 15c a litre of which 10,4c will go to an Equalisation Fund to pay oil premiums and 0,6c will be general sales tax.
- Aircraft fuel oil and grease up 18c a litre, power paraffin up 16c and liquid gas up 15c.
- Filling stations will be closed on Saturdays and Sundays but will open on Wednesday afternoons. Selling hours will be 7 am to 6 pm.
- Speed limits on open roads in metropolitan complexes such as the Pretoria - Witwatersrand - Vereeniging area will be reduced from 90 km/h to 70 km/h. Speeds in built-up areas remain at 60 km/h and, on the platteland, 90 km/h.
- Supplies of petroleum products to commerce, industry and agriculture will, with the co-operation of oil companies, be reduced by an average of 20 percent of 1978 consumption.

Soaring costs bring a tough package

Compensate

The restrictions are aimed at a saving of about 25 percent on the country's fuel bill.

Mr Heunis said the petrol and diesel price increases would compensate oil companies for the higher import costs of crude oil, augment the Equalisation Fund for premiums on the oil market, and cover sales tax.

The increases would result in the cost of living index rising by about 1,9 percent on a yearly basis. The whole cost structure of the country would go up, he said.

Mr Heunis warned manufacturers and distributors that if they automatically and unjustifiably passed on fuel cost increases to the consumer the Government might introduce general price control.

"It is the duty of all to absorb as much of these increases in their own price structures as possible and refrain from automatically passing on the increases to the buyers of their products," Mr Heunis said.

Effects

"Higher prices can be avoided by the conservation and more efficient use of these products. Everyone must make more efficient use of fuel to limit the effect of the price increase on the rate of inflation so that we can meet our economic growth target of three to four percent."

The price increases were not intended to curb consumption, although they should have that effect. They were necessary to cover the costs of oil — estimated at R2 000-million more a year.

Discussing the effects of the measures, the Minister foresaw:

- Changes in spending patterns. Less would be spent on large cars and more on small cars.
- Changes in production methods in some sectors of the economy by using less oil as a means of production.
- Certain businesses becoming more profitable and others less profitable.
- More use of trains and buses. The Minister of Transport has undertaken to accommodate more commuters. Arrangements are being made to allow public bus operators to increase the number of passengers on buses. But there are no plans to subsidise public transport.

Economy

Mr Heunis said that, despite the serious oil in the first quarter of this year.

This was after the Iranian crisis and the steep oil price increases.

The most important reason for the balance of payments increase was the higher gold price and the good performance of diamonds, platinum, chrome, nickel and coal.

Abnormally low oil imports also contributed.

Even if South Africa imported its full estimated requirements, which would mean a price increase of about R2 000-million, the balance of payments prospect for 1979 remained favourable.

Speed limits

Traffic will slow to a crawl on the country's busiest freeways as the 70 km/h speed limit signs go up.

Trips between, for example, Johannesburg and Pretoria; Durban and Maritzburg; and Cape Town and Paarl on open roads will be subject to the 70 km/h speed li-

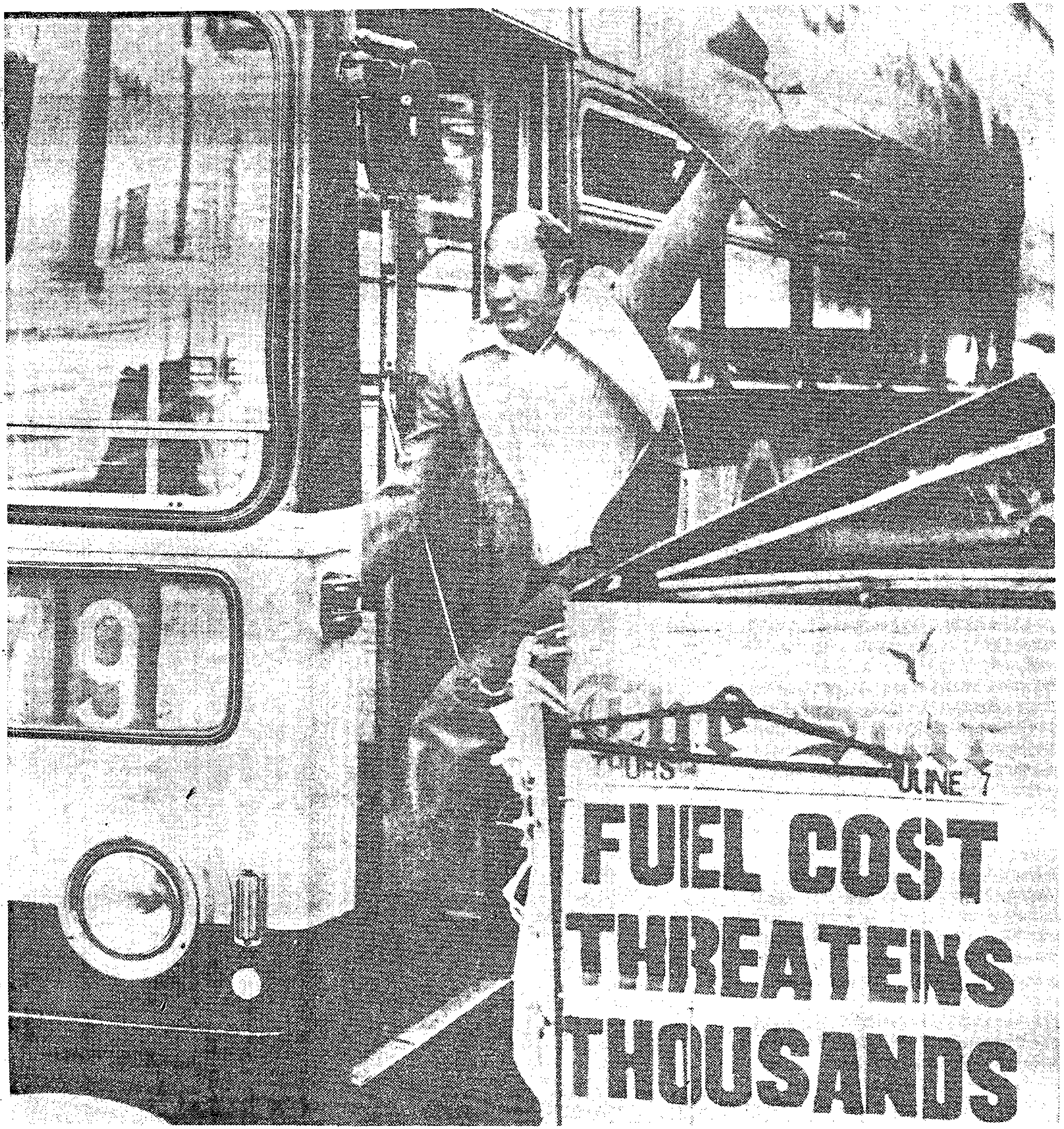
Huge oil profits attract suspicion

Although South African subsidiaries of the international oil companies do not publish details of profits earned in South Africa — a situation which many people believe tells a story of its own — some idea of the huge amounts involved in the oil business can be gleaned from the figures published by the international companies.

The giant British Petroleum oil company, half-owned by the British Government, yesterday announced it had made almost R350-million more profit in the first three months of this year than in the first quarter of last year.

BP said that some of its profit came from an increase in the value of its oil stocks because of generally higher prices.

But company chairman, Sir David Steel, re-



Mr Bill Pretorius is doing what most Johannesburg motorists regard as the last resort — boarding a bus. With the oil crisis now really serious, bus patronage is expected to receive a big boost. ● Picture by Alf Chapman.

problem, attempts should be made to prevent confidence in the economy in general being undermined.

He said the price of oil had shown a substantial further increase recently and the supply of oil was uncertain.

Painful adjustments would have to be made. Rates of inflation would increase and exchange rates would change.

Worldwide oil price increases would effect the balance of payments but this was not the main problem and all its implications need not be unfavourable.

Oil price increases in 1979 would cause great changes in the structure of international trade and production. Monetary and fiscal policies in most countries would be adjusted and liquidity would rise more rapidly.

Gold price

The price of gold would probably be much higher than it would otherwise have been as would the prices of diamonds, platinum, coal and other commodities which were regarded as good value-bearers against inflation or as oil substitutes

In a worldwide rearrangement of balances of payments South Africa would be affected to a relatively lesser degree by the oil price increases. Its balance of payments, as such, need not be harmed seriously.

South Africa would benefit by being an exporter of commodites such as gold, diamonds and platinum, the prices of which rose considerably during times of oil crises.

South Africa was also far less dependent on oil for the generation of energy than many other countries.

That the oil problem was not, in the first place, a balance of payments problem for South Africa was illustrated by the increase in the balance of payments surplus to approximately R3 000-million mit.

Mr Heunis said that about two-thirds of the country's petrol consumption was in the greater metropolitan areas of the PWV area, Cape Town and surrounding towns, Bloemfontein, the OFS Goldfields, Port Elizabeth, East London, the the Durban-Maritzburg area.

It had also been proved that speed restrictions were one of the most important contributors to saving fuel.

Mr Heunis made an "earnest appeal" to everyone to observe the speed restrictions.

He thanked motorists who obeyed speed restrictions and warned those who disregarded them that their actions would not be tolerated.

He had amended the Petroleum Products Act to close a loophole used by offenders in court to gain acquittal on speeding charges.

No longer could motorists seek acquittal on technical grounds — such that they were on a downward slope or they were wind-assisted — without providing proof of this defence beyond reasonable doubt.

The Minister said consumption of petrol was already lower than in 1973 when the oil crunch started, although there were considerably more cars on the road.

"Motorists have already contributed significantly to our fuel conservation efforts," he said.

ported a net income for the first quarter of the year of R495-million against R152-million for the same period last year.

Last year's combined profits of all the United States' oil companies reached R15 790-million and President Carter said these companies were "awash with their greatest profits in six years."

Gulf Oil's profits rose 61 percent over the year; Continental oil posted profits some 343 percent higher and Exxon pushed earnings up 37,4 percent to a mammoth R1 125-million — in only three months.

The oil exporting countries have accused Western oil companies of reaping more profits by buying oil at official prices and selling it on the free market at high mark-ups.

The companies have consistently denied this.

BP claimed its profits were due not only to the higher price of oil but also to its expanded share in the US company, Standard Oil; up to 52,2 percent from 40,3 percent a year ago.

But the suspicion those profits generate amongst petrol consumers is easily understandable, in the face of today's critical energy situation.

In the US, any increase in the fuel price focuses renewed and often unwelcome attention on the oil giants, and the same situation could well arise in this country. — Staff Reporter — Sapa-Reuter.

Registered at G.P.O. as a Newspaper
DURBAN, FRIDAY, JUNE 8, 1979
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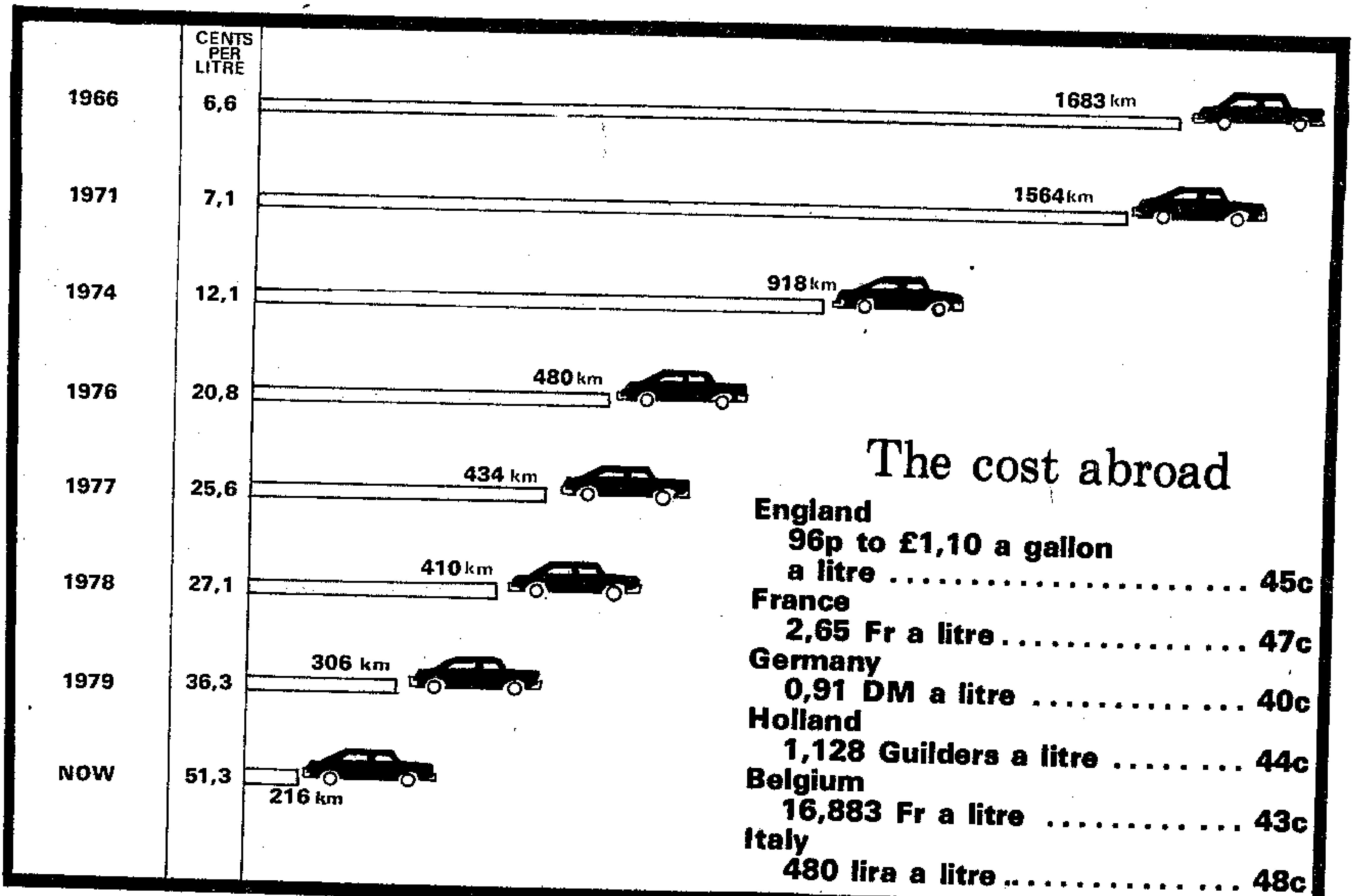
Now the shockwave!



The cost abroad

England
96p to £1,10 a gallon a litre 45c
France
2,65 Fr a litre 47c
Germany
0,91 DM a litre 40c
Holland
1,128 Guilders a litre 44c
Belgium
16,883 Fr a litre 43c
Italy
480 lira a litre 48c

THIS graph represents the distance a medium-sized car which averaged about 9l/100km (31 miles to the gallon) consumption would have travelled on R10 worth of fuel. In 1966, when the price of fuel was a little more than 6c a litre, the car would have gone to Johannesburg from Durban and back and still had some in reserve. Today, the same car would reach . . . Colenso.

The ripple effect

No escape from price hikes

ORMANDE POLLOK
Political Correspondent

CAPE TOWN — The price of petrol goes up 15 cents a litre today making South Africa's fuel among the most expensive in the world.

Ending weeks of speculation, the Minister of Economic Affairs, Mr. Chris Heunis, last night announced the massive 36 percent increase — the biggest ever in the country's history.

From today, in Durban it will cost 51,3c a litre to run your car on premium.

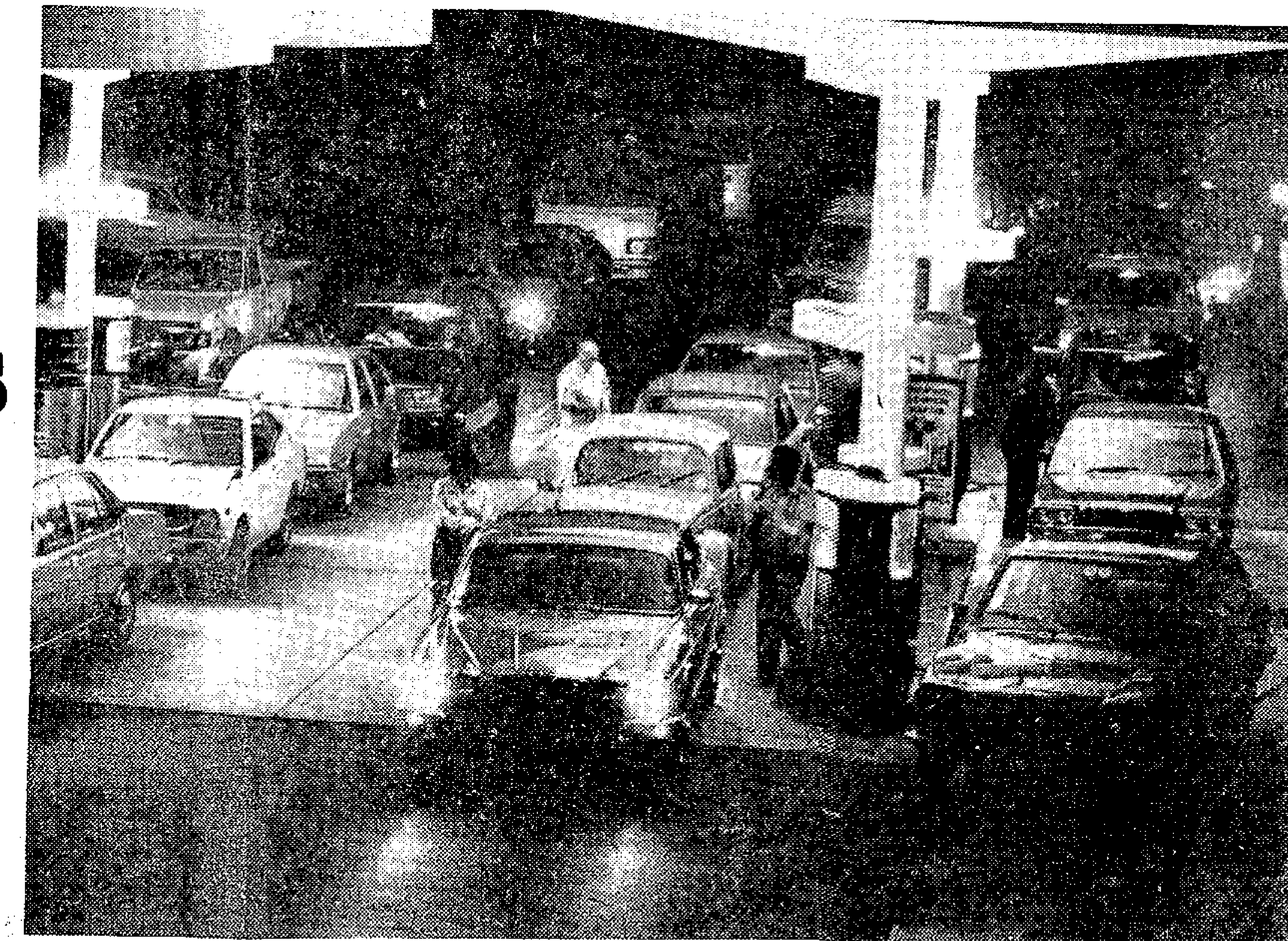
That — plus a 15c a litre hike in the price of diesel — will spark off a shockwave of price increases throughout the economy which no one will escape.

Johannesburg - Pretoria area, Cape Town and the surrounding areas, Bloemfontein, OFS-Goldfields, Port Elizabeth, East London and the Durban-Pietermaritzburg area;

- A clampdown on speedsters;

Buses

- Steps to reduce the use of road motor transport, and empty leg journeys;
- Measures to allow public bus transport operators to increase the number of passengers on



R340m profit for BP

The night of panic stations

Mercury Reporter

AS THE minutes ticked towards 6 p.m. yesterday hundreds of motorists crammed into Durban garages to squeeze liquid gold into their tanks and beat the price hike.

News of the increase had "leaked" early in the afternoon.

From 5 p.m. there was chaos at the intersection between Field Street and Victoria Street.

Hooters blared and tempers flared as motorists edged their way into queues at the service station there.

By 5.30 p.m. a traffic officer had to control the traffic as cars blocked the road and some motorists watched robots change colour three or four times.

Several motorists were seen shaking their cars to break air locks which may have prevented them pouring in a few more drops.

Other service station spokesmen interviewed last night had similar experiences.

"It's going mad this way," was a remark from a Rossburgh service station spokesman.

"The pumps are burning . . . it's crazy," said another in Hillary.

But the chaos was short-lived . . . it started at 3 p.m. at most garages and was all over by 6 p.m.

Mercury Reporter

THE 41 percent petrol price increase has drawn gloomy response from commerce, industry and consumer organisations — with predictions of spiralling inflation and unemployment.

Durban Chamber of Commerce president Mr. Alec Rogoff warned that the increase could cause "negative growth" in the economy.

Bus fares will inevitably go up.

Unemployment

Mr. Rogoff predicted that the poor would be hardest hit.

Mr. Roland Freakes, executive director of the Natal Chamber of Industries, said he regretted the mandatory cut in bulk supplies to industry of certain oil-based products.

He predicted decreased productivity and increased unemployment.

"I believe local industry has sufficient inventiveness, ingenuity and flexibility to adjust to the new circumstances but it will call for active co-operation of the Government, the Railways and local authorities," said Mr. Freakes.

Spokesman for both the Durban Transport Management Board (DTMB) and Putco said bus fare increases were inevitable.

About R1 800 000 a year will be added to the DTMB's R3 500 000 bill.

"What's going to happen to those poor Black people?" asked the Durban manager of Putco, Mr. Vic Edwards.

Mr. Marshall Cuthbert, general manager of the DTMB, said he was hoping the public would turn to buses and so help keep down fare increases.

Automobile Association public relation officer Mr. Henny Kleynhans said prospects for the motor industry were "gloomy".

He said the 6 p.m. closing time on Fridays did not make sense.

"We had this problem previously with terrible snarl-ups during peak hour on Fridays.

"It just causes more waste of petrol," he said.

Farmers suffer

The director of the South African Agricultural Union, Mr. Chris Cilliers, said the price increase was "a crippling blow to farmers".

He predicted another wave of food price rises.

Mr. Cilliers said about R200 million would be added to the agricultural sector's fuel bill — an amount that farmers could not be expected to absorb.

He said that unlike industry — which could put up prices immediately — many farmers would have to wait nearly a year before they could recover the increase in production costs.

"We may be forced to ask the Government for six-monthly price adjustments to foodstuffs," he said.

Dearer meat

Meat traders in Durban said that with the opening of the Cato Ridge abattoir next month — which will increase travelling — a red meat price rise was certain.

Tourist resorts were last night adopting a "wait and see" attitude.

"We've had it before and it didn't make much difference since people came on Friday and left on Monday," a spokesman for The Cavern, beyond Bergville, said.

Others said their prosperity depended on whether visitors could do the return journey on a tank.

Those resorts within range stood to benefit at the expense of those beyond.

Bus trips

Mr. Mike Moncur, manager of the Drakensberg Gardens Hotel, said his hotel had introduced weekend bus trips — "which could be the answer".

Mr. W. D. R. Brownie, director of the S.A. Tyre Manufacturers Conference, said many raw

■ TURN TO PAGE 2

Industrialist and economist M. D. Marais commented: "When all the ripples are taken into account the effect on the consumer could be horrendous.

"Our whole mode of life will have to change."

Food

The director of the South African Agricultural Union, Mr. Chris Cilliers, warned that the housewife, already stunned by the latest price increases for butter, cheese and milk, now faced more shocks.

"The new increases mean about R200 million on the farmers' fuel bill," he said, "and we just can't absorb that."

But the Price Controller promised his department would keep a tight grip on rises and every application would have to be justified "to the hilt".

Hours

Other measures in the Heunis package to save the country's dwindling oil supplies include:

- A change in selling hours. Petrol will no longer be sold on Saturdays, but pumps will open on Wednesday afternoons. Selling hours during the week will remain the same — between 7 a.m. and 6 p.m.;
- A reduction of the speed limit from 90km/h to 70km/h in "greater metropolitan areas". These areas include the buses: and
- A speeding up of the electrification of trains, enabling 85 percent of the total tonnage of goods carried by rail to be moved by means of electricity.

Other fuel price increases are:

Aviation gas up 18c a litre;

Liquid petroleum gas up 15c a litre;

Lubricating oil and greases up 18c a litre;

Power paraffin up 16c a litre.

Spiral

The Government predicted a 1,9 percent increase in the inflationary spiral, but Mr. Heunis appealed to producers not to pass on their increased costs to consumers.

Asked if there could be more price hikes, Mr. Heunis did not reply directly but said the new increases had been introduced to pay for the crude oil South Africa imported and — significantly — that he did not expect prices on the spot market to stabilise.

Even if they did at the May level, it would cost South Africa R2 000 million more for oil.

He hoped for a consumption cutback of between 23 and 25 percent.

Mr. Heunis emphasised the increases were not aimed at cutting consumption — even though they would have this effect, but at paying for dwindling oil supplies on the world market, bumping up the Equalisation Fund and helping to pay for Sasol.

LONDON — The giant half State-owned oil company, British Petroleum, yesterday announced a sharp increase in its profits.

It had made almost 200 million sterling (R340 million) more profit in the first three months of this year than in the first quarter of last year, the company said.

The oil exporting countries, who have pushed up world prices, have accused Western oil companies of reaping profits recently by buying oil at official prices and selling it on the free market at higher levels.

The Western companies have consistently denied this.

There have been rumours in Britain recently that the new Conservative Government — pledged to cut Government interference in the economy — might sell a slice of its holding in BP. — (Sapa- Reuter.)

Everyone is bound to suffer

9/4/79 N.M

FROM PAGE 1

materials used in tyre manufacture were oil-based — which could increase costs.

As many as 30 percent of service stations could go under because of the fuel price, said Mr. Jessel Celine, Natal chairman of the service division of the Motor Industries Federation.

Garages battling

"The industry has been having a rough time and I would estimate about 30 percent of the stations are battling to break even so this could be the thing which pushes them under," he said.

Not only would service stations face reduced throughput, which he estimated would be down by between 15 and 20 percent, but they would also be operating at a smaller profit margin.

"In outlying areas it is going to be even worse — the weekend tripper could almost become a thing of the past," he added.

The New Republic Party MP for Berea, Mr. Nigel Wood said: "It is disgraceful that this long-anticipated announcement was made after and not before the Randfontein by-election.

"This is political cynicism similar to that we get so often from the Government."

He added: "Minister Heunis's high-handed rejection of the potential part that could have been played by alcohol fuels deserves criticism.

"I feel it is imperative to call again for the introduction of vegetable-based alcohol fuel.

"The main ones are ethanol and methanol which, had we used creative and original thinking, we could already be producing in significant quantities to supplement our oil based fuels.

"It is, even now, not too late to encourage private enterprise to produce these fuels," Mr. Wood said.

New fuel price brings windfall to filling stations

Star 8/6/79 (55)

By Harvey Thomas, Motor Editor

South Africa's 5 000 petrol filling stations made an overnight profit of millions of rands when the new price of petrol was announced. Many of the bigger stations made profits of more than R10 000 each on petrol they had bought at the old price.

Although the garage men claim their profit margin on petrol and diesel sales will now be lower they were compensated for this by advance deliveries of fuel at the old prices.

The publicity given to the new fuel moves and speculation about the petrol price over the past two weeks alerted filling station owners to keeping their storage tanks topped up.

MUCH MORE

The storage tank capacity of the average filling station is thought to be about 10 000 litres but many in the larger centres can take much more.

"We all tried to keep the tanks as full as possible, said a garage man. "I would estimate that virtually all the filling station tanks in South Africa were heavier than normal."

Most motorists, alarmed by suggestions of an imminent price increase, topped up their tanks earlier this week and the result was that for most of yesterday and on Wednesday garage men reported "quiet" sales.

But this changed dramatically yesterday after-

To Page 3, Col 4

Fuel price brings a windfall

From page 1

noon when queues started forming after the news that the Government would make the fuel announcement later in the afternoon.

Mr J H van Huyssteen, director of the Motor Industries Federation, said he believed that "by and large the garages' supplies were rather low. I have heard of cases in which oil companies could not deliver and fill tanks before the price increase. Some garages might have been luckier and done better than others."

Garage men say small garages will not be able to survive the increase and the stopping of the weekend petrol flow.

Mr van Huyssteen said today garages had to sell about 85 000 litres a month to break even. Many small garages especially in country areas, did not sell that much now.

How R1 worth of petrol dwindled from a flow to a trickle to a drop . . .

Star 8/6/79

The big squeeze

With two short words last night, Mr Chris Heunis, Economic Affairs Minister, drastically changed the quality of life of every single South African — young or old, rich or poor, black, white, brown or yellow.

Those two words — "fifteen cents" — slammed the price of petrol into one of the highest brack-ets in the Western world. They ended, probably for ever, South Africa's free-wheeling habit of driving two blocks to the cafe for a packet of cigarettes, or nipping over to Durban or the Kruger Park or a Botswana casino for the weekend.

nflation

They will trigger an in-lationary rocket that will ncrease costs in every acet of modern living — omes, holidays, size of ar, food — even a glass f water.

South Africans were arned by economists day to brace themselves r another upward twist the cost of living that ay push prices higher by 5 percent a year.

They feared inflation in 979 will now be as bad or even worse than in the 1975 crisis, when the Government launched its abortive nation-wide campaign to check prices and the country slithered into recession.

The fact that it will cost the motorist about R10 more every time he fills the tank will be only the start.

"We will probably shake hands with a 15 percent inflation rate before the end of the year as a result of the indirect ripples of the rise" says the mist at the Economic R Stellenbosch Mr W Kilian.

"Increased will spark off the Railways the cost of tion and add of practically through transp the first round

"In the sec building, manufacturing and construction will all be affected and that puts pressure on wages and salary increases and the spiral is completed."

"We are likely to see a dip in the July inflation rate when compared with last year as GST works itself through after its first full year.

"But then the rate will speed up fast and we will see 15 percent before the end of the year, due to the indirect effects of the fuel price rise," says Mr Kilian.

Less growth

Bankers estimated that the Government's forecast that the petrol price could add 1,9 percent to the inflation rate was too low. It could add 2,5 percent to it — and will certainly outweigh all the benefits expected from the

To Page 3, Col 1

'Everything will go up'

Start of the big slow-down

Own Correspondent

The new reduced speed limit of 70 km/h will be enforced on all roads within 41 magisterial districts throughout the country.

The districts were published in the Government Gazette in Pretoria today and the limits have come into effect. Signs will be put up to define the districts, but motorists should stick to the new limits ...

The Johannesburg Traffic Department is working flat out to have the new 70 km/h speed limit signs up by tonight.

The districts in the Transvaal are: Alberton, Benoni, Bronkhorstspruit, Boksburg, Brakpan, Cullinan, Germiston, Heidelberg, Johannesburg, Kempton Park, Krugersdorp, Pretoria, Randburg, Randfontein, Roodepoort, Springs, Vanderbijlpark, Vereeniging, Westonaria and Wonderboom.

Johannesburg magistrates are to meet soon to decide on the new level of fines for speeding in light of the new limits.

The big squeeze

From page 1

July income tax reductions.

The growth rate, which the Government had estimated at 4 percent this year, is now likely to come back to only 3 percent — "and we will be very lucky if we even make that," Dr Jan Cloete, Barclays's chief economist said this morning.

"One price increase leads to another — and the most serious economic problem now facing South Africa is that the rate of inflation will accelerate," Dr Cloete added.

Mr Rudolf Gouws, senior economist Nedbank group (economic unit) said the Government would have to propose more measures if the economic push was not to falter, and that there was therefore some hope that the threat to the unemployment levels would not be too severe.

"But there will still be some areas where unemployment will grow" he added.

FM 8/6/79 (35)

PETROL

The case for rationing

Most South Africans will support the Government's search for an answer to the fuel crisis that does not involve coupon rationing.

Apart from the unpleasant connotations of wartime austerity, and the limitations rationing imposes on personal freedom, few people would want to give an already cumbersome bureaucracy opportunity to create another tangle of inefficiency and corruption.

Should we have petrol rationing? Most South Africans throw up their hands in horror at the thought. But there is a case for rationing; just so that it does not go by default, this article spells out not only why rationing may become necessary, but also that, even if it would have a serious distorting effect on the market mechanism, there would be some offsetting advantages.

There are three choices before the authorities, or a combination of them: the price mechanism, coupon rationing, and a package of indirect fuel saving measures such as restricted petrol trading hours and more stringent speed limits.

A lot depends on how big a cut in consumption Economics Affairs Minister Chris Heunis wants to make. A relatively small cut can probably be left to the price mechanism. But to achieve a large cut — say a third — through the price would probably require so great an increase that the inflationary effects would be unacceptably burdensome.

Nobody knows exactly how price elastic the demand for liquid fuel is. We know that after the 1973 oil crisis, when the price of petrol at the pumps went up by 50% and a package of restrictions was introduced, consumption was cut for a while by 15%.

Since then, in a five-year period when the price of petrol has jumped by 160% — an average of 21% a year — demand has been more or less static. It has not declined, but nor has it shown normal growth.

Since normal growth before 1973 was about 8% a year, one might conclude that a price increase of 21% a year would result in an 8% drop in consumption. But this is very much a rule of thumb, and without clear knowledge of how price elastic the demand for fuel is at higher levels, the price mechanism would be a blunt-edged weapon.

If the price were to be increased by 50%, consumers would have to cut consumption by one third to lower the whole fuel bill to its former level.

But it is highly unlikely that they would. Certainly, the better-off members of the community would absorb some of the increase. Anybody who receives a company car as one of his job perks, and who is provided with fuel at company expense, would be unaffected.

The motor industry estimates that something like 50% of new cars sold in SA are bought and financed by companies. BMW reckons 60% of its products go to companies. And the belief is that the employee usually gets petrol as well.

The less well-off might be forced to reduce their consumption, but they are not, *per capita*, the big users of petrol. The highest estimate is that blacks own 17% of the cars on the road, and they are, anyway, much more efficient in car usage in terms of the number of people crammed into a vehicle.

So the chances are that it would take a much higher than 50% increase in petrol and diesel prices to save 33% of consumption. It would also cause a round of general inflation.

The Federated Chamber of Industries reckons that every 15% increase in fuel prices produces a 0,5% increase in the consumer price index. So a 50% fuel price hike would inflate consumer prices by about 1,5%

But the effect would be greater on commerce and industry, and hence on wholesale prices.

The AA estimates that fuel accounts for 20% of the cost of running a car, somewhat more for trucks.

So should the Government subsidise the fuel consumer and *not* pass on the increased cost of importing it? Firstly, it must be borne in mind that a higher domestic price will not provide the increased foreign exchange needed to pay for the imports.

A domestic price hike would, in fact, amount to a tax designed to cut consumption — while putting more money into the fiscus.

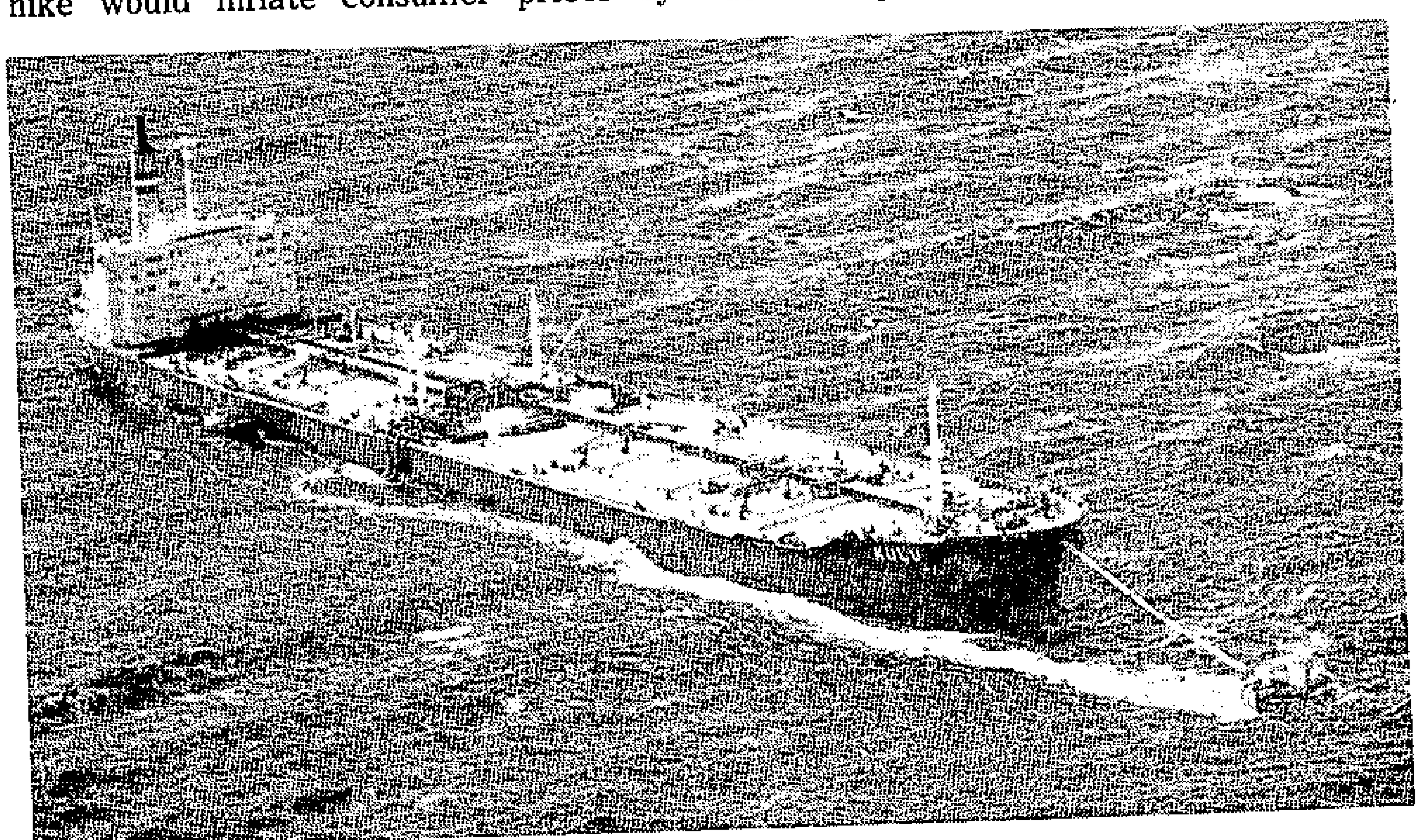
Secondly, as the oil price rises, so does that of gold, providing the Government with windfall profits. Admittedly, the gold price rise lately seems to be lagging behind that of oil, but even so Standard Bank Review this week points out that gold and mineral exports could earn the economy between R1 400m and R2 000m *extra* this year.

Oil imports, on the other hand, have only cost about R300m extra in the first six months of the year because the big increases in spot market prices have been quite recent.

The bank sees no reason to anticipate an economic slump unless the new oil crisis deteriorates into a world recession.

Clearly, with oil prices currently three times what they were last year, oil consumption has to be cut. Equally clearly, coupon rationing, with its attendant administrative problems and cost, should be avoided as long as possible.

But let's try, too, to avoid huge domestic price increases.



Tanker offloading at Durban . . . how should the oil be allocated?

(55) FM 3 |d79

OIL CRISIS

Another turn of the screw

Petromania reaches another frenzied climax in Cape Town this Friday when Economic Affairs Minister Chris Heunis announces a double-digit increase in the price of petroleum products, the third in less than six months.

On February 23, when he announced an increase of 6c/litre in the Equalisation Fund levy, Heunis calculated that this, following an earlier rise of 3.2c/litre, would be enough to take care of a premium of $6-$8 a barrel on posted Opec crude oil prices.

A few days later Abu Dhabi and Qatar set off a price leap-frogging mechanism under the guise of a surcharge based on the pattern of demand for certain grades of crude. In no time at all, other producers joined the game and soon all pretence about quality differentials was dropped. With Saudi Arabia the sole exporter sticking to the rules, posted prices lifted off and are now 50% higher than in the final quarter of 1978. The going market-related contractual price between buyers and producers ranges from the $18.47 a barrel charged by Saudi Arabia since June 1 to $21 a barrel [illegible] by the leading African exporters and the North Sea producers.

By April 12, when Heunis announced that Finance Minister Horwood had agreed to sacrifice 2c/litre from excise revenue and divert it to the Equalisation Fund (R170m in a 12-month period), the latter was being pumped [illegible] at the rate of about 9.5c/litre on oil products consumed.

As Heunis' price announcement will doubtless explain, the fund was [illegible] out of pocket as the premium SA had to pay for its haphazard acquisitions soared to $18.

To recover the shortfall and build up a reserve to finance inevitable increments in the months ahead, Heunis will probably hoist the levy 10c or 12c.

After exhaustive talks with the Treasury, the Reserve Bank, Chamber of Mines and major consumers in the private sector, government's boffins were forced to the conclusion that there was no alternative method of funding oil imports. The possibility was investigated of diverting additional oil excise revenue to the Equalisation Fund but it was found that [illegible] small [illegible] excise [illegible] motor spirit yielding a piffling sum.

Suggestions that gold windfalls should be used to cushion the blow were rejected as both laughable and inequitable. "It's like asking your neighbour to pay your milk account," said one senior official. Similarly, a suggestion that some form of price subsidy be extended to consumers of diesel fuel in the production sector [illegible] curb the inflationary impact of higher cost of capital [illegible] out.

Conservation plans to stretch available supplies of diesel fuel by blending up to [illegible] petrol [illegible] problem. While experiments have [illegible] and [illegible] are [illegible] production, local authorities are [illegible] [illegible] about the [illegible] highly volatile [illegible]. Apparently [illegible] prepared to accept the [illegible] for the SA [illegible] with probably [illegible] to formulate [illegible] ations in [illegible].

Although [illegible] paramount importance in [illegible] oil strategy, the [illegible] of [illegible] [illegible] steady [illegible] between [illegible] the refineries [illegible] working [illegible] below capacity. [illegible]

Queuing for petrol . . . but it's diesel fuel we lack

[illegible] in excess of demand, whereas [illegible] shortages of diesel fuel are looming.

In the absence of term contracts for crude oil supplies, and in a situation where the Republic relies more than [illegible] on the international spot oil market, what degree of paring usage at home is enough?

Not even government has the answer to that question. At worst, the present crisis [illegible] petrol and diesel fuel [illegible] At best, the [illegible]

[illegible] to ransom [illegible] a [illegible]

[illegible] until the [illegible] agreed to [illegible] on [illegible] an already [illegible]

[illegible] government [illegible] no end in [illegible] sweeping [illegible] parish [illegible] prospect [illegible]

[illegible] that [illegible] made [illegible] term con[illegible] SA [illegible] catch-[illegible]

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[illegible] of a $49/b[illegible] fuels s[illegible] expect[illegible] cuts [illegible]

[illegible] the same eff[illegible] question [illegible] consu[illegible] shor[illegible] edged ou[illegible]

The Star
Friday June 8 1979

55

This fuel crisis is the real one

LIFE will never be the same again. The days of petrol plenty and comparatively cheap prices are gone forever. There have been crises before and one rocked the major industrial nations. South Africans have been hearing of a crisis ever since, but have squandered fuel with a blithe prodigality. Crisis? What crisis? So the present situation may have the ring of deja vu. Make no mistake, though, this is the crunch.

The Arabs could make up the shortfall, but they want their reserves to last—and their quota system keeps up the price. Speculators are making two to three times as much out of oil as the Arabs, so Opec is talking about another 30 percent rise. Everybody is blaming the Americans for guzzling and for pushing up the prices. In reply the US blames West Germany for refusing to observe an agreement that would have kept the major users out of the spot market. Iran is trying to put the clamp on supplies for Israel and South Africa. Their threat could frighten off some would-be suppliers. Until the new miracle fuel is invented, the crunch is real.

South Africans in every sphere of occupation must appreciate that when they put a foot hard on the throttle, they are accelerating towards disaster. Some will suffer more than others through the price increase and restrictions: the Lenasians and Sowetans who are forced by law to live far from their work; country resorts; car manufacturers. There may be some unemployment.

Yet the biggest danger is in inflation. Mr Heunis calculates that his rise will give it a 1,9 percent twist upwards. Experience makes us cynical, although it should be possible to perform wonders by rationalisation. Farmers have complained that they will be badly hit, but agree they can save 20 percent. They must do so. So must everybody else. Commerce and industry could save 20 percent too by rationalisation—and keep their overheads down. The ordinary motorist can save as well by less competitive driving. All can save, and all must. Otherwise everybody will pay.

Star 8/6/79 55

Half his salary goes on petrol

Kerstin Colombel (19) of Valeriedene, Johannesburg, is squaring up to the fact that he is now spending nearly half his take-home salary on petrol — and there is nothing he can do about it.

Kerstin lives with his recently widowed mother and 16-year-old sister and he picks up his mother from her work late at night.

But his job is with the cargo department of an international airline at Jan Smuts Airport.

"I have to travel at least 125 km a day," he said. "I can't allow my mother to travel home on her own late at night and I can't take the bus to the airport and back. It would mean about 3½ hours a day in travel.

"With petrol now at 54,3c a litre I will be spending just on R200 a month to keep my car on the road.

Kerstin is already limiting the amount of "pleasure motoring" he allows himself.

"I try to keep it down to no more than 500 km a month," he said. "But 500 km doesn't go too far when you are young and eager to see your friends.

If the fuel price continues to spiral what will Kerstin do?

"What can I do?" he asked. "There must be hundreds of young people in the same boat as me."

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VOL. 168] PRETORIA, 8 JUNE JUNIE 1979 No. 6492

GOVERNMENT NOTICE

DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS

No. R. 1268 8 June 1979

PETROLEUM PRODUCTS ACT, 1977

REGULATIONS IN RESPECT OF THE SAVING OF PETROLEUM PRODUCTS

The Minister of Economic Affairs has, in terms of sections 2 and 5 of the Petroleum Products Act, 1977 (Act 120 of 1977), made the regulations in the Schedule.

SCHEDULE

1. In this Schedule "regulations" means the regulations promulgated by Government Notice R. 529 of 16 March 1979.

2. The following regulation is hereby substituted for regulation 3 of the regulations:

"3. Subject to the provisions of these regulations no person shall supply any other person with petrol, and no person shall receive petrol from any other person thus supplying it to him, in the tank of a petrol-driven motor vehicle or vessel or in a container or containers, and no person shall supply any other person with diesel oil, and no person shall receive diesel oil from any other person thus supplying it to him, in the tank of a diesel oil-driven motor vehicle or in a container or containers, at any time other than between 07h00 and 18h00 on a Monday, Tuesday, Wednesday, Thursday and Friday.".

3. Regulation 4 of the regulations is hereby amended by the addition of the following subregulation:

"4.8 a driver of a taxi of a quantity not exceeding 80 litres on any Saturday: Provided that such supply shall take place only between 16h00 and 18h00.".

4. Regulation 6 of the regulations is hereby amended by—

(a) the deletion of the word "and" after the words ". . . residential address;" in subregulation 6.4;

GOEWERMENTSKENNISGEWING

DEPARTEMENT VAN HANDEL EN VERBRUIKERSAKE

No. R. 1268 8 Junie 1979

WET OP PETROLEUMPRODUKTE, 1977

REGULASIES TER BESPARING VAN PETROLEUMPRODUKTE

Die Minister van Ekonomiese Sake het kragtens artikels 2 en 5 van die Wet op Petroleumprodukte, 1977 (Wet 120 van 1977), die regulasies in die Bylae uitgevaardig.

BYLAE

1. In hierdie Bylae beteken "die regulasies" die regulasies afgekondig by Goewermentskennisgewing R. 529 van 16 Maart 1979.

2. Regulasie 3 van die regulasies word hierby deur die volgende regulasie vervang:

"3. Behoudens die bepalings van hierdie regulasies, mag niemand petrol aan iemand anders verskaf en mag niemand petrol van iemand anders wat dit aldus aan hom verskaf, ontvang nie in die tenk van 'n petrolaangedrewe motorvoertuig, -vaartuig of in 'n houer of houers, en mag niemand dieselolie aan iemand anders verskaf en mag niemand dieselolie van iemand anders wat dit aldus aan hom verskaf, ontvang nie in die tenk van 'n dieselolie-aangedrewe motorvoertuig of in 'n houer of houers, op 'n ander tyd as tussen 07h00 en 18h00 op 'n Maandag, Dinsdag, Woensdag, Donderdag en Vrydag.".

3. Regulasie 4 word hierby gewysig deur die volgende subregulasie by te voeg:

"4.8 'n bestuurder van 'n taxi van 'n hoeveelheid van hoogstens 80 liter op enige Saterdag: Met dien verstande dat sodanige verskaffing slegs tussen 16h00 en 18h00 mag plaasvind.".

4. Regulasie 6 van die regulasies word hierby gewysig deur—

(a) die woord "en" na die woord ". . . woonadres;" in subregulasie 6.4 te skrap;

(b) the insertion of the word "and" after the words ". . . is required;" in subregulation 6.5; and

(c) the addition of the following subregulation:

"6.6 in the case of the driver of a taxi also the number and date of the public road carrier permit issued in terms of the Road Transportation Act, 1977 (Act 74 of 1977).".

5. The following regulation is hereby substituted for regulation 22 of the regulations:

"22. Save by virtue of an exemption granted by the Controller no person shall use fuel in such a manner that—

22.1 in the area of the following magisterial districts any motor vehicle is propelled on any road at a speed in excess of 70 kilometres per hour:

Cape Province

Cape Town;
Bellville;
Goodwood;
Kuils River;
Paarl;
Simonstown;
Somerset West;
Stellenbosch;
Strand;
Wynberg;
East London;
Port Elizabeth;

Natal

Camperdown;
Durban;
Inanda;
Pietermaritzburg;
Pinetown;
Umlazi;

Orange Free State

Bloemfontein;
Virginia;
Welkom;

Transvaal

Alberton;
Benoni;
Boksburg;
Brakpan;
Bronkhorstspruit;
Cullinan;
Germiston;
Heidelberg;
Johannesburg;
Kempton Park;
Krugersdorp;
Pretoria;
Randburg;
Randfontein;
Roodepoort;
Springs;
Vanderbijlpark;
Vereeniging;
Westonaria;
Wonderboom;

22.2 in any other area—

22.2.1 any motor vehicle with a gross vehicle mass in excess of 9 000 kilograms which is designed, equipped, constructed or adapted solely or mainly for conveying goods, is propelled on any road at a speed in excess of 80 kilometres per hour;

(b) die invoeging van die woord "en" na die woorde ". . . nodig is;" in subregulasie 6.5; en

(c) die volgende subregulasie by te voeg:

"6.6 in die geval van die bestuurder van 'n taxi ook die nommer en datum van die openbare padvervoerpermit uitgereik kragtens die Wet op Padvervoer, 1977 (Wet 74 van 1977).".

5. Regulasie 22 van die regulasies word hierby deur die volgende regulasie vervang:

"22. Behalwe kragtens 'n vrystelling verleen deur die Kontroleur mag niemand brandstof op so 'n wyse gebruik dat—

22.1 in die gebied van die volgende landdrosdistrikte enige motorvoertuig teen 'n snelheid van meer as 70 kilometer per uur op 'n pad aangedryf word nie:

Kaapprovinsie

Bellville;
Goodwood;
Kaapstad;
Kuilsrivier;
Paarl;
Simonstad;
Somerset-Wes;
Stellenbosch;
Strand;
Wynberg;
Oos-Londen;
Port Elizabeth;

Natal

Camperdown;
Durban;
Inanda;
Pietermaritzburg;
Pinetown;
Umlazi;

Oranje-Vrystaat

Bloemfontein;
Virginia;
Welkom;

Transvaal

Alberton;
Benoni;
Boksburg;
Brakpan;
Bronkhorstspruit;
Cullinan;
Germiston;
Heidelberg;
Johannesburg;
Kempton Park;
Krugersdorp;
Pretoria;
Randburg;
Randfontein;
Roodepoort;
Springs;
Vanderbijlpark;
Vereeniging;
Westonaria;
Wonderboom;

22.2 in enige ander gebied—

22.2.1 'n motorvoertuig met 'n bruto voertuigmassa van meer as 9 000 kilogram wat uitsluitlik of hoofsaaklik vir die vervoer van goedere ontwerp, ingerig, gebou of aangepas is, teen 'n snelheid van meer as 80 kilometer per uur op 'n pad aangedryf word nie;

22.2.2 any other motor vehicle is propelled on any road at a speed in excess of 90 kilometres per hour.".

6. The following regulation is hereby substituted for regulation 28 of the regulations:

"28. A permit or written authority issued or granted in terms of Government Notices R. 386 of 3 March 1978, R. 30 of 12 January 1979 and R. 529 of 16 March 1979 is valid only until 31 July 1979 or such earlier date as may be indicated on the permit or authority.".

22.2.2 enige ander motorvoertuig teen 'n snelheid van meer as 90 kilometer per uur op 'n pad aangedryf word nie.".

6. Regulasie 28 van die regulasies word hierby deur die volgende regulasie vervang:

"28. 'n Permit of skriftelike magtiging uitgereik of verleen kragtens Goewermentskennisgewings R. 386 van 3 Maart 1978, R. 30 van 12 Januarie 1979 en R. 529 van 16 Maart 1979, is geldig slegs tot 31 Julie 1979 of sodanige vroeër datum as wat op die permit of magtiging aangedui mag wees.".

Petrol crisis around the world

Star
8/6/79

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The oil crisis has had a shattering effect on all countries which are not self - sufficient. Some of the recent developments have been:

Increased purchases of foreign oil and foreign cars have pushed the US trade deficit to 2,15-billion dollars, wiping out the appreciable improvement of the previous two months.

The New York Times reports that senior members of President Carter's staff have advised him that Energy Secretary James Schlesinger has become a political liability and should be replaced.

Although the president's advisers do not consider Schlesinger to blame for the heavy flak which the administration's energy policy has drawn, they believe that he should be replaced to protect the president's left flank from fire.

Mr Carter, who is proud of having kept his Cabinet intact since inauguration, insists that he has full confidence in Mr Schlesinger.

* * *

In Europe, the EEC has complained to the US that its subsidy of about five dollars a barrel on oil imports could worsen the EEC's supply position by drawing refined products away from its markets and could also encourage a further increase in international oil prices.

EEC officials in Brussels are particularly angered because the US did not formally consult the EEC in advance.

* * *

In Britain, cuts may have to be made in some of the less essential services provided by central and local government and nationalised industries in a bid to save more energy, Mr David Howell, the Energy Secretary, has said.

Mr Howell has written to all Ministers in charge of government departments urging them to step up the drive for oil saving in the public sector.

Shell and Mobil, two of the main UK oil suppliers, have introduced strict rationing for deliveries of all oil products.

Mobil is cutting supplies of petrol and diesel to individual customers to 85 percent of last year's levels. Shell is rationing deliveries to 95 percent.

The shortfall in crude oil supplies to the UK has forced all main oil companies except British Petroleum to ration product supplies to less than last year's delivery level.

The world is looking for alternatives to petrol — electric cars, alcohol, molasses, rice and maize, among other things.

The price of coal is likely to rise in the near future, as the National Coal Board seeks to cut down on its mounting operating losses by increasing its tariffs in line with rising oil prices.

Doubts remain about the future of the luxury Cunard liner QE 2.

Cunard's fuel costs alone for the ship are estimated to be R13-million this year compared with estimates of about R9-million before the oil price increases.

* * *

America's troubles with oil could provide the electric vehicle industry with the impetus and the cash it needed to make the jump from the present-day commercial electric vehicle to the electric car, a senior Department of Industry official told the industry.

The electric passenger vehicle still needed a lot of development money, said Dr Duncan Davis, the department's chief scientist and engineer, speaking in London.

When Americans — "very affluent, very passionate, very prehensile" — found themselves baulked at the petrol pump, they might well start to buy electric cars.

It could prove to be a phony market, and the cars might be abandoned once oil supplies eased again. But even a phony market could "pull through an awful lot of technology — and technology has been pulled through by sillier things than that."

A new energy term — "gasohol" — has begun to appear in newspaper headlines. This is an American word meaning a mixture of gasoline (petrol) and pure alcohol suitable for fuelling a car. Gasohol received a surge of publicity when it went on sale recently in New York.

The newly discovered interest in adding alcohol to petrol to eke out oil supplies is confined to the fermented forms of alcohol which make no demands on oil.

Several nations are showing great interest in making power alcohol from crops in the time honoured way used for potable brands.

Almost any crop except wood can be used. But national reasons for building a "green petrol" industry can be surprisingly different from country to country.

The most highly publicised of the nations which have ventured into "green petrol" is Brazil, which has a dauntingly high balance of payments deficit arising from the rapid rise in OPEC oil prices.

The Brazilian Government has therefore made it a tenet of its energy policy to run cars on a 20 percent alcohol blend with petrol.

Last year it claimed that 15 percent of its cars were already running on gasohol.

The initial source of Brazil's alcohol is molasses, a brown, syrupy by-product of the production of sugar, traditionally used to make rums with the heavy aromas. Well-established practice has been hastily adapted to meet the Government's demands. But even from Brazil's vast sugar-cane industry there is nothing like enough of the molasses by-product to meet the Government's target for gasohol.

Now they are beginning to look at cane juice.

* * *

Thailand sees "green petrol" from a significantly different viewpoint. It has a Minister for Industry who is keen to control the effects on his economy of annual variations in harvests. If Thailand's surplus crops could be channelled into a single product such as power alcohol it would take a lot of the uncertainty out of an agricultural economy, and the Government would have a powerful economic regulator.

The Minister is therefore inviting bids for the supply of turnkey distilleries of the kind being tendered for cane juice in Brazil, but readily adaptable to whichever of its main crops — sugarcane, molasses, rice, cassava and maize — may happen to be in surplus.

* * *

Sudan affords yet another rationale for setting up a power alcohol industry. It is building a vast sugarcane industry in a particularly fertile triangle between the White and the Blue Niles. The Kenana sugar project is scheduled to start operating at the end of this year. But deep in East Africa, more than 1 000 kilometres by rail from a seaport, the molasses by-product is an embarrassment. It may even have to be dumped in the desert — unless it can be fermented to make power alcohol.

PFP calls for fuel, foods to be subsidized

(3) (55)

C. Times 9/6/79.

THE Progressive Federal Party yesterday called for government subsidies of public transport and essential foodstuffs, to protect them against the inflationary effects of the sharp petrol price increase.

Mr Harry Schwarz, the Opposition spokesman on finance, expressed concern at the threat which inflation posed to social stability. There have already been many increases in essential commodities and more were to come, he said.

The public would accept rising prices in good spirit if they were satisfied that the hikes were unavoidable, that steps were being taken to avoid exploitation and that the burden was being shared.

Dr Gerhard de Kock, special adviser to the Minister of Finance, has said that the substantial increases in both the price of gold and oil would lead to a redistribution of income, affecting the man in the street particularly adversely.

"The challenge to the government is whether it is going to leave this situation uncorrected and whether the man in the street must bear the major burden of inflation," Mr Schwarz said.

He called on the government, while it was benefitting from the increased gold price, to subsidize basic essentials, particularly foodstuffs.

The PFP spokesmen on transport, Mr Rupert Lorimer and Mr Tian van der Merwe, called for urgent government action to exempt all public passenger transport from the effects of the enormous fuel increases.

Increases in bus and train fares would create an untenable situation for hundred of thousands of commuters, particularly those forced to live far from their place of employment by the Group Areas Act. Greater use of public transport would conserve energy.

"The public can never be more receptive to changes in their transport habits than at this moment of vast fuel price rises," they said. They urged the government to:

- Cut the levy on petrol, diesel and other fuels used by mass transport.
- Try to eliminate restrictions on private mass transport.
- Urge provincial authorities to reduce bus licence fees, even if the provinces had to be reimbursed by the government.

Motor racing 'unaffected'

JOHANNESBURG. — The new petrol measures would not affect motor racing as a sport, the manager of the South African Motor Racing Club, Mr Alex Blignaut, said yesterday.

"All the grand prix drivers have special high-octane petrol shipped out to this country at their own expense," he said. "Apart from that, there is little expense involved on our part.

"Racing will be affected in the same way that all spectator sports will be affected. A few people will stop coming, sports clubs will lay on more buses and people will club together for lifts. In no time, things will be back to normal."

Sun Tribune

In the wake of oil hikes...

10/6/79

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Fuel price rises can put economic recovery trend into reverse

By TONY HDUSON Financial Editor

THIS week's heavy round of fuel price increases could turn recovery into recession if Government does not take steps to counteract the reduction in disposable incomes caused by the price hikes.

Hopes of a consumer led recovery are now in the balance as the extra money that the taxman was going to pump back into the economy via tax cuts is now going straight into the coffers of the oil companies.

A Johannesubrg economist has calculated that the 40 percent increase in fuel costs is going to cost the consumer an extra R2 000 million a year to keep vehicles on the roads.

However, he estimates that this will be partly offset by the cuts to bulk users, shorter selling hours and other measures which should save around R1 000 million, leaving a net increase of R1 000 million in the fuel bill.

The tax concessions introduced by Finance Minister Owen Horwood in the last budget only amounts to around R500 million, which means that the consumer will in fact face a fall in personal disposable income rather than a gain, as was intended by Senator Horwood.

However, there is no doubt that the money boffins in Pretoria are well aware of the problem. And as Senator Horwood and others have publicly stated that the Government is committed to positive growth this year, it is likely that steps will be taken to keep the economy on the growth trail.

While the Minister has a number of options open to him, financial circles feel that further tax concessions are a possiblity as Government coffers are flush with cash. An additional factor is that the money market is also awash in cash, making it easy for Government to raise extra funds if it needs to.

Another factor that will play a part in Horwood's decision making process is the inflation rate. Estimates by economists show that both the January and the latest fuel price increases would put as much as 2,5 percent onto the annual inflation rate, which is already getting close to an unacceptably high level.

The need for prompt action by Horwood has been outlined by the Standard Bank, which states: "The lack of confidence in the first months of the year is reflected by the continued poor performance of retail sales (in volume terms) which has now also dampened the growth of manufacturing industry.

"The overall effect," says the bank "is that the economy's GDP growth performance during the first two quarters is likely to have been poor with mining and manufacturing barely balancing the reduced contribution of agriculture."

The bank concludes: "This inflation effect may deprive next month's tax reduction of some of the impetus designed to get the economy moving at a faster pace through higher government spending. Provided a thorough examination of the oil situation makes continued emphasis on growth possible, additional stimulatory measures may now have to be taken to counteract the deterioration in confidence and spending power to get the recovery onto the road again."

Commerce and Industry must cut fuel consumption by 20 percent

By JACK BRICKHILL

COMMERCE and industry must cut diesel consumption by 20 percent in the next six months.

The Professional Hauliers Association has agreed to a cutback of 10 percent on supplies of diesel fuel in the next two months followed by cuts of 2,5 percent a month over the next six months to a maximum of 20 percent. The hauliers have agreed to the move provided productivity does not fall to unaccetpable levels.

The ctus will have a dramatic effect throughout the transport industry and will mean more goods will be carried by rail. The road transport service of the Railways has agreed to the same cutbacks as the other hauliers, and the move will apply to all registered and licensed goods vehicles in the country.

The cutback will cause shortages and delays but the Professional Hauliers executive director, Jack Webster, is confident the industry will be able to take steps that will minimise disruption. Meetings are being held with the Railways to reduce empty-leg journeys which have been a problem in the past. A transport official estimated that millions of dollars can be saved in this way, but some empty voyages are inevitable.

The road hauliers will meet CSIR officials tomorrow to discuss implications of increasing the axle loading of vehicles. This means more goods might be carried by vehicles to increase productivity in the industry.

The hauliers are also meeting officials of the Bureau of Standards to discuss methods of improving engine efficiency. Webster says hauliers will have to watch every kilometre travelled to ensure the journey is necessary. The base line for allocations to bulk users is the 1978 consumption level. The administration will be carried out by the oil companies which will cut supplies to users by the agreed percentage but the control will be in the hands of the department of commerce.

Hauliers are already collating figures for their allocation applications and the scheme is expected to be in operation in a few weeks.

The 132 000 haulage vehicles in the private sector, the Railways' road service, other Government agencies and the Railways' diesel-electric locomotives account for about half the country's consumption of diesel. Similar cuts are being made to mines, the agricultural sector, industry, commerce and to garages.

Sun. Trib. (55) 10/6/79

The go s-l-o-w areas...

THE new reduced speed limit of 70 km/h will be enforced on all roads within 41 magisterial districts throughout the country, it was learned yesterday.

The deputy director of petroleum products, Mr P. J. Swanepoel, said it would be wrong to assume that only freeways in the metropolitan areas were involved as there were many rural districts included in the list.

He said signs would have to be put up to define the various magisterial districts, but motorists would be well advised to stick to the new speed limit from this point on to avoid prosecution.

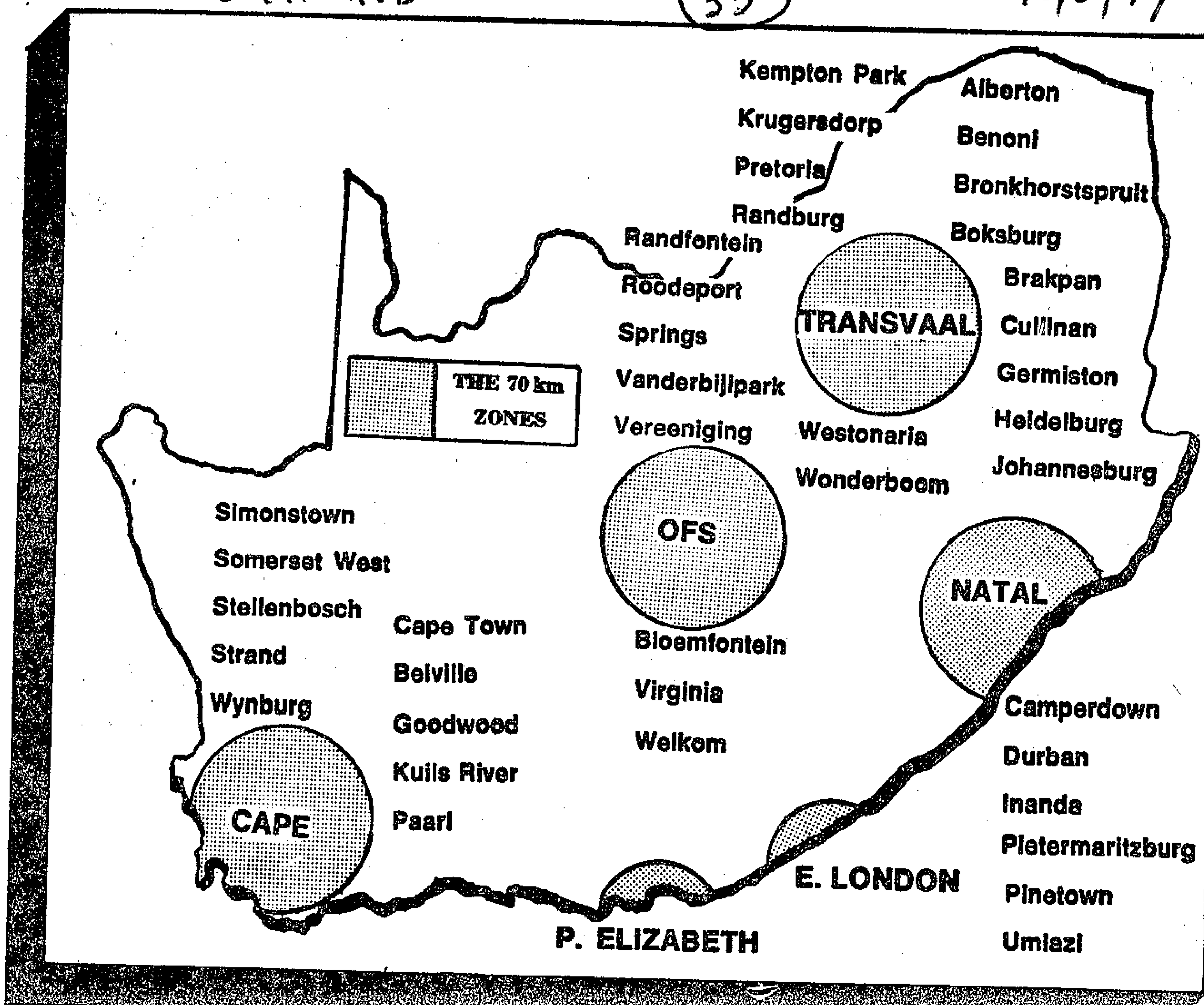
The affected districts in the Transvaal are Alberton, Benoni, Bronkhorstspruit, Boksburg, Brakpan, Cullinan, Germiston, Heidelberg, Johannesburg, Kempton Park, Krugersdorp, Pretoria, Randburg, Randfontein, Roodepoort, Springs, Vanderbijlpark, Vereeniging, Westonaria and Wonderboom.

"Traffic officials in the various districts will have to change the necessary signposts to say how fast motorists can travel along specific stretches of road, but motorist hould not wait until these signposts are up," he said.

"The safe thing would be to start travelling at the new speed limit immediately."

Districts in the Cape affected by the new measures are Cape Town, Belville, Goodwood, Kuils River, Paarl, Simonstown, Somerset West, Stellenbosch, Strand, Wynberg, East London and Port Elizabeth.

In the Free State they are Bloemfontein, Virginia, and Welkom.



GEAR UP FOR THE WEEKENDS AT HOME

Tribune Reporters

THE private car, one of the cornerstones of the freewheeling "Great South African Way of Life", will have to take a back seat in the wake of this week's massive petrol price hike.

South Africans who have looked upon a car a a symbol of their independence are going to have to make this sacrifice in the wake of the increase and travelling curbs announced this week.

They will have to garage their cars and go by bus. Weekend holidays to mountain or coastal resorts will be by bus because they won't be able to buy petrol at weekends.

And going for a drive on a Sunday afternoon will be an expensive jaunt . . . at 51c a litre. Driving because you like it will be a pleasure for the rich.

Pressures

Petrol has gone up in price 500 percent in 10 years thanks to pressures from the oil-producing countries and South Africa's political unacceptability to most oil producers.

The impact of ... crews and ancilliary services.

The answer, he feels, lies in staggered working hours and increasing bus capacity by changing the regulations limiting the number of standing passengers.

Capacity of a bus can also be increased by removing some seats to make more standing room.

All municipal officials are hard at work preparing plans to meet the Government's deadline for subsidies this year.

Worth about R8 million a year, the subsidies are for planning roads to ease congestion, traffic signal systems and special projects such as improving bus stations.

Unlike Johannesburg, where the buses are usually full, Durban Corporation white buses have an average of 20 empty seats on a 70 seater bus at peak periods. Buses for other races are generally ...

don't have to travel long distances for their recreation.

"More beaches closer to Durban should also be opened up.

For instance there should be access to beaches between Umhlanga to Umdloti, he said.

For South Africa's car manufacturers the message is think small: smaller cars, smaller workforces and a shorter working week.

General Motors said they were "working like hell" on the need for a smaller car.

"Because of the impending market reduction this will lead to shorter working hours and a sure reduction in manpower.

Four-day week

"We estimate the South African buying list for ...

would want to live close to work to cut down on expensive travel, this would not have a long term effect.

Estate agents claimed that home buyers would eventually become reconciled to the petrol price increase and live where they wanted to.

"While the availability of public transport could affect the property market I can't see it having a long term affect," said Mr Maurice Goudre, chairman of the Durban and Natal Coast branch of the Institute of Estate Agents.

The first victims of the fuel price will be hotels relying on weekenders — particularly if these are more than half a tankful away from major urban areas.

As weekenders will be unable to fill their cars after 6pm on Friday they will stay away ...

has issued a guidebook for members — outlining the effective steps they could take.

The Federated Chambers of Industries has also laid down guidelines for its members.

The Road Hauliers Association is working out a plan to eliminate fuel wastage caused by trucks returning empty.

Good news

And now for the good news. Economists feel that the worst is over and that South Africans are unlikely to see a fuel price hike of the same magnitude again.

Professor Jan Sadie of Stellenbosch University's *Bureau for Economic Research*, said if sufficient ...

impact of the price hike is shattering.

The cost of living in South Africa will drain bank accounts and the South African Co-ordinating Consumer Council predicts a Consumer Price Index increase of between 1,9 percent and 2,9 percent.

The price of every product will rise and the Council believes it could be months before the full impact of the petrol price hike hits the man in the street.

Director of the Council, Mr Johann Verheem, said he could not think of one product that would not be affected as petrol is used "either in the production or distribution process".

Staggered working hours are likely to be introduced in most large urban centres to ease the strain on public transport systems as more people move from cars to buses and trains.

Committees on staggered hours are being formed in large centres with representatives from the Government and from commerce and industry.

Staggered hours

Little co-operation has been received in the past from education authorities and other bodies to change working hours, but the situation has changed radically with the latest fuel-price increase.

Only Pretoria has a staggered hours system in which civil servants start work at 7.15am.

This flattens out peak rush-hour periods and spreads the load on public transport facilities over a longer period.

The alternative to staggered hours in most areas is bus queue chaos.

One of the main bus service problems is that for most of the day buses run almost empty — not really earning their keep while at peak hours there are too few buses to cope with the crush of commuters.

Durban Corporation's transport general manager, Mr Marshall Cuthbert, is against buying new buses which are expensive, take months to deliver and mean employment of more

run.

Most of the city's 120 000 daily rail commuters are blacks and Indians and this system has spare capacity.

It is being expanded to carry about 300 000 commuters a day by 1990.

Speeded up

Expansion of the commuter capacity can be speeded up if there is a massive switch from bus and car travel.

Mr Dennis Yeats, the Railway's resident engineer, Durban construction, said the growth of commuter traffic in the past had not matched expectations but any sudden growth could be met by speeding up the expansion programme.

"The possibility of a transport crisis has been in the back of our minds for some time."

Recreation will change in South Africa, said Professor Lawrence Schlemmer, director of the Centre of Applied Social Sciences at the University of Natal, when asked on consequences of the petrol price hike.

He said: "As they found in California, our price increase is likely to disrupt our lifestyle enormously.

"The South African, like the Californian, has tended to take his motorcar very seriously and considers it to be an absolutely essential. Weekend driving far eclipses any other form of recreation."

But this would now be a thing of the past and there was a possibility of morale being affected, he said.

Another possible consequence, said Professor Schlemmer, was that there would be a greater pressure on the family unit.

Open spaces

"We will have to start making use of the open spaces in our cities. We are not great park-going people and we are going to have to acquire the habit."

Authorities had to think ahead to provide outdoor areas close to town. "For example the Cato Manor area of Durban should be set aside as a wilderness picnic area, so that people

from the 1978 level of 215 000 to about 192 000."

From this week Ford Motor Company in South Africa will work a four-day week at all its local plants "in anticipation of reduced industrial volume in the short term."

Ford's acting manager Mr Fred Ferreira said:

"We have not yet evaluated the full effect of the new measures on our operation but we are sure that the result in the short terms will be a dampening of industrial sales and will serve to further reinforce the already escalating trend of buying smaller cars."

He said the measures would be less severe than the suggested speculations and that the industry would recover in the "longer term."

But Sigma Motor Company is still smiling. "We still can't meet the demand for our new Mazda 323. In Johannesburg there is a six-week waiting list," a spokesman said.

Estate agents said the affect of the price increase on the property market on the fringes of towns would only be temporary.

While initially people

these hotels run weekend packages using buses.

The hotel trade also feels there will be fewer sports lovers travelling between centres to watch the home team play — which will drop their sales of rooms and liquor.

Kiss of death

Director of Publicity for Durban, Mr Terry Toohey, said the Friday to Monday closing of petrol stations "was the kiss of "death" to the hotels more than half a tank away from major centres.

"Those far flung resorts up and down the coast and in the Drakensberg are now really going to feel it and that's just from the petrol closing hours.

"Add the fact that the price has gone up 42 percent and in our particular instance that means its going to cost R20 to R30 extra to the petrol bill."

Commerce and industry are planning massive fuel-saving measures which will change the pattern of road haulage, deliveries and a cut back in the use of company vehicles.

The Association of Chambers of Commerce

mand for ... would naturally come down to more reasonable levels and he said there was evidence this was happening.

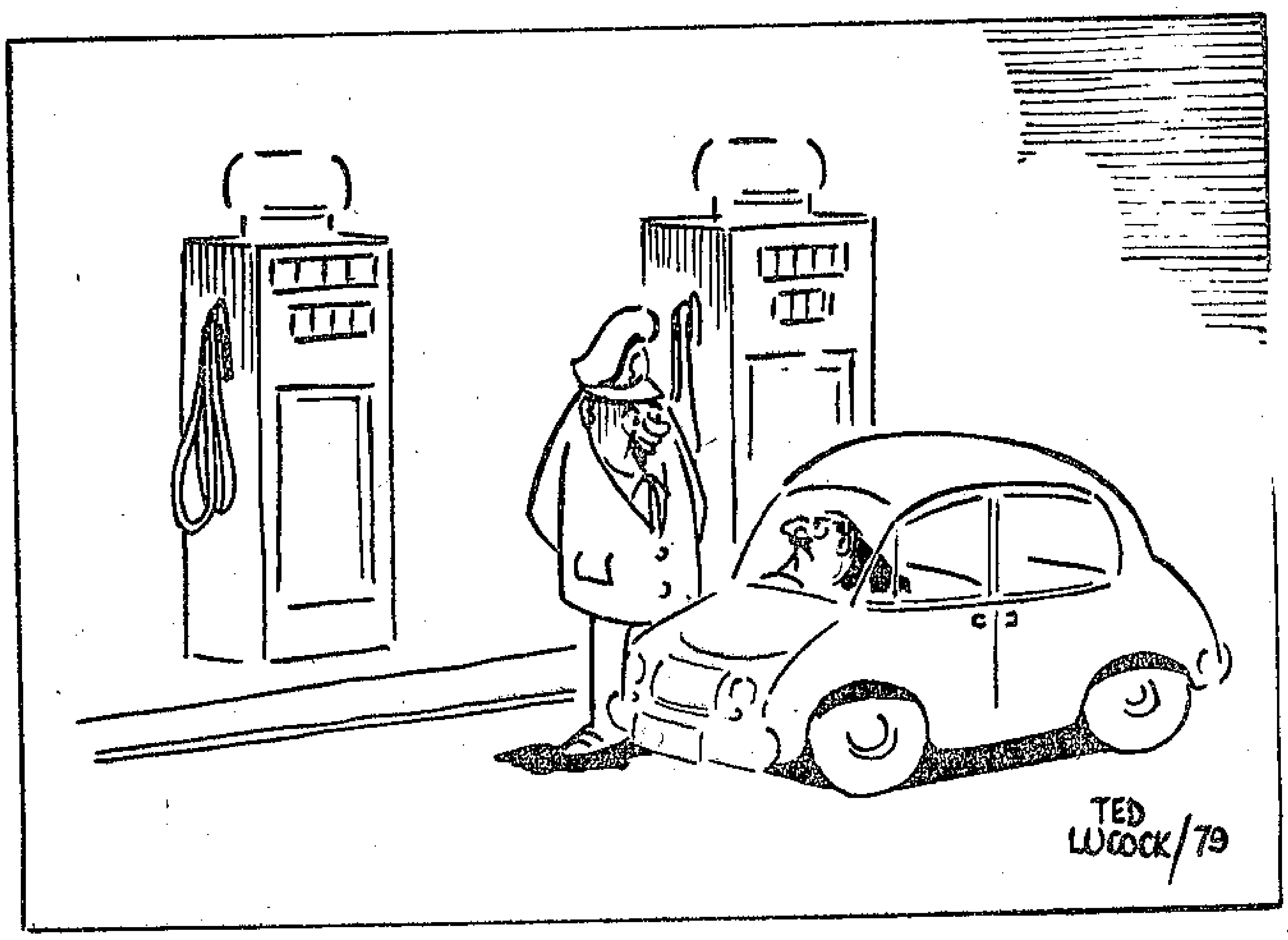
Mr Merton Dagut, chief economist for Union Acceptances agreed that the chance of a drop in price as demand began to stabilise at lower levels was a possibility.

He said there was a 20 percent shortfall between oil production and demand.

Right swing in Europe

BRUSSELS: A political move to the right on a European scale could be the result of the first direct elections to the Common Market's Parliament.

At the half-way stage between the two rounds of voting — in four countries on Thursday and the other five today — it appeared that the low turnout so far may have helped the conservative and Christian democrat parties. — Sapa-Reuter.



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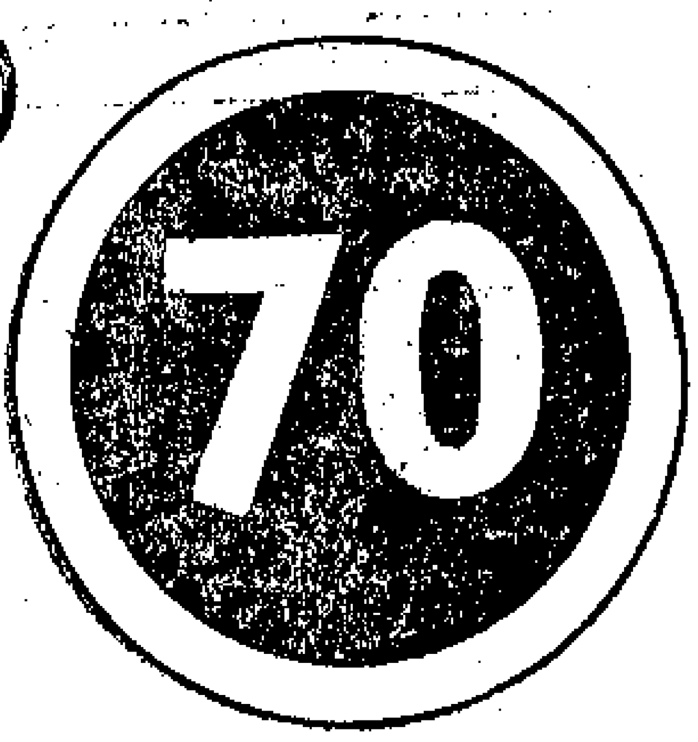
70—it's far too slow



70 . . . the sign that should never have been.

Small cars guzzled 25 pc more fuel

by GEOFF DALGLISH

THE SUNDAY TRIBUNE has put the drastic new 70 km/h speed limit to the test and it's a shock result.

A small economy car guzzled 25 percent more fuel while the saving with a medium-sized car was minimal.

Yesterday, as a number of motoring authorities slammed the fuel-saving plan, a senior Government official admitted: "No tests have been undertaken at this stage but it was felt that fuel would be saved at 70 km/h."

Just before the 90 km/h signs came down on the Ben Schoeman Highway between Johannesburg and Pretoria, two Sunday Tribune staff cars were put through their paces.

The findings were that with open road cruising reduced to 70 km/h:

- A 1300 cc economy car used 25,3 percent more fuel while a medium-sized 2 500 cc car improved just 3,2 percent.
- Travelling time increased by 24,6 percent.
- Both drivers complained of a loss of concentration.

Yesterday Mr Tjaart van der Walt, chairman of the Governments Fuel Conservation Committee, expressed amazement at the findings of the Tribune's 70 km/h tests.

"I have no doubt that it will work . . . it is generally known that cars at 70 use less fuel than at 90."

Although no tests had been undertaken recently he said tests by the AA in 1974, or 1975, had formed the basis for the 70 km/h recommendations. He was speaking from his home in Cape Town and said he didn't remember the exact details of the tests.

Asked if he might reconsider his recommendations he insisted: "I have no doubt that it is an economical speed."

Dismissing the new limit as unrealistic and ill-advised, Mr Eric Turk, director general of the Automobile Association, said: "Increased travel times will result in wasted man hours and reduced productivity."

Calling for an immediate review of the limit he said its advantages would be offset, if not outweighed, by its disadvantages.

"The lower speed limit should theoretically reduce fuel consumption in the metropolitan areas, but its observance will have widespread repercussions of an adverse nature" he said.

Mr Frank Lock, director of the National Association of Automobile Manufacturers of South Africa (NAAMSA) said the reduction from 90 km/h to 70 km/h had come as a complete surprise.

"I do not believe that it will result in much fuel saving and it will lead to congestion."

Why 70? Mr Robin Emslie, editor of a motoring magazine demanded. "It seems to be arbitrary to pick a number called 70. Most cars just aren't designed to cruise at 70 although with time, differentials and final drive ratios could be modified to make them better suited" he said.

Mr Hennie Kleynhans, public relations officer of the AA, said any saving achieved by the 70 k/h limit would be nulliified by the congestion it would cause with millions of litres being wasted during the year by filling station queues.

The Sunday Tribune used a 78 km route on the undulating Ben Schoeman Highway between Johannesburg and Pretoria.

AL ONS GOUD DEK NET

RAPPORT 10/6/79 (65)

Deur VIC DE KLERK

SUID-AFRIKA moet sy jaarlikse goudproduksie van ongeveer 23 miljoen ons tans teen 'n gemiddelde prys van tussen 280 en 300 dollar per ons verkoop om vir sy olie-invoere te betaal.

Gelukkig is die goudprys tans in dié omgewing. Maar dit is byna skrikwekkend om daaraan te dink dat ons goudmynbedryf, waarin baie duisende miljoene rande belê is, maar net kan betaal vir die opbrengs van 'n paar olie-boorgate.

En die styging in die goudprys kan nie byhou nie.

Minder as een-derde van die waarde van ons goudproduksie van 1973 was nodig om vir vanjaar se olie-invoer te betaal.

Die argument dat die staat die hoër inkomste uit die huidige rekordgoudprys kon gebruik het om vir die duurder olie te betaal, pleks daarvan om dit op die verbruiker af te skuif, hou dus nie water nie.

Suid-Afrika voer tans tussen 350 000 en 375 000 vate olie per dag in.

Amerikaanse bronne raam tans die vryemarkpryse op ongeveer 50 dollar per vat.

Ons olie-invoerrekening kan dus jaarliks tussen 6 400 miljoen dollar (R5 400 miljoen) en $6 800 miljoen dollar (R5 730 miljoen) bedra, en goud sal moet uitkap om voor te bly.

In 1973 was ons olierekening maar hier in die omgewing van 500 miljoen tot 600 miljoen dollar, minder as een-tiende van die huidige koste.

Suid-Afrika het dus agteruitgeboer ten opsigte van die prys van sy belangrikste uitvoer— goud- teenoor die prys van sy grootste invoerproduk.

Die huidige prys van ru-olie gaan dit ook vir die land baie moeilik maak om vanjaar weer 'n gunstige balans op die lopende rekening van die betalingsbalans te toon.

JUNE 10, 1979

Sun Tribune

Outcry over high US oil profits

55

By Cheetah Haysom

NEW YORK: The American oil companies' profits were once labelled "obscene" by a senator. President Carter has called them "excessive" and opinion polls show that the American people think they are unjustified and outrageous.

A poll in New York recently showed that most people believe the oil companies themselves are responsible for the current petrol shortage and staggering price increases at the pumps — sometimes as high as 100 percent.

Profits in the oil industry were extraordinary even before the start of the gradual decontrol of oil prices, starting last week, which has caused the cost of petrol to consumers to rise even higher.

Decontrol is the 28-month phasing out of ceilings on crude oil prices. It is part of a Carter Administration plan to allow the oil companies to make more money to spend searching for new oil reserves.

Critics of the Carter plan, including some members of Congress, claim the oil companies have already been raking off such huge profits as a result of the current shortage that they do not need more.

The outcry from the public came this spring when first quarter earnings showing astonishing increases, in spite of the shortage.

Compared with the first quarter last year Exxon's profits were up 61 percent and Mobil and Texaco's were up 81 percent.

Profits are expected to rise through the year, and for companies with affiliates in South Africa, where the petrol price has leapt to 51,3 cents a litre — a sum that would make Americans wince — those profits will get an extra boost.

Mobil's Press spokeman in New York said that the figures given for company profits do reflect foreign operations, and higher earnings made by Mobil in South Africa would be reflected here.

The issue before Americans now is what the effect of decontrol will be. Some critics anticipate little more than higher prices and wasteful use of investment funds.

It would have been adequate to simply raise the ceiling on the price of oil still tobe discovered, thus giving an incentive for more vigorous exploration.

President Carter has proposed levying a "Windfall Profits" Tax on the oil companies, thus returning some of any excessive profits to the public. The proposal is vehemently opposed by most of the oil industry and some members of Congress.

However, financial analysts not connected with the oil industry and includng some leading bankers said last week the industry's profits were not unduly excessive. In fact they were "respectable, but not unusual."

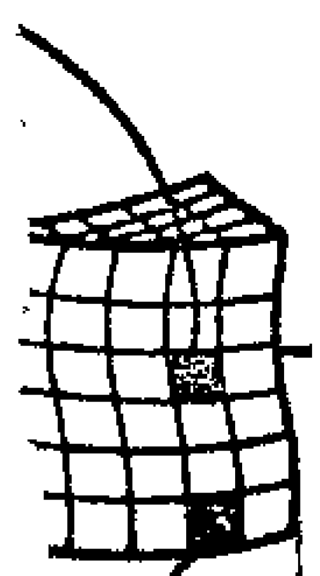
The analysts argued that it was meaningless to look at the amount of profit without looking also at the investment used to generate it.

A study by Bankers' Trust Company shows that the return on equity of the top 25 oil companies in America averaged 12,5 percent over the past five years.

By contrast, the return for all manufacturing companies averaged 13,3 percent in the same period.

Looking at the oil companies' profits from the perspective of a return on investment showed that Mobil and Texaco's 81 percent increase was in fact 15.4 percent. Exxon's 61 perecnt increase in profits was a 15,3 percent return on investment.

President Carter . . . new oil plan



R'S HOOP BY PYN

Rapport 19/6/79

Minerale kan ons help

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Deur DAAN DE KOCK

VANDEESWEEK se aankondiging dat die prys van petrol en dieselolie met sowat 38 persent verhoog is — die grootste verhoging in die land se geskiedenis — het soos 'n skokgolf deur die ekonomie getrek. Daar sal gewis pynlike aanpassings kom, maar danksy ons groot mineraalrykdomme sal die ekonomie hierdie skok op ten minste die kort termyn kan weerstaan.

Dit is die mening van die meeste ekonome en nyweraars. Maar hulle sê dat almal in hierdie tye moet saamstaan om die las te dra en dat die verhogings nie net maar weer op die verbruiker afgewentel moet word nie.

Kenners is van mening dat die sterk styging in die prys van olieprodukte die inflasiekoers vanjaar tot so hoog as 15 persent kan opjaag en dat dit ook 'n tydelike nadelige uitwerking op ons ekonomiese groeikoers kan hê. Op die langer termyn lyk dit egter asof die land se groeikoers nie te veel beïnvloed sal word nie.

Die styging in die oliepryse sal beslis tot gevolg hê dat die oorskot op die land se betalingsbalans, wat tot nou toe mooi herstel het, verminder sal word, maar danksy 'n sterk verwagte styging in die uitvoer van goud en ander metale en minerale sal daar egter nog genoeg ruimte op die betalingsbalans gelaat word vir groei.

Daar moet egter in gedagte gehou word dat die fisieke vermindering van beskikbare brandstof aan verskeie sektore van die ekonomie daartoe kan lei dat produksie nadelig geraak kan word. Dit op sigself kan natuurlik 'n nadelige uitwerking op die groeikoers hê.

Dr. Hennie Reynders, direkteur van die Gefedereerde Kamer van Nywerhede, is van mening dat die maksimum-besparing wat die nywerheid in geheel kan vat, sowat 7,5 persent tot 10 persent is sonder dat produksie of werkloosheid nadelig geraak sal word.

Dit beteken egter nie dat sekere bedryfstakke meer kan bespaar nie. Sommige bedryfstakke sal in staat wees om besparings van soveel as 20 persent te absorbeer. Wat die olieverhogings wel tot gevolg sal hê is dat die kaarte heeltemal herskommel sal word en dat sekere bedryfstakke baie swaarder as ander getref sal word.

Van die sektore wat moontlik die swaarste geraak gaan word, is die landbou, aangesien dit vandag 'n baie brandstofintensiewe sektor van ons ekonomie is. Die hoër oliepryse sal gewis tot gevolg hê dat voedselpryse wat die laaste tyd die hoogte ingeskiet het, verder sal toeneem.

Verder sal dit ook Suid-Afrika se mededingendheid op die uitvoermarkte van landbouprodukte aansienlik verminder, aangesien brandstof in Suid-Afrika op die oomblik sowat drie keer hoër as byvoorbeeld in Amerika is.

(Lees wat 'n Ford-man op bl. 3 oor boere en diesel sê)

Nog 'n nywerheidstak wat swaar getref kan word, is die motorbedryf. Party kenners in dié bedryf is van mening dat die afset van nuwe motors en veral swaar handelsvoertuie baie nadelig geraak kan word. Dit geld ook vir die bedryf vir die verskaffing van motoronderdele.

Aan die positiewe kant is daar egter motormense wat meen dat daar binne die volgende drie maande 'n bietjie verligting sal kom sover dit die styging van oliepryse betref. Hulle is van mening dat die groot oppotting wat daar in die wêreld van olie plaasgevind het, sal begin afneem vanweë die hoër pryse en dat meer olie op die vrye mark beskikbaar sal wees — wat die prys effens kan afdruk. (Lees op bl. 3 meer daaroor).

Verder word daar verwag dat die Westerse wêreld ook 'n baie harder houding teen die Arabiere sal inneem sover dit verdere stygings betref.

Goud bly bo

GARAGES sluit en motors staan in lang, lang toue in Brittanje om 'n bietjie petrol te bekom. Maar namate die oliekrisis toeneem so word die vraag na goud al sterker, skryf GIELIE DE KOCK uit Londen.

Beleggers bly weg van die Amerikaanse dollar en vermy selfs die tradisionele sterk muntstelsels soos die Duitse mark.

Daar heers ook groot optimisme oor Krugerrande. Dit is die enigste wettige direkte wyse waarop mense in die Verenigde Koninkryk goud kan bekom. Die prys van dié muntstuk het sedert Januarie met meer as R52,50 tot R252 gestyg.

Kruger-wenner

DIE wenner van ons tweede Krugerrand-wedstryd in samewerking met die vervaardigers van Southern Gold is 'n afgetredene van Durban. Sy foto en die name van die tien troospryswenners is op bl. 3 van Sake-Rapport.

Sasol methods — one ray of hope for fuel?

"OUT OF GAS" signboards are an increasingly familiar sight at US service stations. Whereas they used to emerge only sporadically, and usually on weekends, now there's no certainty of being able to fill up in most parts of America on any day of the week.

The only certainty about petrol supplies is that next week's tankfull is going to cost more than last week's — if you can get one.

No doubt motorists in most other countries are encountering this same frustration. And in most other markets a gallon already costs a good deal more than in the US where it now averages about 90 cents, thanks to the heavier tax load on motor fuel. Against an average combined federal and state tax of only 12 cents in the US, tax adds 55 cents in Spain, 69 cents in Britain, $1.02 in West Germany, $1.18 in Belgium and a back-breaking $1.54 in Italy.

That, however, is small comfort to American motorists who are used to thirsty cars, have to travel longer distances and in most areas are served with woefully inadequate public transport.

Detroit knocked

Because of the traditional addiction of American motorists to softly sprung, six-seater, gas-guzzling behemoths, the spiralling cost of petrol and its uncertain availability is beginning to knock Detroit, while boosting the popularity of the smaller fuel-efficient European and Japanese imports.

In May, for example, sales of US-made cars slumped from last year's 963 000 to 797 000, whereas sales of imported models shot up by 23 percent from 207 00 to 254 500.

If that sort of overhang persists through the summer — as consumer worries of an impending recession deepen — there will be some mouthwatering bargains to be had by new-car buyers as the 1979-model year comes to a close. Dealers can be expected to massacre list prices for bigger cars in order to move unsold

business international

George Palmer

units out to make room for next season's restyled models.

If that is the sombre outlook for dealers and Detroit, what is the immediate outlook for oil itself? In a word: Fragile.

The new disturbances in southern Iran and continuing political instability and uncertainty — the entire board of the National Iranian Oil Company resigned in protest recently over Khomeini's arrogant, arbitrary and obscurantist rule — have put in jeopardy even the 2-3 million BPD that Iran is currently exporting.

And Saudi Arabia, while apparently willing to raise output marginally above the current 8,5 million BPD to help stabilize a chaotic world market and stabilize crude prices at or above their current levels, has clearly decided not to increase overall production capacity beyond 12 million BPD.

Yet without a substantial increase there is no way oil supplies can keep pace with the normal growth in world oil demand through the 1980s. Increasingly that growth looks like being checked by a prolonged economic slowdown.

Since the far-reaching conservation and oil-substitution measures needed to bring demand into line with restricted supply are politically difficult for democracies to implement, the prospect is for further increases in the real (inflation-adjusted) prices of oil, with worrying consequences for faster inflation, tighter credit and higher unemployment.

Oil from coal

There is one ray of hope, however. And that is for the US, with its abundant tar sands, shale, coal and farm crops, to develop a major synthetic oil industry based in part on the oil-from-coal technology perfected by Sasol.

Three leading figures in Washington's defence and foreign policy circles have, in fact, recently proposed a joint government-industry plan with a production target of 5 million BPD of synthetic oil — or 20 percent of current needs — within five years.

To have additional domestic supplies of oil equal to Iran's pre-revolutionary exports would greatly reduce US dependence on oil imports and its vulnerability to the whims of Opec, and also help hold down world oil prices.

The investment outlay, estimated at $20 billion for each million BPD, would be financed by government, but the plants would be operated by private industry.

The central problem is thus one of cost and the risk that the product might be uncompetitive with natural crude. The architects of the plan calculate that the synthetic product would cost 5 to 10 dollars more a barrel than the current price of imported oil.

Blackmail

They therefore propose that any difference be subsidized by the government. But, so they argue, the actual cost to the consumer would be less than the subsidy paid, because having alternative supplies of synthetic oil available would help to hold down world prices and thus the cost of US imports.

In addition to such private schemes there are at least two similar proposals before Congress. They all seem to offer a more immediate and practical source of relief from Opec blackmail than either nuclear fusion or solar power.

The ball is now in Carter's court.

Star 14/6/79

55

New speed limit costs more in fuel, fines

By Harvey Thomas, Motor Editor

About R10 000 a day in speeding fines is being taken in Johannesburg while motor experts complain that the lower 70 km/h limit does not save petrol.

The Automobile Association and the Motor Industries Federation have issued statements making clear that the Minister of Economic Affairs, Mr Heunis, did not consult them before deciding on the new limit.

In Cape Town today Mr Heunis told The Star he was not prepared to comment on the limit or give reasons why he had decided on it.

The MIF said that 70 km/h was more of a nuisance value than a fuel-saving measure and added that with many cars consumption went up.

The chief executive of BMW, Dr Eberhard von Koerber added: "It's a mistake. Because of the long-distance gradients found on the Highveld many small cars will actually use more — they will have to change down."

Lorries

A director of Leyland South Africa, Mr Arne Pitlo said that big trucks no longer had the momentum to carry them up long inclines and would be forced to select a lower gear, thus increasing consumption.

The Director-General of the Automobile Association, Mr Eric Turk, said the AA was doing tests at 90 km/h, 80 km/h and 70 km/h to determine comparitive fuel consumption in traffic conditions.

The Association would report to the Controller of Petroleum Products and

Speedy top cop is trapped

A senior provincial traffic officer from Warden in the Free State had a "taste of my own medicine" when he went through a speed trap 20 km over the limit — while on his way to give evidence in a speeding case.

Mr Piet le Roux (36) was rushing to court when he crossed the "spaghetti tubes" of a colleague just outside Bethlehem.

"According to Mr J J H Grobbelaar who was in charge of the speed trap I was clocked at 109,7 km/h," Mr le Roux said.

Knowing the device "inside out" Mr le Roux denied he was travelling all that fast and insisted the distance between the tubes and their tension be measured.

He could not fault the device, however, and in the following court case pleaded guilty to a charge of speeding.

He was fined R50 (or 25 days).

Checks

Checks made by the Chairman of the Guild of Motoring Writers and by Star Motoring have both found that the new limit leads to greater fuel consumption.

Mr Robin Emslie said a popular light car was now using a litre more petrol for 100 km at the lower limits. A popular two-litre car tested by Star Motoring was seven percent more at 70 km/h than at the old limit.

Motor engineers said this was because the final drive ratios of many cars were not designed for the lower limit.

Johannesburg's Traffic Chief, Mr John Pearce said more than 700 motorists had been fined for exceeding the new limit in the Johannesburg municipal area since trapping started last Friday night. More than R50 000 in fines had been imposed.

R1 000 fine for 166 km/h 'test'

A Hillbrow coffee bar waiter, who drove at 166 km/h on the N1 motorway on May 15 to "test a noise in the engine," was fined R1 000 (or 300 days) by a Randburg magistrate today.

Dirk Pont (24) also had his driver's licence suspended for six months by the magistrate, Mr R Mandelstam.

The magistrate asked him why his car should not be forfeited to the State.

Pont said the car, valued at about R800 "was not saleable at the moment" and it was his private property.

SENTENCE

In passing sentence, Mr Mandelstam said there was nothing in Pont's favour to justify speeding.

The magistrate decided not to confiscate the car and granted Pont leave to pay R250 today and the remaining R750 on June 18.

NO BUS

Pont said in mitigation he worked until 4 am and needed his car to travel home, because there was no late bus service.

He said he had detected a noise in the engine at 80 km/h, and had tested the engine at a high speed.

Mr O D'Oliveira appeared for the State.

Star BUSINESS

Oil won't alter target — Horwood

SA still aiming for strong growth

Own Correspondent

CAPE TOWN — The Government will not allow the oil crisis to deflect it from its target of strong economic growth over the next year or so, the Minister of Finance, Senator Owen Horwood, made clear in an address to the Senate yesterday.

He emphasised that the economy was in excellent trim and there was no reason why the oil crisis should lead the Government to imposing restraints on economic growth.

Senator Horwood said the economy at present was in the middle of an upswing which, although moderate was still gathering momentum.

"This suggests that the next cyclical downswing is still a long way off and that the prospects for the year ahead remain excellent.

He said the higher costs of oil should be offset by increased earnings from exports of gold, diamonds, plantinim and coal, so that South Africa should continue to show another substantial balance of payments surplus this year.

The gold price has been rising in terms of all currencies and this had had a considerable impact on the value of the official gold reserves.

He also pointed out that Government spending, bank credit and the money supply were now under much better control than they had been gor many years.

As a result of these favourable factors the Government had decided not to deviate from its basic economic and financial policy of "growth

"Obviously some sectors of the economy will be affected by the higher oil price but others such as mining should derive substantial net benefits.

The oil problem there was basically one of restructuring production and allocating resources. There would have to be macked changes in the pattern and methods of production.

"On balance, however, we should still be able to attain the desired acceleration of the rate of economic growth and our fiscal and monetary policies remain directed towards that objective." The Minister said.

"This did not mean that fiscal and monetary policies would remain unchanged in every detail.

"On the contrary, as and when necessary, these policies will be modified in order to encourage the required restructuring of production and, wherever possible, to alleviate hardships caused by changes in relative prices and in the distribution of real income."

He said the present inflation was manifestly not demand inflation but was caused by excessive cost increases stemming from higher fuel prices, unavoidable increases in administered prices and wage and salary increases in excess of productivity in certain sectors.

"It would therefore

policy of encouraging more rapid economic growth and the creation of more employment opportunities by attempting through new restrictive measures to reduce real investment and consumption.

"Such measures were not necessary and would have little effect on inflation. But they would reduce the growth rate, increase unemployment and diminish foreign and domestic confidence in the economy."

Big paraffin grab is on

(55) DD Indaba
15/6/79

Indaba Reporters EAST LONDON — Profiteers are cashing in on the soaring price of paraffin.

Some shops are selling 750ml bottles of paraffin for as much as 40 cents.

Just over a week ago a similar bottle could be bought for as little as 12 cents.

A spokesman at the price controller's office in East London said the retailer was entitled to a 50 per cent mark-up on the wholesale price. Anything above that mark-up was illegal.

According to price controller's office in East London, there was price control on paraffin — but the price would differ according to the charges of the retailer.

He said the retailers were allowed a 50 per cent mark-up on the wholesale price.

Therefore some shops would have a 30 per cent mark-up, others a 45 per cent mark-up and some even a 20 per cent mark-up which accounts for the differences in price between wholesalers.

The spokesman confirmed, however, it was illegal to have more than a 50 per cent mark-up.

A spokesman for Mobil said there were bulk sale prices for a 200l drum when the customer fetches it at the West Bank plant is : Old price:21,85c a litre x 200l is R43,16. New price: 35,98c a litre x 200l is R71,96.

This means the price for 200l has gone up R28,80 or 14,13 c a litre.

The Mobil spokesman confirmed that it had been gazetted that retailers were allowed a 50 per cent mark-up.

Zone 12 residents have been hardest hit.

The cost of 750ml bottle is 36c and 40c in illegal shops — there are no shops around for a distance of 10 kilometres east or west.

At other zones with shopping centres the cost varies from 30 to 35 cents a bottle and R2,25c to R2,30 a five-litre tin against the R2,60 and R2,80 at Zone 12.

The price hike of 16c a litre is seen as the heaviest blow yet in the prices spiral which has hit black township dwellers.

It has coincided with snow bitter cold and midwinter when shortened days require artificial lighting until after 7 am and from 5 pm in the evenings.

Blacks are still reeling from recent rent increases, upped lodgers fees and price hikes for basic foods like milk, cheese and eggs. An imminent increase in meat prices has already been announced.

Illuminating paraffin is widely used for lighting, heating and cooking.

One housewife estimates she uses 20 l of paraffin cooking only every three weeks.

The price in Grahamstown was R5,72 for 20 litres, including tax . The new price (excluding) will be R3,20 more.

Taxi fares up

MDANTSANE — And up goes taxi fares.

The president of Mdantsane Taxi Owner's Association, Mr D. D. Mbanjwa said as from today fares would be 80c a passenger between Mdantsane and town.

SA skop Arabier terug

Rapport 17/6/79

ONS PLANNE REG

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Deur DAAN DE KOCK

NOU gons dit behoorlik op die brandstof-front. Die soektog a alternatiewe vir die olie waarmee die Arabiere ons in 'n oek wil jaag, kry nou met eens groter momentum. En andeesweek het dinge op 'n paar fronte tegelyk uitgeslaan.

Vandeesweek se verwikkelinge lyk só:

● Die Ekonomiese Ontwikkelingskorporasie (die ou BBK) ondersoek die vervaardiging van etanol uit kassawewortels.

● Sentrachem, Volkskas en die Transvaalse Suikerkorporasie gesels kliphard oor die maak van etanol uit suikerriet.

● Anglo American kyk indringend na die oprigting van 'n reeks mini-Sasols vir olie uit steenkool.

● Die Afrikaanse Handelsinstituut het sy seën versigtig uitgespreek oor die EOK se etanol-plan.

Dr. Koos Marle van die EOK, wat baie nou gemoeid is met die etanol-projek, het aan Sake-Rapport gesê die sanderige grond van die Makantinie-vlakte is baie geskik vir die aanplant van kassawewortels.

Sentrachem

Hy het gesê die aanvanklike oorweging was die ontwikkeling van die landboupotensiaal van dié gebied, maar daar kan so baie wortels geproduseer word dat etanol daaruit vervaardig kan word. Hierdie aspek sal uit die aard van die saak deur privatenywerhede gedoen word.

In hierdie stadium lyk dit asof Sentrachem baie met die projek te doen sal hê.

Na verneem word, is Sentrachem en die Transvaalse Suikerkorporasie, wat aan Volkskas behoort, druk besig met samesprekings oor die vervaardiging van etanol uit suikerriet. Die hoofbestuurder van Volkskas, mnr. Danie van Huyssteen, het gesê aandag word op die oomblik aan die saak gegee, maar dit sal nog geruime tyd duur voordat finaal oor die projek besluit kan word.

Na verneem word, het die Transvaalse Suikerkorporasie reeds mense na Brasilië gestuur om te kyk hoe die etanolproses daar werk. 'n Aksiekomitee is ook gestig onder voorsitterskap van mnr. Jan Lourens, 'n boer van Komatiepoort om die hele aangeleentheid sover dit die boere betref, te koördineer.

Sentrachem wou geen kommentaar lewer nie, maar dit word uit betroubare bronne verneem dat Sentrachem baie nou betrokke is. Dit is ook 'n bekende feit dat Sentrachem se besturende direkteur, mnr. Frans Le Riche, reeds vir 'n geruime tyd die grootskaalse vervaardiging van etanol uit suikerriet en mielies bepleit.

Die oprigting van mini-Sasols het in 1977 sy eerste verskyning gemaak toe Anglo American die idee aan die Nywerheidsontwikkelings Korporasie voorgelê het.

Mini-Sasols

Die besturende direkteur van die NOK, mnr. Abe van den Berg, het gesê 'n komitee van belanghebbende persone is destyds aangestel om die aangeleentheid te ondersoek en verskeie studies en besprekings is gedoen. Steenkoolmonsters is ook uitgevoer vir evaluering, maar destyds het die projek nie uitgewerk nie.

Hy sê die projek is glad nog nie dood nie, maar dit sal egter nie onmiddellik 'n oplossing vir ons brandstofprobleme bied nie.

Die hele idee van mini-Sasols is gegrond op die meer doeltreffende gebruik van steenkool. Pleks van om steenkool afsonderlik te gebruik vir byvoorbeeld die opwekking van krag, die vervaardiging van petrol en dies meer, word 'n geïntegreerde proses voorgestel.

Die President van die Afrikaanse Handelsinstituut, dr. Martin van den Berg, het gesê die AHI verwelkom die stap van die vervaardiging van etanol uit kassawewortels. Hy waarsku egter dat dit 'n langtermyn-projek sal wees wat uit die aard van die saak nie binne die volgende vier tot vyf jaar in produksie sal wees nie.

Die besturende direkteur van Sasol, mnr. J. A. Stegmann, het vandeesweek gesê dat die Sasol II-aanleg reeds ongeveer 75 persent voltooi is. Die eerste produksie van vloeibare brandstof word reeds vroeg in 1980 verwag.

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Star 19/6/79

Protest convoy gets go-ahead

JOHANNESBURG — More than 300 truckers met here last night to discuss a final plan to persuade the government to reverse its decision to withdraw the bulk of temporary transportation permits in its fuel saving effort.

An on-the-spot survey by the organisers found that between them they owed about R17 million in lease and hire purchase agreements.

And it was clear that most of them backed the plan to converge on Cape Town in a massive protest convoy later this week.

A petition they will take with them states that the Professional Road Hauliers' Association has dissociated itself from the action group.

Mr Danie du Buisson, chairman of the ad hoc action committee of private hauliers which organised the meeting, said they hoped at least 200 trucks would join the convoy due to leave at 7 am tomorrow.

A transport consultant, Mr Frans van der Walt, said he did not think the government realised the implications of its actions yet.

"But in a month they will find out we can't pay our hire purchase accounts."

The chairman of the meeting, Mr Piet Baartman, said the former Minister of Economic Affairs, Mr Chris Heunis, in his discretion, had cut the temporary permits (designed to allow general goods to be moved by road when the railways could not handle the transportation) by 90 per cent with the flick of a pen.

"Did he realise 40 000 people, their dependants and their employees would be out of work as a result of this signing of his pen?" — DDC

S. 2 (Cont.)

1. The revised report eliminates the effect of increased production costs as they are not controllable by the branch manager. Other comments:

2. Increased contribution from increased prices.

3. The increased price of widgets may have caused the decrease in volume of widgets. As these have a much higher marginal income ratio than gadgets it might have been better not to increase the price. Consider reducing the price if it will stimulate demand.

4. It seems as though there has been a successful promotion of gadgets (volume-wise) in spite of the increased price, but these have a relatively low marginal income ratio which, combined with the reduced volume of widgets, has resulted in an adverse mix variance.

5. Increased selling effort is reflected in the 126% increase in travel and entertainment, and the 28% increase in office expense.

PROVINCIAL COUNCIL

Mass transport rethink urged

Pretoria Bureau

The Government was losing the co-operation of the public and the Opposition since its introduction of the 70 km/h speed limit, Mr Wouglas Gibson (PFP, Bezuidenhout) told the Transvaal Provincial Council yesterday.

The PFP's provincial leader said there had been insufficient consultation on the matter and a great deal of fuel could have been saved if the old 90 km/h speed limit had been properly enforced.

Mr Gibson said travelling at the reduced speed required conscious effort and he called on the Government to embark on a crash programme to improve mass transport.

"If they drag their heels on this, they will be wasting more time and more fuel."

Mr Gibson said authorities had a major task on their hands to convince people to transfer from private to public transport.

"We are told the new speed limit is to discourage people from using their cars. All it succeeds in doing is to make travelling unpleasant, but not less essential."

He suggested motorists be allowed to travel at 90 km/ph from Mondays to lunch time on Saturdays, and that the now reduced speed limit be imposed over weekends.

The Administrator, Mr Sybrand van Niekerk, said there was no doubt the reduced speed limit could conserve petrol by between 11 percent and 19 percent.

"We must orientate ourselves — because even at 70 km/h you will reach your destination," he said.

The energy crisis made concrete roads more attractive and competitive, Mr Theo Martins, the MEC in charge of roads, told the council.

This was because bitumen has a petroleum base, he said.

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CT 22/6/79

No possibility of lower petrol —V d Merwe

THERE was no possibility of the price of petrol and diesoline being lowered in the near future, the Minister of Industry, Trade and Consumer Resources, Dr Schalk van der Merwe, said yesterday.

There was, however, a possibility that the speed limit of 70 km/h in metropolitan areas could be raised, or that the metropolitan areas themselves could be redefined, he said.

Speaking at a press conference in the City, Dr Van der Merwe said such a decision would only be taken if there were positive, conclusive evidence, following exhaustive tests, that this would be in the interest of the country.

Dr Van Der Merwe said he had an open mind regarding the speed limit.

"I realize it may be irritating to the public. However, I cannot take a decision to change the limit unless I have conclusive evidence derived from thorough tests," he said.

Positive evidence

If there were positive evidence to indicate that the lower speed limit could be waived in all but the really congested metropolitan areas, he would be prepared to do so.

Asked why the lower limit had been imposed prior to such tests being conducted, Dr Van Der Merwe said it was a reaction to a serious crisis. Immediate action had to be taken.

It was not his intention to be vindictive toward the public. Speed limits should be seen as part of a package deal to save fuel.

The aim was not to stop people using their cars, it was to get them not to use their cars unnecessarily. The main aim was to save fuel.

Asked how soon a decision could be expected, he said he hoped to get the results of the tests as speedily as possible, but it would probably take a few weeks. — Sapa

Paraffin increase hits Blacks

Mercury Reporter 23/6/77

PARAFFIN price hikes, which came into effect at the same time as the general fuel increases, have hit South Africans who rely on it for cooking and lighting.

Mr. Alvin Anthony, who runs Diakonia's unemployment bureau, said families had had to cut down on hot meals since the price increase.

He said yesterday that people were finding it more difficult to make ends meet.

Blacks, who rely on paraffin as their main fuel source, have been faced with increases of up to 100 percent in some cases.

Hardware dealers said they were selling large amounts of paraffin mostly to Blacks.

A dealer on the Berea said the wholesale price had increased from R46 to R76 for 200 litres.

He said the price for a 750ml bottle before the increase was 26 cents. It was now 44 cents.

Another dealer said: "My customers have been hard hit. It's a hell of an increase especially as salaries haven't gone up."

He added that several dealers were trying to keep prices down but if they wanted to stay in business they would have to increase prices.

Mr. Anthony pointed out that an alternative to paraffin was the "wonderbox" which operated on the same principle as the old haybox and was now being re-introduced.

Unemployment

The "wonderbox" is a slow cooking method where less fuel is used.

Mr. Anthony said in some cases families needed to use two bottles of paraffin a day which costs 80 cents a day — R5,60 a week.

Meanwhile figures from the Department of Labour for May for Whites, Coloureds and Asians show no marked improvement in unemployment figures over thepast three months.

In May 1 662 Whites were unemployed, 1 010 Coloureds, and 3 274 Asians. This is a total of 5 946.

In April the figures were 1 582 Whites, 1 041 Coloureds and 3 122 Asians, a total of 5 745.

Vital to economy

Now it's invest with energy

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24/6/79
Sund. Tribune

By TONY HUDSON Finance Editor

ENERGY HUNGRY South Africa is going to have to dig deep into its pockets to meet its needs in the eighties, and the indications are that between 25 and 30 percent of fixed investment in this period will be spent on energy-related projects.

In its latest Regis report, Industrial Market Research says that in 1978 Gross Domestic Fixed Investment (GDFI) amounted to just over R9 000 million and because of inflation and higher spending levels, it could reach R11 000 million by the end of this year.

Of this, at least R2 700 million will be spent on energy conversion and an additional R200 million on uranium and coal mining.

The report states that as a result investment expenditure in coal, gold and uranium mining, electricity generation and transmission and other forms of energy conversion such as Sasol Two and Three are going to play a growing role in the markets for capital goods.

The size of spending is already at a level where it accounts for a major part of total investment in South Africa and spending on consumables, in these fields, says Regis, is likely to grow at a rate well above that of the economy.

The report says intensive efforts are being made in this country — and overseas — to find alternative sources to crude oil.

It says that despite a cloak of secrecy on oil imports and usage, an examination of the changes that have taken place in domestic consumption, production and export/import patterns of other energy sources shows:

- The rate of substitution of oil by coal and hydro-electric power is now far higher than was expected two years ago;
- The rate of substitution during the next decade will be far higher than generally expected;
- It is likely there will be growth in South Africa's coal exports and, to a lesser extent uranium, during the next five years.

Regis points out South Africa consumes an enormous amount of energy in relation to its Gross Domestic Product.

In a table showing energy consumed as a proportion of GDP South Africa tops the scale with 2,2 compared to the US at 1,54 the UK at 1,29 and Germany at 0,79.

It is difficult to pinpoint the main reason for this but the indications are that the South African economy contains an unusual proportion of mining, agriculture, manufacture, consumption and export.

The report concludes the future looks good for coal and related fields and expects consumption to expand at a rate higher than that of the economy.

It's all systems go for Sasol Four

Stephen Orpen reports

Sun. Times Bus. 24/6/79 55 (350)

GOVERNMENT has given the green light in principle for Sasol Four. The estimated cost, allowing for inflation at 10% a year, could be at least R4 500-million.

This was revealed this week by South African and overseas financial sources close to the Sasol projects.

There is still no final decision on the launch date for the new project and its location is being kept under close wraps until Government is ready to give the final go-ahead.

But there are no technical or engineering reasons for delay, as planning in these areas is said to have been largely completed before the announcement of what is now called Sasol Three.

A senior Government spokesman confirmed on Friday that Pretoria had accepted the new Sasol, although "there is still no final commitment. That will depend on how the oil situation develops and on the availability of capital."

Sasol Three was at first known as Sasol Two-extension for the excellent reason that it was not the Sasol Three as originally planned.

It was a simple doubling up of Sasol Two, injected at Secunda ahead of the original Sasol Three on grounds of strategic urgency, cost and financing.

To press ahead with the original Sasol Three, Government would have had to establish a completely new infrastructure at a new location.

As important, it would have been necessary to go to tender for construction and financing ab initio, instead of merely extending Sasol Two contracts and financing arrangements.

The original Sasol Three was therefore held over and could now provide the basis for Sasol IV.

Local and overseas sources suggest that finance is the central reason why the announcement of Sasol Four has not already been forthcoming from Minister Chris Heunis, Minister of Finance Owen Horwood or the Prime Minister himself.

One way or another, well over R1 000-million has already been raised overseas to finance Sasol One extensions, Sasol Two and Sasol Three, more than half of it quite recently.

With at least two of the most important overseas lending countries already way over their export credit or lending limits for South Africa (all the advanced economies set limits on what they will provide each year to other countries), there is little chance of enough money from abroad for Sasol Four for the time being.

The decision last week by the West German export credit insurance company, Hermes, to insure around DM300-million (R140-million) of credit for German exports for Secunda has been hailed as the biggest single coup in Sasol's recent overseas financing programme.

In fact, extra European money, in the form of long-term loans rather than export credits, totalling at least another R300-million, has apparently been signed.

It is not only the size of the loans which is exciting. The terms are also exceptionally favourable. It may be argued that they reflect a peak of overseas confidence in the future stability of South Africa not equalled since the sixties.

The loans are for terms of eight years or more, and repayment need not be started before 1984, coinciding with the gathering of cash-flow from Sasol Three.

Interest rates on the loans are said to be only between 1% or 2% above the current London Interbank (Libor) rate. This suggests a firm view that South Africa will remain a safe haven for investment at least until the late eighties.

With the R2 458-million required for Sasol Two now virtually sewn up and some R2 000-million already in the pipeline or in process for Sasol Three, for which R3 276-million is needed, the country can feel confident that Sasol Four will not be far behind should the need arise.

Given stringent fuel savings in South Africa and a possible easing of the oil imports supply and price squeeze by the mid-eighties (as Opec's largest customers cartelise to increase their bargaining muscle and begin reducing their reliance on oil for energy), it now seems the country could achieve more than 65% self-sufficiency in oil by 1989, if not earlier.

Following the appointment to the Public Service Commission this week of SA Breweries chief Dick Goss, General Mining's Wim de Villiers and Old Mutual's Jan van der Horst, private sector appointments to the Sasol board are also reported to be in process.

The combination with Sasol's own top managers should do much to continue the conversion of the whole oil-from-coal programme from an expensive if essential millstone to an excitingly vast and profitable new field for private and public sector investors alike.

Sunday EXPRESS Business

EDITED BY PENELOPE GRACIE

Huge Sasol offer running 3 weeks behind schedule

THE R500-m Sasol offer of shares and convertible debentures to the private sector is running about three weeks behind schedule.

But no major snags have been encountered with the issue.

"It's just that it's such a huge offer and so many people are involved it takes longer than usual to get things done," sighed one merchant banker.

The early announcement by the then Minister of Economic Affairs Chris Heunis took some merchant bankers by surprise.

Called in to advise, they were not all that happy at a statement they regarded as premature.

According to bankers, the offer details are still being discussed.

One thing has definitely emerged — the ordinary shares will have a 200c value and Sasol is looking to raise between R25-m and R30-m from the small investor, the man-in-the-street.

The remaining R470-m to R475-m will be raised over a 15 month period from the institutions.

The five merchant banks consulting on the issue have not yet prepared even a preliminary document for JSE perusal.

And while it is hoped to launch the share offer and the convertible debenture offer simulanteously, it could happen that the debenture offer to the institutions comes first.

Merchant bankers are not unduly concerned that Sasol's siphoning off of R470-m will unsettle the market.

But they do concede that with changed market conditions, it is not going to be as easy to raise the R470-m as was thought a month ago.

The financial community was put out this week when Minister Heunis took the Sasol matter into his own hands and announced that applications would be for a minimum of 200 shares at 200c a share.

If the issue is to be aimed at the man-in-the-street and not the professional investor, as has been suggested, it is asking a lot to expect him to pay a minimum of R400.

What is more likely is that the minimum application will be R400 with a minimum allotment of R200.

One thing is certain — the merchant banks are struggling to keep the share issue as simple as possible.

The man-in-the-street is not a sophisticated investor, so the mechanics of the offer will doubtless be among the most straightforward the JSE has ever seen.

(55)

SUNDAY TIMES, Business Times, June 24, 1979

Oil prices are starting to slip

By NEIL BEHRMANN

AHEAD of the Opec meeting in Geneva this week both crude oil and oil product prices are beginning to crack.

Dealers say the oil market is shaky because of extensive speculation. The price of crude has already fallen from $38 to $32, while oil product prices are tumbling from their peaks.

According to Platt's oilgram price service, premium petrol prices have fallen from their end-of-May peak of $415 a ton to $395 a ton, gas oil from $390 to $365 and naphta from $340 to $325.

Traders say petrol has fallen further and is currently trading around $380, while gas oil is nearer $350.

Prices are still high. A year ago premium petrol cost $150 a ton, gas oil $120 a ton and naphta $129 a ton. Low sulphur oil now costs $158 compared with $84 12 months ago, while high sulphur oil is $144 compared with $73.

The extensive speculation and high oil prices have embarrassed governments who want to control the Rotterdam spot oil market.

Andrew Avrimedes, an international petroleum advisor, comments that the title "Rotterdam Market" is a misnomer.

"As a result of modern communications, the crude oil product market is not in a specific place. There is no market where people meet to settle buying and selling orders.

"An operator can be based anywhere from Rotterdam to New York, London and Paris as long as he has a telephone, telex and sufficient knowledge of the commodity he is dealing with."

The name "Rotterdam Market" originated because most of the oil the operators deal in is available in the Rotterdam-Antwerp area, where the major oil companies have constructed the biggest oil refinery complex in the world.

According to British Petroleum, a large part of the oil products consumed in Western Europe is pumped ashore in the form of crude oil at Rotterdam. This oil is then refined by companies such as BP, Shell, Esso and Gulf.

Be it as it may, the Common Market is to explore the possibility of re-organising an "oil exchange" for spot market transactions in an attempt to bring greater discipline to international trading in crude and products.

Market forces, however, indicate that such controls might be unnecessary. Mr Avrimedes says trading in the spot crude oil market is virtually non-existent at present and suspects it is only a matter of time before an oil surplus develops.

He says speculators bought crude at prices above $35 and are anxiously awaiting the outcome of the Opec meeting.

He predicts that Opec's price band could rise from the present $14,55 to $18-to-$20 a barrel. He believes oil producers outside Opec are countering any loss in production from Iran.

He also feels Saudi Arabia could step up production to narrow the gap between spot prices and producer prices.

Nevertheless, in London Saudi Arabian Oil Minister Sheik Yamani, in reply to a question asking him to confirm a one-millon-barrel-a-day increase in production, said: "Our policy is to stop this panic in the spot markets, to unify the price of oil and stop the multi-tiered system."

With the crude oil market decidedly vulnerable, product oil prices are tottering.

Mr Avrimedes says there are cargoes of petroleum oil on the way to the US without a buyer. "If the speculators cannot find purchasers for this oil, the gasoline prices could drop dramatically and drag other oil product prices down with them", he said.

Other oil analysts are confused and cannot calculate whether the market is shifting from defecit to surplus because of insufficient statistics.

(55) CT 26/6/??

SA out of oil transport

By GEORGE YOUNG

THE disposal recently of the tanker Kulu which ran on a time charter to BP until hostile actions towards South Africans in oil terminals made operations invidious, marks the end of the Republic's participation in crude oil transport.

South Africa was never heavily committed to moving its oil imports, and until the inception of Safmarine and the panic buying at high prices of indifferent tankers at the time of UDI in Rhodesia, this country had not participated in foreign tanker operations at all.

In former years the Republic owned a tanker Radioleine, owned by Irvin and Johnson, for carrying seal and whale oil, and for servicing Bouvet and Kerguelen islands. Then with the purchase of the whale refinery Tafelberg in 1930, and then of the Uniwaleco by Union Whaling in Durban, this country had a connection with the whale oil industry. But these ships were lost in World War II and were not replaced.

Carriers pooled

South Africa shares with the United States and Britain the distinction of having by far the major part of essential oil imports conveyed in foreign bottoms. And there is little likelihood of this process being modified, because the respective oil companies pool all their carriers and ships are dispatched, irrespective of nationality, to ports on the delivery list for cargoes.

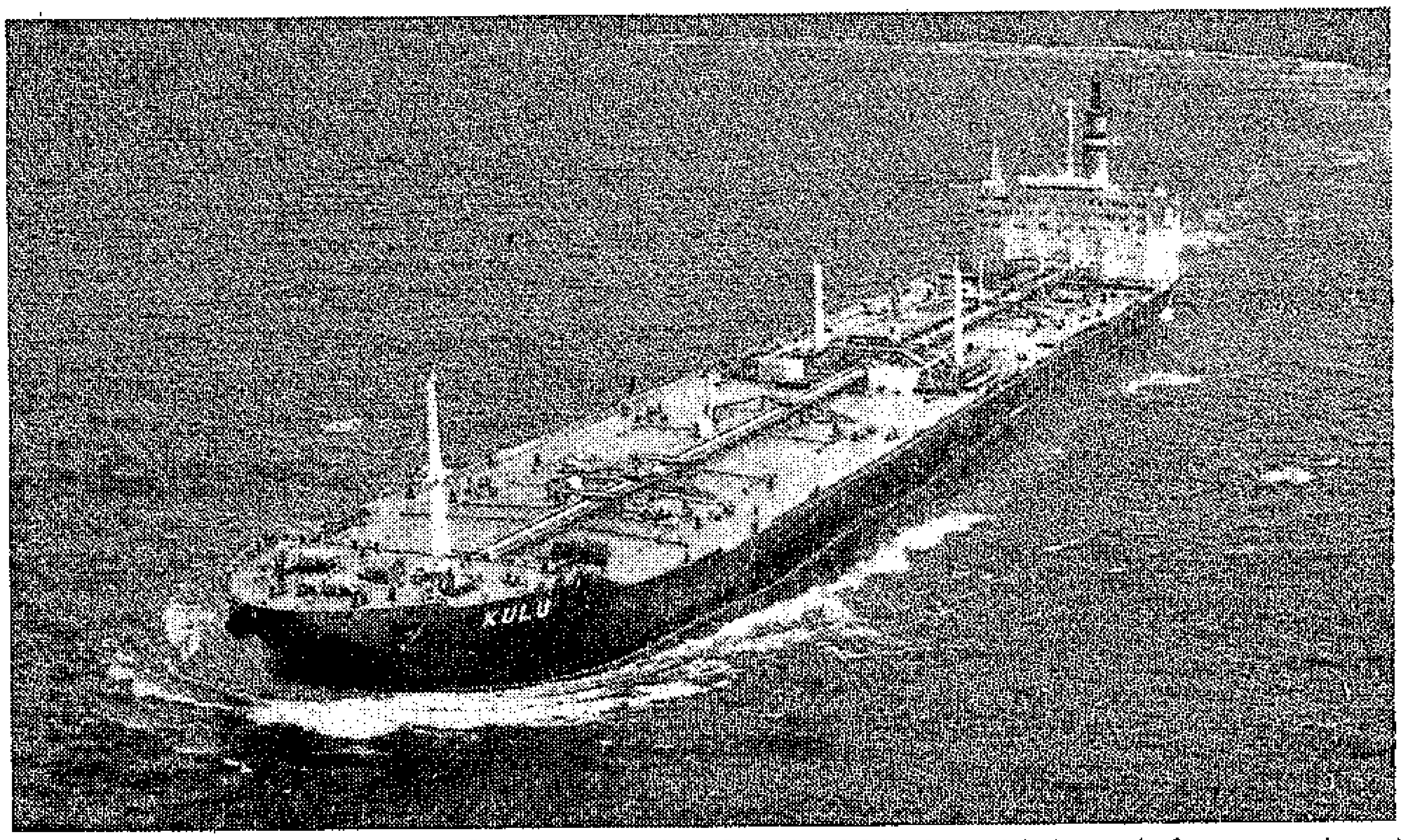
At the time of UDI in Rhodesia and the imposition of sanctions, the idea got round in Pretoria that if South Africa had its own tankers, then it would enjoy an element of independence in the event of hostile international action. But this was a fallacy. The tankers purchased at a high price, and in many cases inhibited by faults, had to secure charters from oil companies. They could not willy-nilly sail into the Persian Gulf and hook up to a supply line.

The result was that the locally owned tankers took their cargoes all over the world, and very rarely to this country. Within a few years, with the tanker market over-supplied with carriers, the flotilla was sold for scrap.

The building 10 years ago by Safmarine of a trio of tankers was seen as an investment assuring consistent return. One of the trio was sold at a handsome price, and the remainder, Kulu, on charter to BP and the Gondwana on charter to Shell, have had a contract which provided adequate income to ensure of profits and the ships paying for themselves.

But they rarely brought cargoes to the Durban buoys, yet made numerous visits to Bonny where the Kulu was eventually apprehended and made to discharge again, without recompense to BP. It seems the Gondwana also will go soon, the Kulu having secured a reported R7m from Livanos of Piraeus and to be already in service with them.

Safmarine keep their ships in good shape, and would not contemplate selling the tankers until termination of existing charters next year. But the harassment at Nigeria changed all this.



Kulu, sold this month to Greeks, marks South Africa's withdrawal from crude oil transport

It is back to square one for South Africa on the tanker front. The terminals will be 100 percent dependent on foreigners to deliver the goods, but this is wholly in keeping with most other places. Locally owned ships will deliver to coastal terminals, and to friends elsewhere in Africa, from the refineries in Durban and Cape Town.

Erection of big tanks at Saldanha must require piping or movement by tanker of cargo to refineries at Killarney.

The Australians tried to apply pressure through strike action for import cargoes to be carried in Australian tankers. But when they boycotted the foreigners, there were no oil imports of any kind, so the policy fell flat.

Running tankers is the forte of the established oil consortia and the specialists in the industry.

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The Star
The Star Wednesday June 27 1979
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CLASSIFIED ADVERTISEMENTS INSIDE

Oil: Time running out for the greedy

South Africa, because of its coal reserves, and possibly its uranium, could one day emerge as part of a new energy power bloc. This is one of the points referred to in this edited version of a paper on the world fuel situation by Professor Ian Fells of Newcastle, England, former world president of the Institute of Energy. It is reprinted from the South African magazine "Energy and the Environment", offical organ of the SA Institute of Energy.

There is currently a worldwide energy glut which has inhibited the implementation of energy conservation programmes.

If world energy demand growth continues at five percent a year the position will quickly change and serious shortages of oil and gas will arise in the mid 1980s.

Deficiencies in energy supply cannot be made up by nuclear power or coal as expansion programmes are already slipping badly. This may be rectified by 2000 but a massive investment in nuclear, coal and alternative energy will be necessary if only a modest growth in energy demand is to be satisfied.

Cutback

The world's population is growing at two percent a year but over the last 20 years world energy consumption has grown at five percent a year. The Arab oil producers' cutback and subsequent price increase in 1973 caused a flurry of anxiety among oil importers who at last came to realise that oil supplies were indeed finite and also vulnerable to political action.

Grandiose schemes were put forward, in the USA and EEC in particular, which would, it was claimed, make the USA independent in energy by 1985, and in the EEC reduce dependence on imported oil from 60 to 40 percent. A swing from oil to coal and nuclear power together with energy conservation measures would effect this change.

How successful have these plans been over the last-three-and-a-half years?

Insatiable

The answer must be "disappointing."

For example, despite determined efforts to become energy independent, the USA is now importing more than 50 percent of its oil whereas only 10 years ago it was a net exporter of oil.

The Organisation for Economic Co-operation and Development (OECD) issued a report in January 1977 drawing attention to the apparently insatiable demand for oil of the member countries. The report predicts that the OECD area's demand for imported oil could rise to 35-million barrels a day by 1985, compared with 23-million barrels a day in 1975.

World demand as a whole for imported oil will proably rise to more than 39-million barrels a day. This must be compared with a maximum oil production capacity of the OPEC countries of not more than 45-million barrels a day, with Saudi Arabia producing the lion's share.

Worsen

The margin between supply and demand is much too close for comfort and the OECD predicts real, as opposed to politically inspired, oil shortages in the mid 1980s.

The situation will worsen as oil producers seek to reduce production in an effort to conserve reserves. Even then oil productioin will probably peak as early as 1990 and then quickly decline.

It is suggested that by a combination of vigorous conservation policies and an expansion of alternative energy sources, including coal, nuclear and "income" sources such as solar power, the OECD countries could reduce the demand for oil imports by 10-million barrels a day by 1985, leaving the import figure much the same as the 1975 figure.

Demand

This policy is not working at the moment for a variety of reasons. Before discussing them it is sensible to take a broader view and examine the worldwide energy demand pattern.

In 1975 world consumption of primary energy was about 75 000 TWh (1 Terawatt hour requires 83 000 tons of oil or 135 000 tons of coal) and demand has been growing at five percent a year for the last 20 years.

Of the total demand, 58 percent was from OECD countries, 29 percent from the eastern bloc, including China and Russia, and 13 percent from the rest of the world.

Growth in energy demand has been dominated by the industrialised countries but as this growth in demand slows as a result of saturation and energy conservation measures the growth will be sustained by the developing countries as they achieve industrialisation.

Historically the rapid growth in world energy demand over the last 50 years has been met by expanding fossil fuel supplies. Oil and gas have taken over from coal during the last two decades as the major suppliers of energy and now provide over 65 percent of the total; they met 80 percent of the incremantal energy demand for the period 1960-75.

This situation cannot, unfortunately, continue and post-1985 oil production will reach a plateau and start to decline through the 1990s to a scarcity situation after 2000. Natural gas will last a little longer, to 2010 or thereabouts.

Sharply

Of course, this is an oversimplification. As new sources of oil and gas become increasingly more difficult to find (worldwide a new North Sea gas field must be discovered every two years to maintain present levels of production), the price of oil and gas will rise sharply in real terms, making alternative sources such as coal and nuclear power more attractive.

In terms of classical economic theory there should be no problem. The world reserves of coal are 10 times those of oil. Uranium reserves are more probleamtical but the use of breeder reactor technology can stretch them to five times the coal reserves.

As oil and gas become scarce, straightforward market forces should bring coal and nuclear power forward to take over and supply the increased energy demand.

Unfortunately, it is not as simple as that. A number of restraints make such a smooth transfer unlikely.

In the first place, the apparently exponential growth in energy demand if projected to only the year 2000 indicates an "energy gap" of enormous proportions. This assumes that an expanded coal industry will play its part.

The only proved source of energy that could plug the gap would be nuclear power. To fill only half the gap, however, would require 3 500 GW of nuclear capacity by the year 2000 (present capacity is about 70 GW.)

This would mean commissioning three large (1 000 MW) nuclear power stations each week between now and the end of the century. There is no way in which the nuclear construction industry could meet this target.

Such a programme would be constrained by lack of finance, raw materials and trained manpower.

If, despite these difficulties, a massive nuclear programme were to be successfully implemented then a severe uranium shortage would result; a 3 500 GW nuclear generation capacity would consume the proved world uranium resources in about 12 years.

Only by moving to fast breeder technology can such a restraint be avoided and it is here that another limiting or retarding factor becomes important.

The safety of nuclear power is being increasingly called into question. The possibility of an accident, either at a power station or the associated storage facility, leading to an escape of radioactive material has so alarmed environmentalists and others that very strong opposition to growth in nuclear power has been generated.

This is particularly true in the USA and West Germanay. By the use of their democratic rights, objectors have closed down nuclear construction in the USA and stopped it for the time being in West Germany, where the expected target of 50 000 MW by 1985 has been reduced to 30 0000 and may now not attain half that amount of nuclear capacity, with serious implicatiions for German industry in the 1980s.

In addition, the threat of terrorist activity associated with access to plutonium has caused President Carter to delay starting on the next stage of the American fast breeder reactor programme and to suggest that the worldwide spent fuel from nuclear power stations should not be reprocessed to extract unburnt uranium and plutonium but should be stored as it is.

Supplies

It is perhaps easier for those in a country with very large reserves of uranium to suggest such a policy but the signs are that France, West Germany, Japan and the UK for example will go ahead with part fast breeder programmes and spent fuel reprocessing.

Nevertheless the confused state in which the world's nuclear power industry finds itself with political, economic and environmental pressures operating on it in different ways is bound to slow down its rate of growth.

Access to supplies of uranium is cleary an important parameter in the programme and it is here that the major producers, or more accurately, potential producers, such as Canada, South Africa, SWA/Namibia, Niger, Gabon, Australia and France as well as the USA could take on a role of no less importance for the future energy supply as OPEC has at the moment.

If nuclear power cannot be relied upon to fill the energy gap what about the other major energy source, coal?

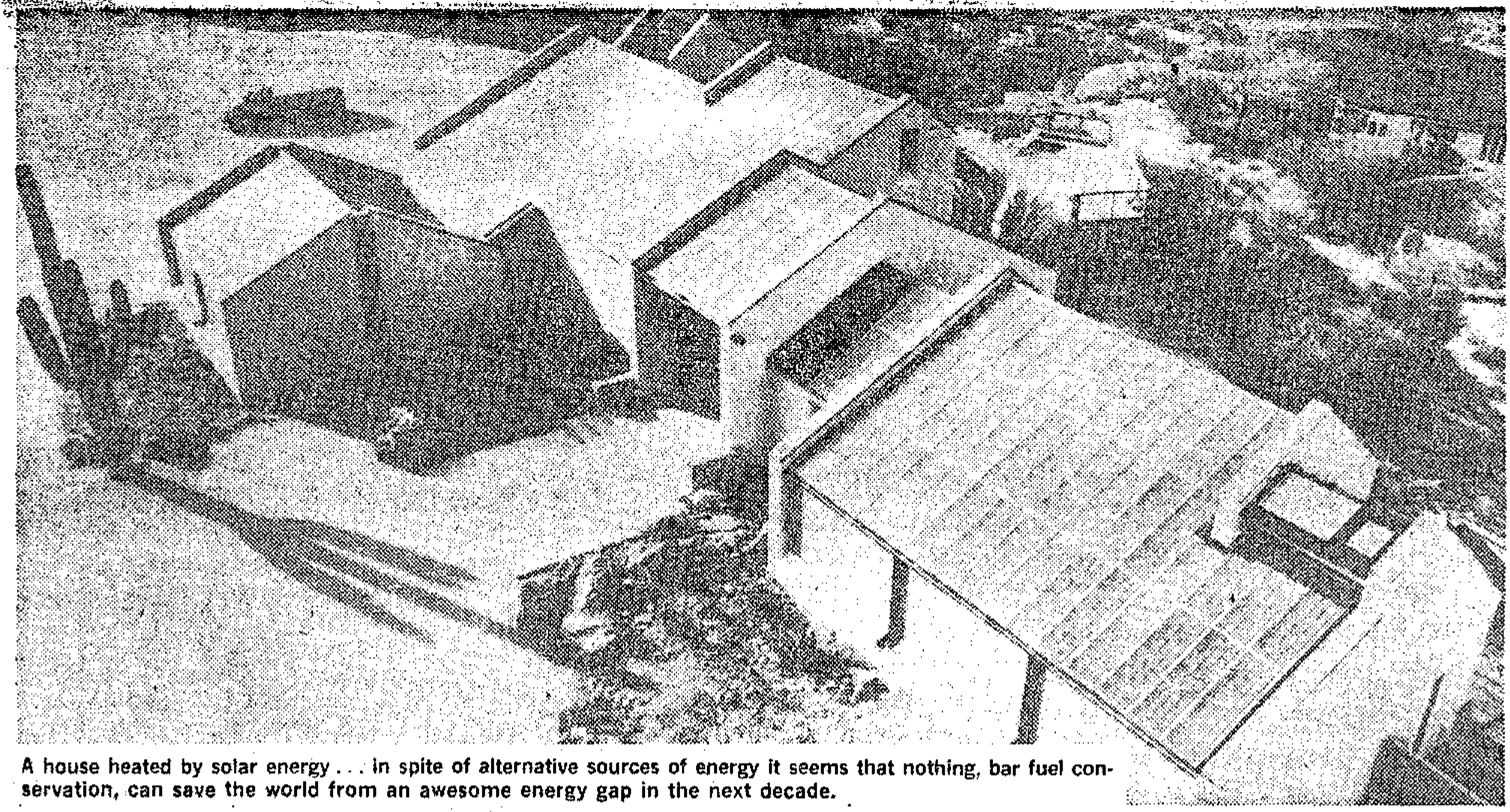
Reserves are some 10 times those of oil and gas and fortunately distributed widely through Europe and North America as well as Russia, Australia and South Africa.

In several of these countries, particularly the EEC, the coal industry has been in decline during the last two decades — a direct result of the availability of cheap oil. The reversal of this trend, particularly in the case of deep mined coal, will be difficult.

Slow

A vigorous trade in coal could develop with Western Europe a major importer. Associated with this growth in demand for coal are processes for coal liquefacation to provide "synthetic" oil, rich gas processes for substitute natural gas and fluidised bed combustion for burning low grade coal and shale.

Developments such as the Sasol process in South Africa, Fischer-Tropsch and Koppers-Totzec for the production of liquid hydrocarbons from coal are already well developed but the building of commercial plants in large numbers is a slow process and requires a big



A house heated by solar energy . . . in spite of alternative sources of energy it seems that nothing, bar fuel conservation, can save the world from an awesome energy gap in the next decade.

investment in capital and manpower on the part of the chemical engineering construction industry.

The American programme to build 100 oil-from-coal plants by 1985 is now thought to be hopelessly off target but the plan for 1995 anticipates a need for at least 5-million barrels a day of synthetic oil production capacity.

As the lead time for building such plants is 10 to 15 years the American Government is in a dilemma which is made worse by the apparent inability of the coal industry to expand rapidly.

A great deal of research and development investment is being poured into alternative energy sources but, even taking a very optimistic view, the largest contribution they could make to world energy demand in the year 2000 might be 10 percent, although six or seven percent is probably nearer the mark.

Fusion power cannot be expected to make a significant contribution towards satisfying the wortld's energy demand before 2030.

The conclusions from this rarther gloomy analysis of the world's energy future are reasonably clear: we cannot expect growth in energy demand to continue at five percent a year into the next century. As oil and gas supplies decline, coal, nuclear power and alternative energy sources cannot take on the role abandoned by oil and gas. This means that there will be tremendous pressure to implement conservation programmes which will result in much more efficient use of available energy supplies.

Massive

It seems unlikely that nuclear power or nucler fuel reprocessing can be abandoned, despite pressure from groups wishing to protect the environment. Indeed, a massive increase in the use of coal, even if possible, could lead to a very **undesirable increase in carbon dioxide in the upper atmosphere, causing serious changes in climate.**

A measure of collaboration between countries and groups of countries will be essential if the change from oil and gas-based energy supply to a widely spread mixed energy supply embracing all possibilities is to be achieved before the turn of the century.

Time is running out.

Price

Again, investments in coal mining and particularly surface mining is made unattractive because environmental pressure groups in addition to technologically difficult environment standards can cause long delays. This experience is not confined to America. Coal-based developments in Western Europe have also been slowed down or halted altogether.

These pressures are apparently strongest in Western Europe and North America but by retarding the expansion of coal and nuclear power these two industrialised areas can only return to oil for their energy requirements, thus both hastening the rate of depletion of these fuels and raising the price beyond the reach of less affluent countries.

Some conservationists point to alternative sources of energy, sometimes called "income" sources — such as solar energy, wind power, tidal power, geothermal power — to fill the gap after 2000.

New Opec oil price rise may benefit SA

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2/6/79

CT

By GORDON KLING

THE ENERGY crises in South Africa took an ironic turn for the better yesterday with the strong possibility that the Republic will benefit from a now-certain increase in oil prices by the Organization of Petroleum Exporting Countries (Opec).

The minister of the new Industries, Trade and Consumer Affairs portfolio, Mr Schalk van der Merwe, said last night that the Opec meeting offered surprising grounds for optimism.

The price-fixing and strategy programme expected to emerge from the meeting could bring improved order to the world oil market, with substantial benefits for the Republic.

Mr Schalk van der Merwe

This is because the emerging Opec agreement appears to pave the way for renewed order in the spot market, on which South Africa has been dependent since the Iranian revolution.

Industry sources noted yesterday that any agreement towards uniformity through a higher standard price, as expected, would reduce the speculation which increased the spot price to more than $40 a barrel in recent weeks.

Mr Van der Merwe told the Cape Times in a telephone interview from Pretoria last night that the turn of events appeared to offer substantial benefits to South Africa.

The minister disclosed that the oil equalization fund, set up at the begining of the year to accommodate the wildly fluctuating premiums for crude oil, and contributions to which accounted for 10,9 cents of the 15-cent a litre price rise this month, had been based on an average spot market price of $35 a barrel.

55 28/6/79 Argus

Summit call to beat fuel crisis

TOKYO. — The world's major industrial democracies are due to study a proposal at their summit here today for an urgent call to the oil exporting nations for co-operation to beat the energy crisis.

The proposal is contained in a draft of what could be the final agreement when the Tokyo summit ends tomorrow night.

The draft was handed to reporters by West German officials who said their chancellor, Mr Helmut Schmidt, agreed with what it contained so far.

According to the draft, the industrial nations would declare they were prepared to co-operate with the oil exporting countries to control the world oil market.

They would also call on the oil exporting nations 'for an active contribution to beginning a permanent exchange of views on energy as well as other matters between producer and consumer countries.'

The draft has been prepared by officials working for leaders of the seven summit nations — the United States, Japan, West Germany, France, Britain, Italy and Canada.

Solar

It says the industrial world should accept that it must have nuclear energy if it is to continue economic growth, and it calls for international co-operation to explore such other forms of energy as solar power.

The draft emphasises that there should be a significant return to the use of coal for energy.

Draft

The draft was being studied as the seven leaders sat round an oval table in the white stucco and gilt-decorated hall of the Akasaka Palace here for the fifth in their series of annual summit meetings.

This time the summit is dominated by the world problem of dearer and scarcer oil.

The seven leaders were anxiously watching talks in Geneva where Ministers of the Organisation of Petroleum Exporting Countries would decide on a new round of price increases from Sunday. — Sapa-Reuter.

SA may escape oil price crunch

28/6/79

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By Colin Campbell and Harvey Thomas

The world's oil price will rise by as much as 35 percent in the wake of the compromise reached at last night's Opec meeting which will light a fresh time-fuse for world economies.

But South Africa may be cushioned from the full effects of the new two-tier oil price. Saudi Arabia has pitched its price at 18 dollars a barrel and most other producers 23,50 dollars.

It does not follow that the dramatic increase announced in Geneva will mean higher prices at the South African petrol pumps — and if local prices do go up the increase may be comparatively small.

If the Opec nations are not able to repair their divided ranks there is hope the split camp will mean future price rises will not be as dramatic.

Leaders of the Western world are likely to use whatever behind-the-scenes tactics they can to encourage the split in the hopes that a fall-out between the oil producers will lead to price competition, and therefore eventually lower prices.

The Saudis have been the only Opec members to honour the official price of 14,55 dollars set at the organisation's March meeting.

The higher oil price helped keep the London gold price above the 280 dollars an ounce mark yesterday, and sent the US dollar weaker on world foreign exchange markets.

● **Fuel focus is on the Persian Gulf — Page 31.**

Sources close to the Saudi delegation said last night the price of Saudi light oil would rise from 14,45 dollars to 18 dollars a barrel, equivalent to a rise in rand terms of from R12,25 to R15,25, while most other leading exporters would charge from 20 dollars to 23,50 dollars — an increase in rand terms from R17 to R19,90.

Higher still

The new prices mean the oil price will have risen by between 50 percent and 65 percent over the last six months — with promises of further rises to come.

The Libyan and Algerian delegations have already said they will charge the top price, and Nigeria is expected to follow suit.

The reason, as an oil expert in Johannesburg said today, is that "official prices charged by Opec are of purely academic interest to this country. We have to buy our oil on the spot market."

The oil experts believe the spot price in Rotterdam is now almost at its ceiling in terms of economic cost structures and the higher Opec prices may have an only marginal effect on the spot price.

"It is quite possible there will be an enormous cushion effect to our benefit," said a spokesman.

The Minister of Industrial Affairs, Dr Schalk van der Merwe, warned that he expected the spot market price to rise.

If it was a small increase it might be absorbed. The June 8 increase had been calculated on the belief that South Africa would be paying 35 dollars a barrel for crude.

The Opec increase will take a matter of weeks to show its effect on South African prices.

The new two-tier Opec agreement will hold good for three months, and will be reviewed at another Opec meeting in September.

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Opec agrees to Saudi oil at lower price

GENEVA. — Opec states, unable to fix a new unified oil price, have agreed a two-tier structure which will allow Saudi Arabia to charge less than the militant majority and will mean an average base price increase of nearly 35 percent.

The compromise agreement was hammered out late last night to avoid a split.

The Saudis, the world's biggest oil exporters, will raise their price by 3,45 dollars a barrel to 18 dollars (R15·25), sources close to the Saudi delegation said.

Most producers

Most other leading producers in the Organisation of Petroleum Exporting Countries will charge from 20 to 23,5 dollars (R17 to R19,90).

Japanese sources said they had been told by the Saudi Oil Minister, Sheikh Ahmed Zaki Yamani, that Saudi Arabia would step up its oil production by one million barrels a day to 9,5 million barrels to cushion the effects of the price rises on the world economy.

From July

The increases will take effect from July 1. The new two-tier agreement, expected to be ratified by the 13 Opec states today, will run for three months.

The system will be reviewed at another ministerial meeting in September.

The Libyan and Algerian delegations have already said their countries will charge the top price and Nigeria is expected to follow suit.—Sapa-Reuter.

● Summit call to beat fuel crisis.—Page 25.

TRANSPORT FM 29/6/79 (55) ... ss, week ending 6 8 APR 1979

Page 6

Electric switch

Costs of running an electric vehicle now down to nearly half those of p... and diesel units in certain indus... applications, according to a ... company, Eclipse Engineering.

Even so, the market is still small. Stephen Oosthuizen expects outpu... urban delivery, warehouse, towing street cleaning vehicles to double year to 140 vehicles.

One problem is the high capital co... two-ton electric vehicle would ... R14 847, compared with R6 010 for a ... unit and R7 205 for a diesel one.

Standing charges, heavily loa... against electric vehicles by higher int... repayments and depreciation on ... worth of lead-acid batteries, also ... potential users shy away.

Not until electric vehicle salesmen ... around to talking about running costs ... km is a fleet buyer likely to prick u... ears.

Financial Mail June 29

Oosthuizen says that, working on the internationally accepted London Electric Vehicle Association formula, the km cost of running vehicles *before* the 38% fuel price rise, was: electric 45,4c; petrol 76,2c; and diesel 70,1c. Maintenance on a two-ton vehicle is also much cheaper at 20,1c for electric, 51,4c for petrol and 46,9c for diesel. Total running costs per km are: 21,4c; 67,3c; and 56,8c.

Weekly operating costs (pre-fuel price hikes) are R122; R205; and R189. Annually: R6 372; R10 693; and R9 839.

Old criticisms Eclipse and other battery-powered vehicle makers will find hard to shake off, despite the convincing arithmetic, are lack of flexibility, poor heavy duty performance, price and range.

Oosthuizen does not duck the issues. "We're offering a vehicle guaranteed to do 45 km/h with a 45-km range, though *real* performance is better than that, and we're not claiming we can replace the motor car," he says.

Modest claims, indeed, considering the technological and design links being built up with the UK's doyen electric vehicle maker, Smiths of Gateshead, whose milk floats are as ubiquitous in Britain (and many other countries) as traffic cops. Eclipse's two-year-old co-operation links with Britain's Harbilt electric vehicle company also ensures it of advances in off-the-road (tractors, bogies) developments.

Oosthuizen also concedes that the industry still labours, and probably will for a long time, under a suspicion that electric vehicles are not up to handling heavy loads.

"They got a bad name years ago when battery-powered forklifts, for example, regularly burnt out the motors. The technology has come a long way since then and these things just don't happen any more. It's something we still have to live with," he says.

Eliminating virtually all the old drawbacks, burnt-out motors, jerkiness, run-down batteries, is the thyristor control which Eclipse describes as foolproof against abuse.

Eclipse is keeping out of private cars as long as big international motor companies struggle to find an electric replacement for the lead-acid battery which, says Oosthuizen, hasn't changed much in 100 years.

He and Harbilt Electric Vehicles'

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0 6 APR 1979

AFRICAN EDUCATION
Financial Mail

Building on the future

One of the most important but little remarked features of last week's budget was the allocation of R10m for the building of schools in African townships in the "white" areas. This is the first time the central government has allocated funds for this purpose, enabling the Department of Education and Training to make good its promises to build schools in the white areas (*FM* December 15 1978).

Until now, most urban schools have been built by administration boards, using loans from the Department of Community Development which township householders have then had to repay. In Soweto, for example, 38c is collected from each household each month on a school levy in addition to home and site rent. White schools, on the other hand, are paid for by the State.

Education and Training's total budget is up 26% this year, to R182m. This is the second highest percentage increase permitted by Finance Minister Owen Horwood (the Department of Statistics' is the biggest). Most of the rise goes on capital spending. And it is surely needed.

There is a backlog of 7 000 classrooms in the urban areas alone. Joubert Rousseau, Secretary for Education and Training, tells the *FM* that a new classroom costs about R7 000, so the backlog will cost R49m to wipe out at current prices. Providing classrooms for the increasing school population will swell the sum even more, Rousseau points out.

Of the R10m for 1979/80, R6m is earmarked for secondary community schools, and the rest for primaries. A further R250 000 is allocated as a rand-for-rand grant for schools in the new Ndebele bantustan.

The new schools will help the Department phase out the "platoon" system, in which the same buildings house two distinct schools — one in the morning and one in the afternoon.

Teacher training also gets a financial boost. The 1979/80 allocation is up R3,2m (89%) on last year's budget. ...

Accussed:

... member of the South African ... at the weekend that the wage ... the union at Kensington, Cape, ... aimed at keeping the present ... positions after the next election

Herald · 7 April

...rald reporters

Union assets 'seized by angry workers'

Rand Daily Mail

30 Rock

By RIAAN DE VILLIERS
Labour Correspondent

MRS MAGGIE ..., acting general secretary of the black Sw... and Allied Workers' Union, laid a complaint with the police at John Vorster Square yesterday in an ...

---

years.'

Mr Williams was critical of the failure of the union's officials to inform the members that an executive member, Mr T Whittle, had resigned more than two general meetings ago.

'Even now we don't know what steps are being taken to replace Mr Whittle.

'A man resigns after 22 years' service and we don't know about it. We don't know why he resigned. But we elected him in the first place.'

CONFERENCE

Mr Williams also slammed the union officials for spending nearly R2 000 of members' money to attend a three-day conference at Magaliesburg during August last year — and then not bothering to report what had happened there.

'The time has come for the members of the union, the rank and file electricians, to make their presence felt. We must stop ... people whom we have elected riding roughshod over us,' said Mr Williams.

... in a fall from a temporary stand at the swimming championships at Worcester and was bed-ridden in hospital until the day before last week's meeting.

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0 6 APR 1979

TRADE UNIONS
Financial Mail

Principle and practice

When is a racial trade union not a racial trade union? When it is for whites (or other non African workers) only. Or that, it seems, is the attitude of Assocom and a growing number of industrial employers.

Replying to a Tucsa letter asking for its comments on black trade union recognition, Assocom says its long standing policy is that "industrial procedures should be restructured on non-racial lines." It adds that many employers are reluctant to "negotiate formal agreements" with unregistered unions on the grounds that such agreements "could carry no legal force."

According to unionists in the commercial distributive trade, Assocom has repeatedly told them that it will not recommend African union recognition to members because it prefers a single non-racial union. The unionists have been trying to gain recognition for the (unregistered African) Commercial, Catering and Allied Workers' Union ...

... non-racial policy a few years ago ... missed it as a tactic. Non-racial ... can't be registered and this sort ... tude is a convenient way of duck... issue."

The situation in the shopping i... raises another issue. What if ... don't want to belong to non... unions? The coloured shopw... union wants complete integratio... the Wiehahn commission allows i... the African and the white unic... want to maintain their separate in... while co-operating on specific iss... federation.

Says CCAWUSA general s... Emma Mashinini: "Are employe... going to insist that we integra... domestic affairs of the unions are ... their business."

It is also difficult to see emplo... despite their claims that they d... uni racial unions — breaking ... tions with whites only unions if ... provides for mixed unions.

How does Assocom react to ... of a contradiction between prin... practice? It won't say. Approa... the *FM* with queries arising out ... ter to Tusca — which the Joha... Chamber of Commerce itself m... lic — executive director Raym... sons would say only: "In view o... developments in this field — b... private sector and from the ... report — Assocom would pref... elaborate on its letter to Tuc... stage. Your queries confirm the ... the urgent publication of ... ommendations of the Wiehahn ... sion."

FM 29/11/79 (55)

SUGAR

Alternative fuel

(3) Sugar

The sugar industry is not at all enthusiastic about diverting production to ethanol and with good reason. This reluctance and the reason for it emerged clearly from Frank Jones's chairman's address to the SA Sugar Millers Association AGM in Durban this week. On a brighter note Jones unexpectedly predicted that the world price of sugar could well reach 11c (US) per pound — the minimum level under the international sugar agreement — by the end of the current season.

Among other things Jones points out:

- Devoting export production normally worth an annual R250m to ethanol would be throwing away hard-won markets and export earnings likely to increase in an improving world sugar situation.
- There is no guarantee of a sustained demand for ethanol and sugar milling companies would require long-term security for their investment in such a new venture.
- Producing ethanol from cane juice would render much plant in the mills redundant and lead to under-utilisation of other plant.
- A completely different pricing structure from the sugar set-up would be required.
- The current surplus of cane was fast dwindling due to drought and higher sales of non-quota sugars.
- There would have to be discussions with the oil companies over blending and marketing.

Surely, suggested Jones, "the more logical approach would be to bring entirely new areas under cane production specifically for this purpose" such as the eastern Transvaal, KwaZulu and the Makhatini Flats.

A fundamental requirement would be to protect the sugar industry's present and potential supplies of cane so as not to prejudice the natural development of local and export markets.

A special survey: June [illegible] Supplement to the Financial Mail

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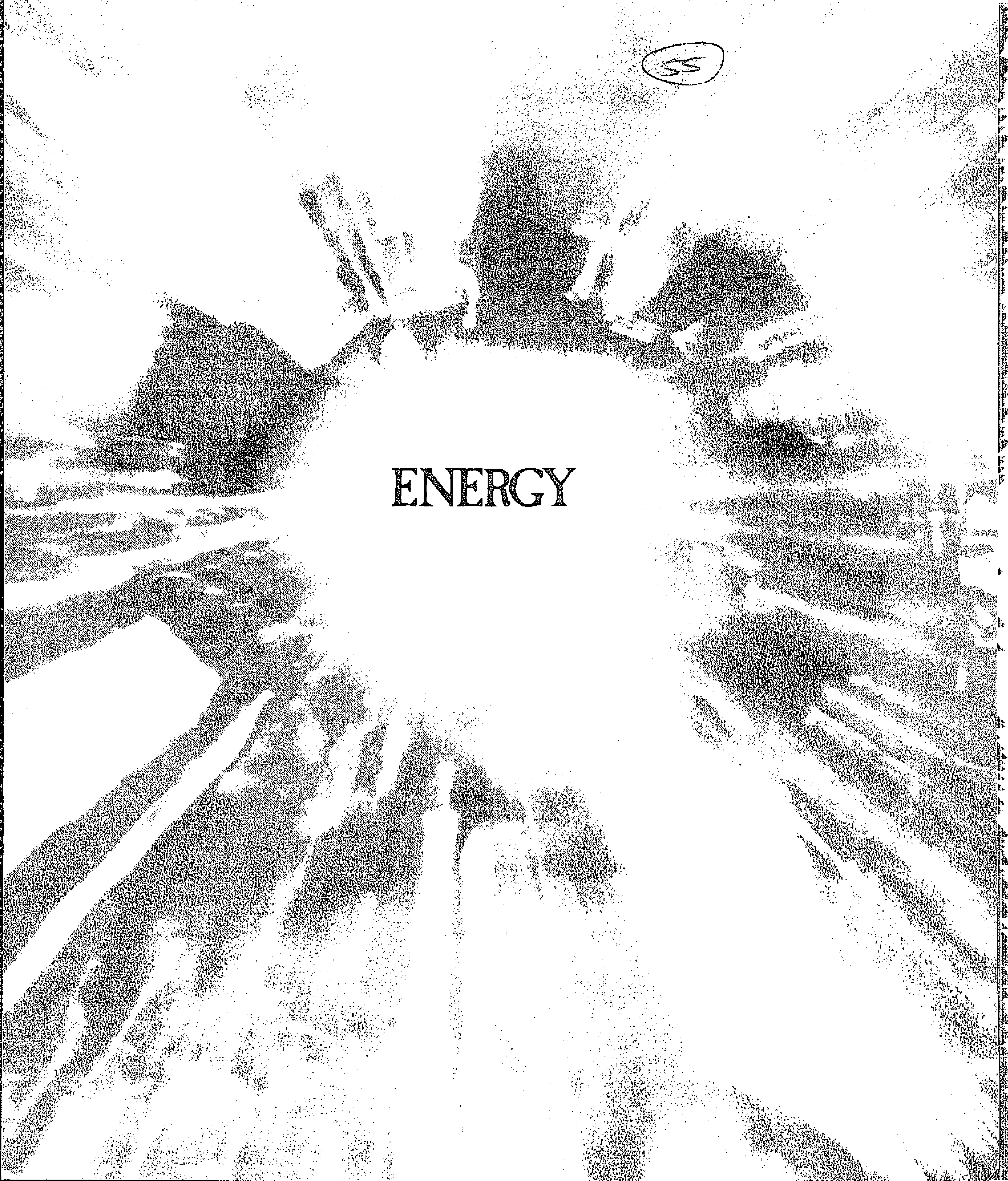
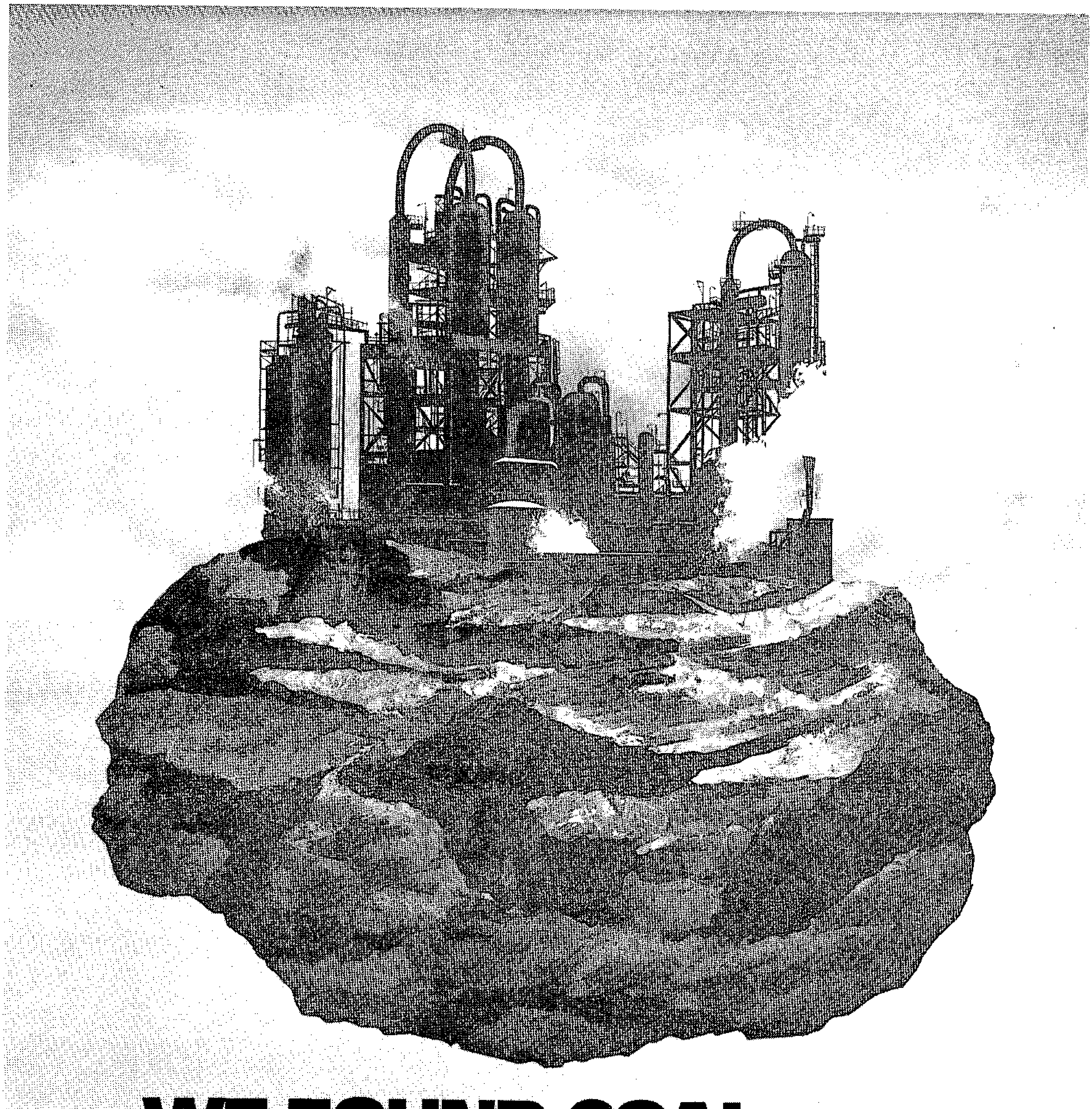


ENERGY



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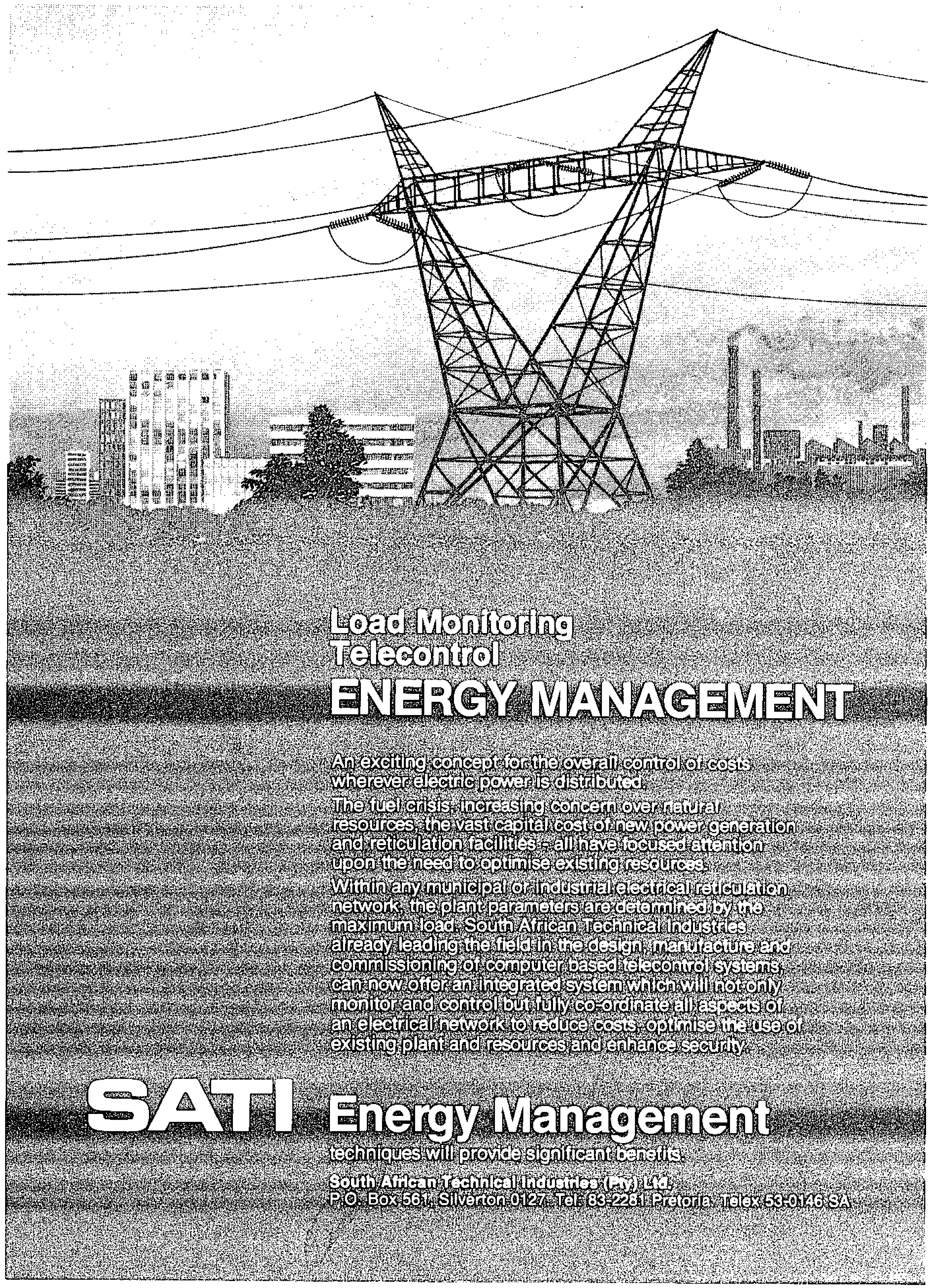

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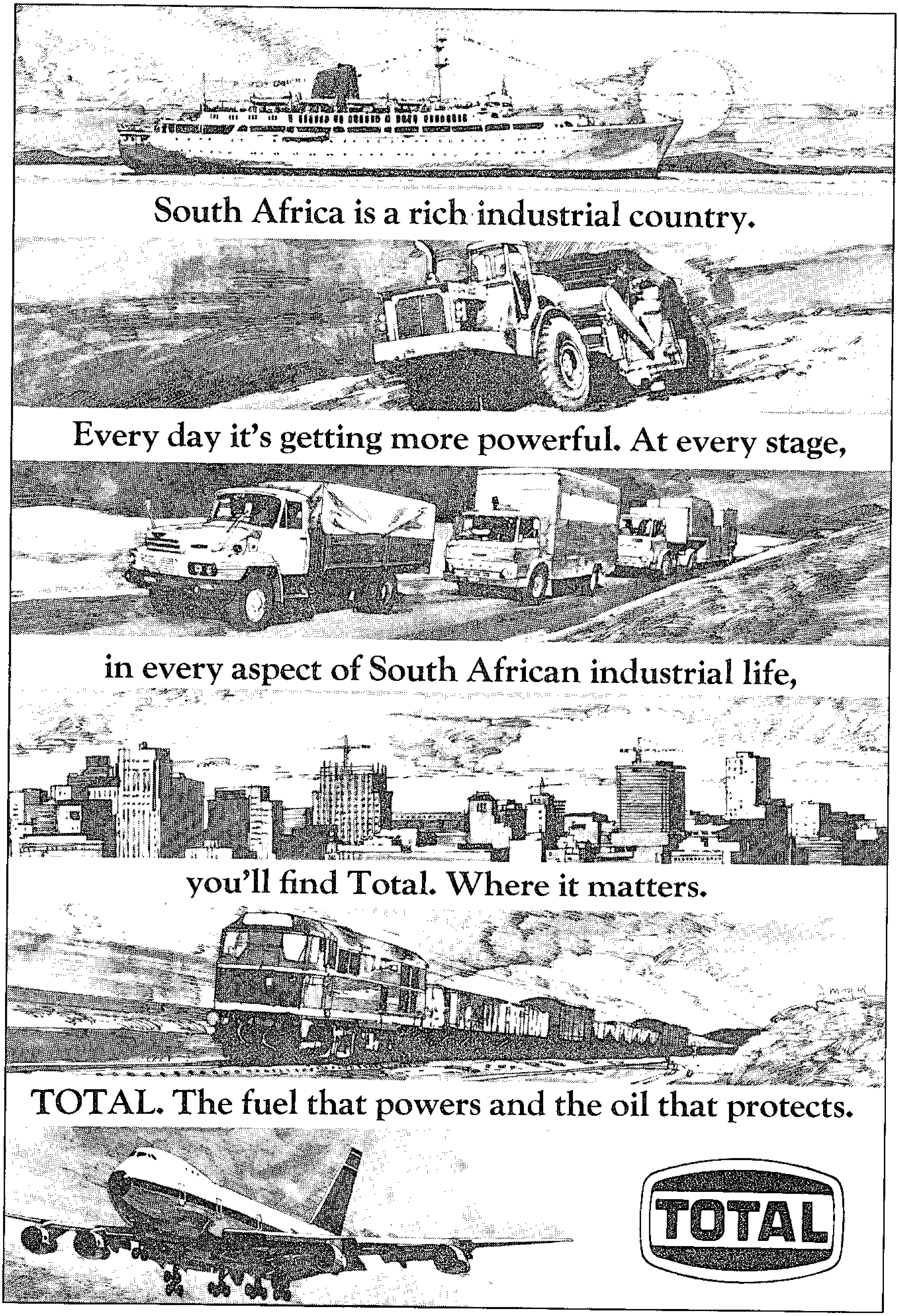

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Energy jamboree

Few people realise that there's more energy locked up in SA coal than in Saudi Arabia's oil. But not all's rosy in the land

SA is riding an energy boom the magnitude and implications of which are comprehended by few. Already almost R3 billion a year is being poured into development of energy-source production, processing and distribution, and that figure will go to about R4 billion with implementation of the crash programme to build Sasol 3.

The country seems to have acquired a Texas complex, currently having in hand the development of the world's biggest coal mine, biggest coal-fired power station and biggest coal liquefaction plant.

Though hardly anybody realises it, the Republic is about to become one of the lucky handful of energy surplus countries, earning more from exports of coal and uranium than it has to spend on imports of oil.

The energy industry is vital to every South African who drives a car, burns electricity, or cooks by paraffin or gas. Its ramifications stretch from coast to coast and far beyond our borders — to power stations and steel mills in Europe, Asia, and North America, to oilfields around the globe in countries whose identities are a close-kept secret, to neighbouring territories that buy petroleum products from us and sell electricity to us.

Within the Republic, the energy industry is marked by massive projects and escalating pioneering activity.

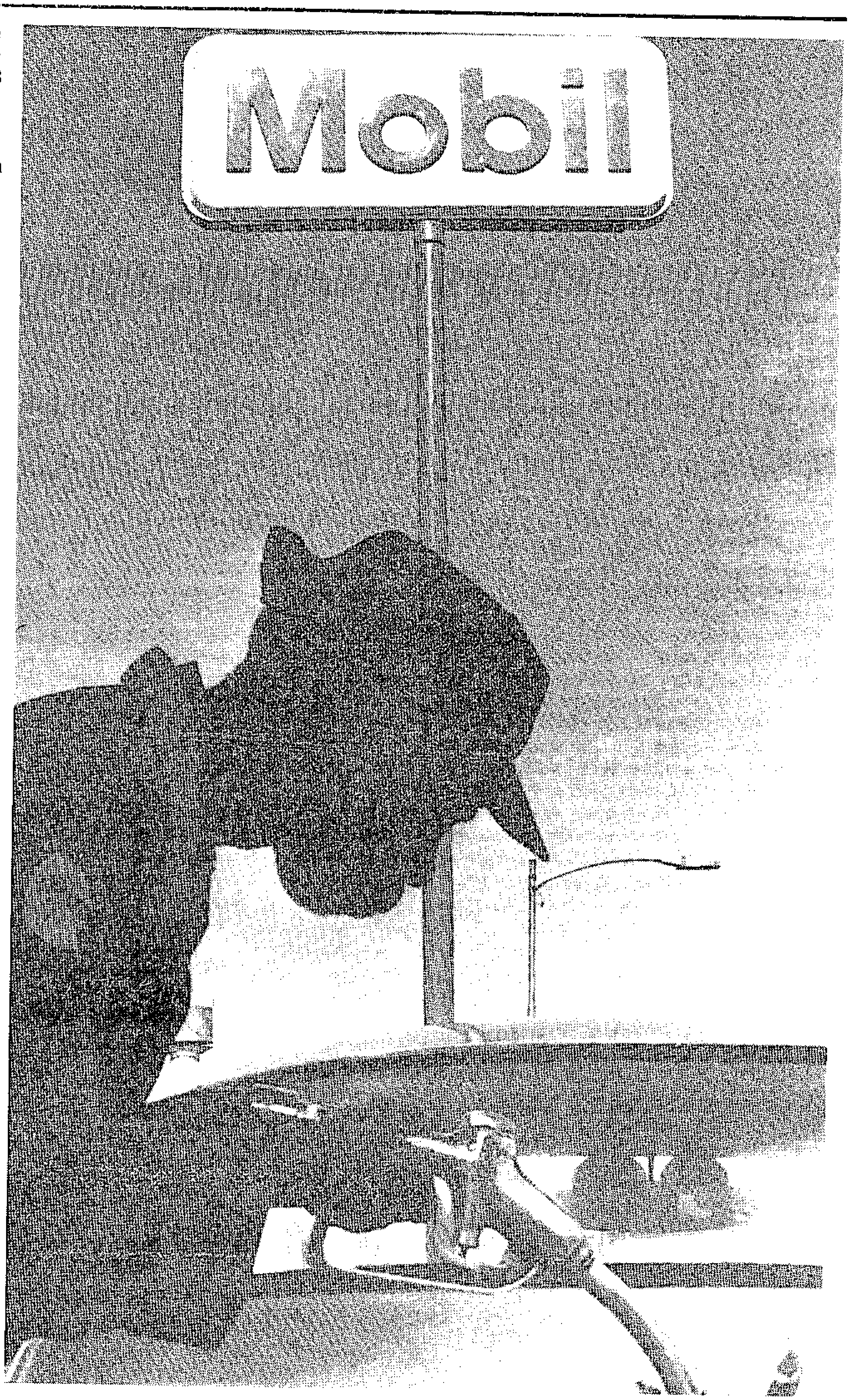
In the Eastern Transvaal a Sasol plant with an output equivalent to a medium-sized North Sea oilfield will start pouring out precious liquid fuels before the end of this year, while construction of another just as large is about to begin.

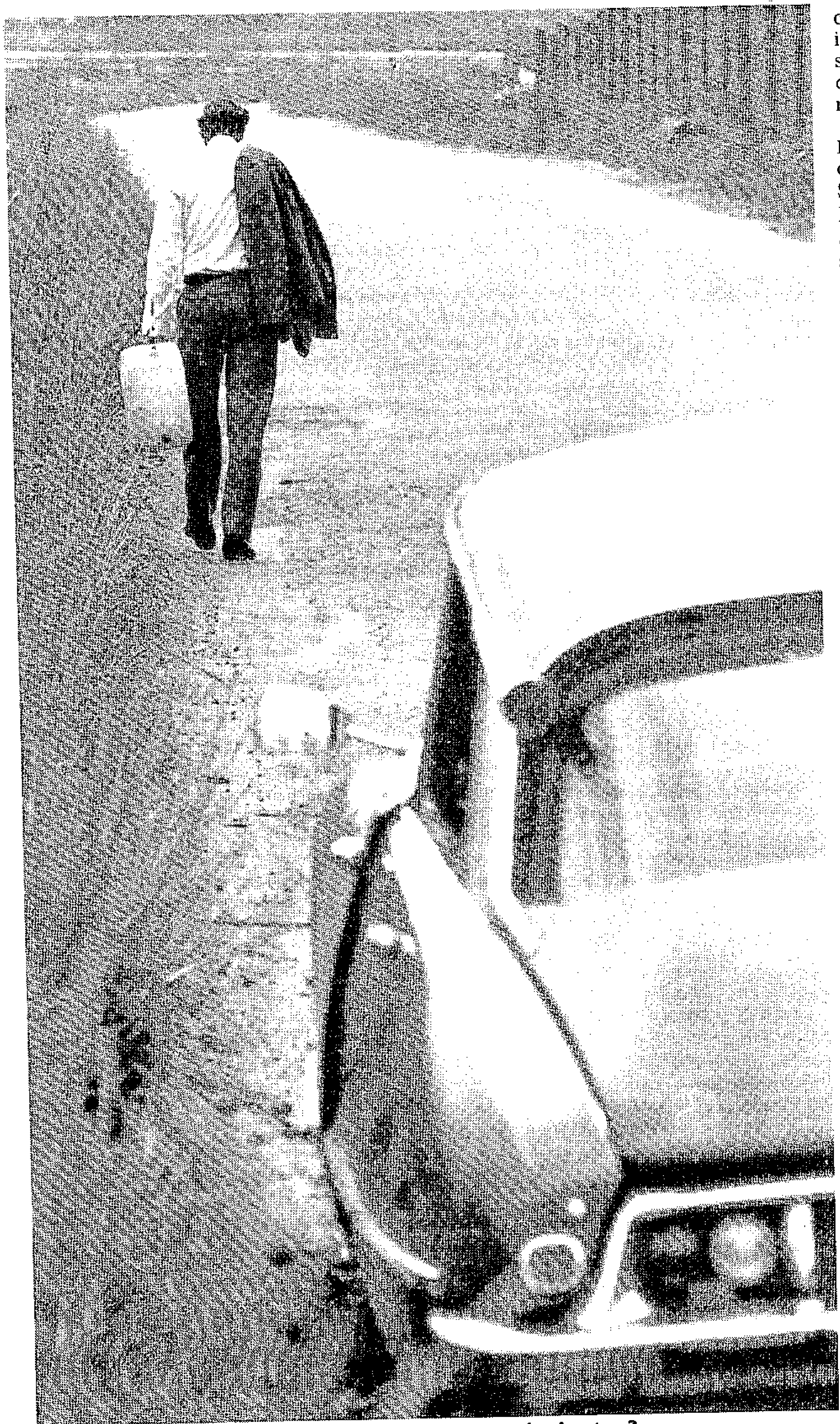
Near Cape Town the billion-rand Koeberg nuclear station, its foundation more massive than a pyramid's, is rising ahead of schedule to start pouring atomic power into the national grid by December 1982.

Out in the rough waters of the Atlantic off the Orange River mouth, drilling is under way to prove what is believed to be a large and rich natural gas field (possibly containing some oil as well).

At Richards Bay the coal terminal's capacity is being doubled, while at the other end of the "Coal Line" in the Eastern Transvaal, work on the opening up of new mines is speeding up — by 1985 coal is likely to become second only to gold as a foreign exchange earner.

In the Free State, work has started on the first mine — Beisa — to produce




What happens when the can's dry too?

uranium as a primary product with gold as the side-product (with all the existing mines that produce uranium, it's the other way round). And now another has just been announced — Afrikander Lease.

Near Pretoria the Valindaba uranium enrichment plant, employing the jet-nozzle technique developed by SA scientists, is being expanded from prototype to production scale to supply the hundreds of tons of fuel required by Koeberg.

Against the background of oil supply problems, research activity is being stepped up at government, university and corporate facilities. There is intense interest in production of alcohol fuels, as substitutes for petrol and diesel oil, from coal, natural gas, sugar, maize and other raw materials.

Soekor is doing a feasibility study of a R190m scheme to tap offshore gas and convert it in floating plants into methanol. Sentrachem has proposed the building of a R350m chain of units to make ethanol — already used as a petrol substitute on a substantial scale in Brazil. Test vehicles using various alternative fuels have clocked up thousands of kilometres.

It has been suggested that SA, because of its reserves of scarce minerals such as chrome and platinum, could rival Saudi-Arabia in importance in the Eighties. But hardly anyone seems to have realised that SA could be almost as important as Saudi-Arabia in its energy resources.

The Saudi's published proved reserves of oil represent contained energy of about 1 000 trillion MJ (megajoules). The most recent estimate of recoverable coal reserves in SA is 61 billion t, which converts into energy resources of about 1 300 trillion MJ.

In addition, the Republic has 350 000 t of uranium. If all this were utilised in (comparatively inefficient) light water reactors of current design, it should provide a further 200 trillion MJ. The uranium would yield more than 100 times as much energy if used in the breeder reactors now being developed overseas.

Of course, energy contained in coal or uranium is worth much less per MJ than energy contained in petroleum, because it requires more expensive processing and handling, and cannot be utilised as efficiently or conveniently.

Nevertheless, SA coal can already be converted into liquid fuels through the Sasol process at a cost broadly competitive with that of imported oil. It could actually gain a margin of advantage if the real price of oil continues to move up sharply, as many experts forecast.

SA's coal reserves are equal to one-seventh of the world's oil reserves as liquid fuel, if all the coal were converted using the existing Sasol process. Of course, that's purely a theoretical calculation, as it would leave no coal for other purposes and would require investment of perhaps R400 billion in Sasol plants. But it does dramatise the Republic's potential as a producer of oil substitutes.

Uranium is already competitive with oil and coal as a source of electrical power. But electricity cannot yet match liquid fuels for efficiency and convenience in driving motor vehicles.

The problem is that energy needed for this purpose can only be stored in electrical form in batteries which are massive, heavy and expensive. Large amounts of money have been spent overseas to try to develop new kinds of batteries which will store a lot of electrical energy in a relatively small, light and inexpensive unit — but with not much success so far.

At present SA is a surplus country in pure energy terms, with the contained energy of its uranium and coal exports at least five times greater than the contained energy of its oil imports.

But in money terms, there is still a substantial deficit. Foreign exchange earnings from uranium and coal probably exceeded R800m last year, but the cost of imports of crude and specialised refined petroleum products was probably close to R1 500m.

The gap can be expected to widen this year, despite rising coal and uranium exports, because of much higher oil prices. But next year, with Sasol 2 production replacing about one-quarter of the imported crude and with the conservative measures curbing consumption, the gap will shrink dramatically.

By the mid-Eighties, it could be a new ball game. Coal and uranium exports could be earning twice as much foreign exchange (in terms of today's prices). Sasol 3 and possibly other projects such as plants producing methanol from coal or offshore natural gas should be coming on stream. The tonnage of crude that the country will be importing — assuming no sanctions and no rationing — could be less than half the current level.

Unless oil prices have soared out of sight, without pulling up coal and uranium prices simultaneously, SA should be running a substantial surplus on the energy account of the balance of payments.

None of this, of course, solves the immediate problem, which is liquid fuels.

As is well known, the Republic only imports one-quarter of its energy needs, meeting most of the rest from locally-mined coal. But it is a vital quarter — the oil that provides nearly all the country's liquid fuel requirements.

While the problem is merely one of price, it can be lived with. Indeed, there seems to have been an almost hysterical note in government pronouncements about this. In fact, the much higher prices that gold yielded in recent unsettled international circumstances more than offset the higher prices demanded for oil.

If mandatory oil sanctions were to be imposed by the United Nations, it would be a different matter.

There are several means of circumventing the ban on shipment to SA imposed by most oil-exporting countries. But a mandatory ban would put an end to such manoeuvres. It is not very likely that oil tankers would risk calling at SA ports if they knew that they would be identified by American or Russian spy satellites, and could face seizure when next calling at a port of any UN member-state.

Many guesstimates of the size of the strategic oil stocks have been published. The true figure is top secret, and has never been revealed. But it is probably nearer to 25 Mt than the 40 Mt, 50 Mt or even 60 Mt levels quoted.

Assuming that plants could be built on a crash basis within two years to make alcohol fuels sufficient to meet one-quarter of normal requirments of petroleum products, and that Sasol 3 would be followed by a Sasol 4 of equivalent size, it would take about five years for the country to reach self-sufficiency.

Over that period there would be a cumulative deficit of the order of 35 Mt. Assuming the government allowed the strategic stocks to be drawn down by 15 Mt (insisting on a "war emergency" level of 10 Mt), there would be a net deficit of 20 Mt, or a little over one-quarter normal consumption, over the period.

Reducing consumption in this proportion would probably require rationing — but on a scale moderate enough to avoid having a crippling effect on economic growth.

More serious would be the impact of forced diversion of productive capacity into the building of the additional liquid fuel plants. Sasol 2 will have cost R2,5 billion by the time it is completed, and Sasol 3 closer to R3,5 billion. If alcohol plants with a combined output equal to another Sasol had to be built simultaneously with Sasol 3 and 4, even assuming that the country's engineering industries could cope with such a massive endeavour, would require investment of more than R3 billion each year. This would leave no resources for much else, bringing economic growth to a halt.

All this amounts to what strategists call a "worst-case scenario." Given even a little luck in its international relations, SA should be able to avoid such a situation.

What cannot be doubted, however, is that the energy industry, already of massive proportions, is destined to become of even greater importance in the years immediately ahead.

What crisis?

In terms of physical tonnages, there is no energy crisis. It's politics and prices that cause the problems

From the way the experts talk, you'd think there is a world energy crisis. Yet there is no crisis in the sense of a physical shortage of energy resources, nor is there likely to be for the foreseeable future.

Coal reserves are immense. The British National Coal Board recently estimated global economically recoverable reserves at 647 billion t, but West Germany's coal mining research institute puts the figure for all reserves which could be of any economic value in the future, at more than 10 000 billion t.

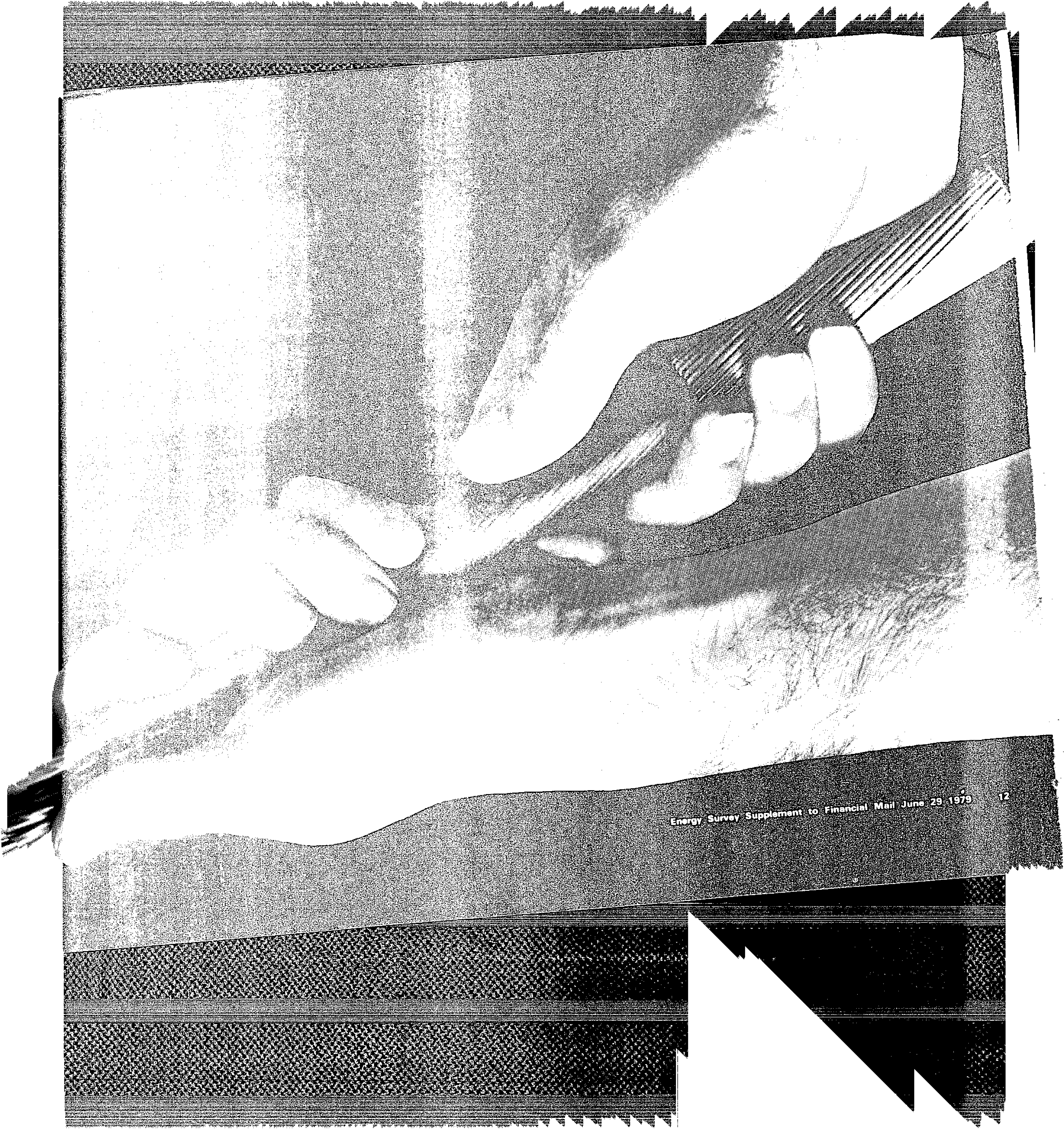
At present the world mines about 2,7 billion t/year, so even if exploitation continues to expand at an average annual rate of 4%, there is enough coal for at least 60 years, and probably for several centuries.

Two factors could significantly affect these figures. Coal consumption may grow much faster than 4% a year if there is large-scale substitution of coal-based synthetic liquid fuels and gases for petroleum-based products and natural gas.

On the other hand, half the world's coal is used to generate electricity. It is already technically and financially feasible to substitute uranium for coal as power station fuel, and if this comes about on a large scale it would reduce demand for coal — or allow more coal to be used for synthetic liquids and gases.

For practical purposes, there are unlimited coal resources for the foreseeable future. As for uranium . . . whether or not the reserves are large or small depends on the speed with which breeder reactors are introduced.

The present generation of light water reactors make use of only 0,5% of the



energy contained in a kilo of natural uranium. Breeder reactors produce more than 100 times as much energy from the same quantity.

The breeder is not a theoretical concept — in France a nuclear power station built on this priciple has been in commercial operation since 1974, feeding electricity into the national grid. Used in light water reactors, the energy would be only one-seventh of the lower figure given for coal. Used in breeders, it would be about 150 times the figure for coal.

The OECD Nuclear Energy Agency puts the world's "reasonably assured" plus "estimated additional" resources of uranium at a cut-off price of $130/kg at 4,3 billion kg. And it expects these to be sufficient for 20 to 40 years, depending on the mix of many variables.

At a higher cut-off price, reserves would be much larger. And a higher cut-off price would be quite feasible, as the cost of natural uranium is a very small part of the expense of generating nuclear power.

In SA we tend to overlook the importance of natural gas as an energy source because our deposits are small and untapped. Yet in the world as a whole, gas is almost as important as coal (see table).

Natural gas reserves are large — enough for 56 years at the current rate of consumption — and geologists estimate that an amount equal to today's known reserves remains to be discovered. But consumption is growing slowly because many of the major fields are far from the potential markets, and liquefying and transporting the gas to those markets is costly.

When experts talk about a future physical shortage of energy they really mean a shortage of oil, which has become the world's most important source of energy since World War 2 because it has been the cheapest as well as the most convenient.

WORLD'S BIGGEST OIL PRODUCERS

Million tons in 1978

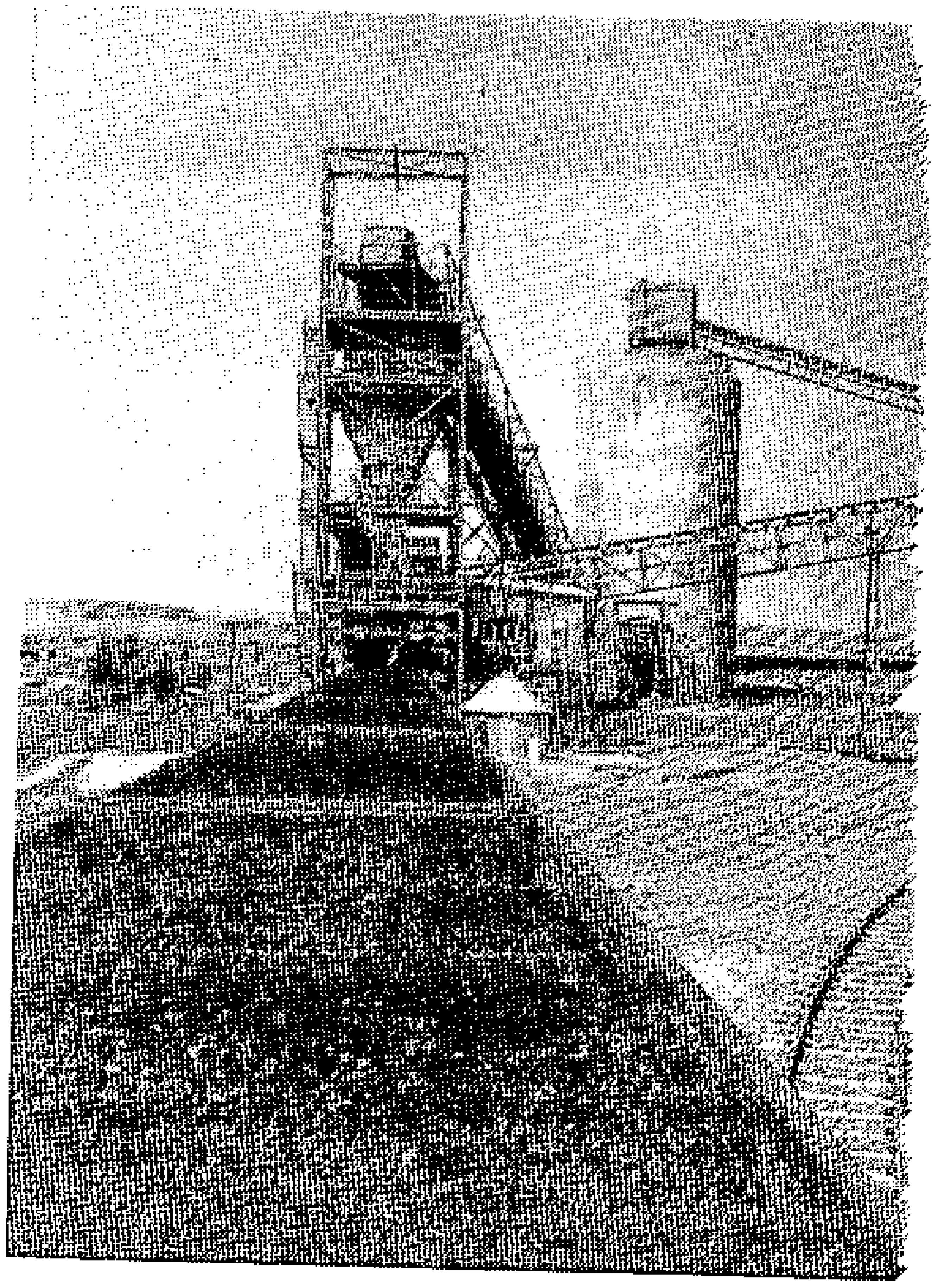
Soviet Union	573
United States	485
Saudi Arabia*	410
Iran*	255
Iraq*	115
Kuwait*	110
Venezuela*	108
Communist China	105
Libya*	95
Nigeria*	95

*Opec members

WORLD'S ENERGY SOURCES

	1960	1977	*2000
Oil	40%	52%	46%
Coal	35%	20%	21%
Natural gas	17%	19%	12,5%
Hydro-electricity	8%	6%	5%
Nuclear	nil	3%	13,5%
New sources	nil	nil	2%

*As forecast by the International Energy Agency



Railing out coal exports from the Highveld

Oil is inherently cheaper than coal because it is forced to the surface by pressure, whereas coal has to be cut and hauled to the surface. It's not widely realised how incredibly cheap it is to produce — at least in the Middle East, where geological conditions are most favourable.

The production cost of the average barrel of crude in Saudi Arabia, the world's biggest oil exporter, is less than 20c a barrel. As a ton of crude contains as much energy as 1,5 t of coal, that's the equivalent of about R1 per ton of coal.

Of course, not all oil is as cheap as that. North Sea oil costs between R2,50 and R7,50 a barrel to produce, averaging about R4,25. By the time royalties, transportation and other costs have been added, it costs an average of about R10 per barrel landed on the British or Norwegian coasts. That's the equivalent of about R50 for a ton of coal — substantially more than coal costs to mine even in high-cost Britain.

Oil also has the edge over all other energy sources because of its convenience. It can be used equally for heating, generating electricity and driving vehicles, as well as having important non-energy uses as the basis of plastics, synthetic textiles, synthetic rubber and many chemicals. It is comparatively easy to handle, transport and process. It has fewer impurities than coal, and they are more easily removed. It is also more standard in its physical characteristics.

Until 1973 the small group of countries, principally in the Middle East, with large amounts of oil available for export,

allowed the international petroleum companies to sell their crude for them at relatively low prices (the "marker" price for Arabian light was less than $3 a barrel in June 1973). It was the era of cheap oil, and over a period of a quarter-century oil displaced coal as the world's principal energy source. Europe and Japan, with little or no oil of their own, and with high-cost, became heavily dependent on imported petroleum.

In 1973 Opec (the Organisation of Petroleum Exporting Countries), representing the Middle East and other major oil producers such as Venezuela, Indonesia and Nigeria, recognised the opportunity to gain enormous monopoly profits by operating as a cartel. It quadrupled the prices demanded for crude — and got away with it.

The major Western countries knuckled under to the blackmail, not only because they shied away from the political implications of military action against these relatively military weak countries, but also because there were many vested interests, which saw opportunities for gain in the new situation.

The higher prices set for internationally-traded oil made it economic for countries with high-cost discoveries, such as those in Alaska and the North Sea, to proceed with the exploitation of those resources. The revenues generated in the Opec states by the higher prices would lead to a splurge of spending on capital goods and imported knowhow that only advanced Free World countries would be able to supply.

The US saw the burdening of its principal international competitors, Japan and West Germany, with high costs for their imported energy, as a means of countering the deterioration of its global trading position. It also recognised that the financial surpluses that many Opec countries would inevitably accumulate would be so large that most of them would have to be "recycled" into investment in the US — the only economy big enough to absorb them without indigestion. This would also help the US balance of payments.

Washington also saw that the acquisition of "petrodollar billions" by conservative regional powers friendly to the US (Saudi Arabia, Iran, and to a lesser extent Indonesia, Venezuela and Nigeria) would strengthen them economically to shoulder some of the US's global responsibilities.

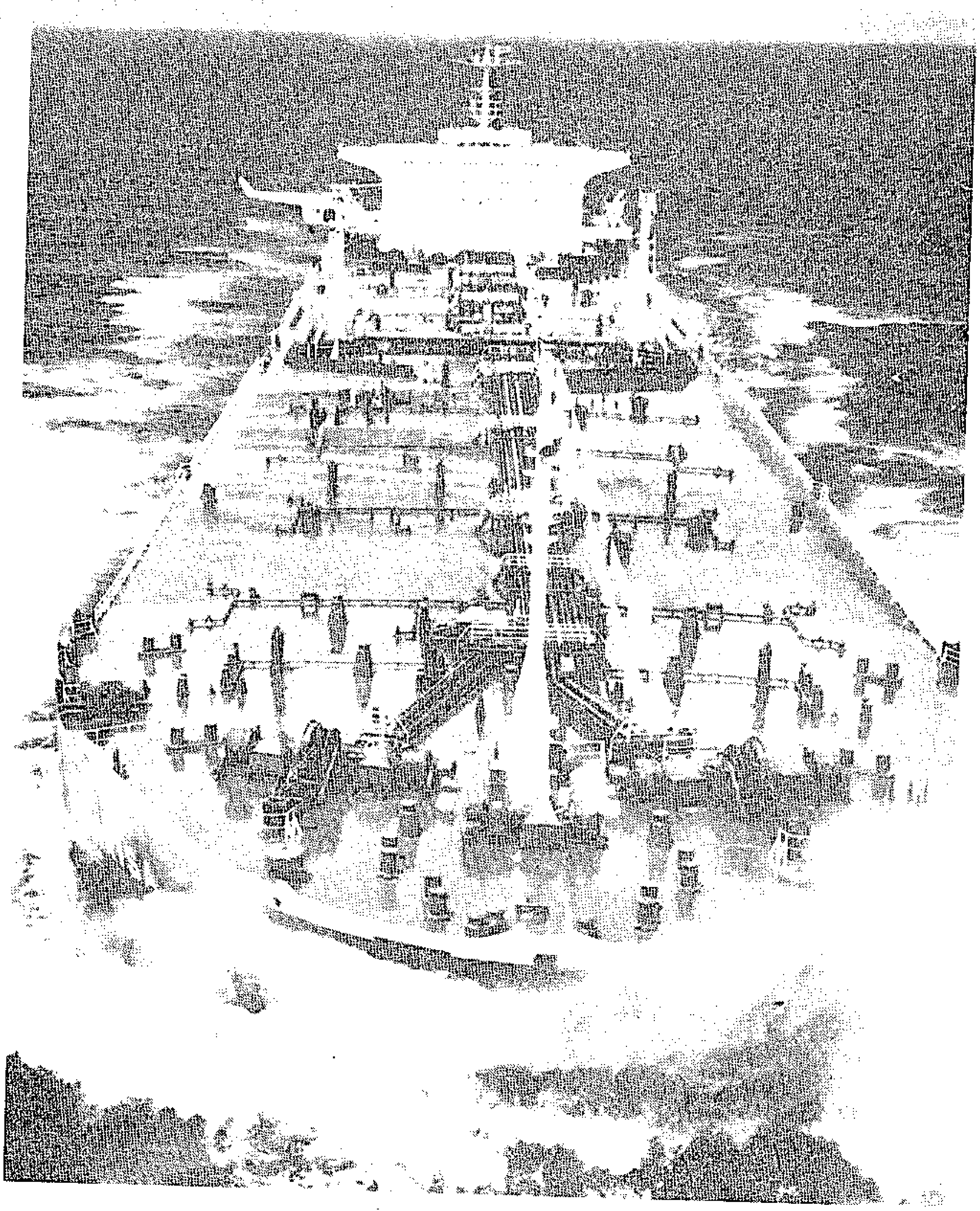
A side-benefit, not to be ignored, was that many of those billions would be spent with US arms manufacturers, after being recycled through American banks. The oil companies, though dismayed at losing their control over Middle East sources, were delighted to see their profits raised by higher cash margins and windfall gains from selling stocks at higher prices.

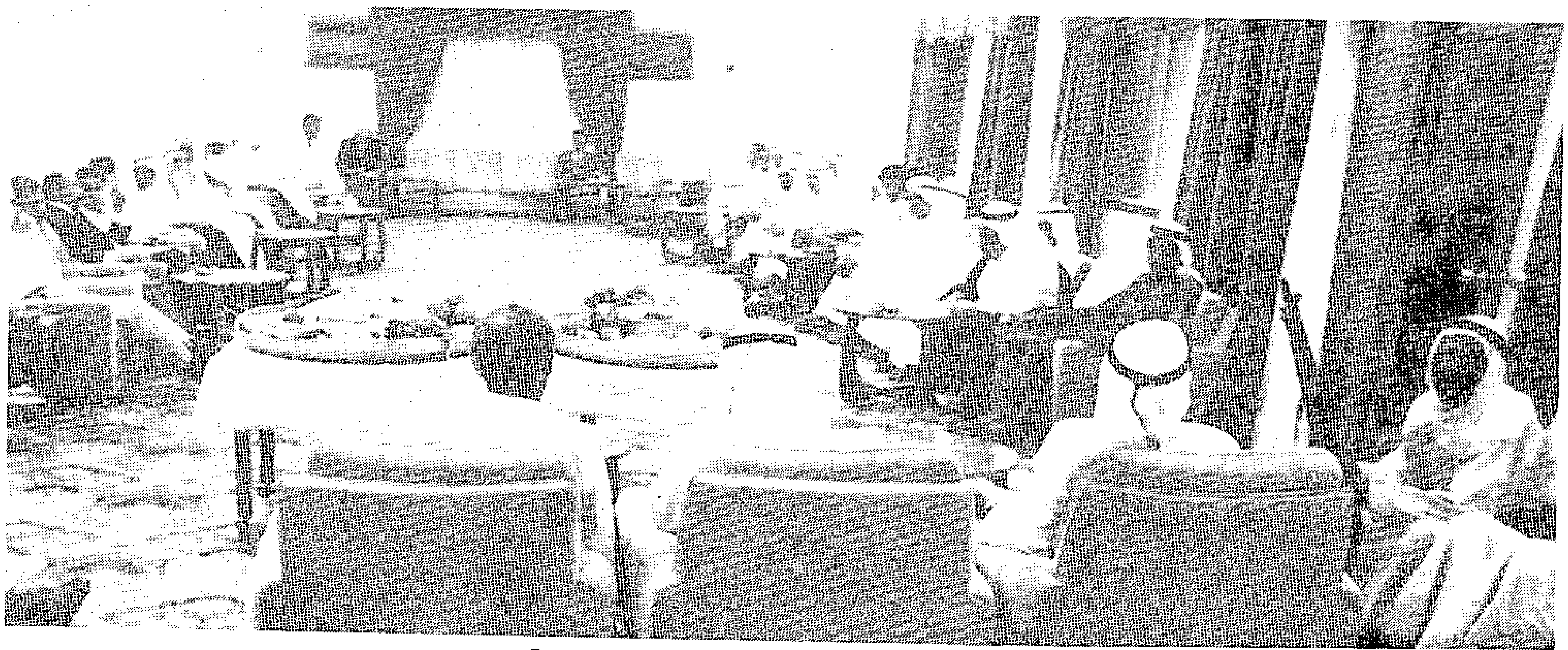
In addition the shortlived Opec oil embargo and the price hikes produced a dramatic "energy crisis" which played into the hands of the oil companies, which had long been warning that oil shortages would emerge. Governments and public opinion were suddenly more sympathetic towards the companies. Not only did they handle ably the problems produced by the temporary reduction in supplies. They were also able to offer an eventual answer to the Arab blackmail — development of domestic or more secure non-Opec resources. Government controls over domestic prices of oil and natural gas were eased to encourage prospecting.

The situation did not turn out to be wholly satifactory, however. The oil price shock plunged the world into its worst recession since the Thirties. The Japanese and the Germans mounted remarkably successful export drives, particularly aimed at the newly-rich oil-exporting countries, and ended up earning even more than they needed to pay higher oil prices. Congress did not have the political courage to implement measures sufficiently tough to curb the American appetite for petroleum products, and US dependence on foreign oil continued to increase (last year it imported 42% of its needs).

The Opec cartel did not fall apart, as many free-market enthusiasts expected, because the benefits of sticking together proved to be so prodigious. Despite a spending spree on everything from petrochemical plants to solid gold bathroom fittings, the producers still had $37 billion surplus to their requirements in 1976 and $34 billion in 1977.

Another important reason for the cartel's cohesion was the able leadership of the Saudis, who were able to impose their moderate policies on the others because of their country's dominating position as the "swing" producer. With one-quarter of world reserves, the third largest production (see table), the biggest export surplus, the lowest





Opec . . . holding the world to ransom

production costs, a substantial margin of spare production capacity, and the financial strength to be able to cut exports sharply if required without suffering, Saudi Arabia has been in an extraordinarily strong position to dictate to Opec and thus to the world.

However, it should be noted that between 1973 and the end of 1978 Opec was not able to raise its prices significantly, even in nominal terms. Because of inflation in general and the falling value of the dollar (the currency used to set oil prices) in particular, the real price of oil actually fell substantially over that period.

The higher prices set in 1973 and the recession that followed stopped the growth in global demand for oil. By 1978 production from non-Opec sources — the North Sea, Alaska, China — was starting to pour on to the market, Opec members who had developed lavish tastes for imported goods and services found themselves squeezed between falling real prices for the oil and rising prices for their imports.

It was just such a squeeze, which was a major factor in bringing about the downfall of the Shah's government in Iran. The revolution that produced this had the side-effect of cutting off 8% of world oil production for several months. The oil glut that had developed during 1978, was undermining Opec's cohesion, and even threatened the survival of the cartel, suddenly disappeared.

The complacency that the major oil-importing nations had started to develop, when post-1973 didn't turn out to be half as bad as many feared, also suddenly disappeared. If Iran, an apparently stable state, could just shut down as an oil supplier for months, what would happen if things went wrong with Saudi Arabia?

There is no physical shortage of oil in the world. BP has reported that "published proved" reserves stood at 654 billion barrels at the end of 1977, but Exxon has estimated that additional resources bring the figure to 1 500 billion barrels for the Free World alone, assuming gradually improving recovery technology.

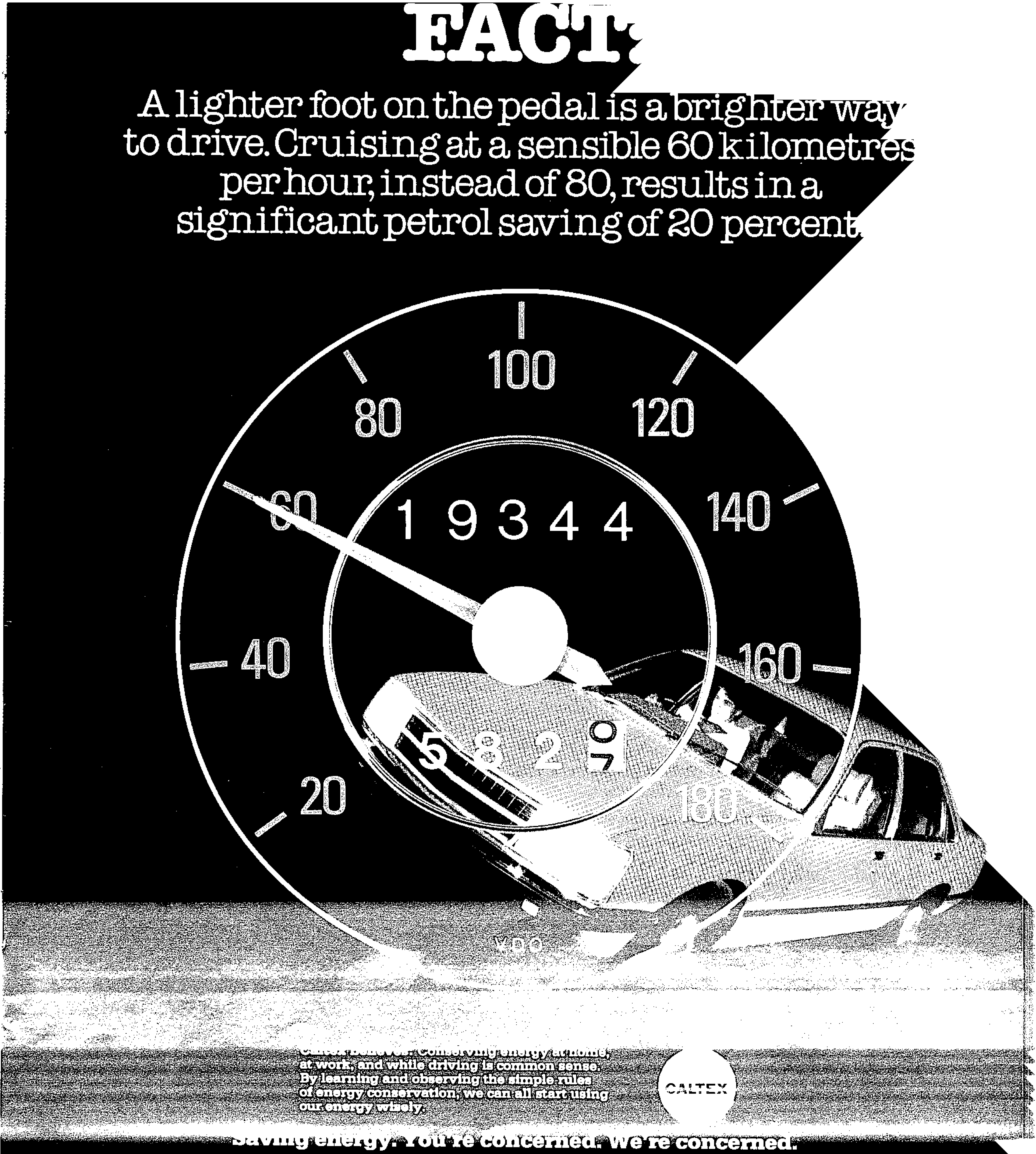
The more conservative figure represents 29 years' supply at the world's current rate of consumption, but takes no account of new discoveries — which one oil giant forecasts should average between 12 billion and 18 billion barrels a year over the 1977-90 period. The larger figure represents 66 years' supply at the Free World's current rate of consumption.

The experts are worried about these aspects of the situation:

- Because very few totally unexplored areas remain, and none is likely to have the potential of another Middle East, new discoveries are unlikely to be made at a rate equal to that at which oil is drawn from the earth. The gap will widen further if oil consumption continues to expand, as it is expected to do.
- It will become increasingly expensive to extract further oil from old fields by secondary and tertiary methods, yet these will become increasingly necessary — without them, more than two-thirds of the oil is left in the ground. These methods can be extremely expensive. For example it has been estimated that injecting carbon dioxide, which could add 9 billion to 15 billion barrels to North Sea reserves, would cost between $11 and $16 a barrel. Pumping down "surfacant" — chemicals to float oil to the surface — would cost between $17 and $25 a barrel.
- The remaining undiscovered fields are expected to be smaller than average, with many of them sited in remote and harsh situations such as the Arctic or deep under the ocean. Their discovery and development will involve not only huge amounts of capital, but also new technology and lead times to full production of as long as 10 to 15 years.
- Most of the oil, both discovered and suspected, is not in North America, Western Europe or Japan. Therefore the dependence of the advanced non-Communist nations on politically unstable or even potentially hostile states, is likely to increase. In brief: there may still be plenty of oil, but in the wrong places.
- Oil is not easily, quickly or cheaply substituted by other energy sources. Nobody is encouraged to make the switch while oil is still comparatively cheap and freely available. Governments recognise the strategic danger in relying on cheap imported oil. But they are reluctant to boost the price to users to levels that would encourage large-scale substitution, because of the disruption, inflation and public fury that would be caused.

Most countries could reduce substantially or even end completely their dependence on others for energy sources. The means are available, the technology is proven — whether the choice be nuclear power, coal energy, synthetic liquid fuels made from mineral or vegetable matter, or a combination of any of these. But a heavy price would have to be paid. The capital investment required for all these alternative sources is high, and only in a few cases would they be cost-competitive, even at the new price levels set by Opec.

SA has made that choice and is prepared to pay the price, through force of circumstances. It is the first to pay the penalty for depending on the Third World for energy resources — a penalty that other countries may also suffer in the future. It is an irony that the politically-motivated boycott by Opec suppliers is making SA an example to the world of how to live without imported energy. An example which, if followed by other countries, could lead to the destruction of the Opec cartel.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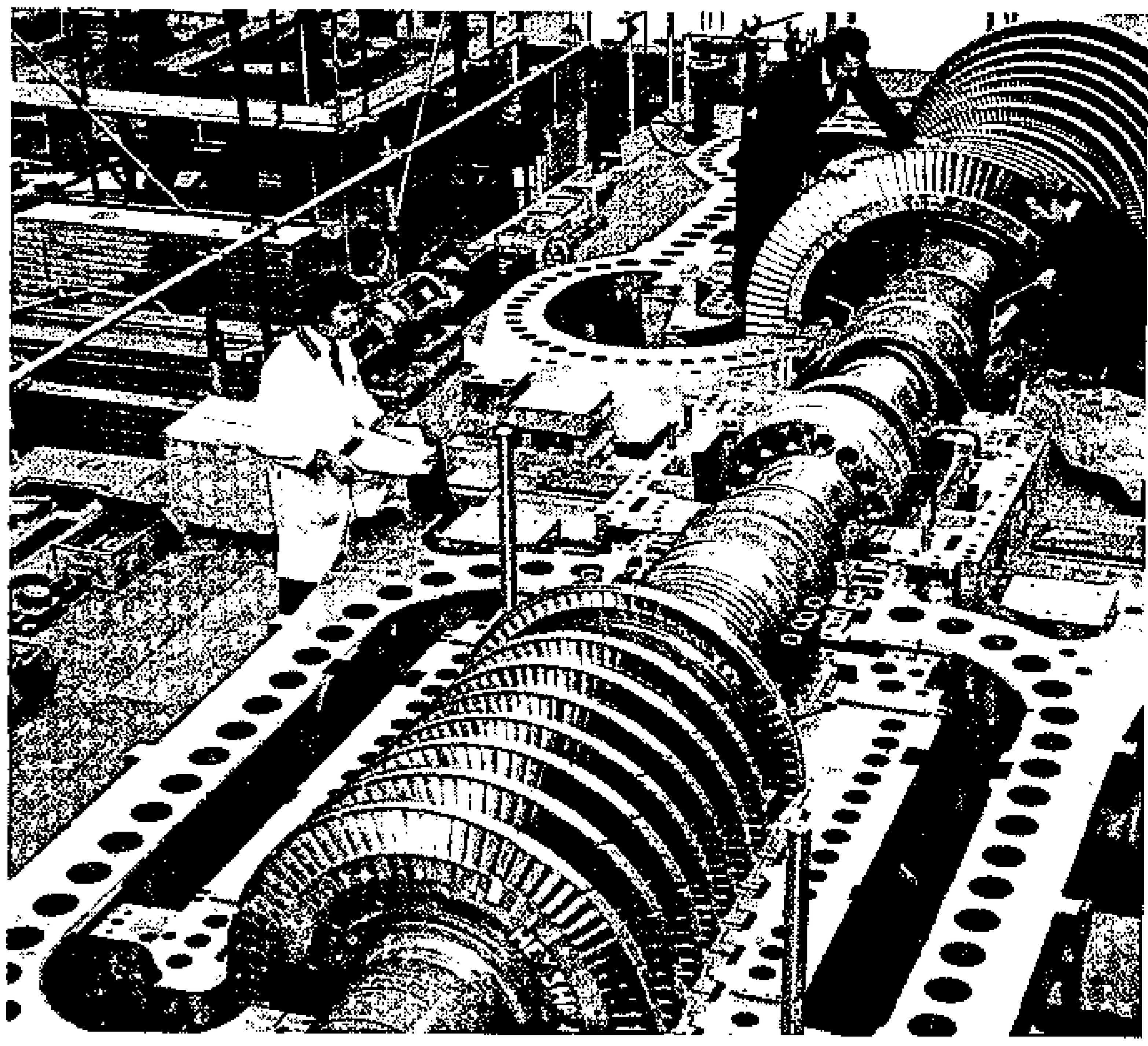
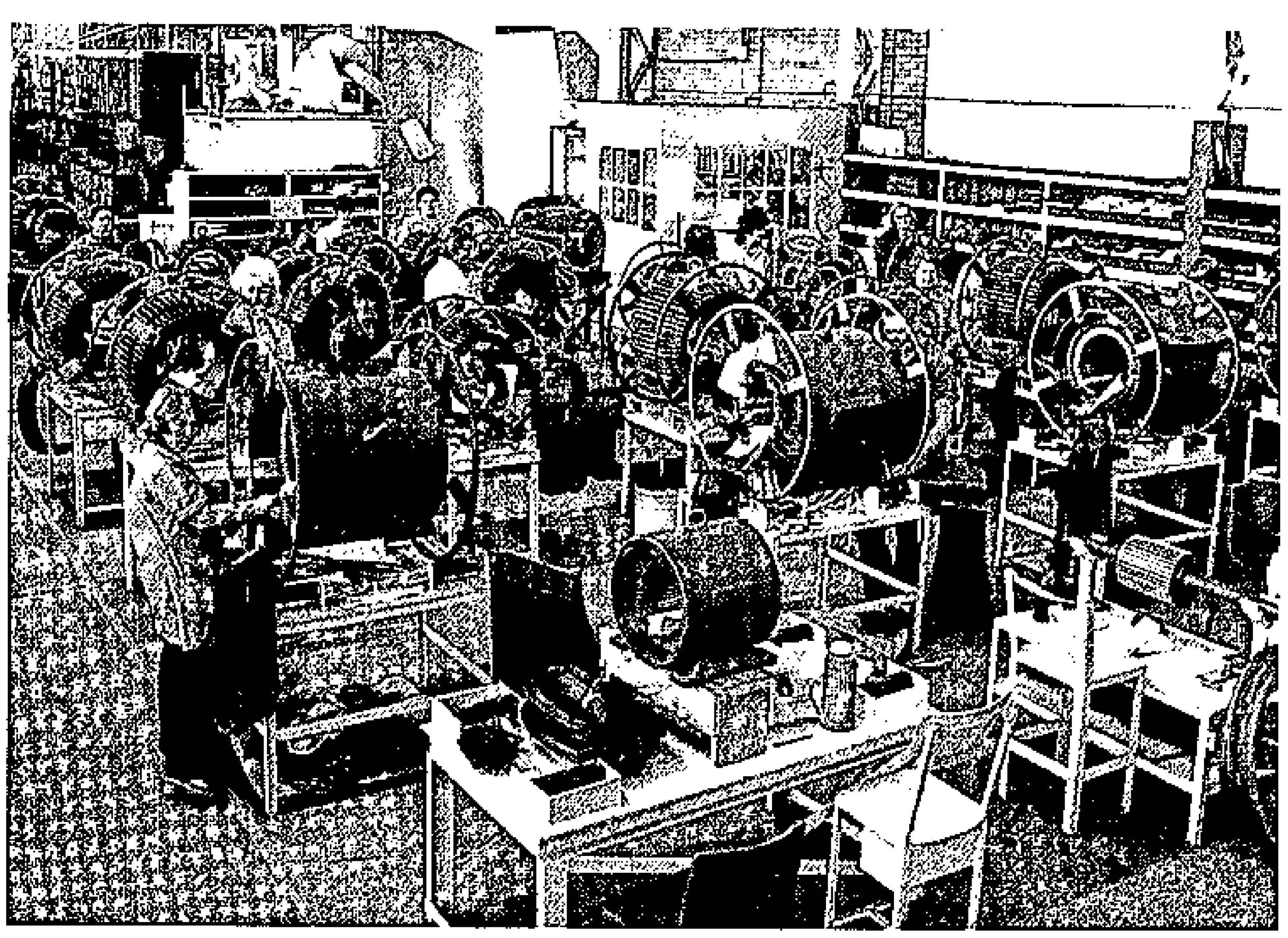
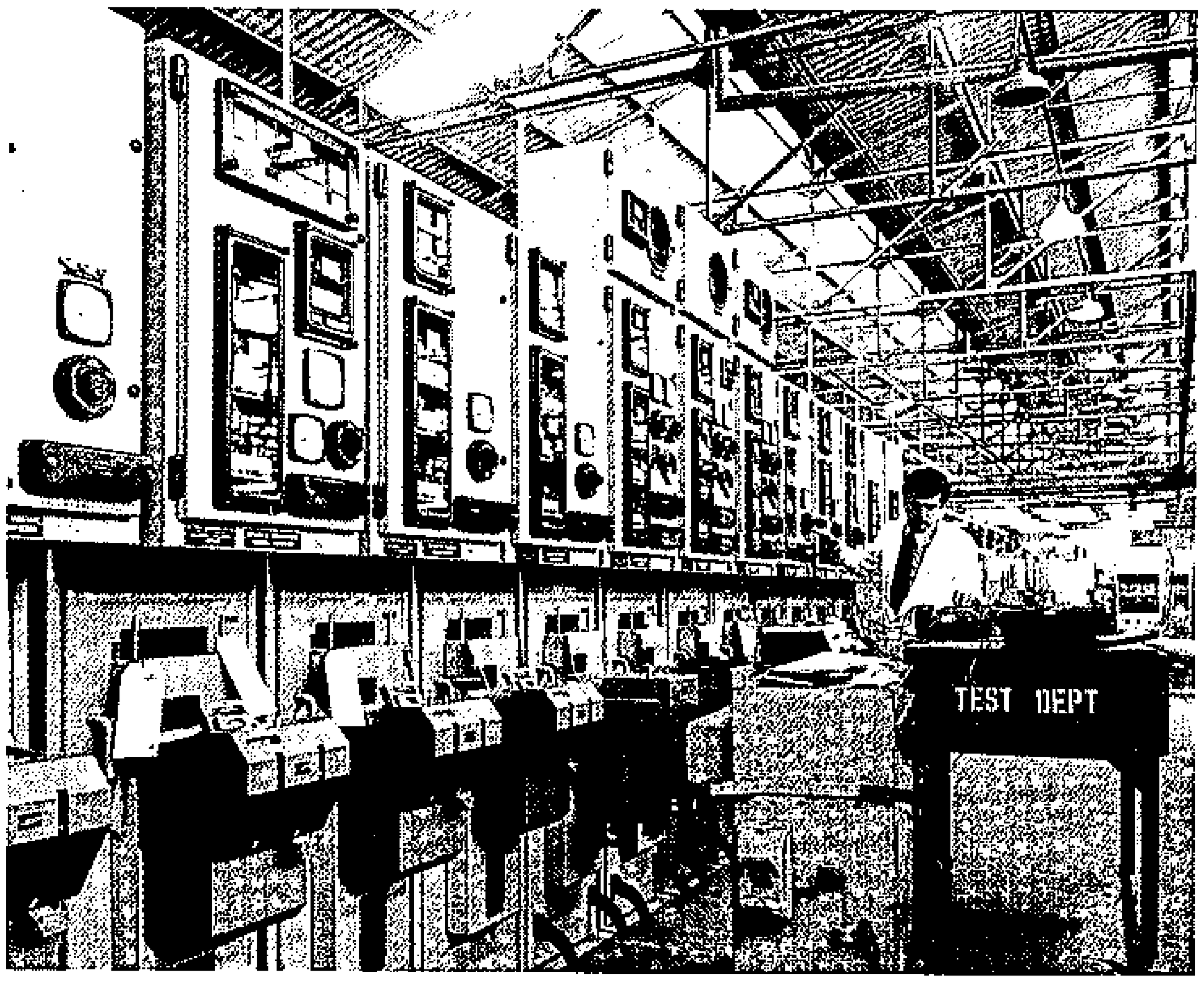


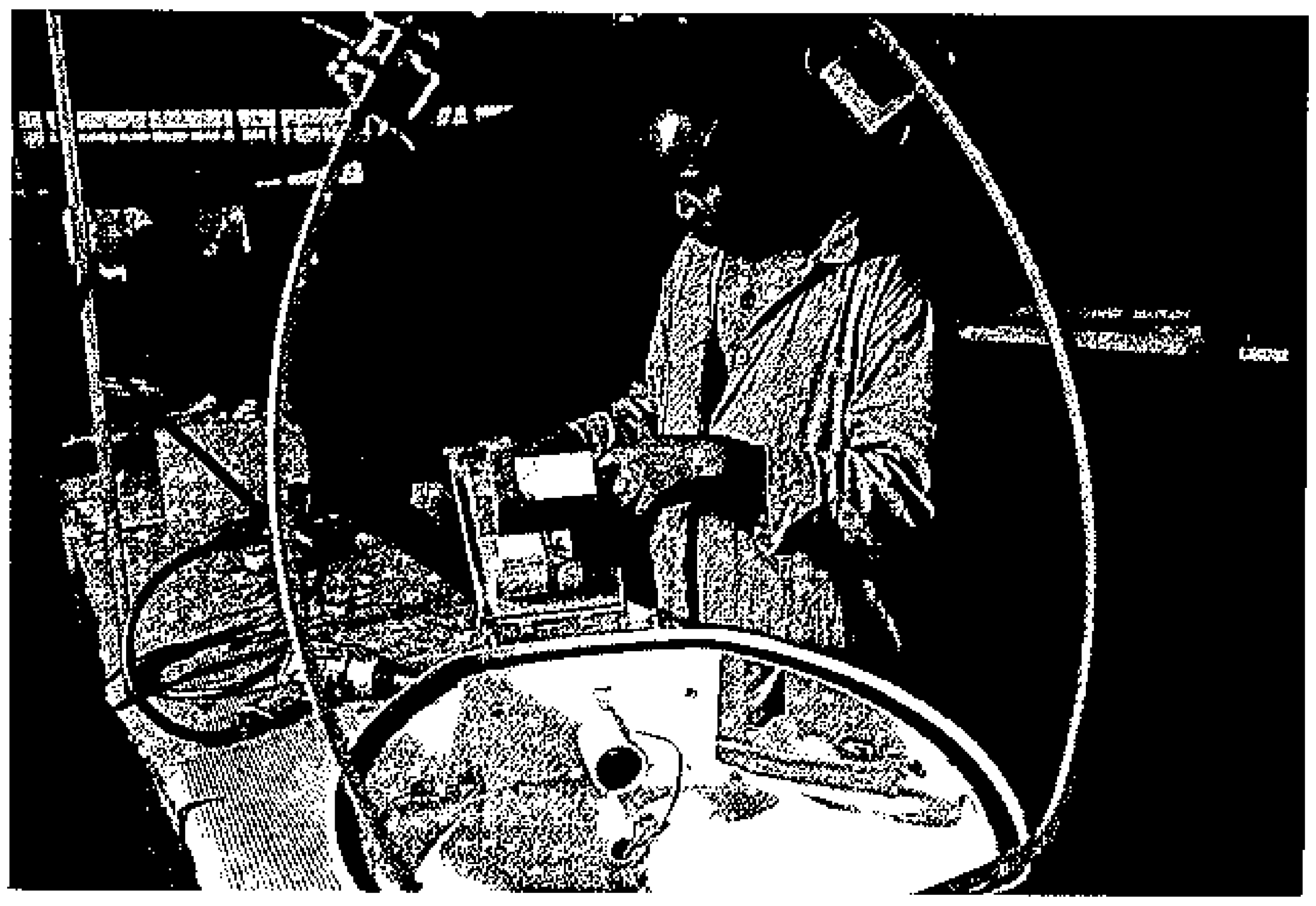
ENGINEERING PEOPLE

ELECTRIC MOTORS PEOPLE





POWER DISTRIBUTION PEOPLE



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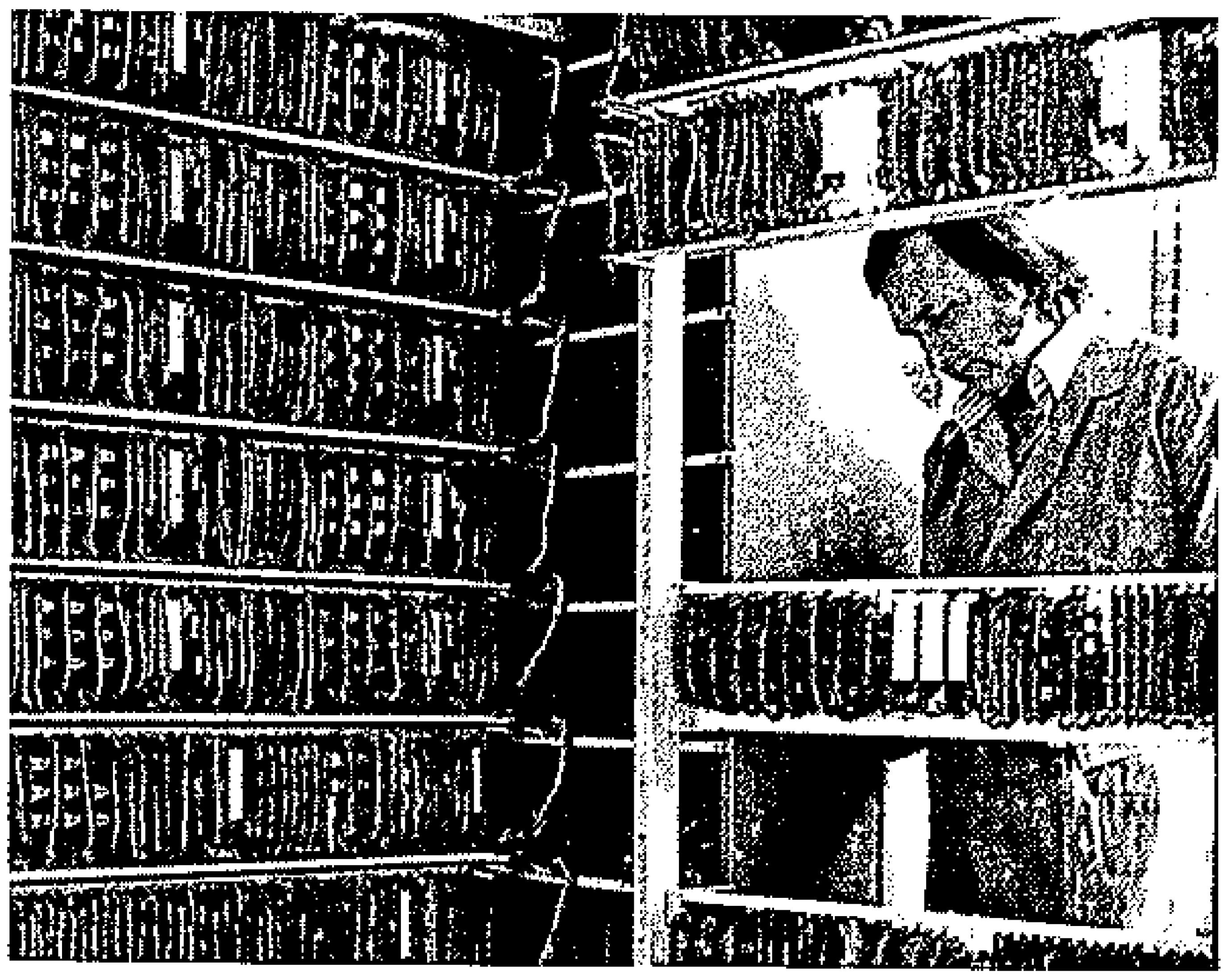

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View from the top

Economic Affairs Minister Chris Heunis tells the FM *how he sees SA's energy situation*

FM: **There is confusion about the rate at which SA's oil consumption has been growing. Could you provide any accurate statistics?**

Our crude oil imports have been growing at an average annual rate of 0,8% since 1973, but energy consumption as a whole has been growing at an average of 4,6%.

It has been suggested that SA should use "resources diplomacy," bargaining the access it can offer to certain key minerals such as chrome and platinum for guaranteed supplies of oil. Is the government considering this?

No comment.

Could we arrange secure foreign supplies of oil by helping certain countries, such as Chile, to develop their resources; or by signing long-term contracts with non-boycotting exporters?

We have not yet considered the first option you suggest. We are trying to negotiate long-term contracts for the supply of crude oil from overseas. But we must consider energy available from SA raw materials. We have to consider reducing the foreign exchange costs of energy imports, as well as other factors.

Is the government considering exploiting the offshore natural gas deposits for production of methanol?

We are considering all alternative energy sources, including this.

What principal factors determine decisions on establishing or expanding facilities to produce alternatives to imported oil?

Firstly, availability of raw materials and security of their supply. Secondly, cost-competitiveness. Thirdly, the reliability of the technology — for instance the Sasol process is a proven one. Fourthly, compatibility with the existing distribution system, designed to handle petroleum products.

How effective have the oil conservation measures been?

It's difficult to quantify the contribution each has made. Price increases have had an effect on overall consumption. Of the specific measures taken, the one that has made the biggest contribution has been the lowering of speed limits. Bearing in mind that up till 1973 our petrol consumption was growing at 8% a year and our diesel consumption at 15%, we have done well.

What would be a reasonable target for a conservation programme without resorting to rationing?

A 10%-15% reduction in the volume of consumption of petroleum products. But this would be incompatible with the other objective — economic growth.

What is the government itself doing to conserve fuel?

Every department has been instructed to reduce consumption. For example, one department reduced its usage of motor transport by 12,5% last year, expects to cut it by a further 10% in the current year, and intends to decrease usage by an additional 14,6% next year. The SAR is investigating the possibilities of using alternative fuels, including alcohols, and of further electrification.

Why has the motor industry not been compelled to incorporate more efficient engines in its vehicles, as has happened in certain other countries?

We prefer persuasion, rather than dictation.

Why has no special help been given to expand the public transport system?

If our problem becomes more serious, we shall have to take another look at the quality and availability of public transport in the main metropolitan areas. It is a matter of priorities and availability of capital.

Why is there not more money for fuel research?

A lot of research is already being done by the CSIR, Sasol, the universities and others. There isn't much in the way of basic research that's required. What is needed is research into the practical application of what is known.

Are you satisfied with the availability of coal supplies?

In 1975 there was a general shortage of coal, and it became apparent that profits were too low to generate capital to finance expansion of productive capacity. We raised prices on condition that the mining companies should make large investments in additional capacity, and these investments were made. Now we have enough to supply the domestic market, and to provide a surplus for export.

What is the government's policy on coal exports?

We have agreed to allow the export of a maximum of 40 Mt/year over 30 years, or about 5% of reserves as determined by the Petrick Commission. To get an export quota a company has to comply with 14 conditions — for example, it has to agree to supply a percentage of domestic coal requirements, and a proportion of the capital to be invested has to be brought in from overseas.

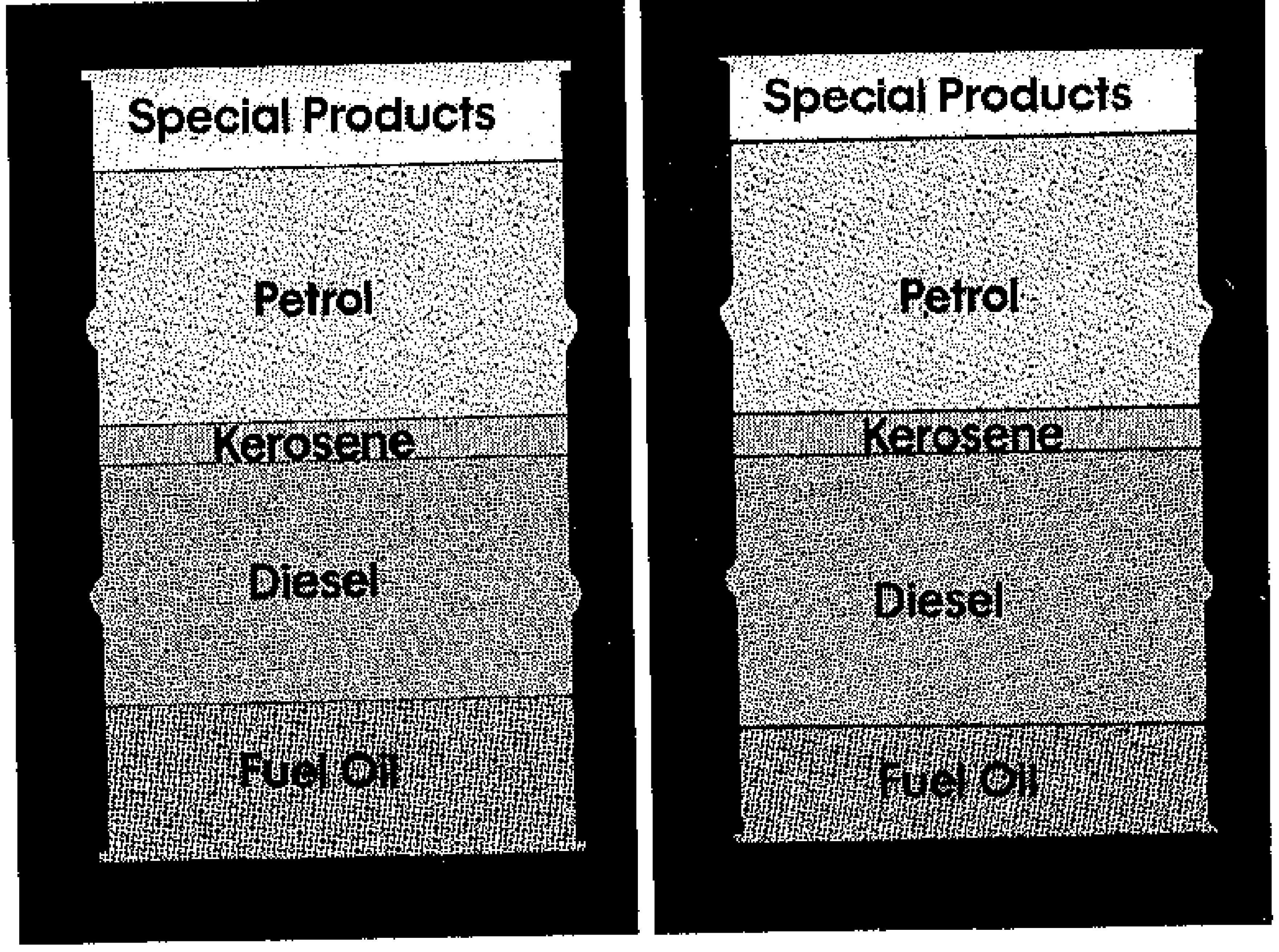
What has happened to the Tugela hydro-electric project, with its 5 000 MW potential?

Nuclear or coal-generated power would probably be cheaper. Also there is the problem of finding the capital for schemes like this.

How are things going with the purchase of power from Cabora Bassa?

There have been no material interruptions in the flow of electricity. We take all the power they can generate and sell to us up to 1 200 MW.

Normal Process: Through normal refining processes this is what we get out of a barrel of crude oil.



Visbreaker Process: With the Visbreaker refining process we get more petrol and more diesel out of a barrel of crude oil.

Visbreaking.

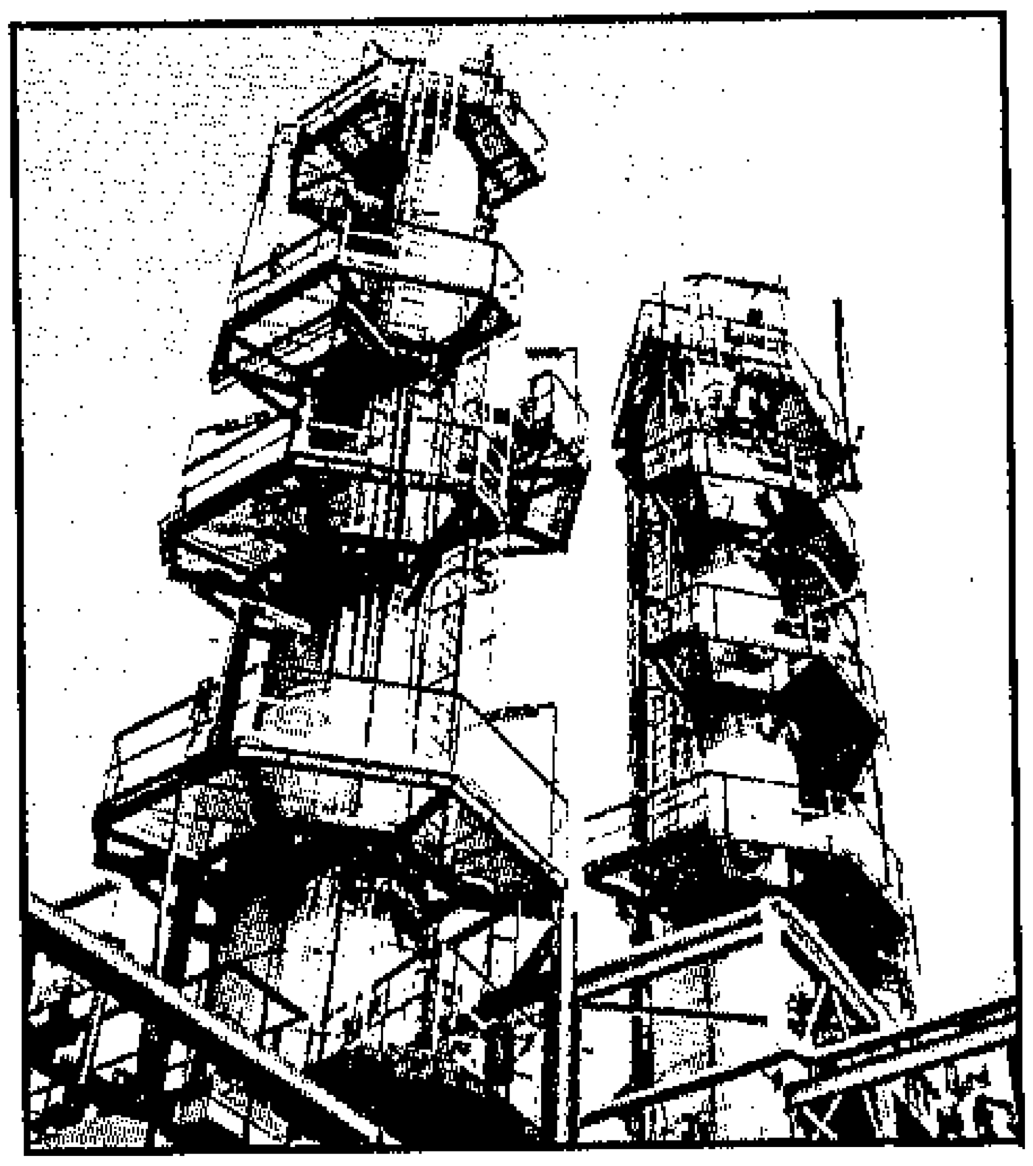
Just one of the ways Mobil is making South Africa's crude oil go further.

"Visbreaking" is our terminology for a mild form of thermal cracking in which large oil molecules are split by the use of heat and pressure.

In South Africa there is a demand for the top end of the barrel (petrol and diesel) and a very limited demand for fuel oil, known as the bottom of the barrel.

The Visbreaker process solves this problem. It upgrades the bottom of the barrel and gives us more top end products.

What does this mean in real terms? It means that we're able to achieve a truly balanced barrel by matching yield to demand. And we eliminate waste. Every drop of crude oil that enters the refinery is transformed into a useful product, except that portion used to supply energy for the refining system.



The Visbreaker tower at Mobil's Durban refinery. Refineries in other parts of the world are now following this example.

We at Mobil believe in making the best possible use of South Africa's crude oil. This philosophy has led to our developing the widest range of refined products in the country. And the greatest expertise in squeezing the last drop of useful product from the barrel.

The Visbreaker is just one of the ways we're making South Africa's crude oil go further.

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SA's oil barrel

For the moment SA is still reliant on export oil. But the new Sasols will pose peculiar problems for existing refineries

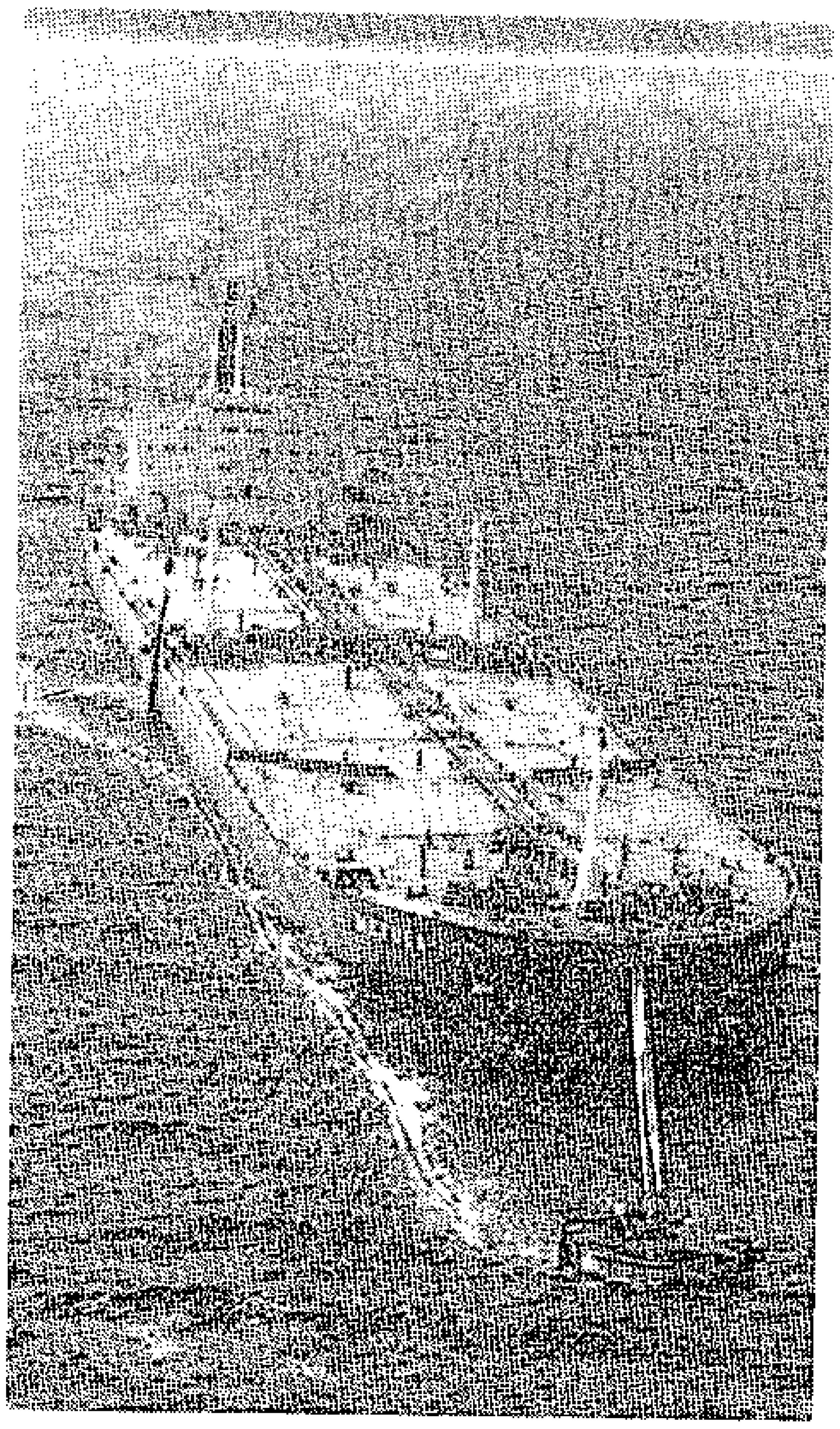
Few subjects are more surrounded by secrecy in SA than oil, and for obvious reasons. Most of the world's petroleum exporters apply destination embargos prohibiting sales to the RSA, so it is understandable that the government should not want anyone to know where our crude is coming from.

The procurement, delivery, refining and distributing system is largely in the hands of international companies that are subject to political pressures in their home countries.

The less the world knows about consumption patterns in SA, and the means the government and the industry are using to overcome supply problems, or could use to circumvent internationally-agreed sanctions, the better.

Apart from some specialised petroleum products that are imported, and a relatively small quantity of a wide range of products made from coal at Sasol 1, SA depends for the moment entirely on imported crude for its oil supplies.

Imports are understood to be running at a rate of about 15 Mt/year, equivalent to 305 000 barrels per day (bpd). This figure excludes spasmodic purchases for the stockpile.

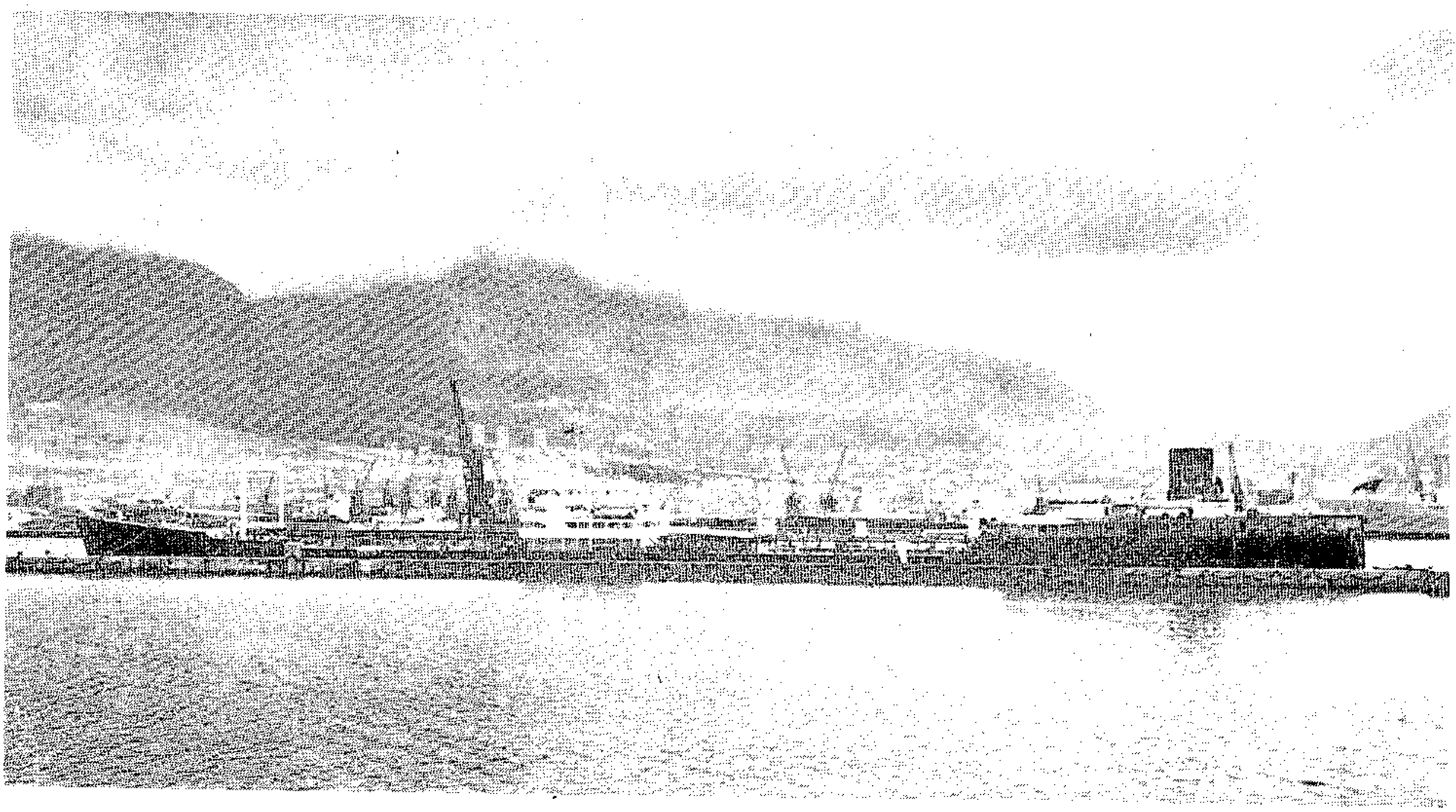


It is not often realised that the quantity of refined petroleum products required for consumption within the country is a much lower figure, because there are exports to neighbouring territories, sales of bunker fuel to foreign ships, and losses in the refining process — perhaps 85 000 bpd in all.

One must then add back a figure for imports of specialised products and production of liquid fuel at Sasol 1 — perhaps 20 000 bpd in all. This leaves a bottom-line figure for domestic consumption of refined products of about 240 000 bpd.

Three-quarters of that consists of petrol, diesel and aviation spirit used for transport, the rest being consumed in industry, agriculture, mining and domestic households for heating, cooking, lubrication, small-scale electricity generation and non-energy uses (petro-chemical feedstocks).

SA is probably obtaining its supplies of crude from a mixture of three sources: small-scale exporters that don't impose a destination embargo; countries which only pay lip-service to publicised boycotts; and internationally-traded oil which has already changed hands enough times for its eventual destination to be untraceable by the original supplier.



Clearly the supply difficulties of recent months must have brought about some special problems for our refiners, apart from overall physical availability and the high premiums charged.

All crude is not the same. There are light, medium and heavy crudes, and some have high wax or sulphur contents — depending on the fields from which they come.

Oil refineries are designed to process a particular spectrum of crudes, and cannot be quickly or cheaply altered to cope with others. For example, crudes exported from Indonesia tend to have a high wax content, and would "gum up" a refinery in SA unless special equipment were fitted to handle them.

Our refineries were designed to process the light and medium crudes available from the Middle East. It is probable that during recent months SA has been offered unpopular varieties of crude — heavy, waxy or high in sulphur — that it was unable to accept because it could not process them.

Another problem that the refineries have faced for some years is a changing pattern of consumption for their products — especially rapid growth in demand for diesel fuel while demand for other products has remained the same or grown slowly.

Crude oil consists of a mixture of hydro-

carbons ranging from gases through liquids of various densities to waxy solids. A simple refinery merely separates these, and the proportion of the resulting products will depend on the characteristics of the crude. From lightest to heaviest, the final products after blending will be: gases (for use as refinery fuel, or sold as petro-chemical feedstocks), LPG, petrol, illuminating paraffin, aviation spirit, diesel fuel, power paraffin, light and heavy furnace oils and bitumen.

More complex refineries increased their yields of more desired products (such as petrol or diesel) by "cracking" the molecules of the heavier hydrocarbons or "polymerising" those of the lightest. The more extreme the degree of molecular juggling that needs to be done, the costlier it is per unit of output.

Faced with rapidly-expanding demand for a particular product, such as diesel, an oil company normally has several options:

- It can change the product mix — but this can't be done to a significant degree without installing additional costly equipment.
- It can import already-refined diesel and market it.
- It can increase its throughput — but this results in a surplus of other petroleum products.
- It can change its input of crudes to take in more of those which because of their inherent characteristics will yield more of the desired "middle distillates."

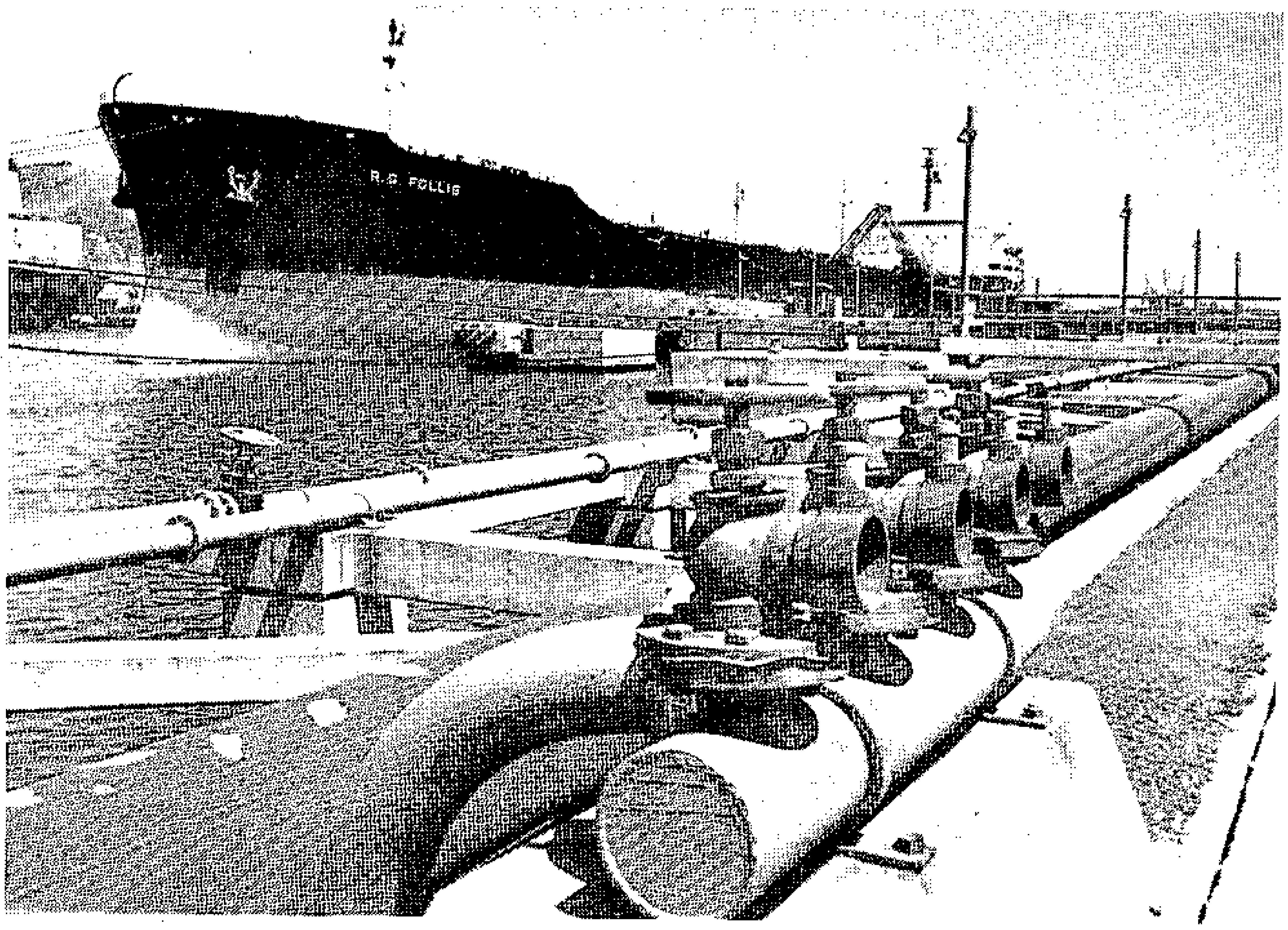
Little has been revealed about the policy mix adopted by our refineries to cope with expanding demand for diesel. But we do know that they have invested about R180m in equipment to crack heavier hydrocarbons and reduce the yield of less-desired "heavy end" products — most of which have to be exported because there is litle local demand for furnace oils — from 25%-16% of the barrel. And occasional reports of exports of petrol indicate that refinery throughputs have been generally increased, leading to surpluses of less-desired products.

The rapid growth of demand for diesel — which reflects the success of measures to restrain consumption of petrol rather than large-scale switching from one fuel to the other — has been worrying the government because it is not easy to economise on usage by heavy vehicles, nor to substitute with petrol or other fuels.

At least, this is the conventional wisdom. Dr R E Robinson of Sentrachem has a different point of view. He argues that diesel fuel as we know it was originally a "left-over" middle portion of refined oil, between the desired lighter fractions needed for petrol and the heavy ones required for burning as furnace oil.

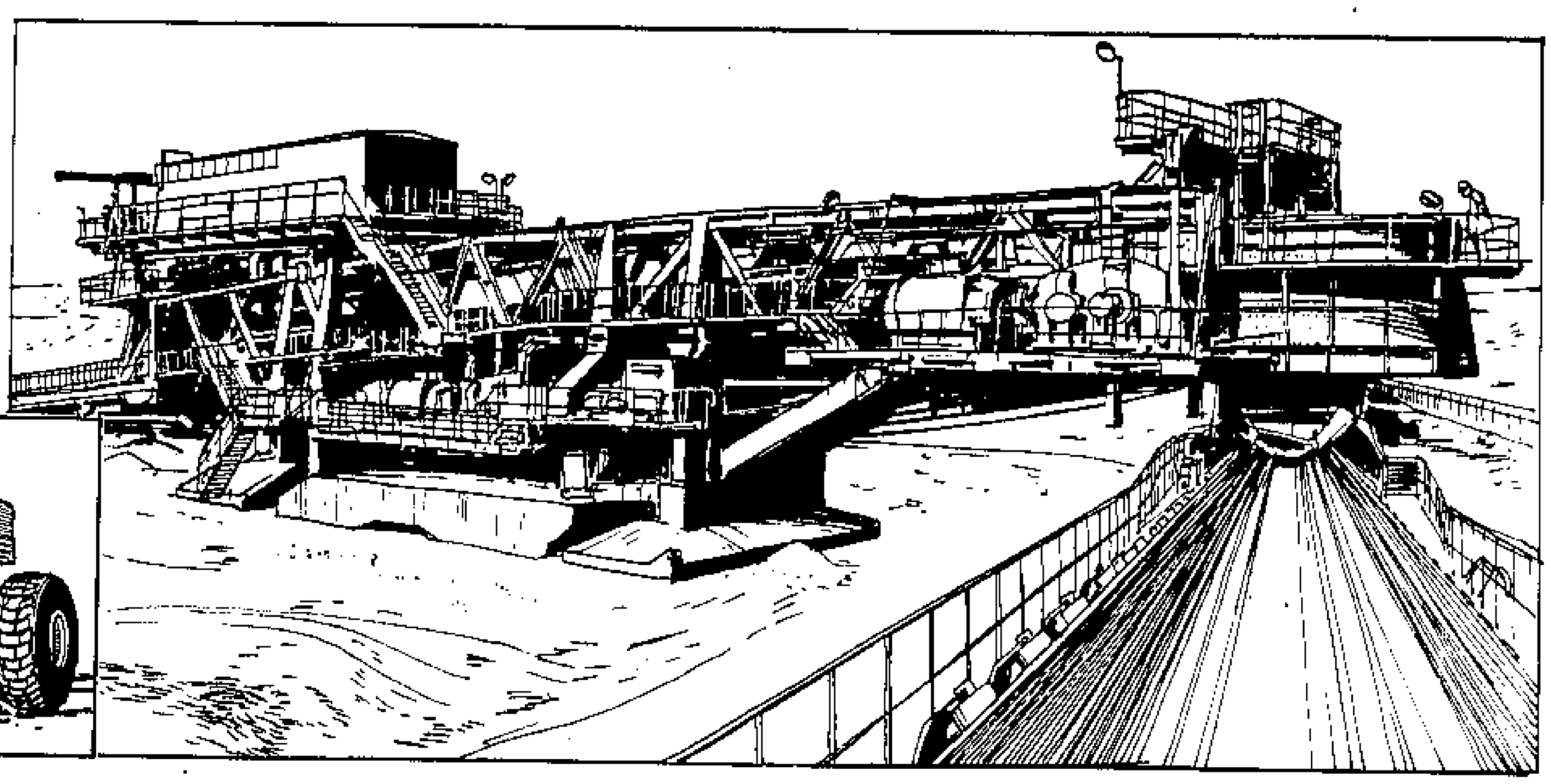
In fact a diesel fuel just as good if not better than the type now produced could be made by adding some of the lighter hydrocarbons that now go into petrol (heptanes and octanes). Heavier hydrocarbons could also be added, plus propyl or butyl alcohol to combat the black exhaust smoke that would otherwise occur.

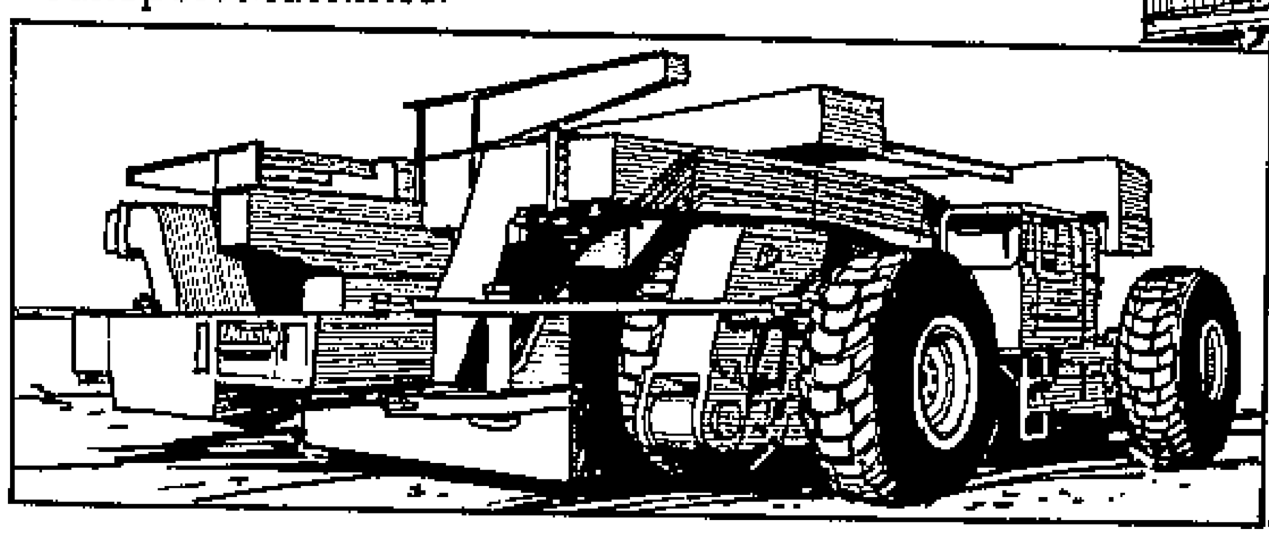
As "stealing" heptanes and octanes from petrol would lower petrol's octane value, alcohols could also then be added to the petrol to restore octane levels.

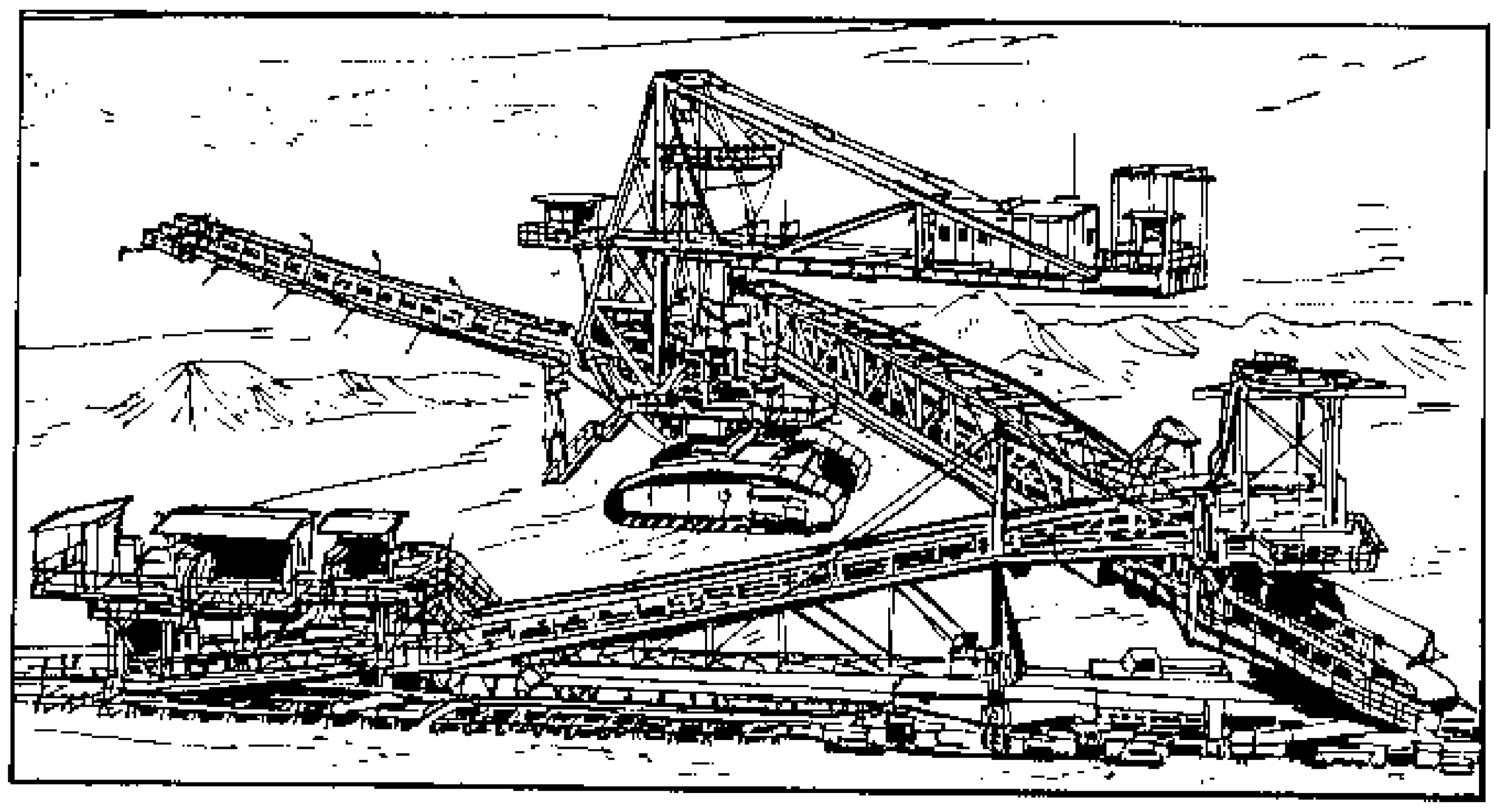


It is an original and controversial concept, but one that should certainly be explored thoroughly in SA, given its special problem of diesel fuel supply.

Another problem looming over the horizon is the viability of the oil refineries as products from the new Sasol plants displace theirs from the market. If a refinery with a capacity of 100 000 bpd sees the domestic market for its products reduced to 50 000 bpd, it has only two choices. One is to keep operating at full capacity and







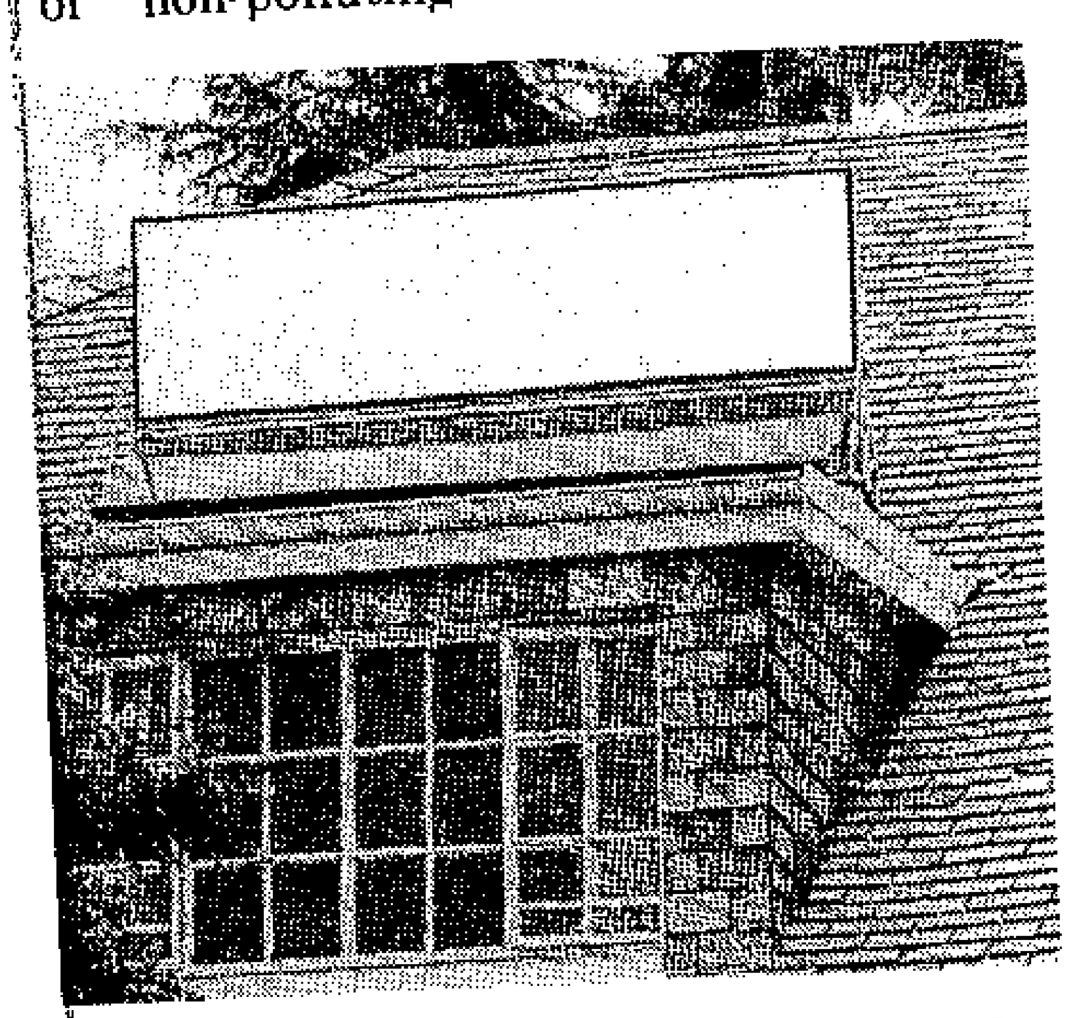
export the surplus — assuming it can still obtain the crude from overseas that it needs to do this, and at a price that enables it to sell refined products competitively. The other is to impose the full burden of its fixed overheads on halved domestic sales, raising cost per litre.

The government has given no indication of how it proposes to handle this problem, though obviously it will not leave the oil companies in the lurch, in view of the excellent way they have collaborated throughout the years of supply difficulties. This looks like an additional cost that consumers will be asked to bear.

There's a missionary-like enthusiasm about many advocates of solar energy. The sun, they say, pours down as much energy on to the earth in half an hour as man uses in a year. Pretoria alone receives 17 times as much energy from the sun as Escom generates in electricity for the whole country. Sun-power is free. And it doesn't pollute the environment.

Yet South Africans don't seem to be convinced. Installation of solar energy devices is proceeding slowly and development here seems to be way behind other sunny countries such as the US, Australia and Israel. One reason is that the missionaries' message isn't convincing.

Professor Richard Dutkiewicz and Dr Kevin Bennett of the University of Cape Town's Energy Research Unit, in a recently-published study on the economics of solar energy, point out that the claims that sun-power is "free" or "non-polluting" aren't true.



"Firstly, the running cost is very low but the capital cost of the collecting equipment is high. Secondly, whilst the use of a solar collector is non-polluting, its manufacture entails the usual pollution associated with industrial undertakings."

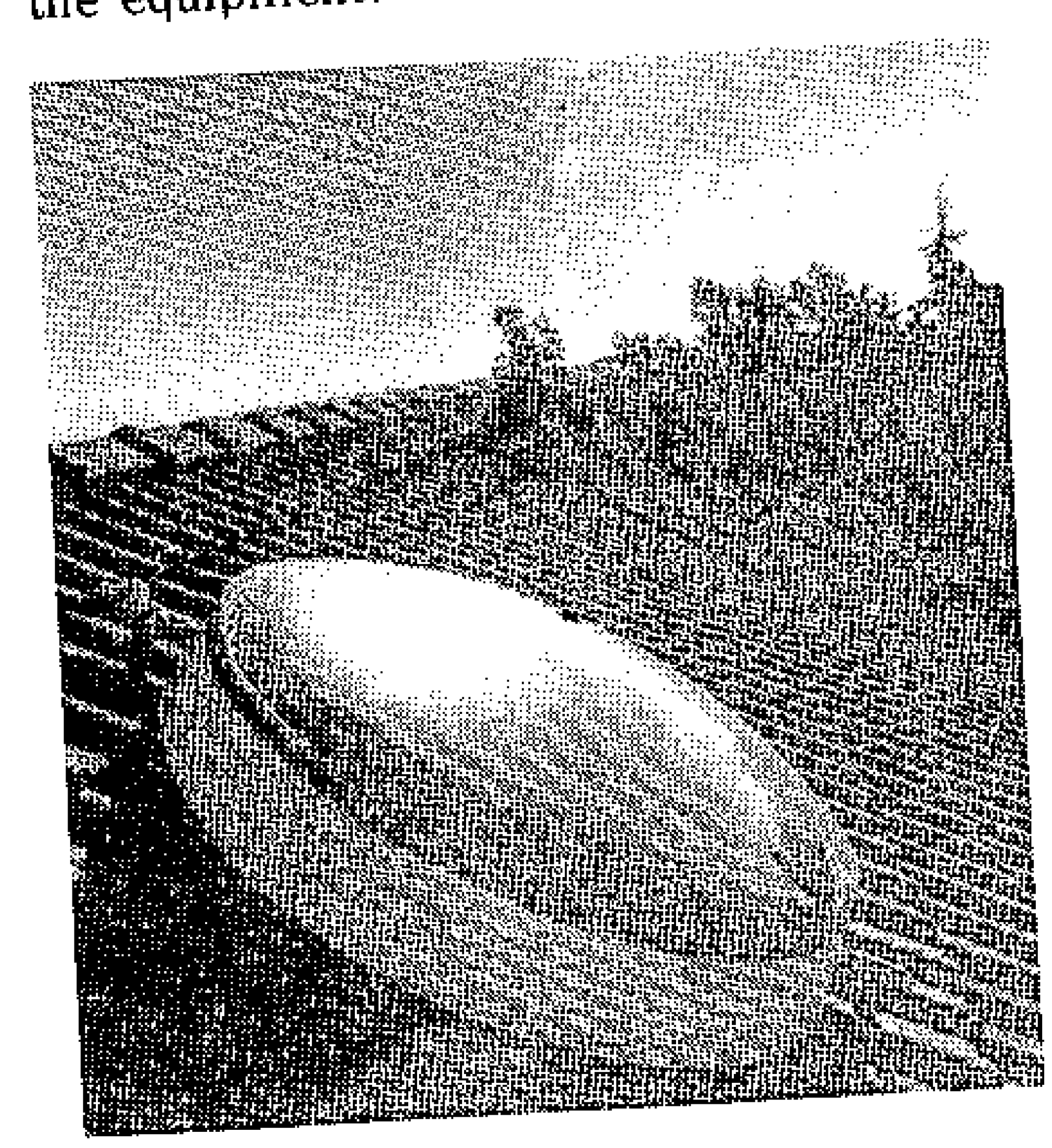
The public has been made suspicious of solar energy by its failure to live up to the promises made for it. Units have been sold without customers being warned that even in sunny SA, the sun doesn't shine every day. Cape Town can be overcast continuously for a week without any sun getting through.

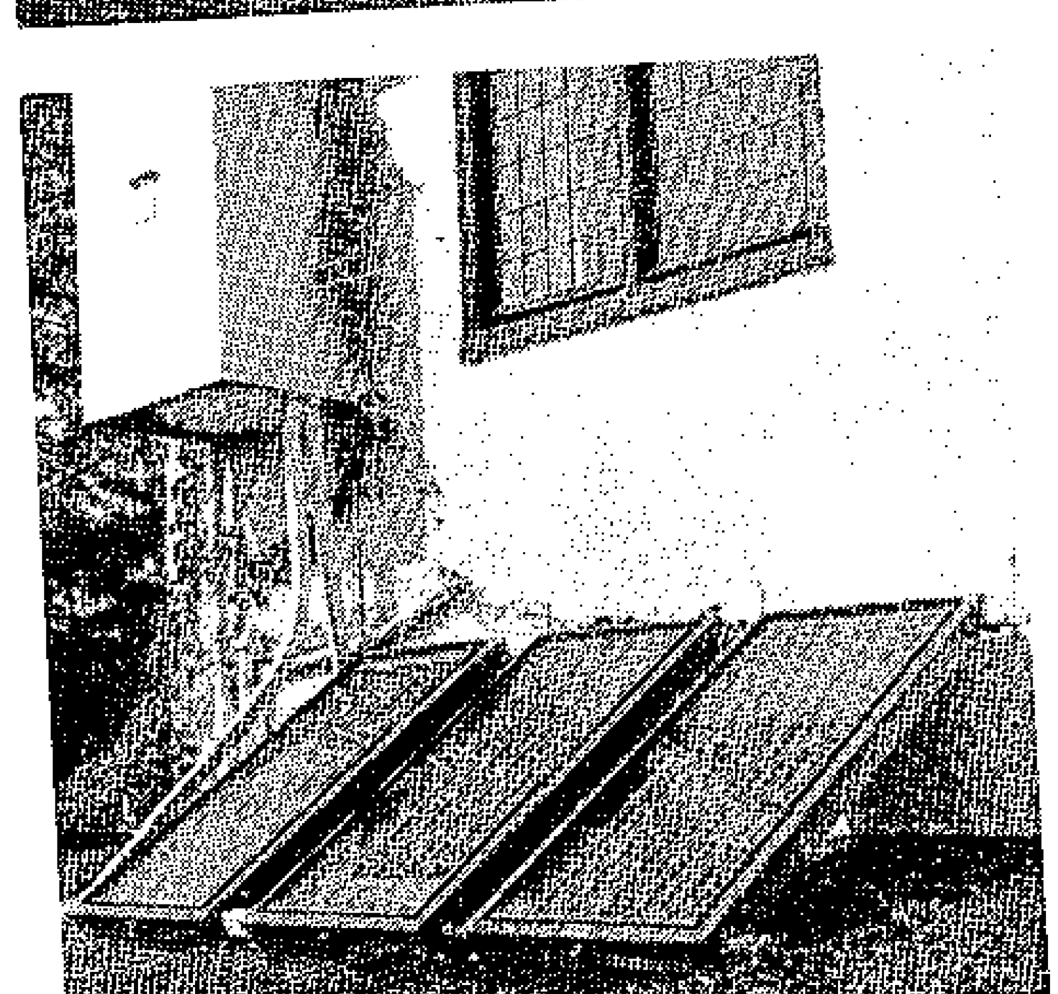
A solar collector should always be provided with the back-up of an electric or coal-fired heater — either integrated into a single system, or operating in parallel — for those days when the sun can't do its work because of cloud cover.

Many small companies marketing solar energy equipment have come and gone, too frequently leaving behind irate customers with apparatus that was badly designed, made or fitted, so it doesn't work properly.

The larger and more reputable companies can be criticised, too, for failing to offer adequate guarantee periods which would nurture public confidence in what are, rightly or wrongly, seen as experimental and therefore risky devices.

When the *FM* asked one of the biggest why it only guarantees its solar energy units for one year, the answer was that the company was still uncertain about the life of the materials it used under SA climatic conditions, and that it was unhappy about the adequacy of the skills of those installing the equipment.





Not good enough. A reputable company should not market a product before establishing by testing to destruction that it is designed to standards high enough to ensure an adequate life — at least 10 years for a solar heating unit. It should be prepared to budget for perhaps unduly high costs for replacement of defective parts to develop the market for its solar devices. And it could ensure that equipment is installed properly by training its own teams of craftsmen and making servicing by accredited agents a condiiton of the guarantee, as do car manufacturers.

The solar energy industry at least has the advantage that sun-power does seem to be economic in comparison with electricity, its principal competitor, in the field of domestic water heating. At least, in many parts of the country.

Dutkiewicz and Bennett, in a recent study based on reasonable assumptions, came to the conclusion that solar hot water systems are economically viable matched against electric ones in Cape Town, Pretoria, Port Elizabeth and East London. They assumed a cost for equipment and installation of R760 for a system of sufficiently large size for the average four-person family, when fitted to a new house, and R920 fitted to an existing dwelling.

"With the growing expertise in solar hot water, and with the growing competition in this market, the cost of solar hot-water installations will decrease, and it is possible, in the foreseeable future, that domestic solar hot water will become economic in most parts of the country," they concluded.

The economic viability of solar energy depends on the relationship between the capital cost of the equipment and electricity costs, which vary considerably from city to city. That is why solar energy is competitive in Cape Town, despite its relatively high proportion of overcast days, but not in sunny Johannesburg.

If electricity costs continue to rise faster than the costs of solar devices, as has happened in recent years, the solar energy industry could find its financial arguments more convincing to consumers. But it will need more than that to achieve a real breakthrough. It has to be able to guarantee the life and reliability of its products.

It's enough to make a Sheik weep

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There is a wide variety of sizes and types available, ranging from small producers with a gasification rate of from ½ t bituminous coal per hour and upwards. These plants offer a conversion efficiency of up to 90%.

The capital recovery period could be as short as one year.

So far, thirty gas producers have been installed in South Africa, some of which have been in continuous use for over fifteen years. The largest plant erected so far, gasifies 18t of coal per hour to produce some 350 gigajoules.

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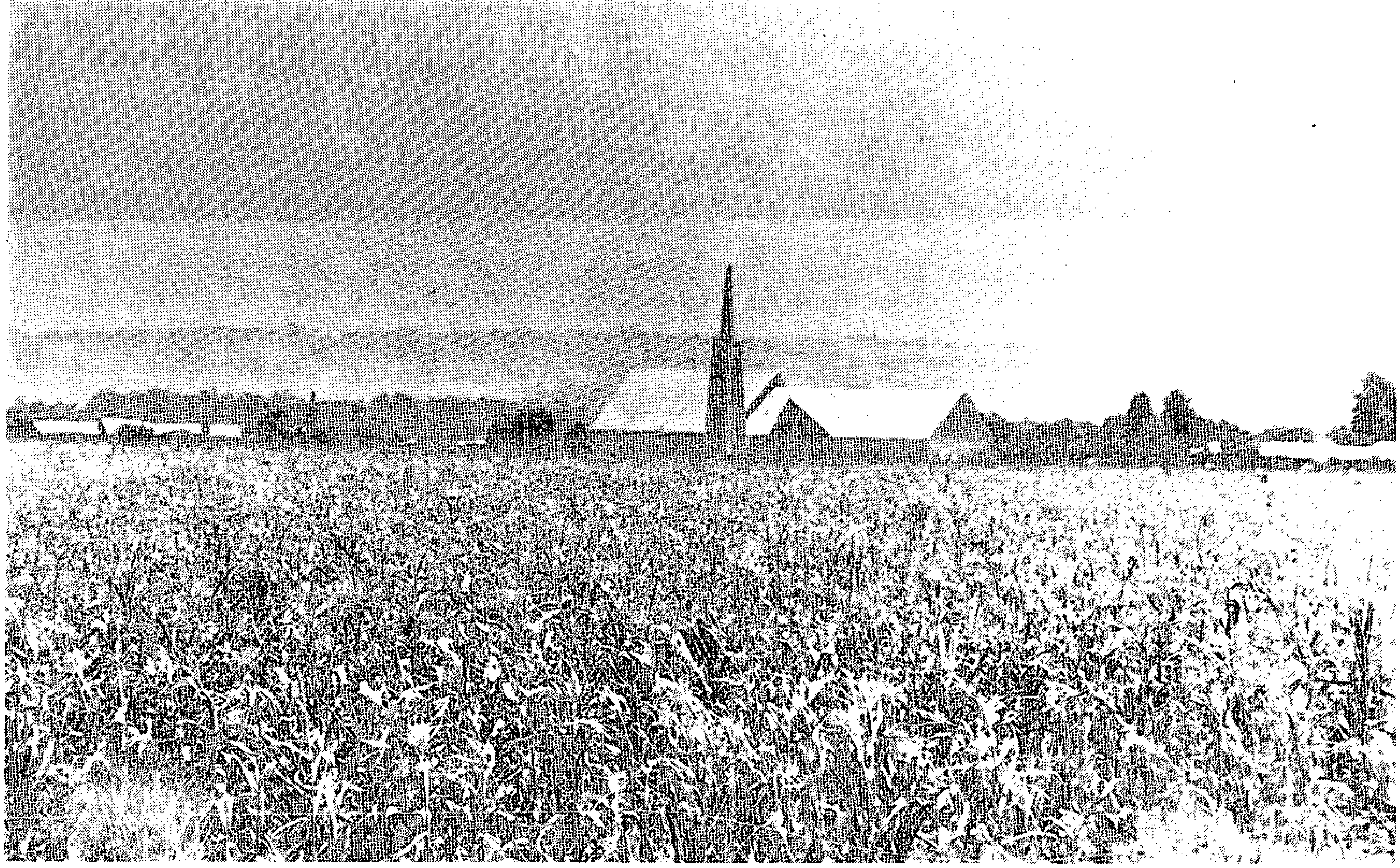

Maize . . . it could be used for a lot more than food

In search of a substitute

Alcohol fuels could provide a basis for extensive savings in foreign exchange

SA's dependence on unreliable foreign sources for the oil that provides almost all its liquid fuels has motivated an upsurge of interest in the possibilities of local manufacture of substitutes from maize, sugar, coal, timber, vegetable waste, and even new crops specially grown for the purpose, such as manioc.

The substitutes suggested are ethanol and methanol — both alcohols. Ethanol is made from vegetable materials. Methanol is usually made from minerals such as coal and natural gas, though it may also be made from vegetable materials.

There is considerable argument among experts over whether SA should undertake large-scale manufacture of alcohol fuels. And, if so, which one would be preferable.

Alcohols have some obvious attractions. The technology of their manufacture is established and well known to SA engineers, so there would be no technical difficulties involved in building large plants to produce them.

They could be mixed with petrol in a proportion perhaps as high as 25% (reducing petrol requirements by between 12% and 17%) and used in all the approximately 3m petrol-driven vehicles in the country with only minor mechanical changes. They might also be mixed with diesel — though there is some argument about this.

In Brazil cars in the major cities run on a petrol mixture containing 16% ethanol made from sugar, and recently a 4% alcohol content was added to diesel fuel.

If alcohols were mixed with conventional liquid fuels in the same way in SA, they could be distributed through the existing marketing system, without expenditure being needed for special pumps at the filling stations, and with little additional spending required at storage depots.

The plants to make alcohols could be built quickly, at a cost considerably less than the new Sasols per unit of capacity, and they could be distributed widely over the country. This would lessen the strategic risk involved in concentration of facilities (as at Secunda), and would spread benefits more widely among the population (thousands of farmers to produce the maize, for instance).

However alcohols also have some obvious disadvantages.

Alcohol/petrol or alcohol/diesel mixtures tend to separate into their constituent components with the addition of small amounts of water. This could easily come from condensation under conditions of bulk distribution. Engines which suddenly started to be fed pure alcohol fuel would cease to perform properly and could be damaged.

Substitution of 10% or even 20% of petroleum-type liquid fuels would help the supply situation, and might even be essential if all foreign oil were to be cut off by sanctions — but it would not solve the problem completely.

It would be possible to overcome both these difficulties by switching over to running vehicles on 100% alcohol fuels. But this would require heavy investment in facilities to handle their distribution, with at least one alcohol pump in every town or area. It would also require more extensive engine modifications than if mixtures were used.

As the energy content of alcohols is substantially less per litre than oil-based fuels, vehicles would either be limited to 45% to 60% of their existing ranges between fill-ups, or would have to be fitted with much larger fuel tanks.

This disadvantage could be offset by the use of engines with much higher compression ratios. An engine running on methanol with a compression ratio of 13 to one would operate at an efficiency 60% higher than one with a compression ratio of eight to one using petrol.

But even if engines designed to run on pure alcohol were fitted to all new cars sold, it would take years before all existing petrol-driven vehicles could be phased out.

The ethanol option would have the specific disadvantage of being geared to supplies of maize, sugar or whatever, which would fluctuate from year to year according to climatic conditions.

Also there is considerable doubt whether the country could provide these crops on a sufficiently large scale, or could do so without endangering food supplies. To make enough ethanol to meet one-fifth of our petrol requirements would require about 2 Mt/year of sugar, for instance, which is all SA currently produces.

Neither of these disadvantages would apply to methanol, which could be made from coal — in plentiful and stable supply.

Whether or not alcohol fuels would be unduly costly to manufacture is a matter of argument, and also of presumptions about the raw materials to be used, the processes to be employed, the period over

which the production facilities would have to be amortised, and the return on capital expected.

Cost comparisons have to be made on a contained energy basis, not per litre, as the various fuels have different energy contents per litre. A litre of petrol will provide 49% more power than a litre of ethanol, and twice as much power as a litre of methanol.

J H R Norton of AECI, in a paper published some months ago, suggested production costs for ethanol ranging from R6,83 to R18 per gigajoule, compared with R4,20 for petrol from refined crude. The figure for petrol is now probably about R5/GJ. But the lower figures in his range were based on the use of "waste" materials such as sugarcane fibre (bagasse) whose supply is limited, and newly-developed processes that have not yet been proved technically and commercially feasible. His figure for methanol made from coal was R7,50/GJ.

Professor Richard Dutkiewicz of the University of Cape Town's Energy Utilisation Unit argues that methanol could nevertheless be made for only 80% of the cost of Sasol petrol, because the methanol-from-coal process is similar to Sasol's for oil-from-coal, but without the refining processes.

He also points out that it has been estimated that methanol could be made more cheaply by exploiting our offshore natural gas deposits. Using natural gas as the raw materials would do away with the cost involved in gasifying coal as a first step to making methanol. One estimate for cost of production using this route is 7c/litre, or R4,06/GJ.

Although methanol looks more promising than ethanol as an alternative liquid fuel, it is clear that the government opted for expanding oil-from-coal capacity rather than plunging into a methanol venture because it felt more certain about

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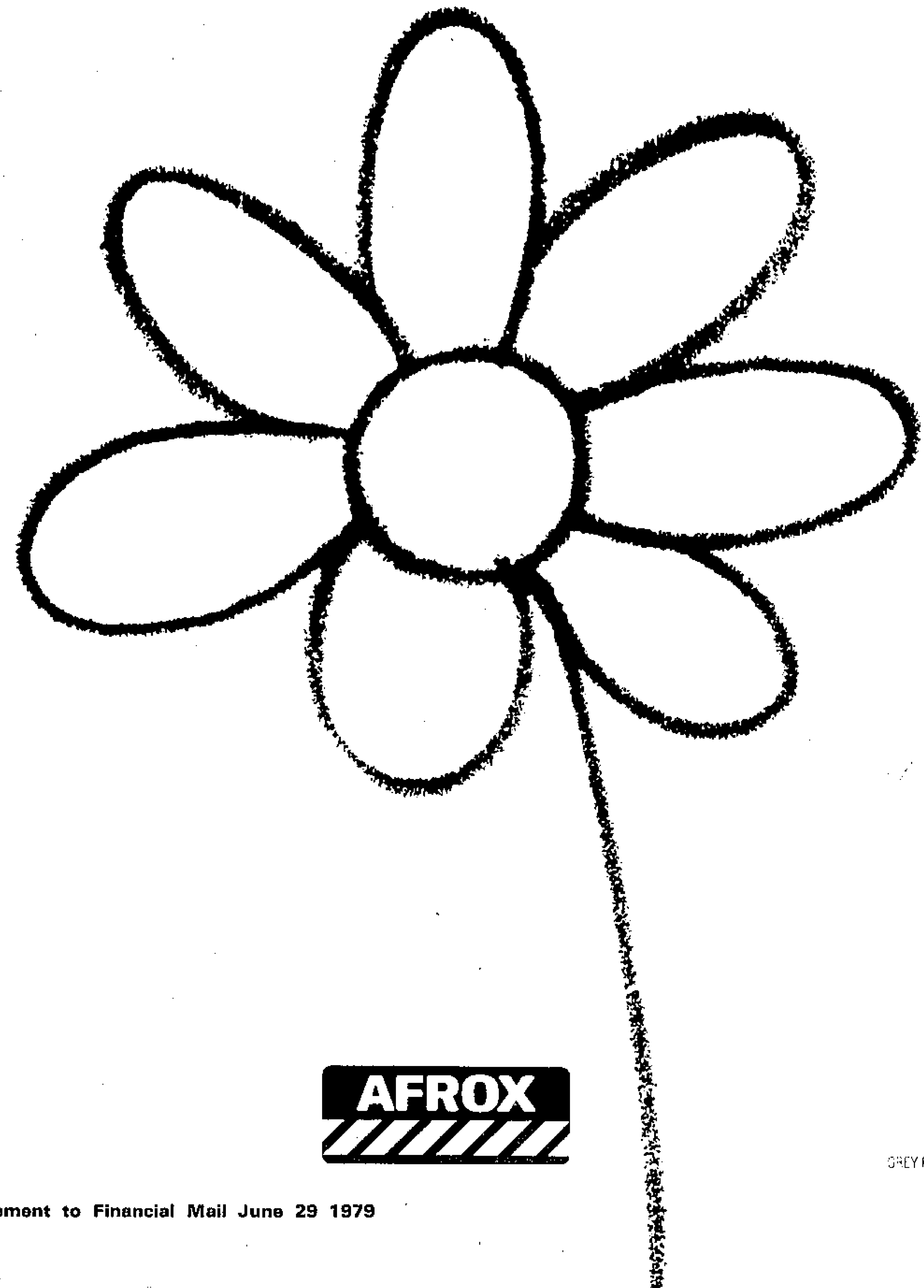
HOW TO GROW ANOTHER GAS PLANT WITHOUT DIGGING A BIG HOLE IN YOUR BANK BALANCE.



AFROX

GREY PHILLIPS BUNTON, MUNDEL & BLAKE 63643 costs, because of the convenience of liquid fuels which the distribution system and existing stock of vehicles are designed to handle and use, and because of the speed with which a plant of existing design could be duplicated and brought into production.

If sufficient research is done in time, and the results are sufficiently convincing, SA could well opt for methanol production rather than a Sasol 4. Costs of production and convenience in use will be the determining factors.

The energy crisis has triggered off a wave of research into new or unconventional sources of energy. They include some strange ones, such as seaweed gas, oil from old car tyres, gas generators fuelled by dung or mealie stalks, and cultivation of "gopher" trees yielding 25 or more barrels of oil per hectare.

Some of these new sources, such as oil from coal, tar sands or oil shales, alcohol fuel from sugar, and solar energy, are already viable or almost so in some parts of the world, and by the year 2000 could be making a significant contribution to energy supplies.

The tar sands of Canada and Venezuela, for instance, contain 1 799 billion barrels of oil, of which half may ultimately be recoverable. They effectively more than double the world's proven petroleum reserves. The tar sands are a sticky mixture of bitumen and sand. Steam is used to separate the bitumen from the sand, which is then processed to yield petroleum.

In Venezuela the sands contain proportions of impurities such as sulphur, nickel and vanadium which has discouraged their exploitation. But in Canada one processing plant with a capacity about the same as Sasol 2 has been working the sands for years. Other plants are now being built, and they expect to produce oil at between C$7 and C$18 a barrel.

By 1995 Canada expects to get about 600 000 bpd of oil from its sands — a significant share of local demand.

The world's deposits of oil shale — mainly in the US, the Soviet Union, Communist China and Brazil — contain as much as 7 000 billion barrels of oil, of which half may also ultimately be recoverable. That would multiply by five times global petroleum reserves.

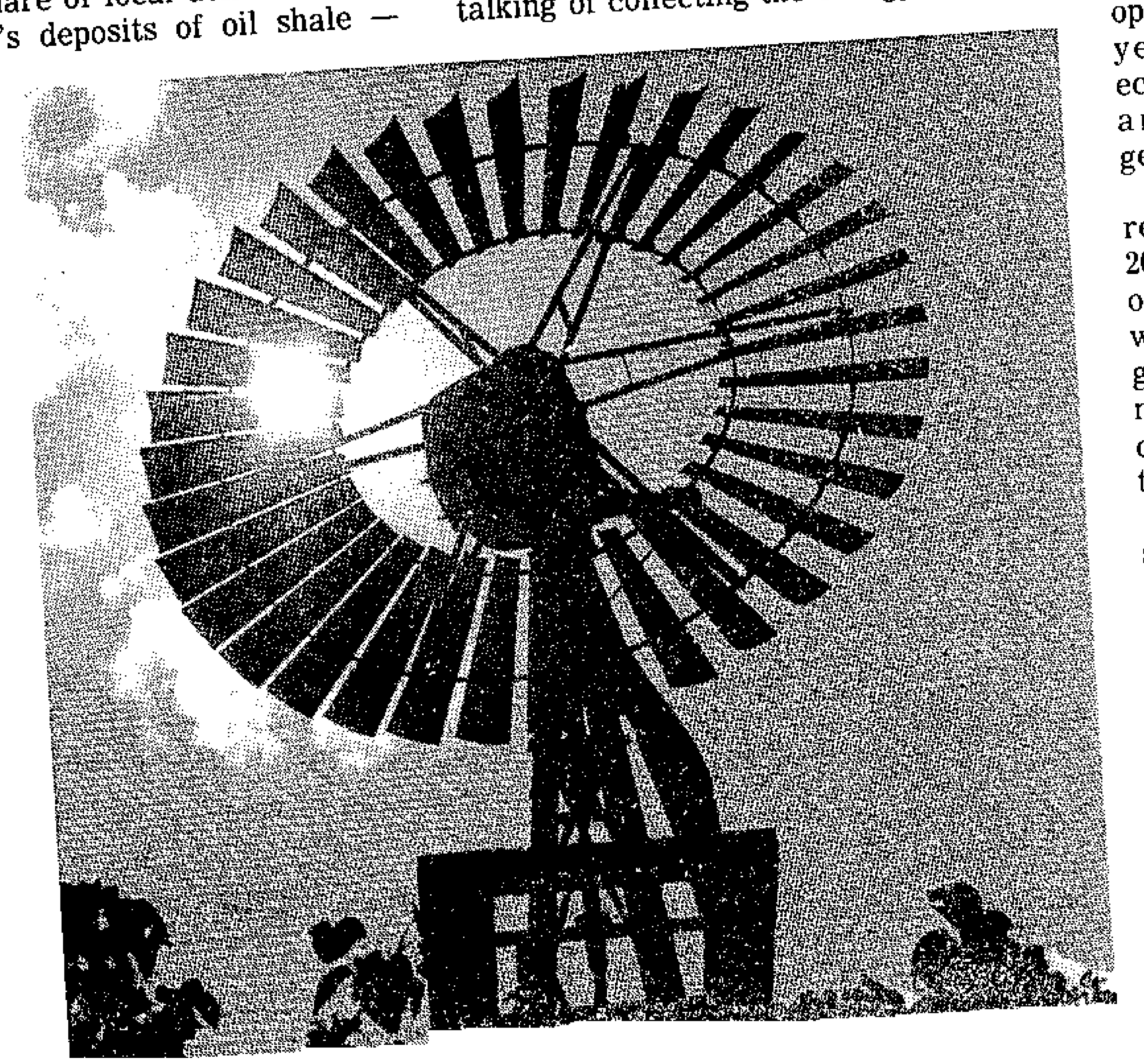
Oil shale consists of kerogen (a solidified hydrocarbon) and clay, and yields a light oil in the ratio of 40 - 400 litres/t of rock when heated. In the US, where shales contain 60 times as much oil as the proven petroleum reserves, several experimental extraction plants have been operating for some years. Production costs are reported to range between $14 and $23 a barrel.

One major problem is environmental pollution. It's been estimated that spent shale from a 1m bpd plant would cover 50 km² of Colorado with black powder over 20 years of operation.

Solar energy is an exciting prospect because the sun gives the earth more energy in half an hour than man uses in a year. But collecting it and converting it into useful forms (electricity, hot water) is expensive.

The Americans, who spent $400m on solar energy research, are confident that by 1985 they will be able to produce solar cells to capture sunshine and turn it into electricity for less per kilowatt than nuclear power stations cost to build. Solar is already economic in some parts of the world (including some parts of SA) for hot water and space heating.

European countries are also spending heavily on solar research, and are talking of collecting the energy in sunny Spain, the Sahara or even the Middle East and transmitting as electricity over a long-distance grid to the cold and cloudy climes of Northern Europe.



Geothermal energy is also attracting attention. Temperatures of 100 degrees can be tapped at depths of 4 km, and of 200 degrees at 8 km.

The European Economic Community has a $10m "hot rocks" research programme, and France already taps subterranean hot water reservoirs to heat homes at costs claimed to be competitive with those for oil-generated heat. By 1990 it plans to warm 1m dwellings from geothermal sources.

Alcohol production has only been undertaken on a large scale in Brazil, where the equivalent of 2 Mt/year of sugar is now turned into liquid fuel. Costs are higher than for oil, but not greatly so.

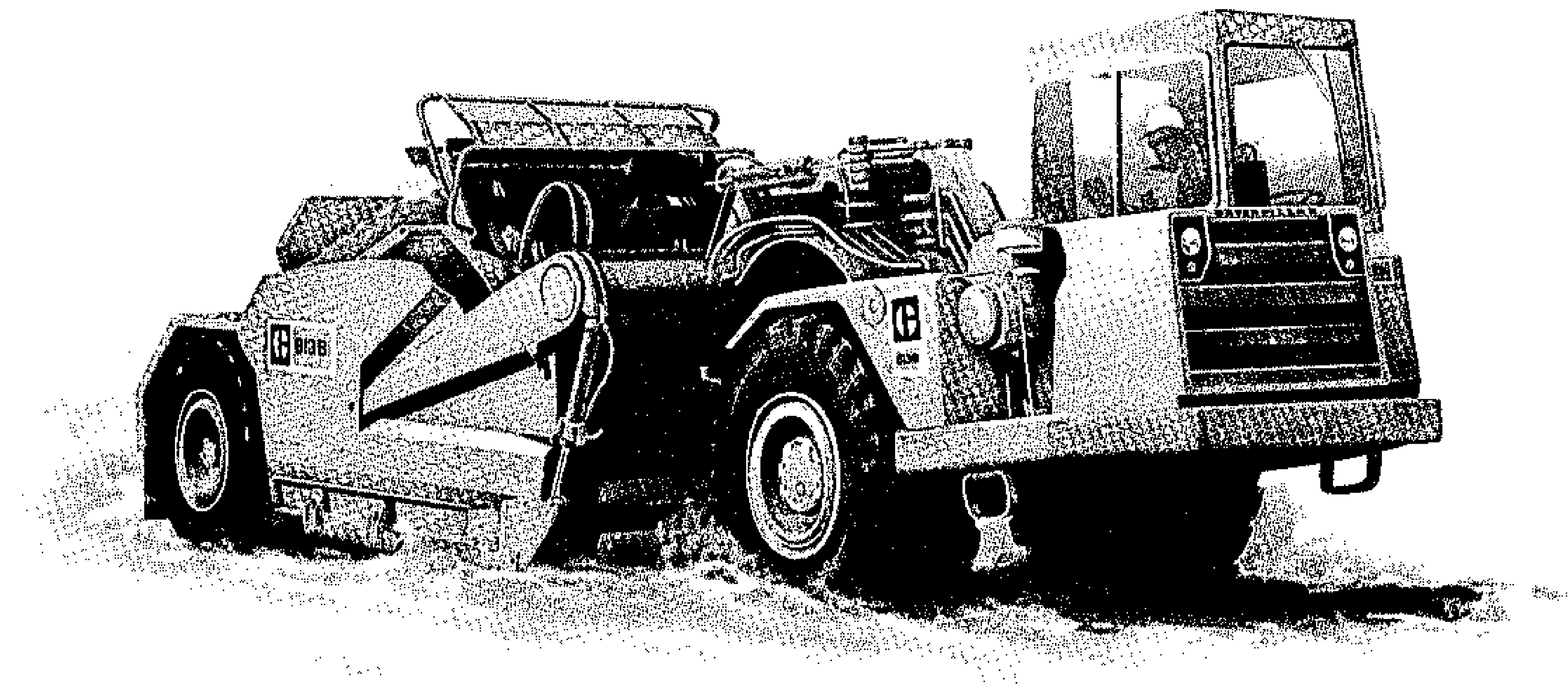
Serious research is under way in Britain and Japan into harnessing wave-power. One system employs a chain of floating rafts whose flexing hinges drive pistons. These in turn pump hydraulic fluid to drive electricity generators.

Another possibility being studied seriously is the harnessing of temperature differences between surface and deep water in the oceans. It's forecast that this could produce power at anything from the same to double the cost of nuclear generating capacity. But the practical problems seem enormous.

Using the power of the tides to drive hydro-electric turbines is proven technology — a 240 MW plant has been operating at St Malo in France for 10 years. But the technique is only economic at a few sites where tidal rise and fall is great because of geographical peculiarities.

Another idea currently being researched is harnessing wind-power. If 200 huge windmills were to be floated over several square kilometres of sea in windy regions, it's estimated they could generate 1 000 MW, or as much as a medium-sized power station. But the cost is estimated at two to three times that for nuclear power.

The problem with most energy sources that are unconventional is not the engineering, which presents comparatively few problems, but the economics. "Free" energy is not free at all, because of the huge capital investment that has to be made to capture, intensify and store it.



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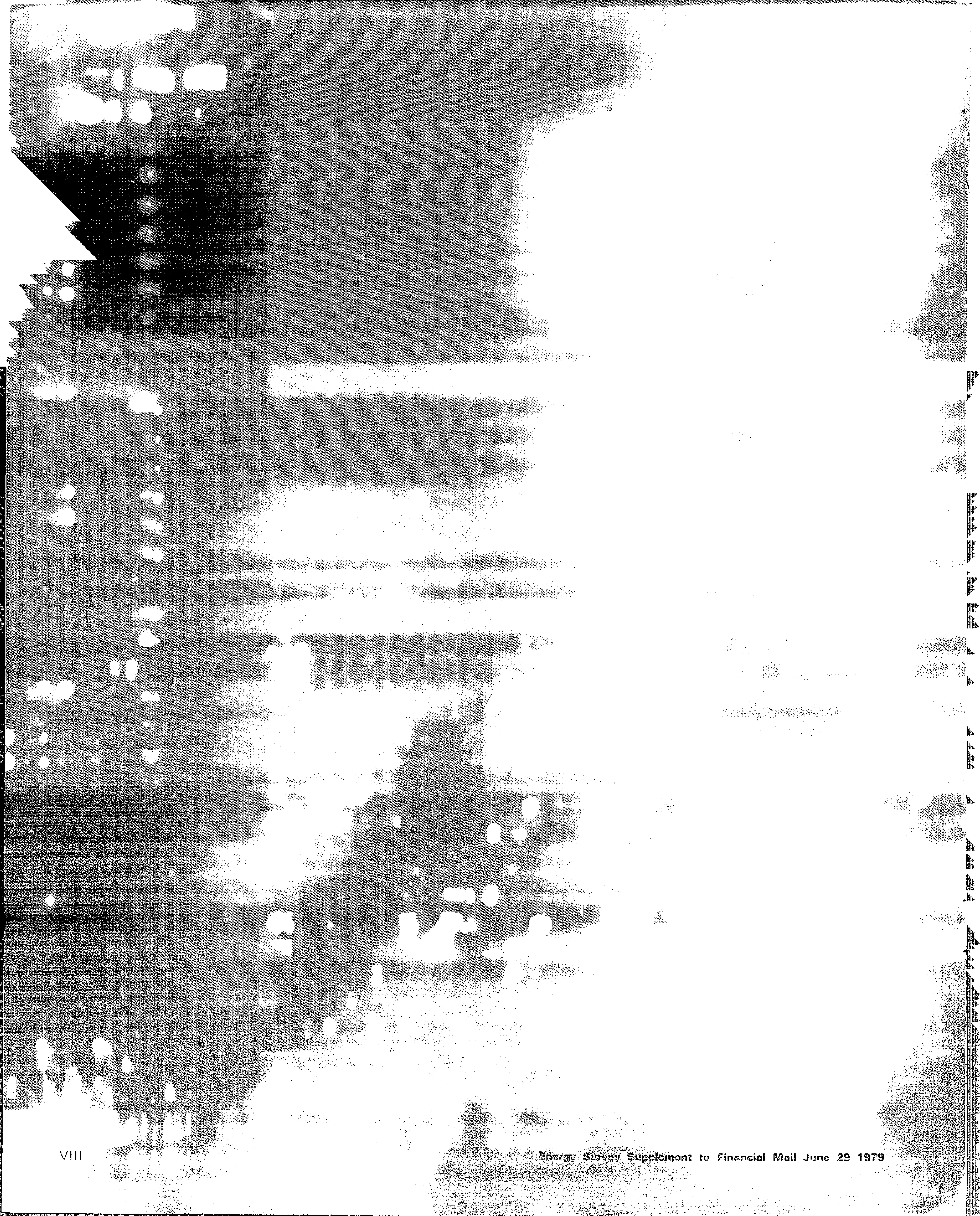

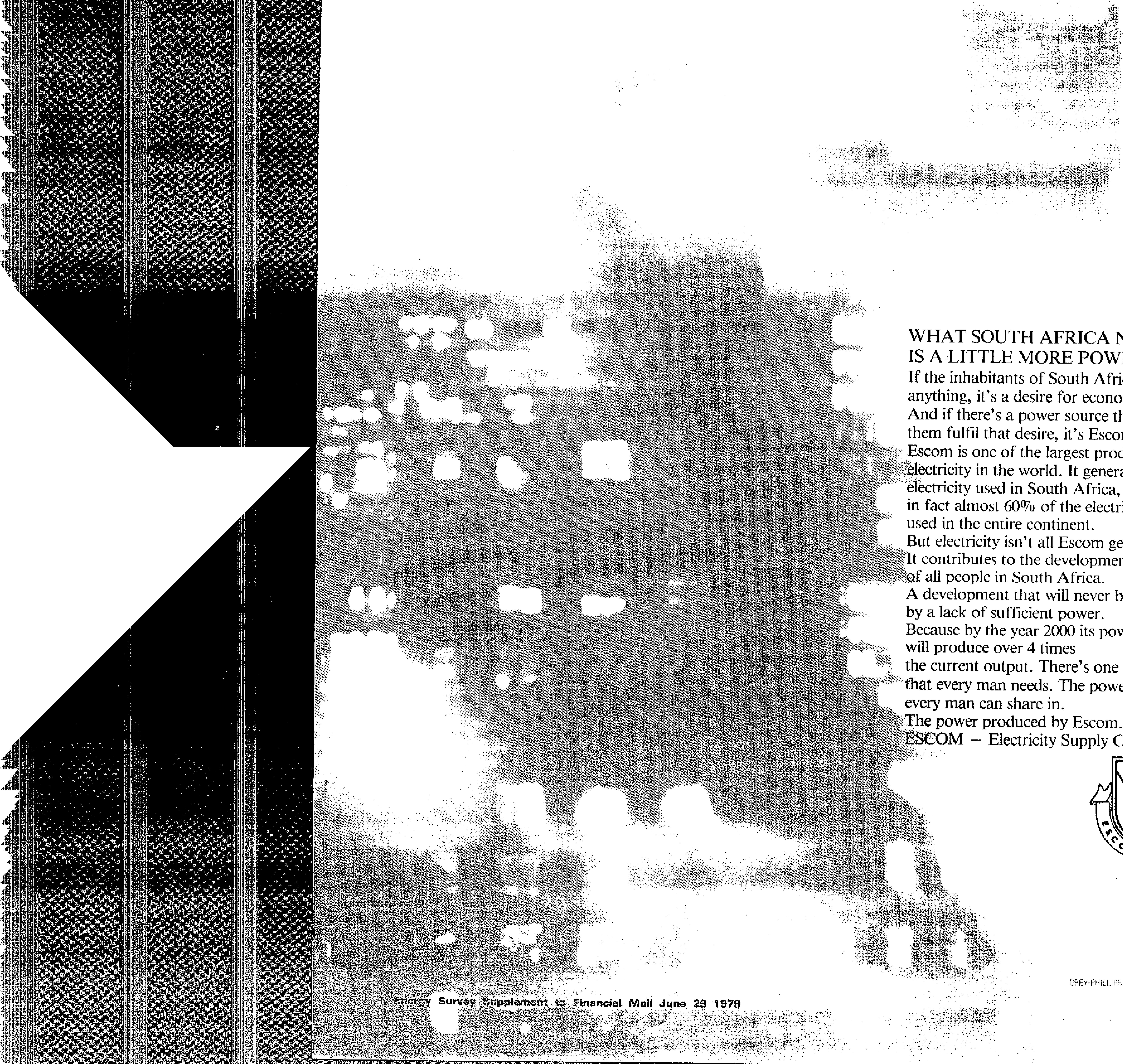

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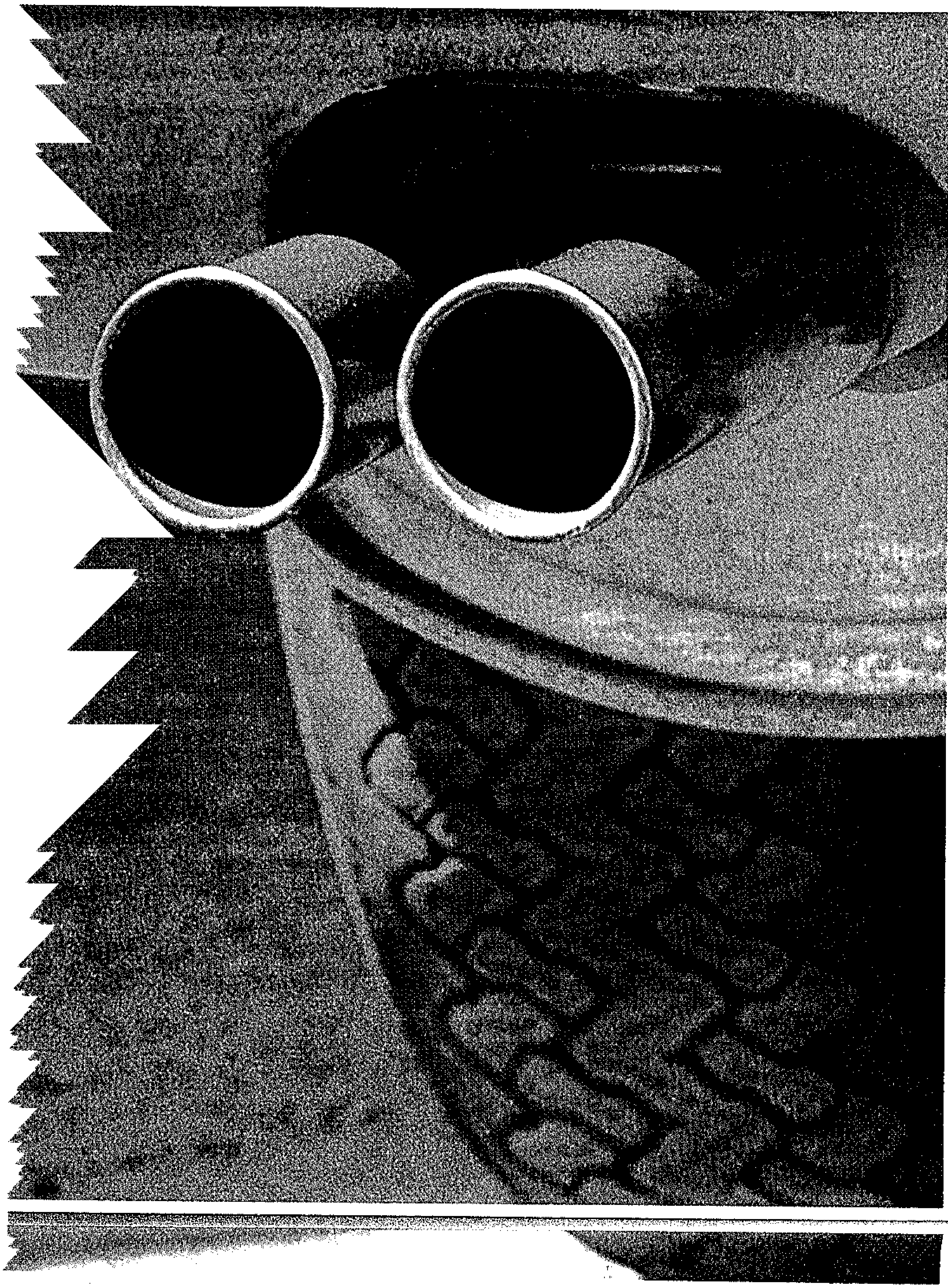
Once upon a time, we could afford to burn away the Earth's resources.



Not any more.

In his rush towards industrialisation and a higher standard of living, man must make up his mind how he wants to use the earth's finite resources.

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Sasol's three giants

The new oil from coal plants look like a good investment for the private sector . . . quite apart from strategic necessity

There is only one certain solution to SA's oil supply problem — oil-from-coal. It is a solution that the government has grasped, despite the immense capital investment involved.

Out on the Eastern Transvaal highveld a second Sasol plant, three times the size of the original coal liquefaction facility at Sasolburg, is approaching completion while preparations are already under way for construction of a third.

This is the largest single engineering project currently under way anywhere in the world, and one of the biggest ever. Everything about it is giant-sized. For example:

- A chimney reaches a quarter-kilometre into the sky, flanked by cooling towers as high as 45-storey buildings.
- A labour force of 20 000 is racing to complete the first phase more than one year ahead of the original deadline.
- The mine to feed the hungry gasifiers will eventually produce almost as much coal in a year as the entire Canadian coal industry.

The costs are also large by any standards, and huge in relation to the SA economy — R2,5 billion for Sasol 2 and an estimated R3,3 billion for Sasol 3.

The third plant will be an almost exact copy of the second to save on design costs, take advantage of existing infrastructural facilities (housing, communications), and reduce construction time.

Sasol estimates that duplicating Sasol 2 rather than designing a new plant and siting it somewhere else will save at least R500m in construction costs and reduce the lead time from decision to production from five to three years.

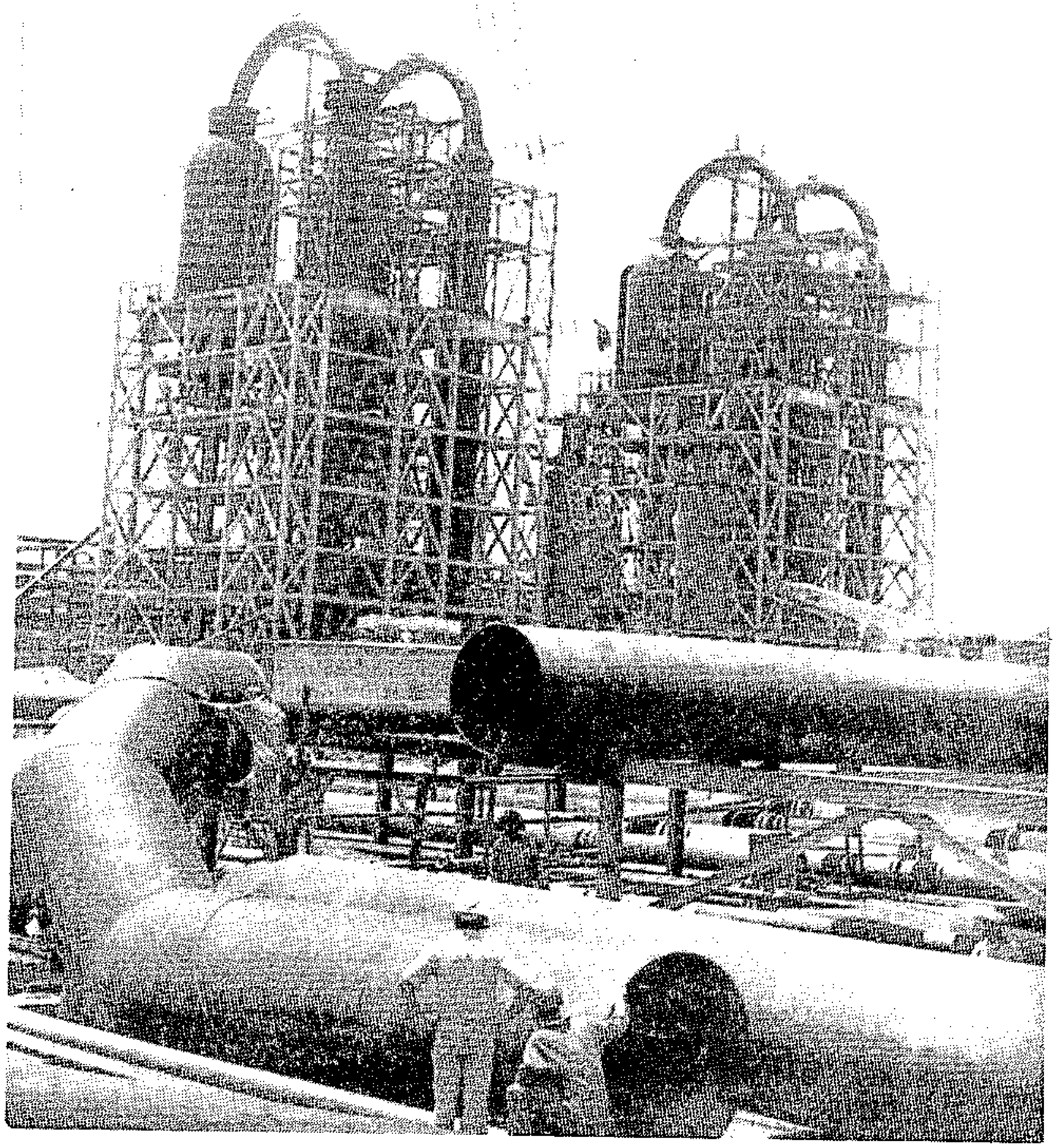
The managing contractor for both plants, Fluor, is an American specialist in process engineering, which is also handling big natural gas projects in Saudi-Arabia and Alaska. Deutsche Babcock of West Germany is building city-sized power stations to drive compressors, operate the pumps and valves, and supply hydrogen atoms in the form of steam.

Another German firm, Lurgi, is providing the gasifiers where coal will be blasted with hot steam and oxygen under pressure to turn it into gas. Air Liquide of France is responsible for the huge oxygen units, where high compression and intense cold will be used to break air molecules apart to yield thousands of tons of oxygen a day.

Another American company, Badger, is building the gas purifiers, where methanol will be used to wash impurities out of the raw gas; and the synthesis reactors — the heart of the Sasol process — where catalysts will convert the gas into liquids. The product recovery facilities, where chemicals will be removed by distillation, gaseous hydrocarbons polymerised into liquids, and aldehydes turned into alcohols by hydrogenation, are the responsibility of Linde of Germany.

However, much of their work, plus work on the mine and ancillary facilities, is being contracted to SA manufacturers and construction companies. In fact about 60% of the cost of Sasol 2 is being expended within the Republic, and in the case of the third plant the proportion could be slightly higher.

Sasol 2 is being financed by State-guaranteed loans, levies on sales of petroleum products, and export credits supplied by some of the countries whose



Pouring on the oil to get the job done at Sasol 2

companies are heavily involved. Sasol 3 will be financed similarly, except that private enterprise is to be invited to participate. Among the likely contenders are Anglo American, General Mining, Shell, BP and Total (all with major coal interests in SA), and AECI and Sentrachem (because of their involvement in coal-based chemicals).

Sasol MD Joe Stegmann has said that he expects export credits to supply half the estimated R1,3 billion imported content of the third plant. Indications are that both plants will make foreign exchange savings via reduced foreign oil purchases equal to the foreign exchange components of their costs within three years of reaching full production.

The most intriguing unknown about the Sasol plants is what they will produce. UN economists Martin Bailey and Bernard Rivers have claimed that Sasols 1 and 2 will together produce only about 49 500 barrels of petroleum products a day. At the other extreme Wits professor Arnt Spandau has suggested a combined output of 112 000 barrels.

The confusion reflected by these and other estimates seems to stem from over-reliance on the (deliberately confusing?) and imprecise hints that have been dropped from time to time by government ministers and Sasol officials, plus lack of knowledge about coal input, conversion efficiencies, the role of by-product gas, and differences between crude oil and gross imports on the one hand and refined products and domestic consumption on the other.

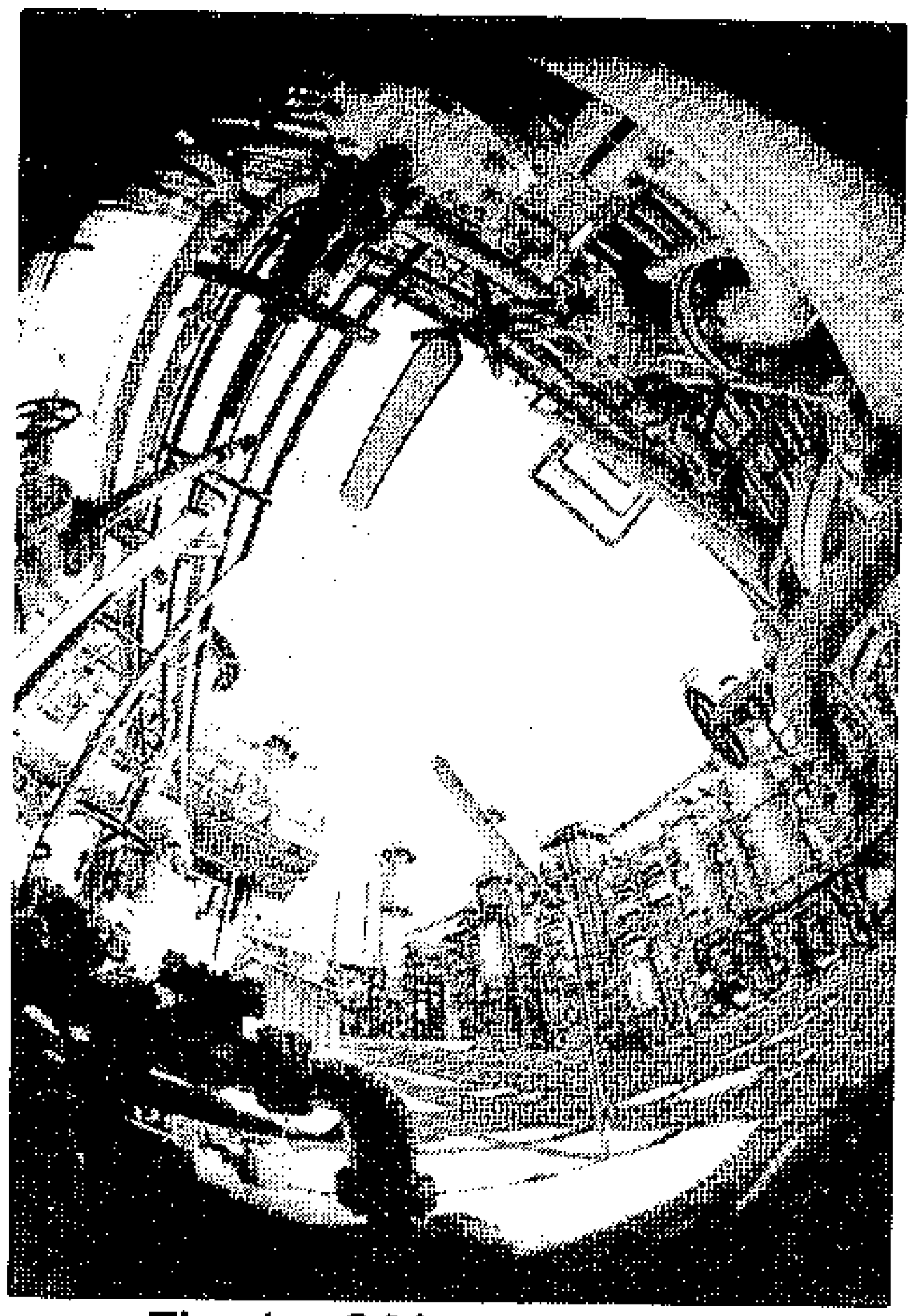
Yet the government has already revealed in an official report that the energy input of Sasols 1 and 2 will be the equivalent of 18,7 Mt/year of coal. Of that figure, it seems that approximately 5 Mt will be the high-ash coal that Sasol 1 consumes, with a calorific value of 18,2 gigajoules to the ton, while about 13,7 Mt will be medium-ash coal with a much higher value — 24 GJ/t — to be used at Sasol 2. The differences in the energy values of the two kinds of coal make nonsense of any rule-of-thumb such as "1,5 barrels of oil per ton of coal."

Sasol process division manager Andries Brink has stated publicly that the "practical thermal efficiencies" of the Fischer-Tropsch process are 40% of liquids only, and 60% if gases are included. Sasol 1 feeds its by-product gas into a pipeline system covering much of the Reef. Sasols 2 and 3 will be linked to that system, but their volumes of by-product gas will be so huge that it is reasonable to speculate that much of it will be converted into methanol, or reformed, enriched and fed back into the main liquefaction stream.

Sasol chairman D P de Villiers revealed in his 1977 annual report that the amount of energy in the products of Sasol 2 that would be obtained from a ton of coal would be about "15% more than the energy which is obtained in the form of electricity from the same ton of coal in the most up-to-date coal-burning power station of conventional design." This infers an energy conversion of about 45%.

If these efficiencies are matched to the energy inputs, they suggest a yield of about 1,26 barrels per ton of coal at Sasol 1, and 1,78 at Sasols 2 and 3. If these yields in turn are matched to coal tonnage, they suggest production capacities of about 18 000 barrels per day at Sasol 1, and 66 000 bpd at each of the two newer plants.

The combined total of 150 000 bpd includes chemicals and gases as well as liquid fuels. But as the two newer plants are designed to produce maximum quantities of liquid fuels, their output of these could easily be as high as 120 000 bpd.



They're SA's most strategic plants

This figure matches in well with Economic Affairs Minister Chris Heunis's statement, when he announced the decision to proceed with Sasol 3, that the three coal liquefaction plants would meet "about 50%" of SA's needs. SA's consumption of liquid fuels is about 240 000 bpd.

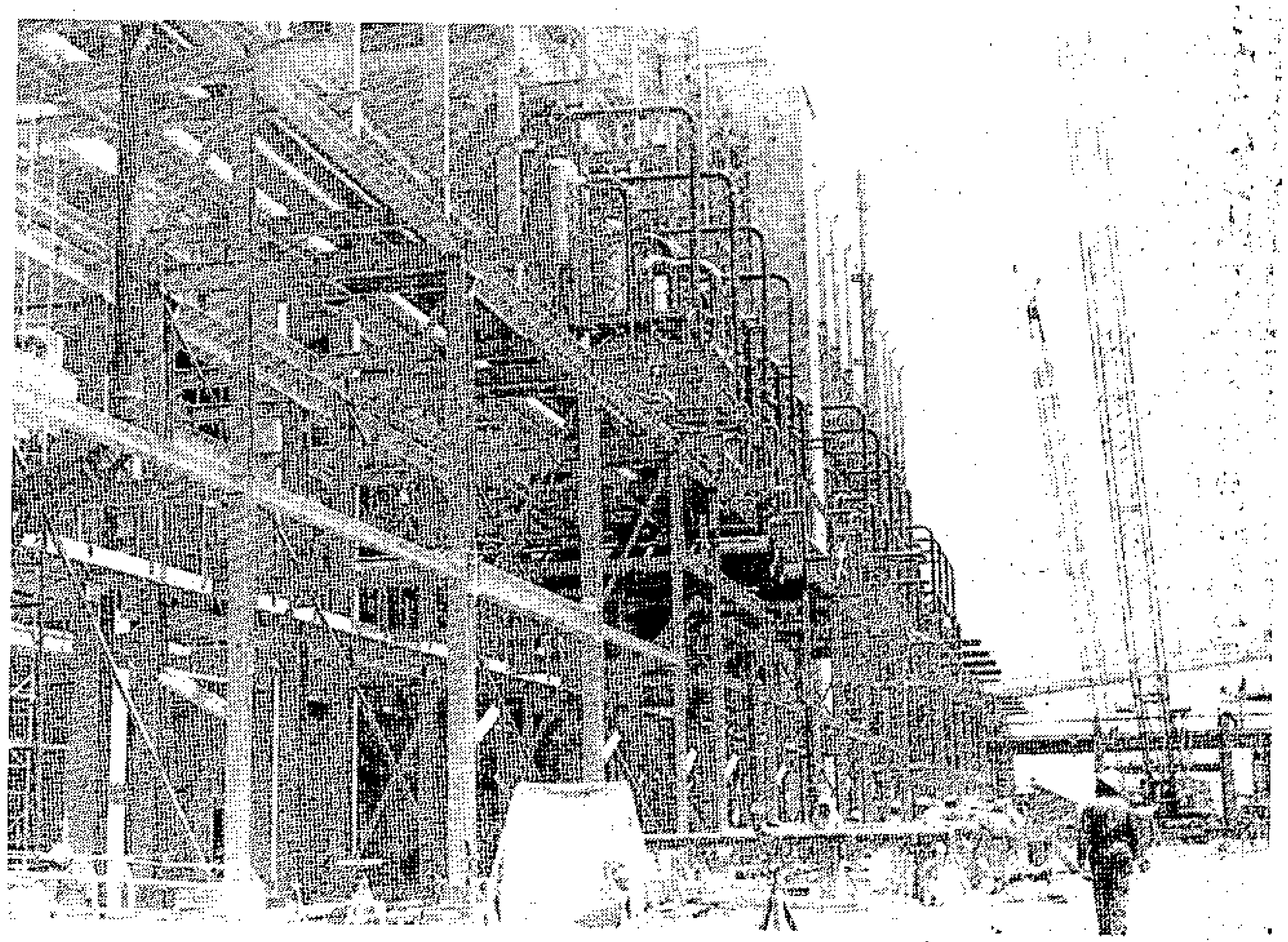
Stegmann has said that the new Sasol plants will be able to produce petrol and diesel fuel in equal quantities.

Will they be commercially viable? If we assume that Sasol 3 is amortised over 20 years, its capital cost works out at about R7,50/barrel. Coal will be costed into the works at about R5/t, or R2,80/barrel. If labour, maintenance and miscellaneous overheads are guesstimated at a generous R4/barrel, production costs should total about R14,30/barrel.

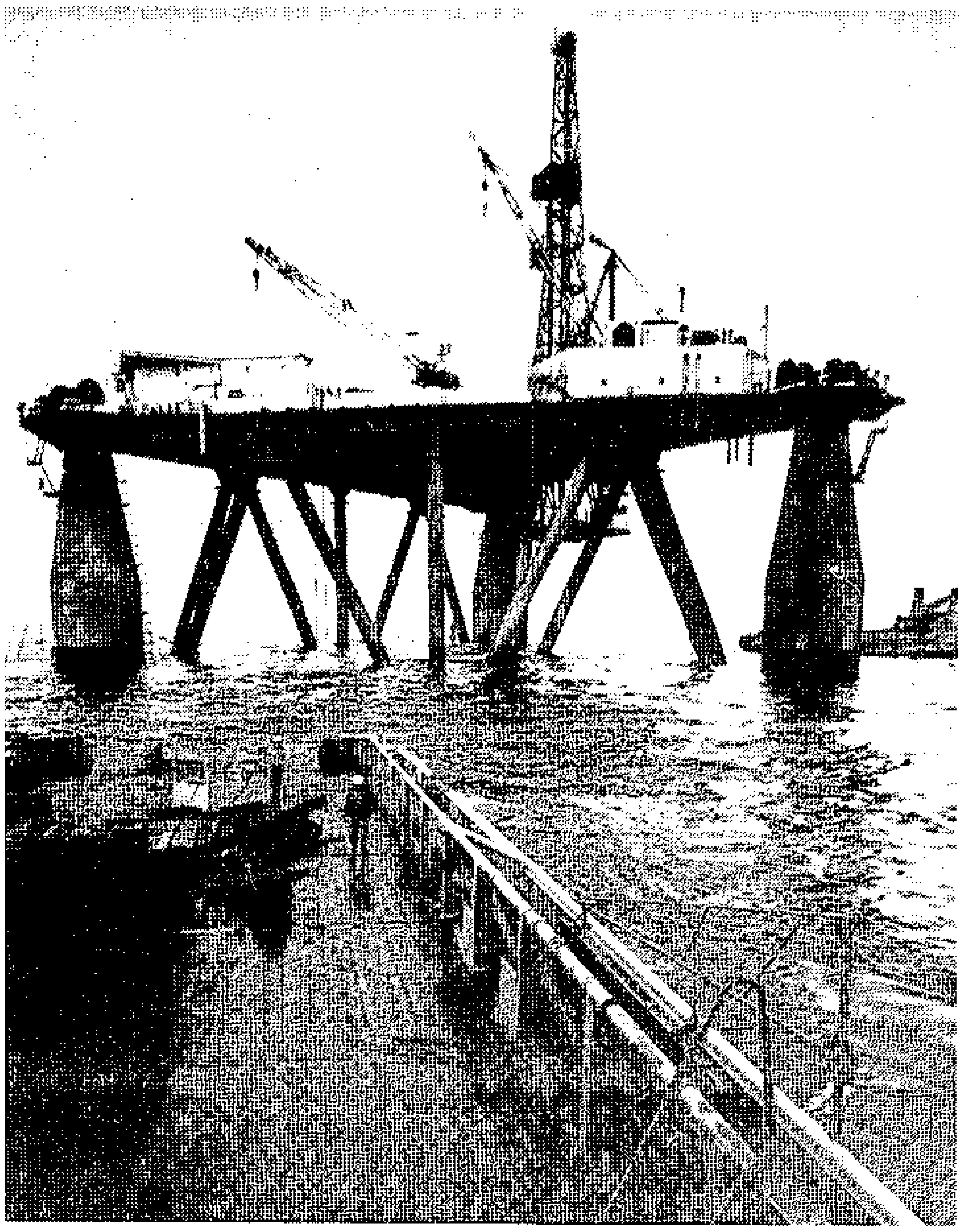
There is no provision in this figure for payment of interest on borrowed capital or return on invested capital. On the other hand, R14,30/barrel is substantially less than SA can expect to pay for imported crude over the next 20 years, quite apart from refining and internal distribution costs.

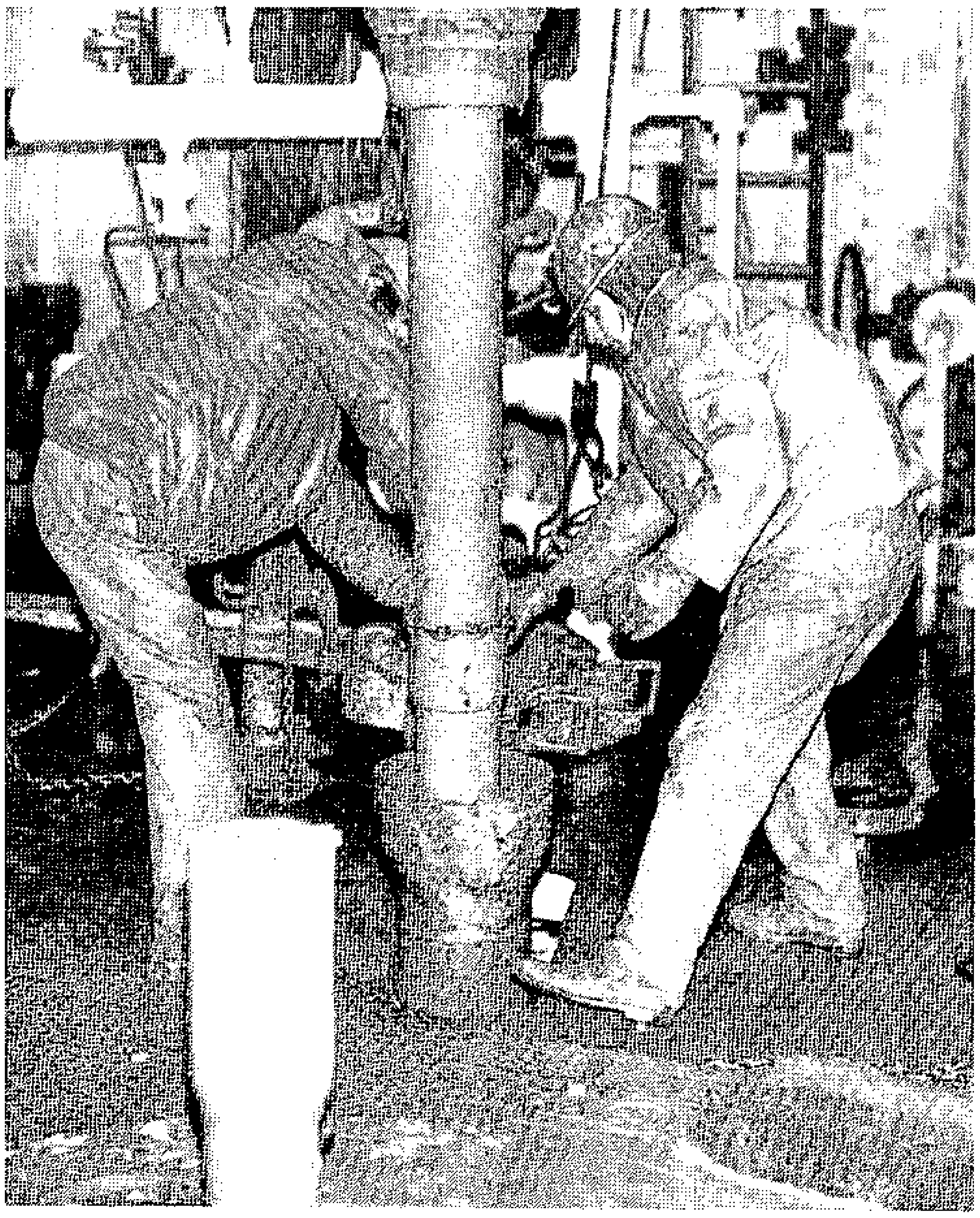
Sasol seems to be on sound grounds in claiming that its new plants will be commercially viable soon after they come into full production. In the circumstances, it is not surprising that private enterprise is being asked to take equity rather than just put up loan capital for Sasol 3.

These oil-from-coal plants look like being sound investments as well as strategic necessities.



Plumbing the depths





The continental shelf off SA's coast has already yielded gas. And prospects for oil are looking better too

Technological progress is improving the chances of finding oil off SA's shores, as well as improving prospects for the financial viability of natural gas deposits already found and oil deposits that may be discovered.

The geological prospects for oil are least promising on land, more attractive offshore, and most attractive far out in the oceans under deep water towards the edge of the continental shelf.

Until recently the most promising areas could not be drilled — the only certain means of establishing the presence of oil — because they lay under more than 200 m of water, beyond the reach of the drilling rigs that were available.

One consequence of the multi-billion-rand search for petroleum in the North Sea, where conditions are similar to those off SA's shores, has been the development of "second generation" drilling rigs able to operate in much deeper waters.

The Sedco 708 semi-submersible rig now drilling off the West Coast can operate in water depths up to 500 m, and probe almost 10 000 m into the earth.

This was the area where natural gas was struck in 1974 at such high pressure that the Sedco 135 rig that found it could not cope, and had to seal off the well without exploring further. Sedco 708 can handle much higher pressures.

It is also now possible to explore further out on the Agulhas Bank — which stretches far out to sea off the coast between Cape Town and Port Elizabeth — into deeper waters. This is the area where a natural gas deposit was found in 1969.

If SA were to find an offshore oil deposit, even a comparatively small one, it would now be possible to exploit it without enormous cost, also because of North sea-generated technology.

It is no longer necessary to build permanent structures on sea-bed foundations, with a pipeline that could cost, say R100m to bring oil ashore from a well 100 km out to sea. It is now possible to anchor a floating production flatform over a well, and feed the oil into small tankers to carry it to the shore.

This "deep sea completion system" can be installed quickly — 18 months as against several years for a fixed system — and at a fraction of the cost.

Soekor's financial manager, WFJ van Zyl, gave as an example last year, a cost of about R150m to develop an offshore field yielding 30 000 bpd.

Soekor, the state-controlled concern charged with trying to find oil in SA or its waters, has spent more than R120m so far on its search since 1965. With the abandonment of exploration on land, and concentration on offshore areas — where wells cost about R4,5m apiece to drill, or three times as much on land — the budget has been pushed up. It amounted to about R26m in the past financial year, and will reach more than R40m this year.

These amounts are small when compared with spending on exploration in many other countries, or with SA's annual expenditure on petroleum imports, or with the foreign exchange that would be saved if a viable oil field could be found off our shores.

Van Zyl, in the example he gave, suggested foreign exchange savings at a rate of R200m a year for a small field. At today's prices the savings would be perhaps 50% higher than that.

Oil geologists now consider, in the light of recent drilling results, that our chances of finding oil offshore are improving. Even if petroleum is not found, natural gas could well be, as at least two deposits have been proved.

One important reason why these deposits have not been exploited is that SA doesn't have a gas economy. It is geared to using coal as its principal energy source, and even if heavy investment were made in a pipeline network to move gas from its offshore reservoirs to industrial centres, it is unlikely that it would be able to compete with coal and gas made from coal.

However natural gas could prove a much better source material than coal for manufacture of liquid fuels — either petrol and diesel, by means of the sasol process, or methanol. As the Minister of Economic Affairs revealed to the *FM* (see page 17), this is one of the alternative sources of liquid fuels that is being considered by the government.

Soekor has announced that it is to carry out a detailed feasibility study of a scheme to anchor a semi-submersible platform over an offshore gas deposit and mount upon it a plant to convert the gas into methanol. This would be stored temporarily in an old tanker anchored next to the plant, from which it would be ferried to shore by a mobile tanker. Only "off-the-shelf" technology would be involved — there would be nothing experimental about the engineering or the chemistry.

The outline proposal suggests a capital cost of R190m, production of 300 000 t/year at a cost of less than 7c/litre, and a discounted cash flow of between 12% and 15% a year over a 15-year period.

SA's nuclear power

Koeberg is SA's first venture into the nuclear field. It will also be one of the safest powerplants anywhere

Driving north from Cape Town along the coastal road, you suddenly see a group of a dozen giant yellow towering cranes rising out of the mist over Melkbosstrand, clustered around some lumpy structures like bishop birds at a feast.

This is Koeberg — SA's first nuclear power station, whose first reactor is scheduled to start generating electricity in December 1982, with the second reactor coming on line a year later.

Considering the sophistication of the country's nuclear scientists, research facilities and knowhow, as well as its position as one of the largest suppliers of uranium, it might seem surprising that SA has been so slow in venturing into nuclear power.

One reason was that Escom's conservative engineers preferred other countries to sort out the "bugs" in nuclear power station design (and there have been plenty) at their expense, so SA could buy proven technology.

Another was Escom's worry about secure supplies of enriched uranium fuel. This disappeared when it became clear that if the worst came to the worst, SA could enrich uranium itself using the locally-developed jet-nozzle technique.

A third reason was economics. Our coal was so cheap that it was more economical to generate electricity in giant stations atop Eastern Transvaal coalfields and transmit it all the way to the Cape along 400 kV lines (half the Western Cape's power is now "imported" in this way) than to generate it at a nuclear plant in the Cape. This changed when Escom's average cost per ton of coal consumed jumped from R2,92 in 1974 to R4,02 in 1975 and then to R5,34 in 1976.

Escom knew that growing electricity consumption in the Western Cape region, plus the rapidly-developing mining complex in the North West Cape, would mean that additional supplies would be necessary in the early Eighties.

THE NUCLEAR RISK

Probability of a disaster causing 100 or more fatalities:

Aircraft crash	1 in 2 years
Tornado or hurricane	1 in 5 years
Fire	1 in 7 years
Explosion	1 in 16 years
Earthquake	1 in 20 years
Release of toxic gas	1 in 100 years
Nuclear disaster (per 100 reactors)	1 in 10 000 years

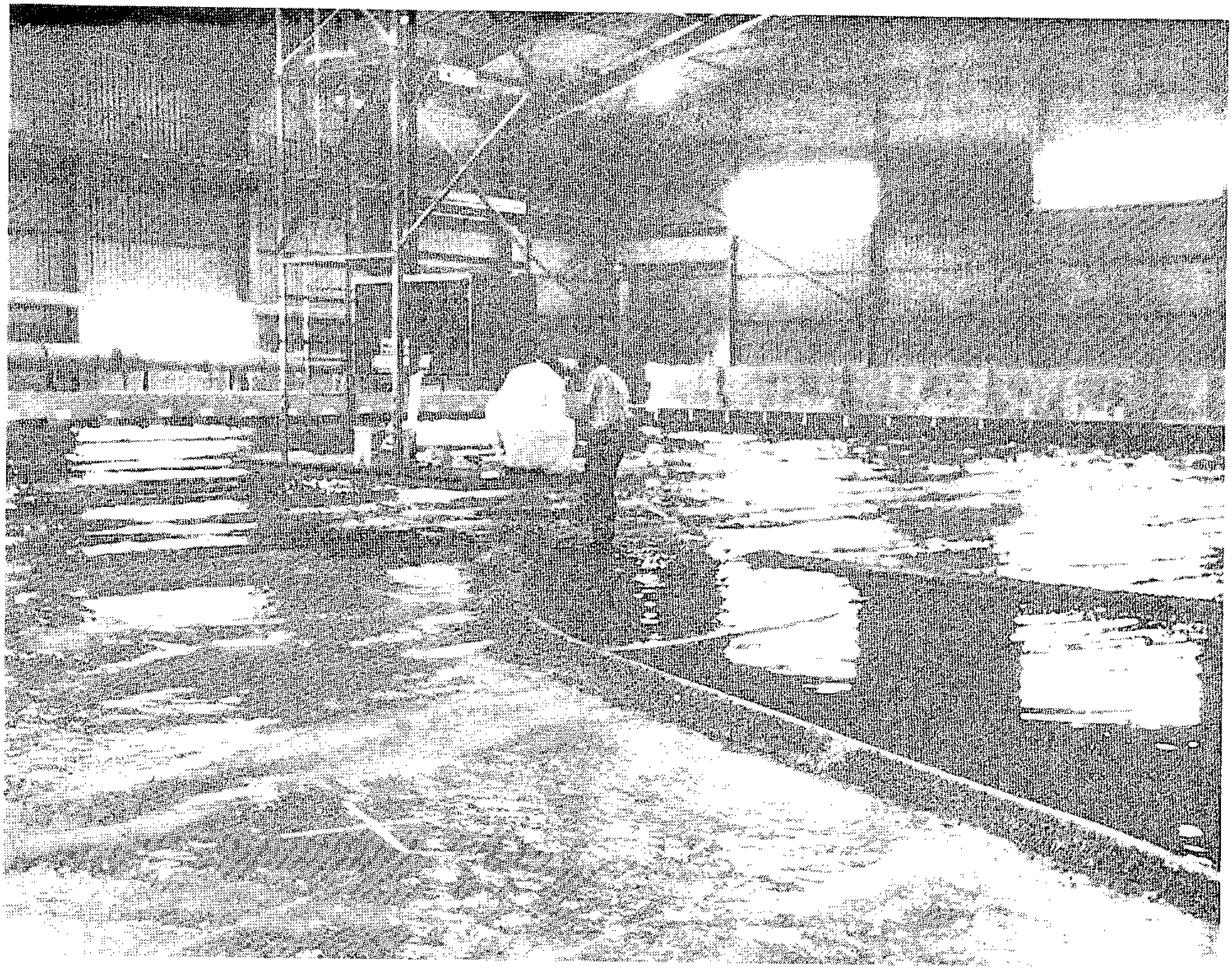
Building more conventional stations at the Cape would be quite uneconomic, with the delivered cost of coal more than R20 a ton in the Mother City. But building a fourth line to transmit power from the Transvaal would have cost about R250m, additional lines would soon be required — and there would be the cost of providing additional generating capacity in the Transvaal to feed these lines.

It became clear that it would be cheaper to build a nuclear station in the Cape, even though the capital cost would be 60% to 70% higher than for an equivalent thermal station in the Transvaal. And so the decision was taken to proceed with Koeberg, whose capacity will be 1 844 MW — about half that of a coal-fired station of newest type planned in the Transvaal — at a cost which, by completion date, will have exceeded R1 billion.

Escom put the contract out to international tender, and in 1976 awarded the deal to a French consortium of Framateg (project management), Framatome (reactors), Alsthom (turbine generators) and Spie Batignolles (civic engineering). An American firm of "quality assurance" consultants, experts in the nuclear field, was appointed to monitor the quality standards of the French performance.

It was announced that about 20% of the cost would be spent on local labour, materials and services, with 85% of the forex cost financed by a consortium of French banks.

Koeberg is in most respects a copy of a



Research work on Koeberg being done by the CSIR

NUCLEAR EXPANSION

Although the worldwide expansion of nuclear power facilities has been slowed by hostility from environmentalists in the advanced non-communist countries, the momentum can be expected to pick up again in the wake of the new oil crisis.

Western Europe and Japan depend on oil to generate most of their electricity. The only practical alternatives to oil are coal and uranium.

Uranium faces greater emotional hostility, but enjoys certain practical advantages. For example, Britain's Eastern Electricity Board says that the unit costs of generating power from nuclear station are about half those of coal-fired stations.

The newly industrialised countries like Brazil and South Korea, with large and fast-rising oil bills and weak environmental lobbies, are going for nuclear power in a big way. The advanced countries, though they may be reluctant, appear to have no real alternative but to follow suit. Belgium already relies on atom stations for 22% of its electricity, Sweden for almost as much, and Switzerland for 17%.

The International Energy Agency forecasts that nuclear power's share of global energy resources will rise from 3% in 1977 to 13,5% by the year 2000. The International Atomic Energy Agency sees the installed capacity of nuclear power plants, now about 105 GWe, rising to between 278 and 368 GWe by 1985 and between 504 and 700 GWe by 1990.

Growth on this scale translates into a huge demand for uranium, both for initial charges and refuelling. The world's annual requirment, now running at about 34 000 t of uranium oxide (yellowcake), is projected to rise by 120% to 170% by 1985 and by 190% to 440% by 1990 — depending on the speed with which more efficient reactors are introduced, as well as the rate at which new stations are built.

SA and Namibia, as major producers of uranium as well as the holders of large resources, have an important role to play in meeting this burgeoning demand.

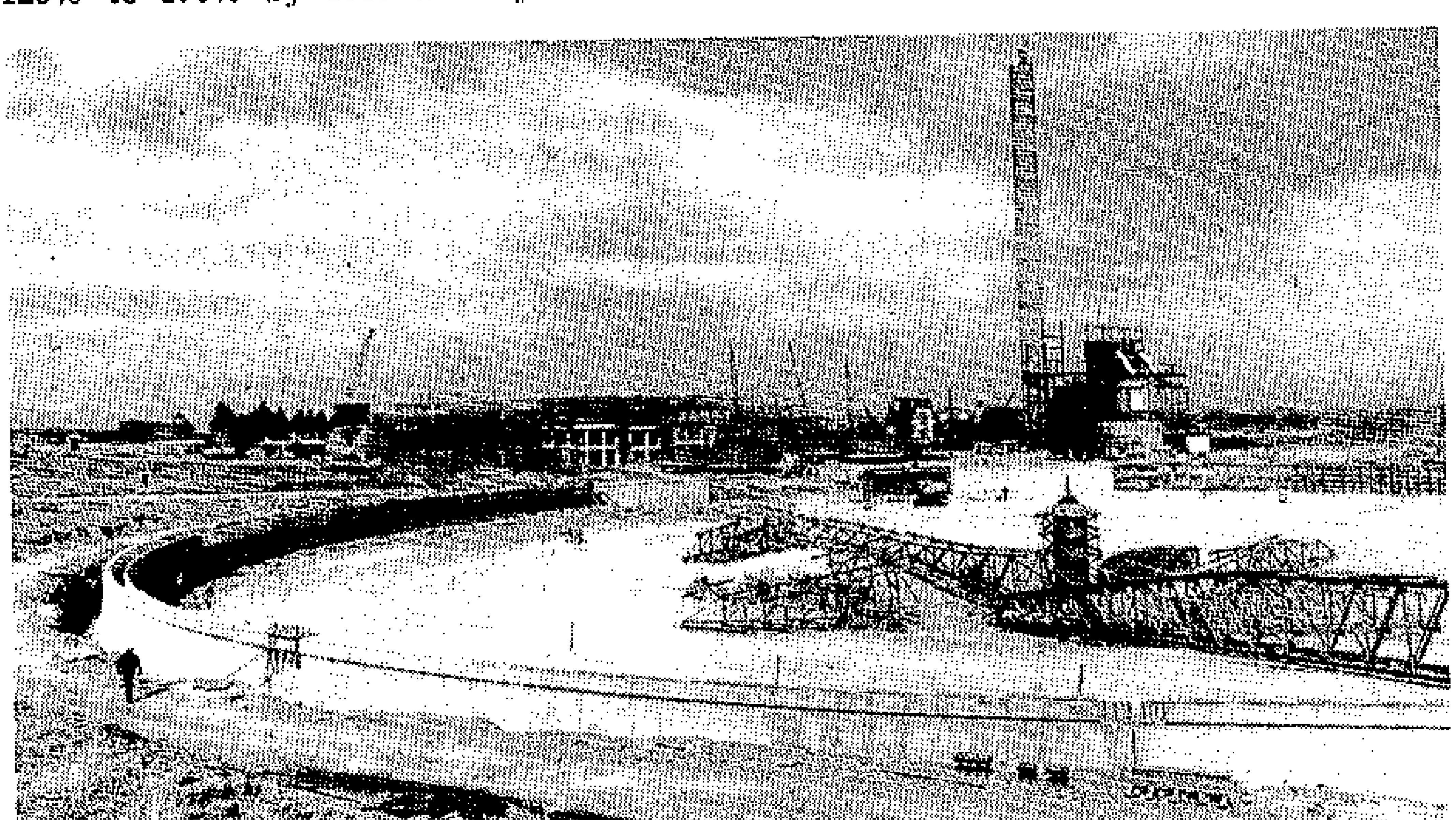
Last year the Republic produced about 4 600 t of yellowcake and RTZ's Rossing mine in Namibia — the world's largest — probably a little less. On those figures SA ranked third after the US and Canada in free world production, with Namibia in fourth position. The two together provided about one-seventh of free world supplies.

The dramatic increase in the price of spot uranium in recent years, from below $10/lb in the early Seventies to above $50 today, has encouraged massive investment in expanding production facilities.

These have taken three forms:

- Additional processing units at existing mines where uranium may be recovered as a by-product of gold mining with an average yield of 0,4 lb/t. A typical case is Vaal Reefs, the biggest single producer, where capacity is being doubled.
- Exploitation of old mine dumps — the Ergo and JMS schemes.
- Opening up of the first mines where uranium will be the primary product and gold only secondary — Beisa and Afrikander Lease.

The value of SA production (excluding Namibia) last year was between R250m and R300m. With output tonnage expected to double by the early Eighties, and world prices still rising, uranium's foreign exchange earnings should soon exceed R800m a year.



Extracting uranium from mine dump sands at Ergo

power station that has been operating efficiently in France. It will have "light water" reactors of the "pressurised" type — the most popular of the various kinds of nuclear power plants operating or under construction throughout the world — with fuel elements containing enriched uranium.

Natural uranium contains only 0,7% of the radioactive isotope 235, the remainder consisting of 238. To enrich uranium it has to be converted into a dangerous and highly corrosive gas. This is then processed according to one of several proven — but all extremely expensive — techniques, to "skim off" slightly heavier 238 atoms so that the residue contains a higher proportion of the lighter 235 atoms.

Power stations of the Koeberg type and size require uranium enriched to a 2% or 3% 235 content, compared with the 90% plus needed for atom bombs, nuclear submarine fuel and research reactors like Pelindaba. But the quantities are different. It only needs a few kilos of highly enriched uranium to make an atom bomb, but Koeberg will need an initial charge of 146 t of moderately enriched uranium, with an annual reload requirement of 48 t.

What do those figures mean in terms of SA's resources? Manufacture of 48 t of 3% enriched uranium requires about 260 t of mined uranium which is about one-40th of estimated output in SA and SWA together, this year.

The Americans have at present a virtual monopoly of the enrichment or "separative" work, as they are the only ones whose facilities to do this extremely expensive, technologically advanced and politically sensitive work have spare capacity.

But for political reasons the US has refused to guarantee to prepare fuel for SA's first nuclear power station. Consequently SA's Atomic Energy Board has decided to build a small commercial scale enrichment plant, using the SA-developed jet-nozzle separative technique, at Valindaba near Pretoria.

No details have been released about the scale of this plant. But it is hardly likely to have a capacity less than would be needed to build up stocks for a second nuclear power station, in addition to meeting Koeberg's requirements. This infers a capacity of about 400 t of separative work a year — which would make it almost as big as the Capenhurst (Britain) and Pierrelatte (France) enrichment facilities.

Koeberg itself is second only to Sasol 2 within SA in its scale as an engineering project. A million cubic metres of sand had to be excavated down to bedrock, some of it being mixed with cement and poured back to make the foundation. By time of completion, 300 000 m³ of concrete will have been poured and 45 000 t of Iscor steel used.

"We have to make use of engineering expertise that is only available overseas because of the sophisticated and specialised nature of nuclear power engineering," says Escom's on-site construction superintendent Ron Harris. "For instance, only two countries in the world, the US and Japan, are able to produce the blooms needed for the shafts for the turbine generators. The main cooling pump stainless steel castings are being done in Switzerland. The heavy pressure vessels — up to 400 t finished weight cast — are being rolled and machined in France."

Because the authorities and the public are acutely sensitive to the potential danger of a nuclear power station, safety is taken to extreme lengths.

The reactors will rest on a reinforced concrete "raft" 5,5 m thick. This will be mounted on synthetic rubber bearing pads laminated with steel, atop concrete block pedstals. These in turn will rest on a 2 m thick heavily reinforced concrete raft, supported by the 6 m thick soil-cement foundation.

All this is designed to enable Koeberg to withstand a massive earthquake measuring 7 on the Richter scale, even though it is not in an earthquake area and the chances of such a disturbance occurring are rated at one in a million years.

Contrary to popular belief, it is impossible for a nuclear power station of the Koeberg type to explode like an atom bomb. The worst that could happen, if all the doubled and tripled safety controls failed would be that a reactor might melt and release radioactive steam.

The station will have massive defences to contain the radioactivity should that happen. The reactors themselves will be housed in 2 m thick heavily-reinforced anti-radiation shields, ringed by a 60 cm concrete wall, itself ringed by a 1 m thick "last defence" containment.

There is no radiation danger whatsoever to workers or residents of surrounding areas from the normal operation of the power station. The normal background radiation from the earth is 100 millirems in the area, and a maximum of 10 millirems will be added to this by Koeberg. The total of 110 millirems will be well below the normal background radiation in Johannesburg — 130 millirems — and the additional 10 millirems produced by Koeberg will be much less than the average South African receives each year from X-rays, luminous watches and television sets.

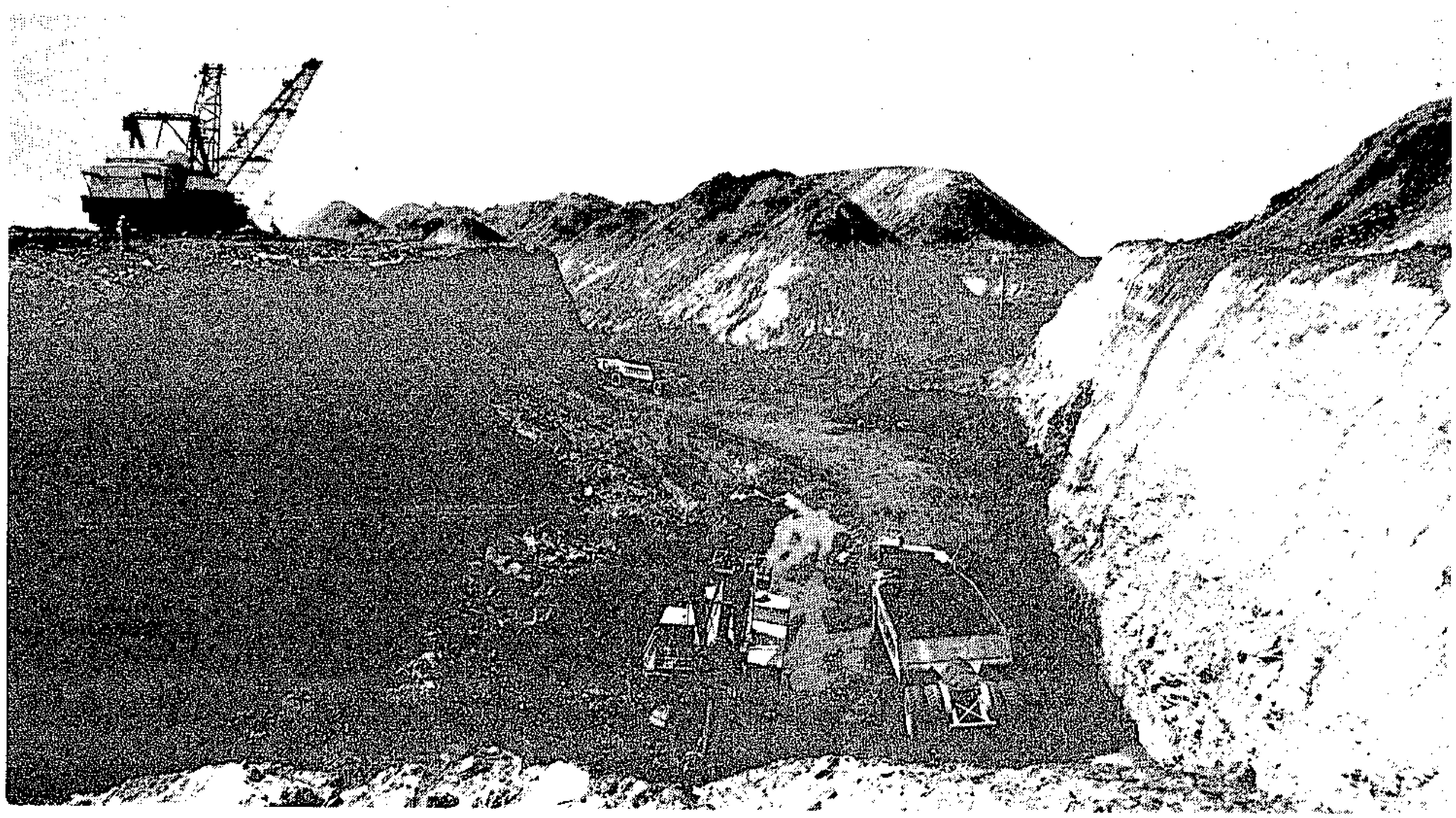
Washington Post nuclear expert Milton Benjamin recently described Koeberg's twin reactors as "two of the world's most carefully built atomic power plants" and reported that the advanced planning that had gone into them, "and the safety and quality assurance standards that are being enforced appear to be at least the equal of any major industrial country."

Old King Coal

Coal remains SA's principal source of energy. But there are sound reasons for boosting exports

Coal is SA's principal energy resource, and as such it is the focus of considerable public attention, government regulation, and promotion of vested interests.

How extensive are our resources, and can we afford to "lose" part of them by exporting? How can we stop our wasteful mining methods? Does price control protect the public against rapacious mine-owners, or introduce costly distortions for which the public ultimately pays? Should foreign oil companies be favoured over



local coal groups when it comes to issuing prized export allocations?

The argument over the size of SA's reserves seems to have more to do with one's world-view (optimistic/pessimistic) than with facts, since most of the "facts" are assumptions, and each commentator chooses the ones to suit his own argument.

The Petrick Commission estimated that in 1974 SA's resources of steam, coking and anthracite coals totalled 82 billion t, of which 32 billion were proven, with 26 billion and 24 billion in the indicated and inferred categories, respectively. It assumed that only 42% of the coal in the proven and indicated categories (25,3 billion t) would in practice prove to be extractable.

The Department of Planning forecast in 1977 that by the turn of the century SA will reach the "point of inflection", where rising production will no longer be able to keep up with rising demand because the resources simply won't be available. And after peaking at about 300 Mt/year to 320 Mt/year in the third decade of the next century, coal production will actually start to decline.

To add to the gloom, only 2% of the country's resources are of sufficiently good quality even to be classed as "standard coal" by international standards, with reserves of metallurgical coal for the steel industry being particularly small.

However, many would argue that this is a "worst case scenario" based on the gloomiest assumptions.

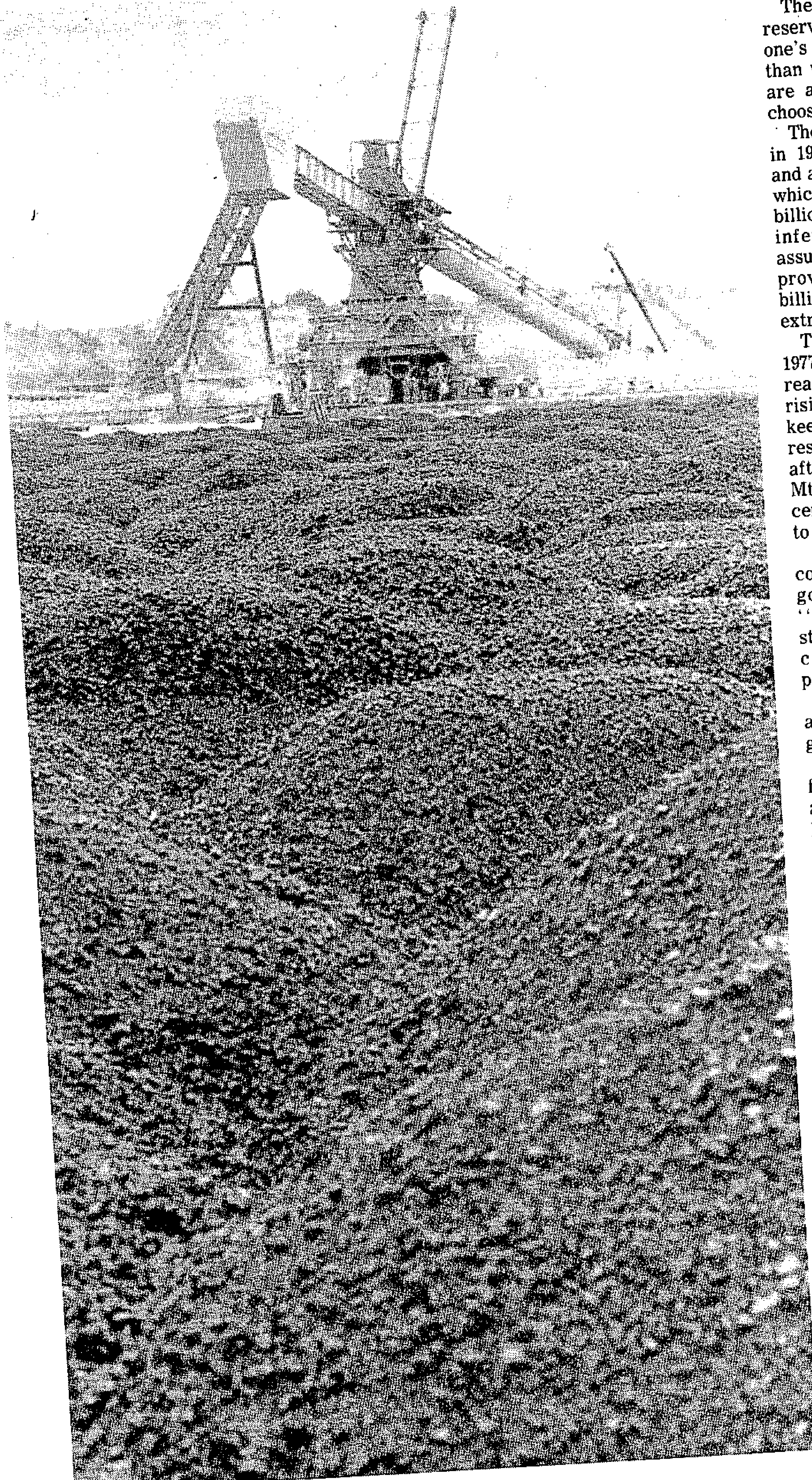
There is probably much more coal to be found if it becomes economically attractive to prospect for it seriously. Higher coal prices in recent years have stimulated more exploration and since Petrick reported, additional deposits of some 10 billion t have been discovered.

There are probably enormous resources in even less well prospected neighbouring territories such as Botswana, Namibia and Zimbabwe-Rhodesia. In Botswana alone, some 10 billion t has already been found.

Petrick only considered steam coal resources lying within 300 m of the surface and metallurgical and anthracite coals within 500 m. Taking the steam coal limit down to 400 m would add more than 10 billion t to resources. Petrick ignored seams of steam coal no thicker than 1,2 m. The industry now reckons it can mine seams only 1 m thick.

Petrick also ignored the tens of billions of tons of coal with ash (waste) content exceeding 35%. Yet with fluidised bed combustion it is now possible to use coals with ash contents as high as 60% (this has been proved, under laboratory conditions, at the University of Cape Town).

If the coal price rises sufficiently, it could become financially attractive for collieries to introduce less wasteful but costlier mining methods. The proportion of the coal in the ground that is actually



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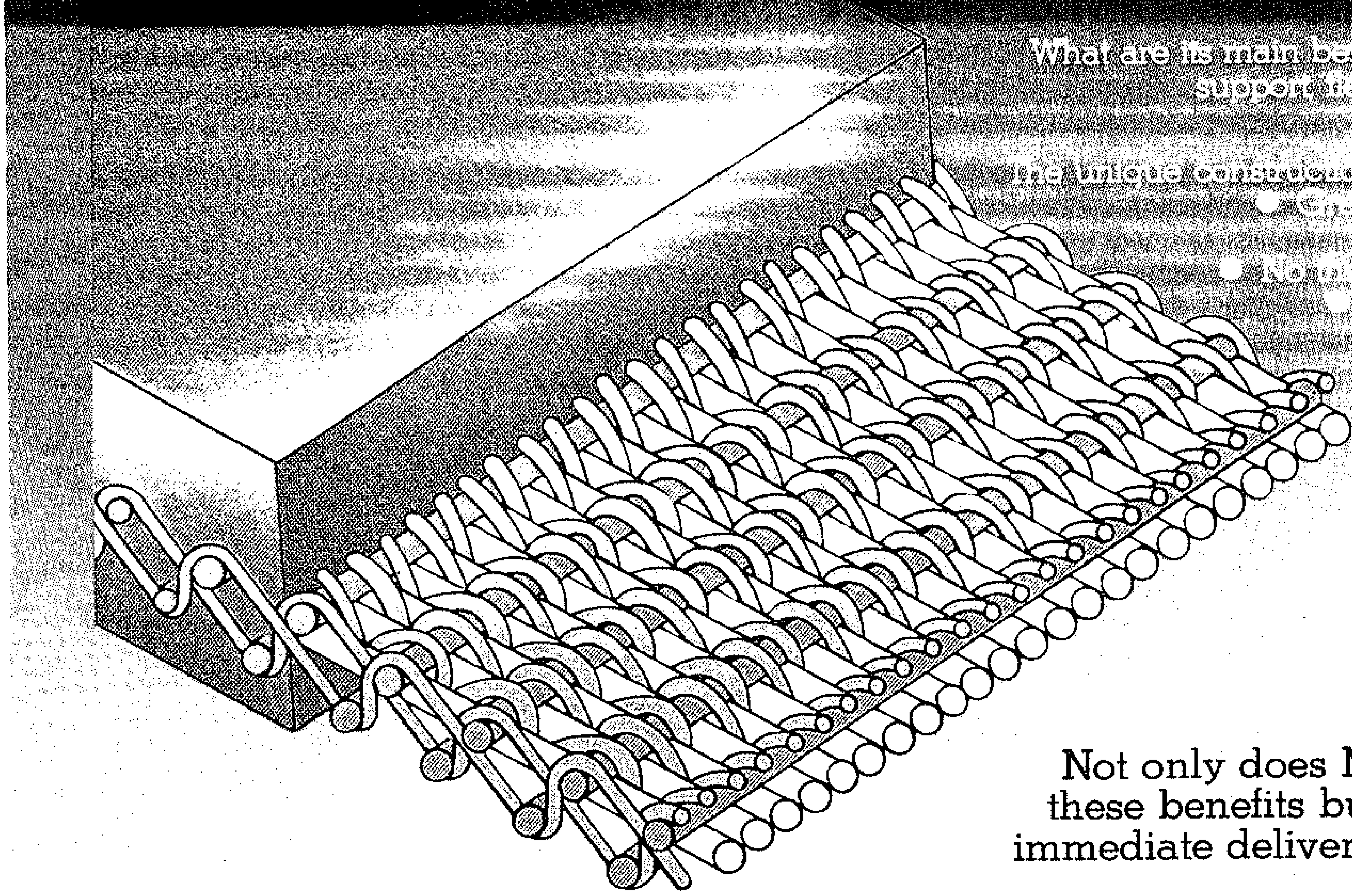

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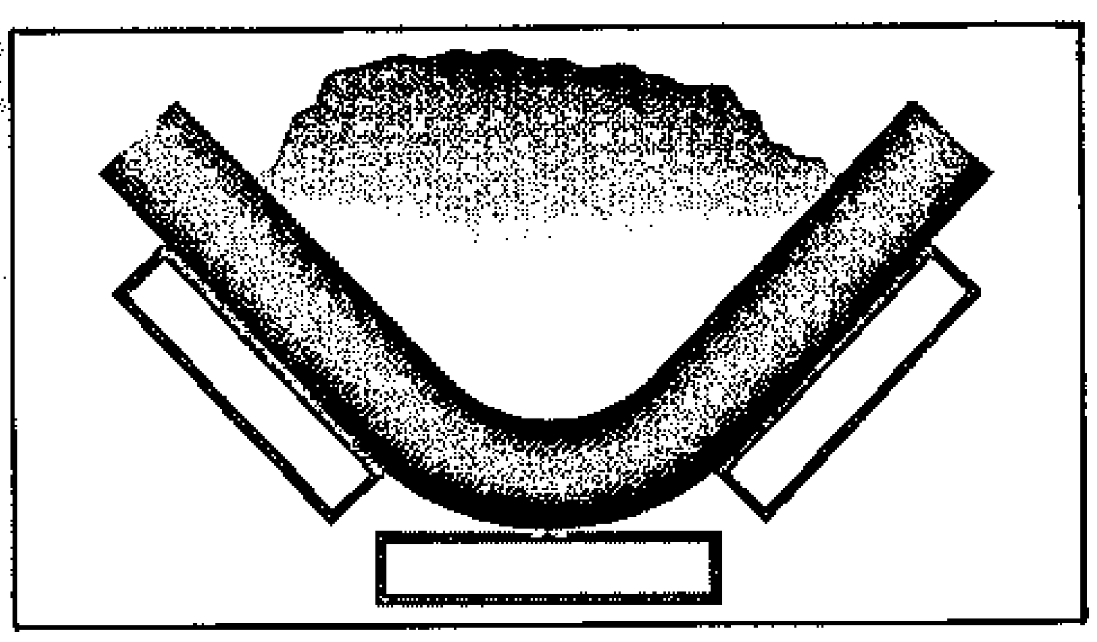

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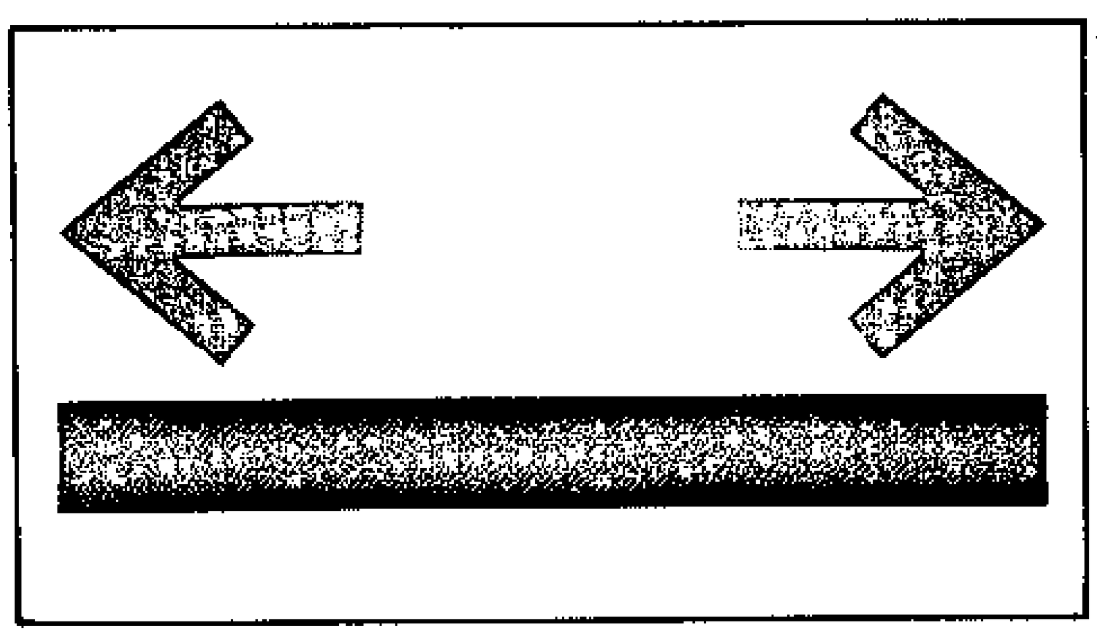

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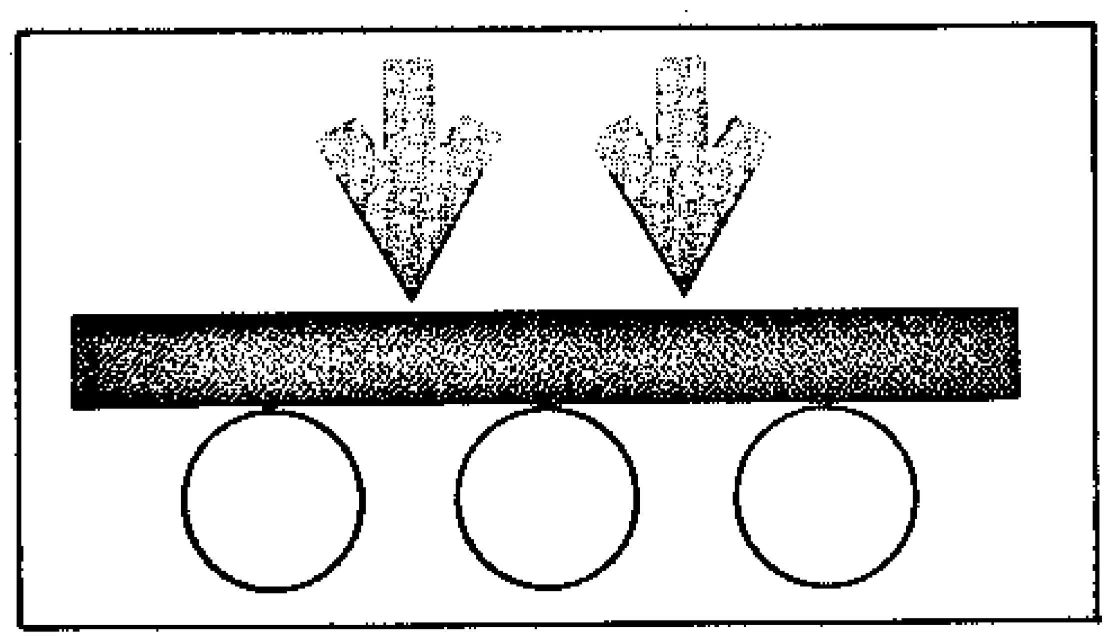

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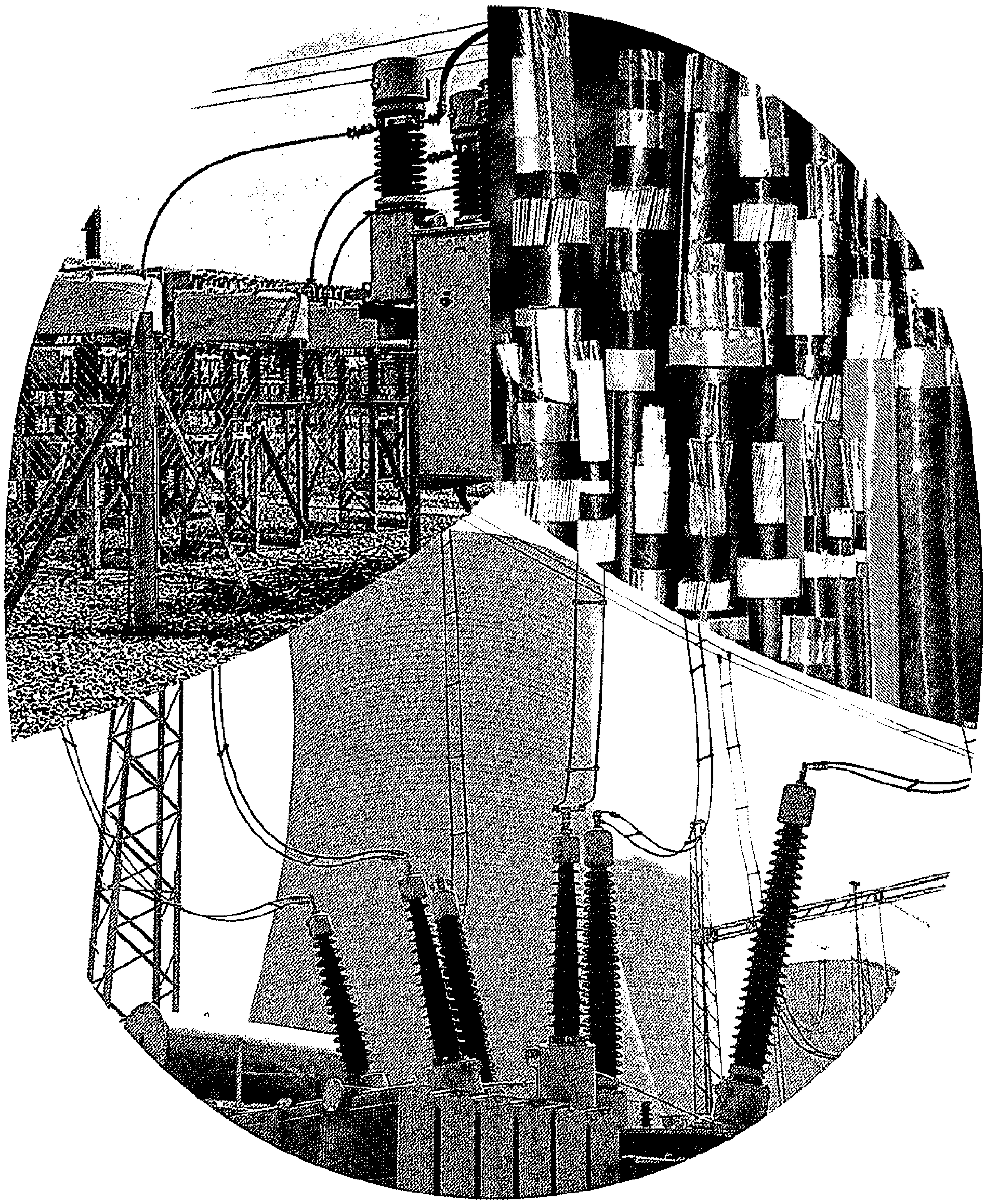

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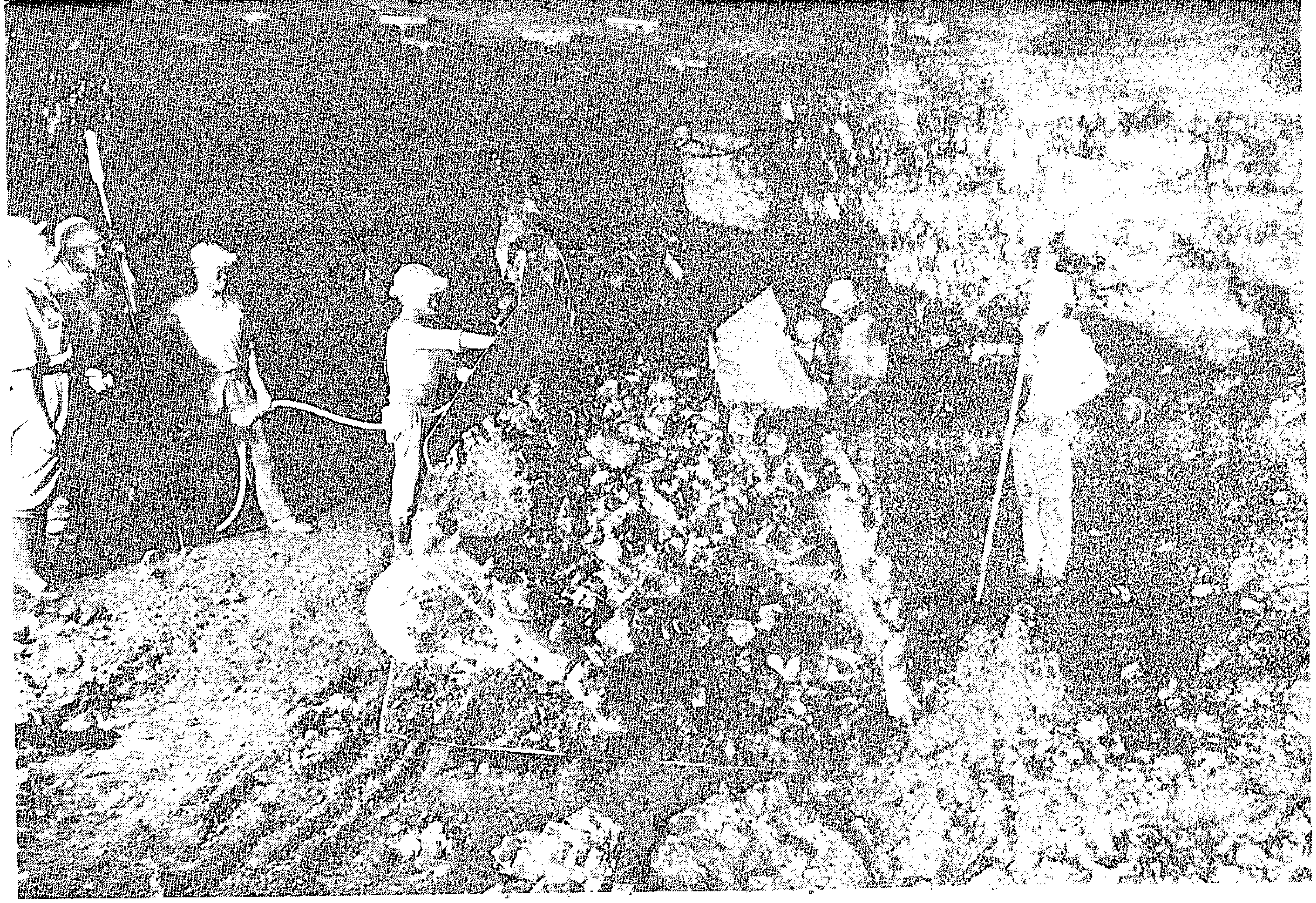


mined could be raised to 60% — the figure Sasol expects to achieve at its underground mine to serve the Secunda plants.

This development alone would add half as much again to the Petrick figure for extractable resources.

Millions of tons of low-grade coal are dumped each year after being "washed" out of mined coal to upgrade material offered for sale. "If that material can be left to burn on dumps, it could just as well be burned under controlled conditions to produce electricity, if this were made commercially attractive," says Allen Sealey, chairman of the Transvaal Coal Owners Association.

Improvements in electricity generating efficiency incorporating technology that is already available (fluidised bed) or shows promise under laboratory conditions (higher pressures, combined cycle), will eventually enable Escom to produce more power from the same quantity of coal, easing its demands on our coal resources. At present almost half our coal production is used to generate electricity.

Eventually nuclear power stations and solar collectors could take over all coal's responsibilities as the source of electrical energy, making the remaining coal available for production of gas, liquid fuels and chemical feedstocks.

If these dynamic factors are taken into account, SA should have enough coal to be left with substantial resources when the rest of the world has run out (by which time, presumably, alternative resources such as the virtually unlimited hydrogen in the oceans will have been harnessed).

As it is, much of SA's coal is being mined wastefully, leaving behind hundreds of millions of tons which may never be recoverable.

This is so because until recently coal prices were so low that in most cases only the cheapest mining method was viable. And because black wages were low, the cheapest was a labour-intensive method — pillar and stall — which is wasteful because it involves leaving behind large amounts of coal as pillars to support the hanging (roof) during the mining operation. In some cases as little as 10% of the coal in a deposit was extracted, using this method.

Between 1972 and 1977 the controlled pithead price of coal jumped 300% while black miners' pay rose more than 400%. Higher prices and even higher wages have altered the economic structure of the industry, making attractive less wasteful, capital-intensive methods of mining such as longwalling and stripping.

Longwalling involves extraction of all the face over a breadth of 25 m - 200 m. In its advanced, highly mechanised form, machines strip the coal by making continuous traverses from side to side, while hydraulic roof supports move in from behind. As the face advances, the supports furthest behind are withdrawn, allowing the roof to collapse. The system is not well-suited to seams more than 3 m high or those at shallow depth — both conditions being common in SA — but where it can be used effectively, 70% or more of the coal can be recovered.

Stripping, or opencast mining, involves removal of soil and rock to gain access to seams that are close to the surface. About 90% of the coal can then be extracted.

This method is now economic when the stripping ratio (proportion of overburden that has to be removed in relation to tonnage of coal that may be extracted) is six-to-one or less. In some overseas countries, where coal prices are higher, ratios of up to 10:1 are common.

A more recent move to counter waste has been the restructuring of the pattern of controlled pithead prices for coal to be sold within SA, to encourage the collieries to mine lower-grade coals.

Until January the controlled price of D grade Transvaal coals (those with a calorific value below 25,5 gigajoules to the ton) was R7,50/t whereas the price for A grade coals (with cal. values above 27,5 GJ/t) was R7,76. No informed customer would willingly buy low-grade coal at 29,5c or more per GJ content when he could obtain high-grade at a cost of 28,2c or less per GJ.

The new price pattern reversed this situation. A customer can now buy D grade coal that is close to maximum energy content for 32c/GJ, whereas A grade close to minimum energy content costs 33c/GJ.

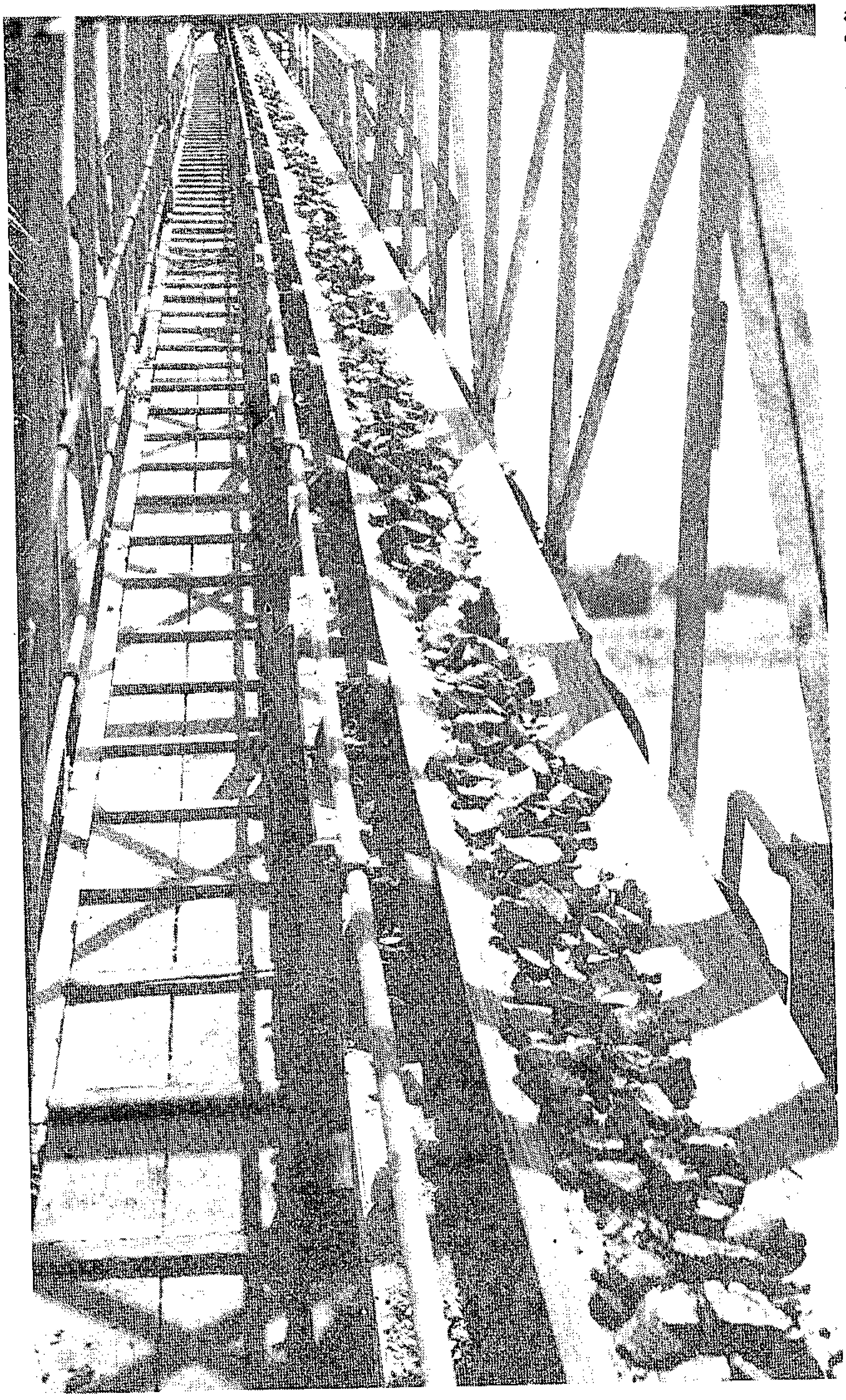
This does not solve the problem,

because the transportation cost from pithead to consumer is the same whether the coal be high-energy or low-energy, so better coals maintain an advantage in terms of total cost per GJ to the user. But at least a move has been made in the right direction.

The answer to wasteful mining methods is not additional government regulation, but planned use of the price mechanism by the government to encourage more efficient extraction.

Market forces would accomplish this themselves if the entire price control system were to be phased out. Prices obtainable for our coal on world markets are sufficiently attractive to SA producers to encourage them not to use mining methods which are wasteful.

If domestic prices were allowed to rise to levels set by international markets (less, of course, the very high transport costs), they would encourage the collieries to extract higher percentages of their coal even if this raised costs.



There would be the incidental but important national benefit that higher prices would discourage wasteful consumption of energy (we still have to learn with our coal, as the Americans have learned with their petroleum and natural gas, that cheap energy promotes wasteful excesses by consumers). Alternative sources such as nuclear power and solar energy would become economically attractive.

It is not so easy to argue that our mining companies should be freed from the restrictive rigmarole of export licensing and allowed to ship overseas unlimited quantities of a limited national resource.

Export quotas attainable by 1985 have been limited to 44 Mt/year, with 30,5m allocated to SA groups and 13,5m to BP, Shell and Total. The government has indicated that 44m will be the export ceiling, as it does not want to see more than 5% of our extractable resources (as determined by Petrick) shipped abroad over a 30-year period.

This approach seems to be excessively cautious.

The more coal that we can sell over the coming decades to an energy-hungry world, the more foreign exchange there will be to finance a higher rate of industrial development within SA. Potential earnings are huge. It has been estimated that with the existing limit on exports, forex earnings could be running at about R750m a year (in today's money) by the mid-Eighties.

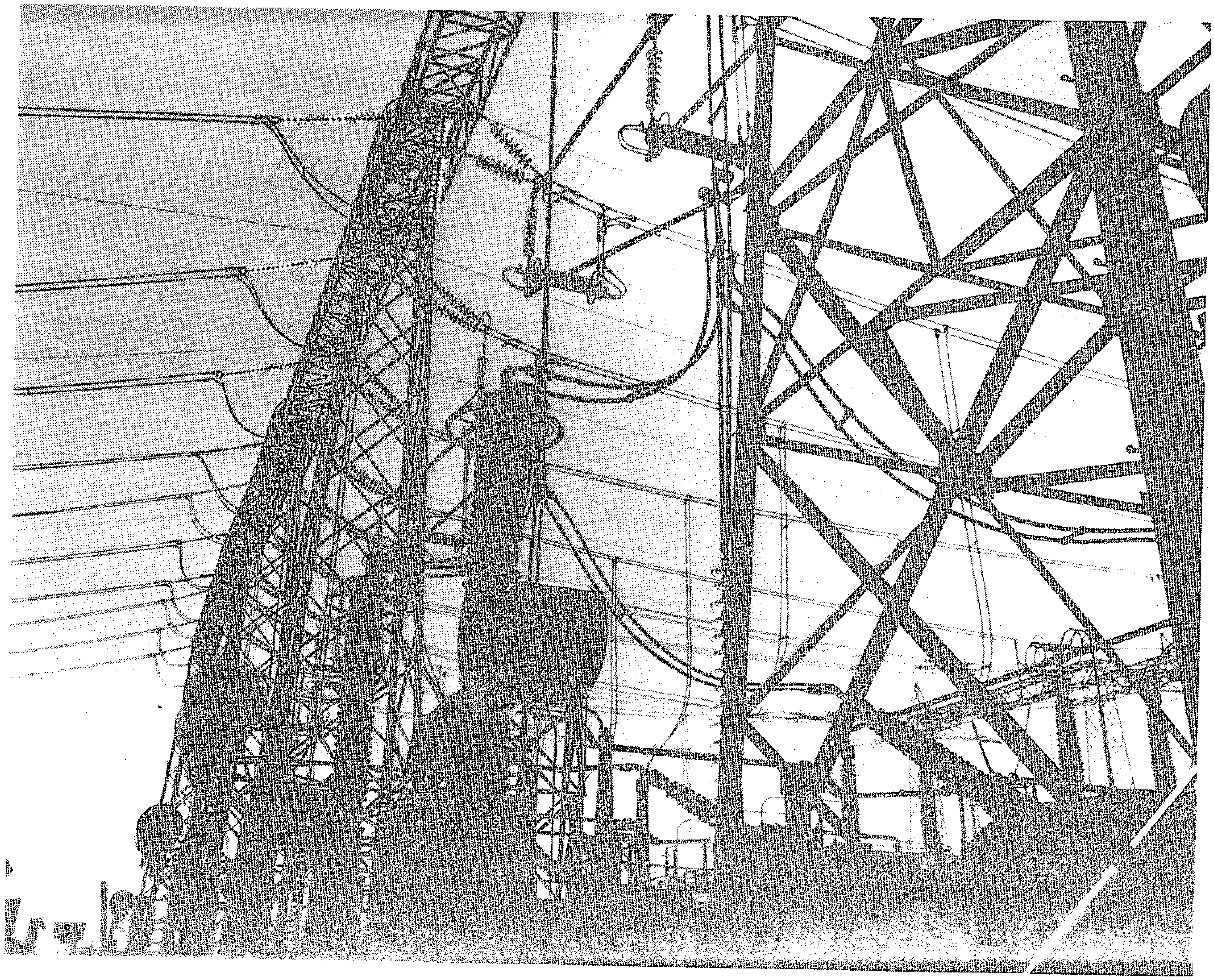
The higher the rate of industrial development, the faster we can build up the pool of industrial skills, especially among black South Africans. Industrial skills are a more important asset than mineral wealth — as countries like Japan and Switzerland have shown — since they are self-rejuvenating and are more dynamic in their economic potential.

There is also the danger that we could carefully conserve our coal, passing up the opportunity to trade it for the advantages of a higher rate of industrialisation, only to find in the next century that coal has little value as an energy source, having been displaced by hydrogen fusion or some other scientific breakthrough.

A final consideration is that if SA is to make use of its strategic importance to other countries as a defensive weapon in its diplomatic armoury, it should surely encourage others to become more dependent on supplies of SA coal.

With its abundant coal and uranium as alternatives to oil as energy sources, SA could become, as some have suggested, the "Saudi-Arabia of the Eighties." But only if it is prepared to sell the stuff on a sufficiently grand scale to become a dominant force in world energy supply

Expanding with Escom



New electricity generating capacity is a must to meet growing demand. But it all costs money

SA's economy is hungry for electric power. After expanding at an average annual rate of more than 9% for nine years, the growth in demand for Escom power dipped to 5,9% in 1977 — but picked up to 8,4% last year.

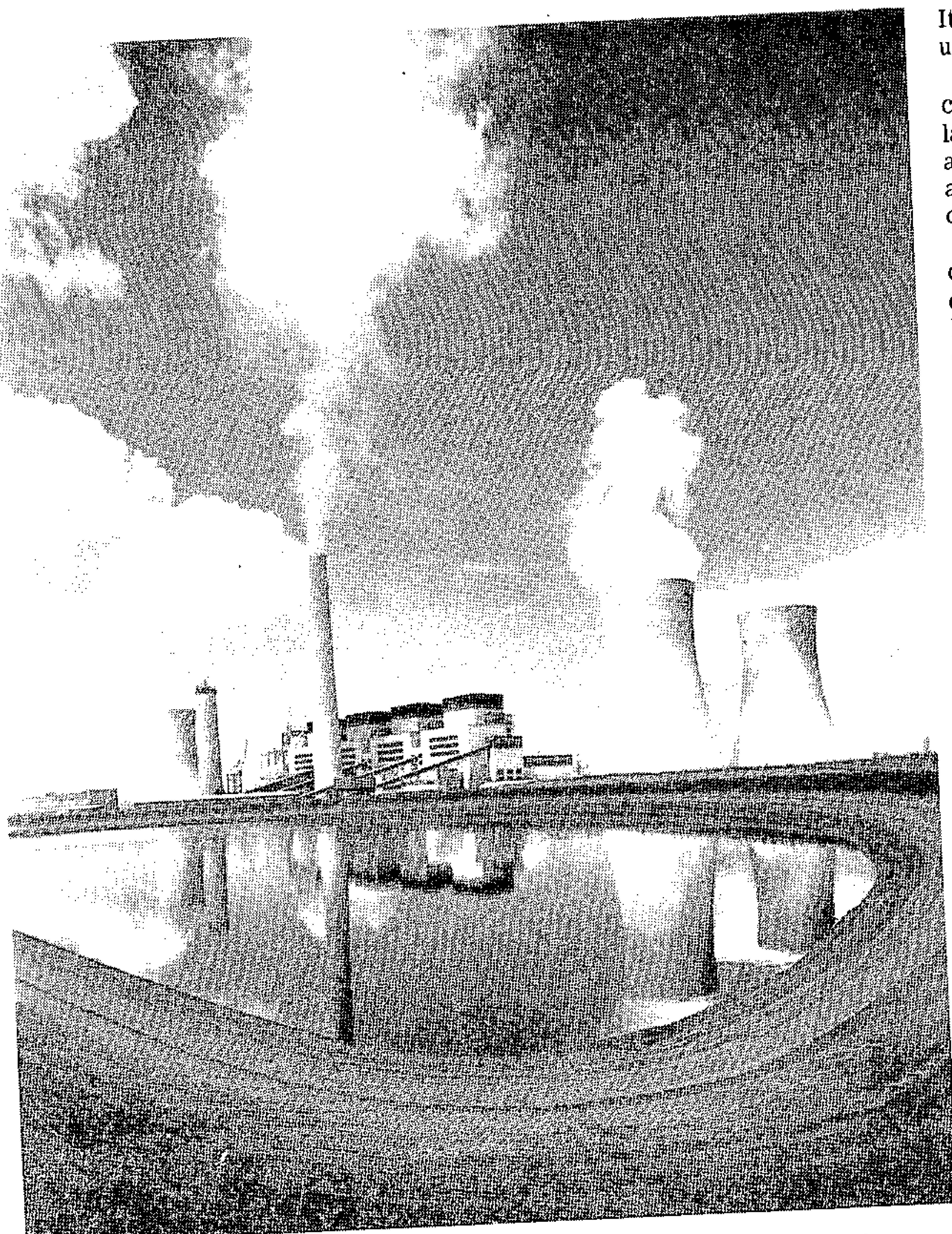
An important cause of the high rate of expansion has been the development of the metals industries, although that development itself reflects the cheapness of electricity in SA as well as the availability of raw materials such as chrome and manganese. Energy (most of it in the form of electricity) accounts for one-third of the production cost of ferro-silicon, a quarter in the case of electrolytic manganese and a fifth in the instance of ferro-chrome.

Other important causes have been the development of mining, the switch from coal to cleaner and more easily handled electricity as a source of energy, and mechanisation — replacing manual labour with power-driven machines.

The demand for electricity has generated an equivalent demand for capital to finance its provision. It costs almost R400 now to provide generating capacity for each additional kilowatt-hour needed. If allowance is made for additional capacity to allow for peaks in demand, planned shutdowns for maintenance purposes and unexpected breakdowns, as well as for power lines and the rest of the distributing system, the total cost per additional kilowatt-hour is more than R500.

Not surprisingly, Escom estimates that it will need to make capital investments totalling at least R1,5 billion this year, or R63 for every man, woman and child in the Republic.

Raising capital on this scale became a major problem in the mid-Seventies, forcing Escom to look to consumers to provide a larger share than in the past through paying a higher price for their electricity. Unfortunately this came at a time when the costs of other important inputs such as coal and plant also "took off." The result has been an outcry from



consumers which culminated in a recent report by the Board of Trade accusing Escom of "making too much profit."

Escom is partly to blame for this outcry because of its peculiar accounting practices and its failure to explain these to the public. In its published accounts, Escom:

- Confuses capital appropriations with current expenses;
- Does not charge depreciation as an expense;
- Does charge as an expense, interest that it pays to itself through holdings of its own stock in its capital development, reserve and redemption funds.

In 1977, for example, 22% of sales revenue (R225m) was allocated as capital contributions to two of the capital funds and an additional 6% (R63m) to loan repayments; no depreciation was charged; but almost 8% (R80m) — considered as an expense, and included under the "interest and finance charges" heading — was in respect of interest paid on Escom stock held by its own capital funds, and was not really an expense at all.

Its chairman, Dr R L Straszacker, defends this practice of charging interest on internally-held stock on the grounds that "interest would have to be paid if these funds had emanated from outside sources . . . The interest flow helps to improve the percentage of internal funding," reducing the level of dependence on external funding.

But this is not a convincing argument. No ordinary company would consider it necessary to "pay" interest on its accumulated reserves. Escom's accounting practices merely result in an adverse and false impression of its financial state.

If one returns to those 1977 figures, takes the capital appropriations, disallows internal interest as an expense, and adds the surplus for the year of R33m, it seems that Escom creamed a profit of the order of 39% of sale (R401m), even though it used almost all of it to finance expansion. It is not surprising that consumers are upset when they see a figure like this.

Yet in fact Escom's "profit" in the conventional sense was nothing like as large, because it failed to allocate any amount for depreciation to be charged as an expense, as would be normal commercial practice.

If a reasonable figure were taken for depreciation during the year — say R210m on capital assets of R4 193m — then Escom's "profit" for the year would come down to R191m, or 18,5% on sales. Not an unreasonable figure for an undertaking with a critical need to generate a large cash flow from its sales to finance construction of new production capacity and distribution facilities, and to replace obsolete plant.

Looked at another way, Escom is financing roughly one-third of its new capital investment out of internal resources, with the balance being financed through newly-raised loan capital on domestic and foreign markets. That is not unreasonable, either. "In fact," says Dr Straszacker, "a lot of utilities overseas look to internal financing for 50% of their capital requirements."

Another source of criticism of Escom has been its heavy dependence on foreign loans, particularly those raised in hard currencies such as the Deutschemark, whose appreciation against the rand has led to substantial capital losses more than offsetting the low interest rates charged.

However, about one quarter of capital investment has involved expenditure in foreign currencies. Amounts raised on foreign capital markets have roughly matched this foreign currency spending.

As foreign borrowing often takes the form of supplier or export credits, it is not surprising that much of it should be in the currencies of the countries whose firms have supplied the equipment.

In addition, Escom has been in the fortunate position of being able to take advantage of a system whereby the Reserve Bank (ultimately, the taxpayer) has carried most of the exchange risk involved in hard-currency loans. It could hardly be blamed for this. The system has now been changed as a result of the De Kock reforms.

Escom's hunger for capital is not likely to lessen, and indeed Dr Straszacker forecasts a need for an additional R8 billion (in today's values) over the next five years. Major new power stations such as Matla and Duvha (coal-fired) and Koeberg (nuclear) have to be completed and other giants started.

Even without high economic growth, additional new demand will emerge. The railways, for example, plan to increase the proportion of their goods traffic hauled by electric locomotives from 57% to 80% over the next four years. Sasols 2 and 3 will call on Escom to provide part of their power.

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In South Africa and around the world, air pollution control has become the order of the day. Brandt leads the field with sophisticated installations such as these giant fly ash precipitators for South Africa's first 500 MW power station at Kriel. Ash is collected at the impressive rate of over 37 metric tons per hour from each boiler – for a removal efficiency of at least 98%.

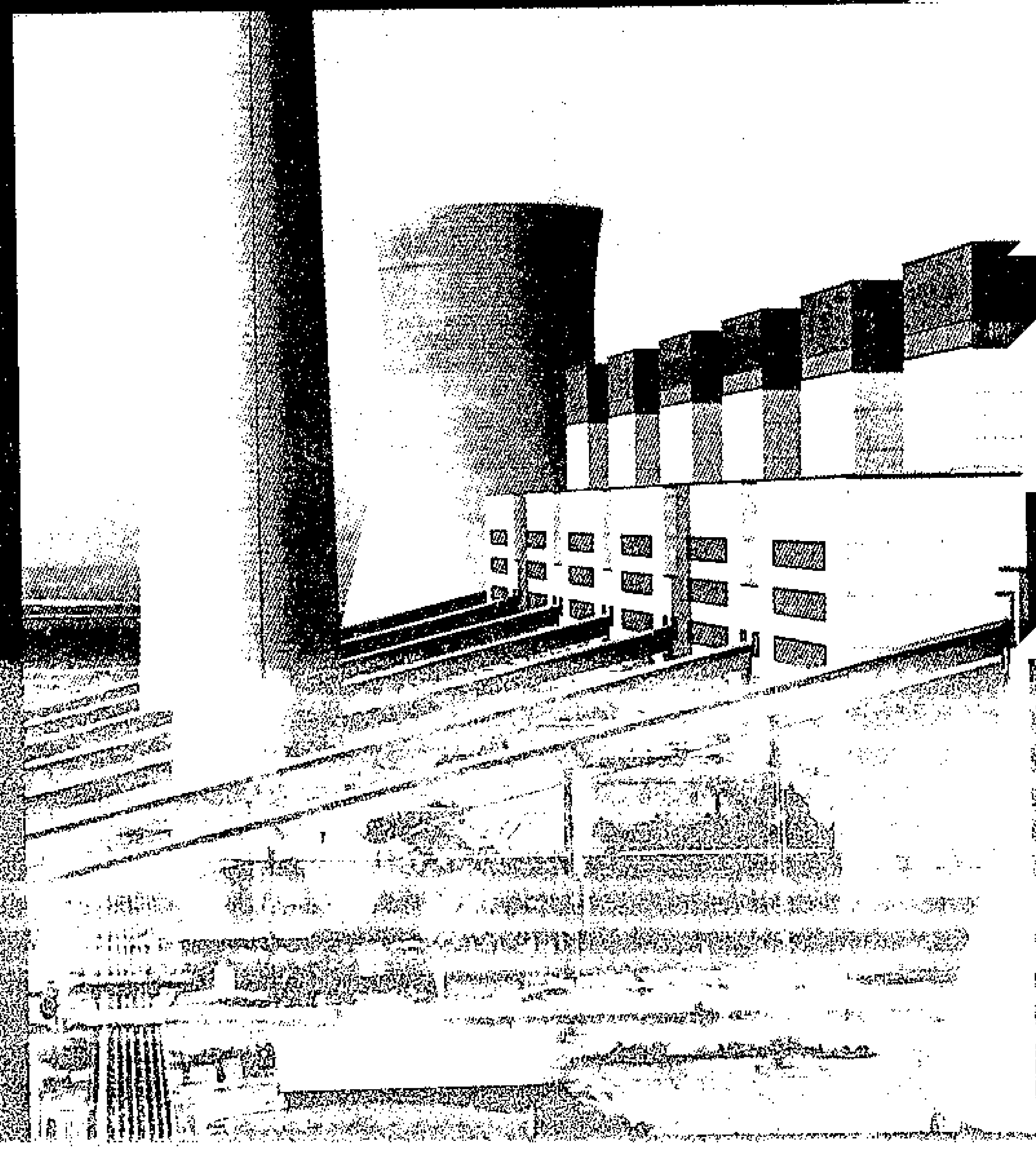
As a part of the range of equipment supplied by the Gas Cleaning Division of Brandt Engineering, electrostatic precipitators are available in sizes ranging from that suitable for small boilers to the largest installations in the Republic.

Drawing upon the best in international technology, Brandt are able to supply a full spectrum of gas cleaning and anti-pollution equipment appropriate to every type of industrial and commercial operation. From Rothemühle in West Germany, come precipitators for the power generating sector and for general, industrial plants.

Baumco, in West Germany, offer complete gas cleaning plants [illegible] presently available for the suppression of blast furnace emission.

Finally, [illegible] cleaning [illegible] been [illegible] economically [illegible]

As part [illegible] of Brandt [illegible] supervises every detail of the operation – from [illegible]



Brandt [illegible]

[illegible] David Rice & Co. [illegible]

"We can't take the risk of not having enough capacity, because if we find ourselves in that situation, nothing can be done about it for six years — the time it takes from deciding on a new station to bringing it on line," says Dr Straszacker.

In addition, Escom does not believe that its present margin of spare capacity of 17% is sufficient to cope with the unexpected, especially as SA draws 8% of its requirements from Cabora Bassa in Mocambique.

It has avoided the "brown-outs" that have plagued other countries by delaying certain maintenance shutdowns. But obviously this maintenance cannot be delayed indefinitly, and operating efficiency has already been adversely affected.

The target spare capacity is 23% to 25%, and it is hoped to reach this within six or seven years — provided there isn't an unexpected surge in demand for electricity.

In the business arena

Businessmen — particularly fleet operators — could be doing a lot more to save themselves money on energy expenditure

How many companies even know what they are spending on energy, let alone have an effective programme to reduce energy consumption and expenses? A small but rapidly increasing number, to judge by what a new breed of professional experts, the energy consultants, have to say.

"Before 1973 no one was very concerned about energy costs, and the most likely reaction from a businessman, if you offered to save him R10 000 a month, was 'so what'," says Leon Bosman, national marketing manager of NUS SA. "But in today's climate, with turnovers often static in real terms, increased profits can only come from reduced expenses, and businessmen will snatch at the chance of saving even a few hundred rands a month on energy costs."

NUS (National Utility Services), an international firm, is prospering in this situation, though it makes no claim to give advice on energy conservation — only on where companies can buy the energy they consume at the lowest prices.

Its method is simply to know all the special rates, concessions and discounts that are available from suppliers of all forms of energy — electricity, petroleum products, coal and gas — and to advise companies on how to take advantage of the lowest prices available to them.

It sounds deceptively simple, yet it works. Last year NUS saved its 1 500 clients R3m on their energy bills. Its charge consists of a small initial "plug-in" fee, plus half the quantifiable and unarguable cash savings that it makes for a company.

NUS's principal competitor, Energy Concern, charges on the same basis, but without an initial fee. It has also started to offer a technical service to its clients to advise them how to cut out waste and reduce the quantity of energy they buy, as well as the cheapest way to buy it.

"We got into this because, in going around factories in the course of providing

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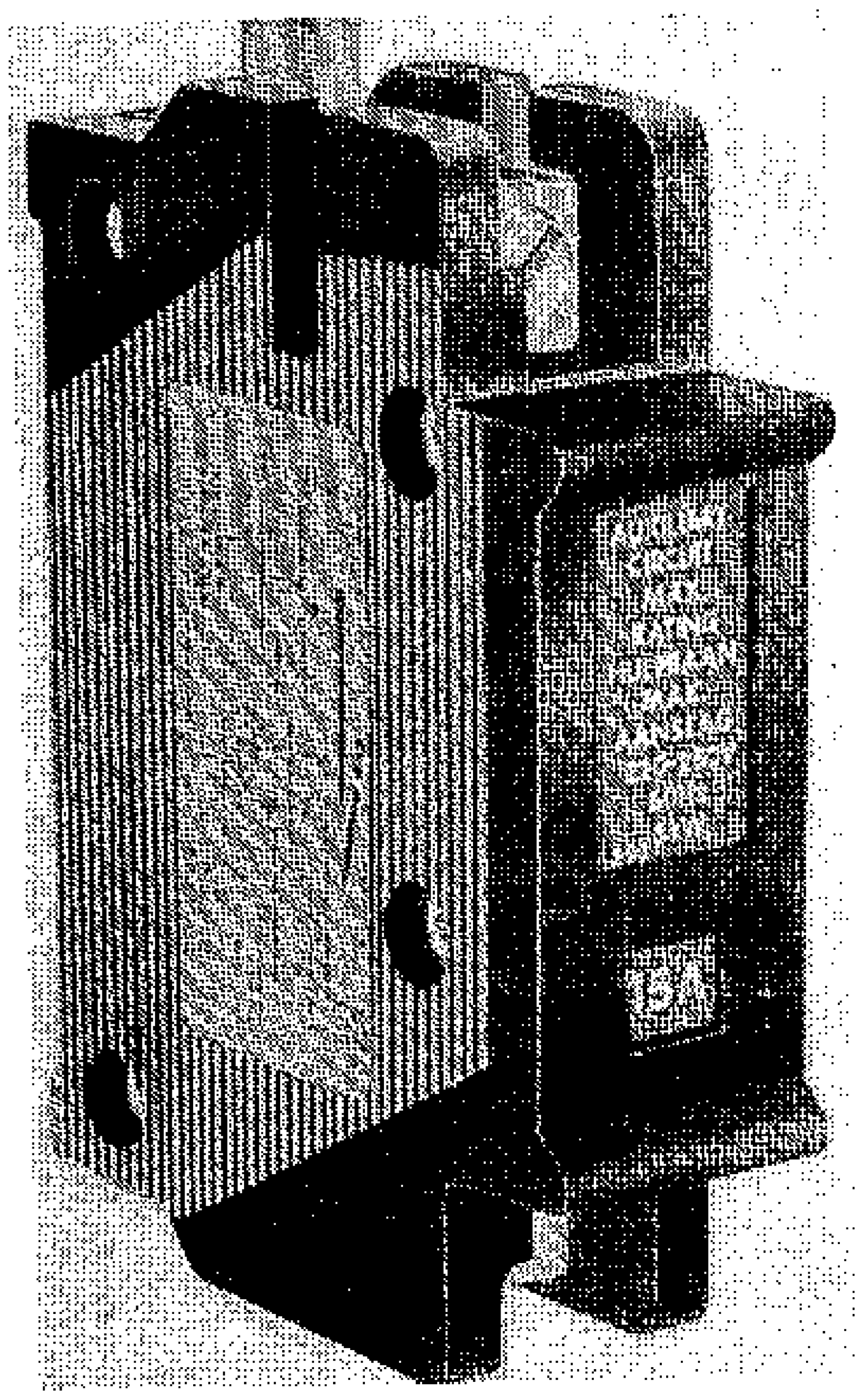

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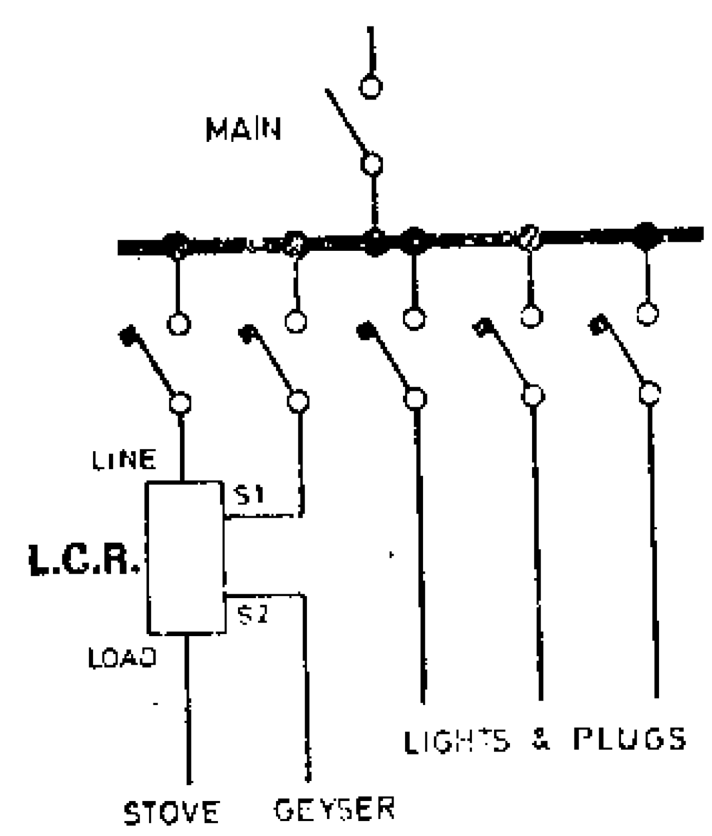

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our financial service, we came across wastage of energy on a huge scale," says MD Paris Gogos. "To give one example: we found a factory in Durban that was spending R17 000 a month on LPG for an after-burner that could be run just as well on coal gas at a cost of only R2 500 a month.

"There is a double problem. One aspect of it is although businessmen pay lip-service to the concept of energy conservation, they are not really motivated to do much about it. The other aspect is that the convenience and ease of carrying on with expensive energy sources such as petroleum products outweighs the cost-saving advantages of switching."

Gogos suggests that a 25% cut in energy usage is easy for most businesses to achieve. Wastage is greatest where theindustrial heating of materials takes place. "We have come across cases where flue gases are being discharged through chimneys at temperatures as high as 1 300 degrees. It is easy to 'capture' such energy for useful purposes such as heating of water."

Gogos believs that much more must be done to educate businessmen and the public at large in practical ways to save energy, and why it is to their direct financial advantage. "It's no good for the government just to talk all the time in overall national terms — people must be shown what's in it for them."

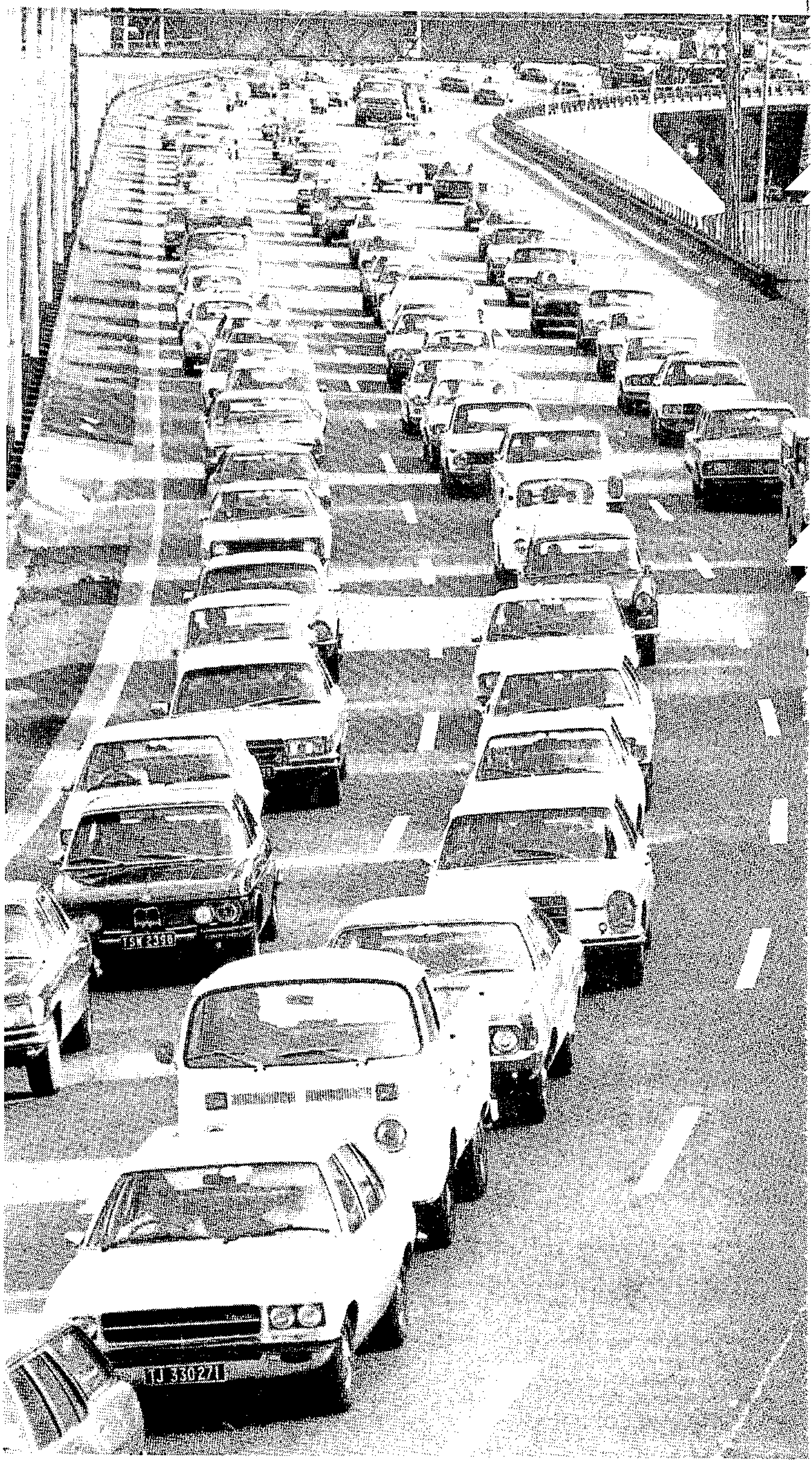
Transport consultant Max Braun also believes that a 25% reduction in consumption of liquid fuels should be easy for most companies to achieve. He says: "There are so many simple, basic things that can be done, yet few firms bother to do them. For example, fitting the petrol tank inlets of company cars with lock-up caps and a simple device that makes siphoning extremely difficult not only stops theft by outsiders, but also makes it impossible for an employee to transfer company petrol to his wife's or his own car at the weekend.

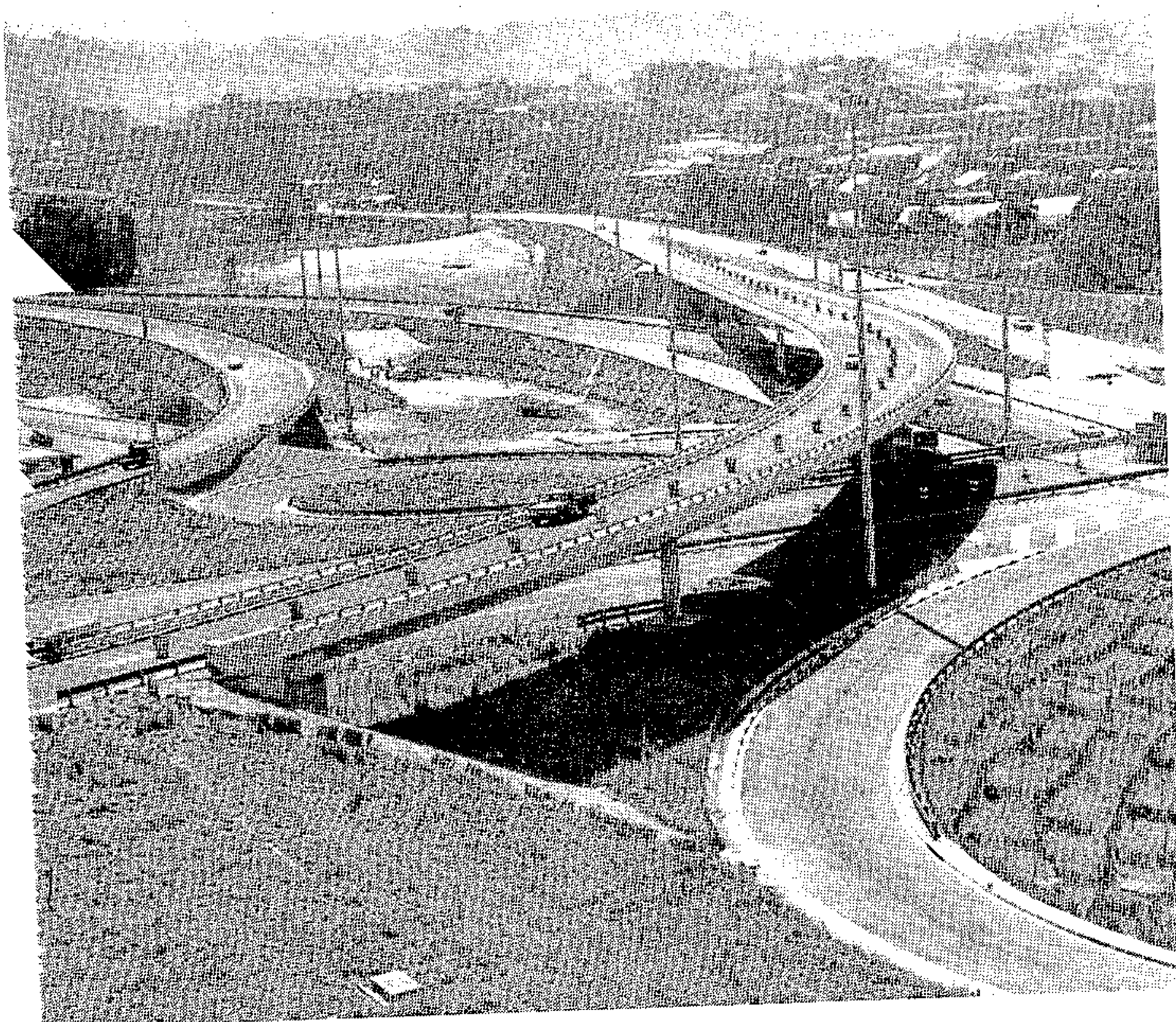
"Many companies with their own pumps in their yards do not exercise proper control, so people are able to fill their cars or five-litre cans for their own use. To stop this, stocks must be monitored by someone responsible and the books reconciled so that large amounts of 'missing' fuel are not just written off each month.

"Although quite a number of companies have tried to reduce the 'scale of magnificence' by getting their guys into smaller cars, this could be taken a lot further. By this means alone, a firm can easily reduce its petrol bill by 20% to 30%.

"Very few companies place restrictions on the amount of travel done by their cars, and there is a great deal of wasted distance due to lack of planning of sales reps' areas, transfer of documents, and so on.

"A very effective way of stopping





people doing a great deal of private driving at weekends using company petrol is to fill up a man's company car last thing on Friday, insist that it is filled up again first thing on Monday, and charge him for the fuel used over the weekend."

Large savings are possible simply through regular maintenance of company trucks and cars. For instance, fuel consumption can be reduced by up to 5% just by keeping tyres properly inflated. Efficient maintenance depends on securing the co-operation of the driver, who is the only person who really knows how a vehicle is performing. He is the man who will detect leaks, or sees that the exhaust is belching black smoke.

Braun believes that the most meaningful approach to fuel saving, particularly with diesel-engined trucks, is to concentrate on the training and motivation of drivers. "Merely to be licensed to drive a heavy truck is not sufficient qualification to operate and manage an expensive machine. Further training is essential, and at the moment there is only one organisation that is doing this well — the industrial council's driver training unit at Krugersdorp.

"This is an area that a lot of companies, large and small, have to give urgent attention to — driver training. The scale of fuel saving that is possible with better driver training is considerable. I think we're talking about 30% in most cases."

How the shares rate

Energy shares can make a good investment. This guide outlines what to watch for

From the time the oil crisis broke in 1973, energy shares listed on the JSE have attracted a good deal of investor interest.

The *RDM* index has risen by a staggering 600% in the intervening period, with uranium counters also enjoying a relatively high level of demand — from sources both locally and abroad.

Although a uranium share index does not exist (since the vast majority of uranium producers tend to mine more gold than uranium), a measure of investor awareness about the metal's potential can be gauged from the more than tenfold price increase in Afrikander Lease — a virtually dormant company which will only start producing uranium in 1981.

Other mines to have held the limelight on account of their uranium content include Free State Saaiplaas, Harmony, West Rand Consolidated, Buffelsfontein, and Stilfontein.

These companies, while not the largest producers of uranium in absolute terms, are companies whose uranium production constitutes (or is expected to constitute) a major contribution to profits. So,the investor looking for a relatively undiluted stake in uranium will be looking closely at such companies rather than those which produce larger uranium tonnages, which are dwarfed by far larger volumes of gold production.

A prominent feature of the SA uranium mining scene is the Orange Free State Joint Metallurgical Scheme (JMS), which came on stream in 1977 with the recovery of uranium from slimes and pyrite concentrates.

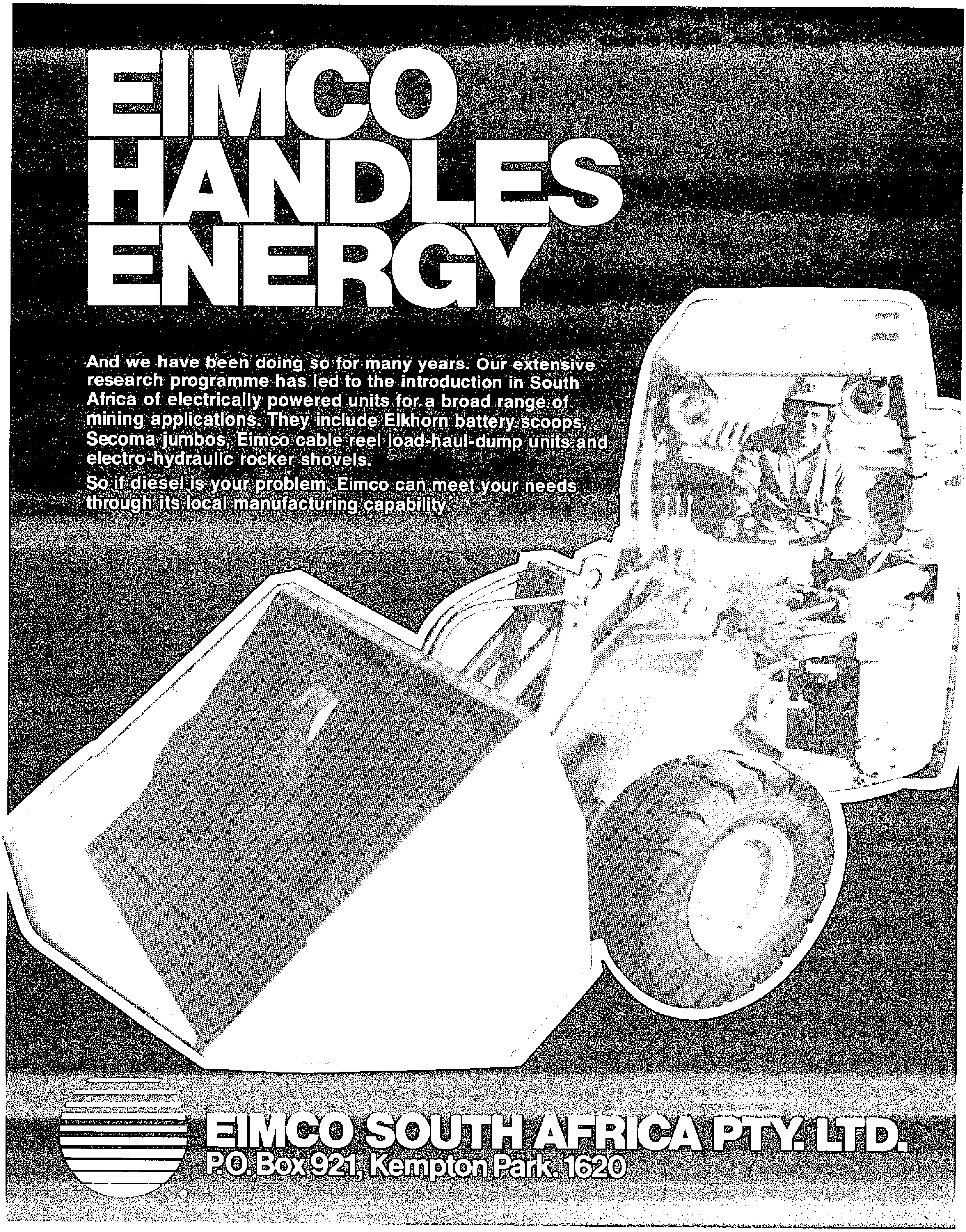
JMS treats material for the mines comprising the scheme (FS Geduld, FS Saaiplaais, President Brand, President Steyn, Welkom, and Western Holdings) on a toll basis. Each mine that contributes feed to the scheme retains the ownership of both the materials and the residue at all times and has an individual commitment to supply uranium against negotiated sales contracts.

Each mine's ability to supply feed has been calculated and defined and the consumer finance obtained as part of the sales contracts has been allocated to each mine accordingly.

Production costs incurred by the various plants are allocated to each contributor in proportion to its feed to each plant. The mines which constructed and operate the plants charge a process levy on throughput.

Pre-production revenue from the flotation plants, the acid plant and the calcine plant was capitalised up to September 30 1977. From October 1 1977, these plants have been fully operational and throughput is approaching design capacity, with profits currently running at around R7m per quarter.

During 1977 a long term uranium supply contract (the second of such contracts) was negotiated which will require an extension of the high grade slimes treatment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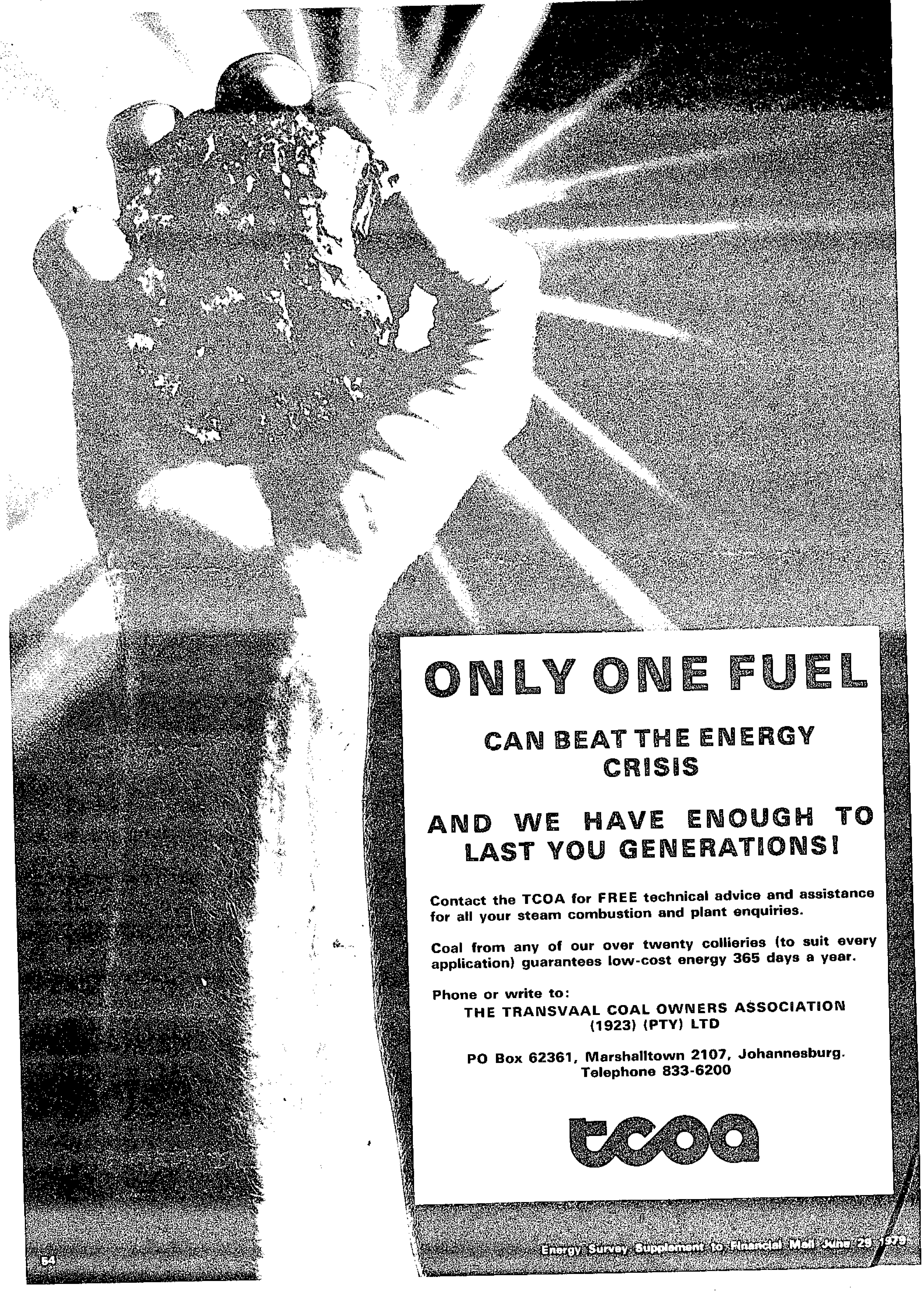
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facilities at President Brand for the production of uranium. The extension is scheduled to commence production in May 1980. In terms of this contract (as with the first) an interest-free loan has been provided by the consumers repayable from the proceeds of uranium deliveries between 1981 and 1983.

This loan has been divided among the participating mines as follows:

	R000	%
F S Geduld	1 091	5,6
F S Saaiplaas	8 504	43,9
President Brand	2 929	15,1
President Steyn	3 090	16,0
Welkom	2 977	15,4
Western Holdings	778	4,0
	19 369	100,0

The initial uranium supply contract extends from 1977 to end-1981 and the most recent contract from 1981 to 1985 inclusive.

The share of profits (losses) attributable to the mines participating in the scheme in the year to September 30 1978, is as follows:

	R000	%
F S Geduld	20	0,1
F S Saaiplaas	14 140	72,6
President Steyn	224	1,1
President Brand	6 317	32,4
Welkom	(2)	—
Western Holdings	(1 215)	(6,2)
	19 484	100,0

The above tables indicate that F S Saaiplaas is contributing the major portion of the slimes and is deriving the greatest financial benefit.

Uranium production is, in fact, a major factor in the fortunes of this mine. Gold production is running at a loss and it is only the mine's JMS profit share of R14,1m, coupled with net sundry revenue of R3,5m, which enabled the company to earn a profit of R14,4m in the year to September 30 1978.

Net earnings have lagged behind the high rate of capital expenditure (the company is in the throes of an expansion programme), with the result that dividends have not been paid since 1975. However, with the JMS profit share likely to grow and with the No 3 shaft scheduled to come into full production in 1981, dividend payments should resume within the next two to three years.

Uranium is not nearly so important a source of income to the other JMS mines as it is to F S Saaiplaas. Welkom will eventually benefit to a worthwhile degree as its uranium values are rather higher than those of the other participants and, moreover, gold prospects for this mine are not encouraging. Revenues from the JMS will provide both President Brand and President Steyn with mild profit stimuli, but those accruing to F S Geduld and Western Holdings will be completely overshadowed by gold earnings.

Of particular interest among JSE's uranium counters is Afrikander Lease — partly because it is at this stage still something of an unknown factor and partly because when it does come into production virtually its entire income will be derived from uranium.

After years of indecision as to whether or not projected earnings would justify the expenditure necessary to get the new mine underway, the company has now decided to develop its area as a joint project with Vaal Reefs.

A separate plant, milling at a rate of 50 000 t/month, for the recovery of uranium and gold will be built by Vaal Reefs at the site of the new mine for commissioning in the first half of 1981. Production will be at the rate of 385 t of uranium oxide and 460 kg of gold a year. Afrikander Lease will get a royalty from Vaal Reefs of 5% of gross revenue, subject to a minimum of R50 000 a year.

The new mine will not pay State's share profits, but its profits will be taxed at the rate applicable to a post-1973 gold mine and the royalty accruing to Afrikander Lease will attract tax at normal company rate. In this respect, the arrangement between the two companies is similar to that which exists between Vaal Reefs and South Vaal.

Before the main operation starts in 1981, mining of the uranium-bearing orebody at the Afrikander Lease property (15 km west of Klerksdorp) will begin in December this year at an initial rate of 15 000 t/month which will be taken to Vaal Reefs for treatment. Once the plant is commissioned, it is expected to reach its rated capacity of 50 000 t/ month about 12 months after commissioning.

In the year to June 30 1978, Harmony's profit after loan repayments totalled R32,4m — a figure in excess of its overall net profit of R30,2m after tax and lease. For the future, gold grade is expected to decline and the uranium contribution to increase as selling prices rise. Some areas previously unmineable for their gold are now becoming economical when combined gold/uranium values are considered.

The importance of uranium to Harmony is emphasised by plans to build a new plant at the Merriespruit section at a cost of R33m. Interest-free customer financing has been arranged and commissioning is expected in mid-1980. The new plant will add about 15 000 kg a month to the mine's production of uranium oxide.

As old, low-price uranium contracts fall away (they are due to end finally in 1985) profits from uranium will increase.

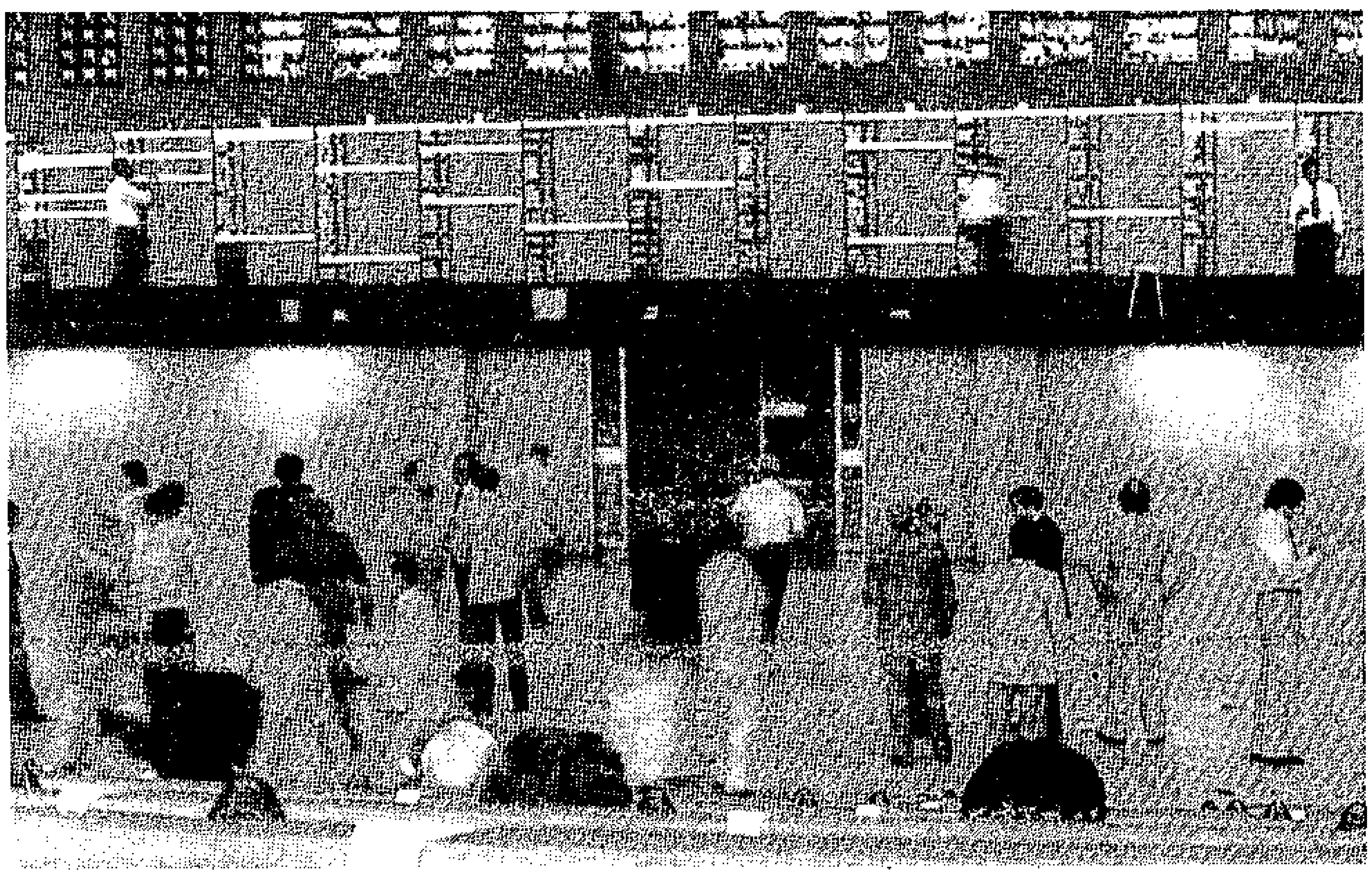
West Rand Consolidated (WRC) is an old mine which is currently deriving nearly its entire revenue from uranium sales. The average price of uranium sold in terms of old contracts is still well below current world prices, but revenue is being maintained at relatively buoyant levels owing to spot sales from the mine's uranium stockpile. As the stockpile is being rapidly run down, however, uranium production is high on WRC's list of priorities.

During 1977 the uranium plant was expanded to 80 000 t/month. This is being further upgraded to 90 000 t/month.

In its efforts to establish more ore reserves WRC is continuing to step up its development rate. A high rate is vital to ensure that sufficient stope faces are created to allow the flexibility needed in the mining programme.

For the year to September 30 1978, uranium revenue amounted to R12,7m and gold revenue to R14,9m, with the latter figure including gold from the mine's uranium section. Net profit after tax and lease was R1,8m. A dividend of 7,5c a share was paid against 3c in the previous year.

Uranium is becoming increasingly important to Buffelsfontein as higher uranium prices are negotiated for deliveries made under old contracts. The mine's



uranium plant is being improved and with the grade of gold-ore mined showing signs of falling gradually, uranium profits are assuming greater significance to Buffels as a source of offsetting a possible decline in gold earnings.

Buffels, in conjunction with Stilfontein, is currently building a uranium plant at Stilfontein. About 15% of the plant's output will be attributable to Buffels and the remainder to Stilfontein. Stilfontein's re-entry into the sphere of uranium production has resulted in renewed interest in the shares of this mine. Uranium profits of R13m accounted for some 40% of Buffel's net profit in the year to June 30 1978.

Other major uranium producers include Blyvoors, Harties, Randfontein, Vaal Reefs, Western Deep and Ergo. Although uranium at present accounts for a relatively small proportion of the net income of these companies, its contribution in absolute terms should improve as old contracts are either renegotiated or fall away. Future percentage contributions will, of course, hinge on the price performances of both gold and uranium.

SA coal mines have a noteworthy advantage over their counterparts elsewhere in the world. This is as a result of factors other than low wages. These advantages include such areas as the thickness of seams, shallowness and regularity of deposits and, therefore, ease of mining.

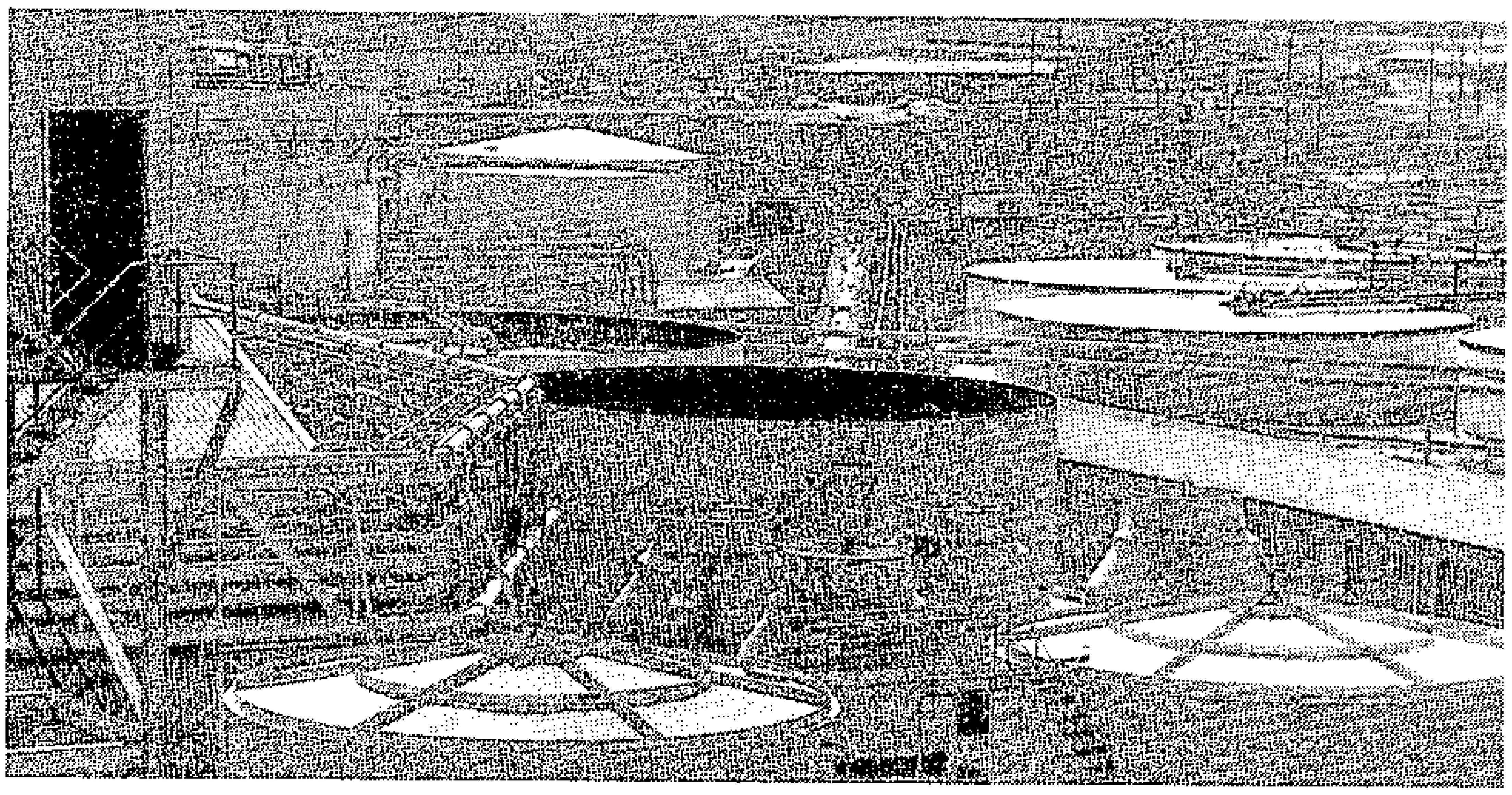
It is for these reasons that the Minister of Transport has forecast a 51% increase in coal exports to 22 Mt in the current year. Moreover, coal exports are predicted to reach 46 Mt in 1985, comprising 4 Mt of anthracite, up to 3,5 Mt of low ash blend coking coal and the remainder steam coal.

Coal prices on world markets are higher than those ruling in SA, giving the export collieries a decided price advantage over the tied collieries. This does not, however, necessarily imply that the shares of coal mines which export their output have greater investment merit than those which sell their output on the local market. For the latter, the outlook is also promising because:

- SA coal producers are no longer restricted in their earning capacity to an average pretax return of 5%. The benefits accruing to the mines as a result of the scrapping of this restriction was fully reflected in the behaviour of the stock market, when the RDM coal index rose from 151 (prior to the controlled price increase in May, 1975) to 358 following the 50% increase granted on July 2 1976.
- Sasols 2 and 3 will take up a minimum of 24 Mt a year (one-third of SA's output).
- Escom is increasing its output from many stations and is also in the process of establishing two new power stations, thereby adding considerably to the demand for coal. The two new stations are in addition to the recently established Duvha and Matla plants, which between them require about 10 Mt of coal a year.

In attempting to assess the investment merits of the various listed coal shares, factors to be borne in mind include:

- Profits vary from mine to mine according to the cost structure and the terms of certain contracts which may continue to be at relatively low prices.



- Exports and local sales of special qualities raise the average profit prospects to an important extent.
- While exports yield higher prices, overseas markets can prove fickle. Long term local contracts with inbuilt cost escalations offer long term solidity.
- Share prices of those mines involved in the "glamour" export market are tending to discount the high profits which will be achieved as a result of the receipt of higher prices for their output.

Bearing all these factors in mind, it becomes evident that long term investment value lies with the large groups which have strong balance sheets and substantial reserves. Shares which meet these criteria are Amcoal, Trans-Natal, Clydesdale, T C Lands and Witbank.

Amcoal has been labelled as "top of the league" — and it has the investment rating (the dividend yield is a well-below-average 3,6%) to back up such a label.

Proven reserves amount to a massive 6 600 Mt, with 4 100m run-of-mine tons and access to 2 300 Mt owned by Anglo and its associates. It is in the process of acquiring and consolidating blocks amounting to another 3 000 Mt to 3 500 Mt.

Amcoal has just opened the Kleinkopje export colliery and has high quality domestic coal from the adjoining Landau colliery. It is also a leader in the low-ash export trade. The company is a large supplier to Escom (second only to Trans-Natal).

Backed by the financial muscle of Anglo and having a foot in both the local and export market, this group has everything going for it. The dividend for next year is estimated at 110c and a leading stock broking firm recently projected a dividend of 150c/170c for 1981. Based on these optimistic expectations, it is difficult to regard the low yield ruling on the shares as having discounted the share's potential.

T C Lands has 5 500 Mt of proven *in situ* reserves and 4 500 t of probable reserves. Exports will play a large role in the future fortunes of this company — a factor which accounts for the ruling 2,9% dividend yield.

Witbank has total *in situ* reserves of 1 500 Mt, much of which is committed to supply steam coal to Escom. Exports account for nearly 50% of output. The company operates five collieries in the Eastern Transvaal and is developing an open cast mine. The shares enjoy a high investment rating.

Trans-Natal estimates reserves of around 3 500 Mt on its operating mines but the figure excludes its big blocks of ground on the Highveld, near Davel and its prospect areas around Pienaars River.

The company will prosper from its half share in the lucrative Matla power station contract; it is in the steam coal export business; it produces low-ash coal and it has Escom contracts which have been renegotiated at improved prices. A detracting feature is the company's large debt structure which will require loan repayments estimated at R5,7m a year in 1979 and 1980. Its estimated dividend for the next year is 25c for a projected 5% yield at the ruling shares price.

Among the non-export shares, Clydesdale is attractive because of its 50% stake in Matla (in partnership with Trans-Natal) and because its New Clydesdale colliery will get the maximum price for its A grade coal on the domestic market.

Of the remaining listed coal shares, Apex and Tavistock offer bright prospects — particularly Tavistock with its large, uncommitted reserves. Both companies, however, have small issued share capitals.

Investors wishing to acquire a stake in a petroleum marketing company are able to do so in the form of Trek Beleggings, which was formed for the purpose of manufacturing, marketing and distributing petroleum products. Trek has a history of steady earnings and dividend growth.

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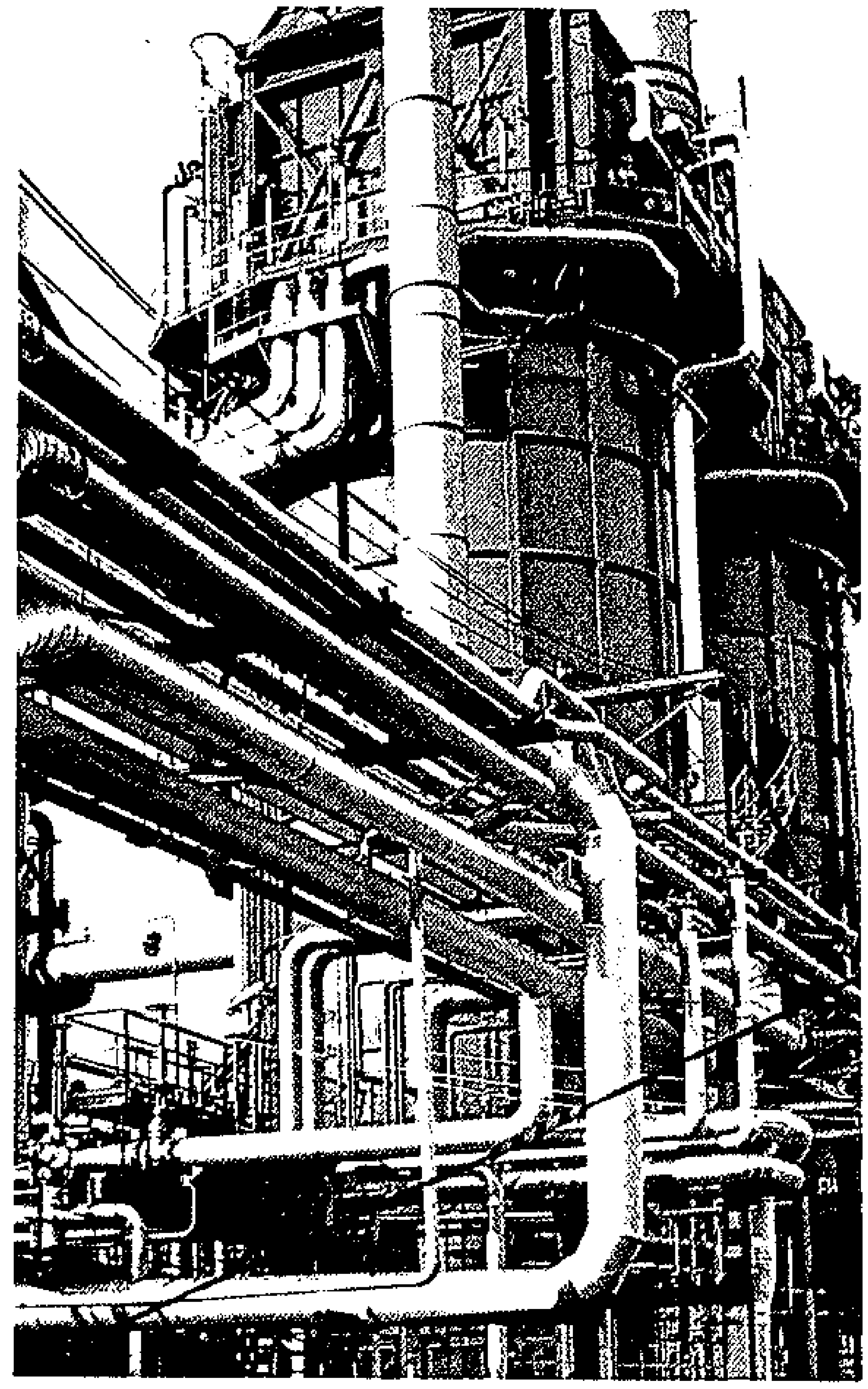

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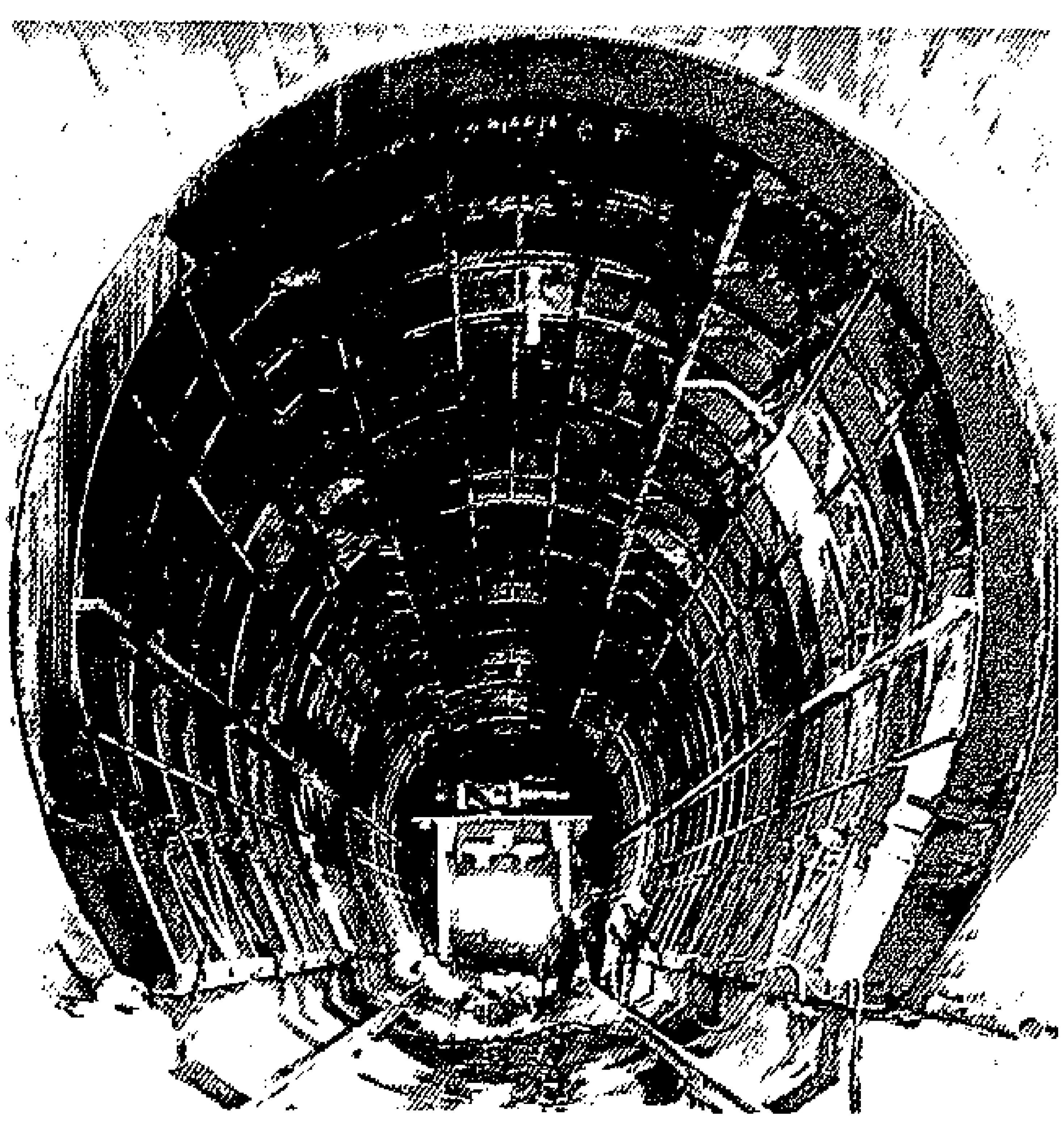

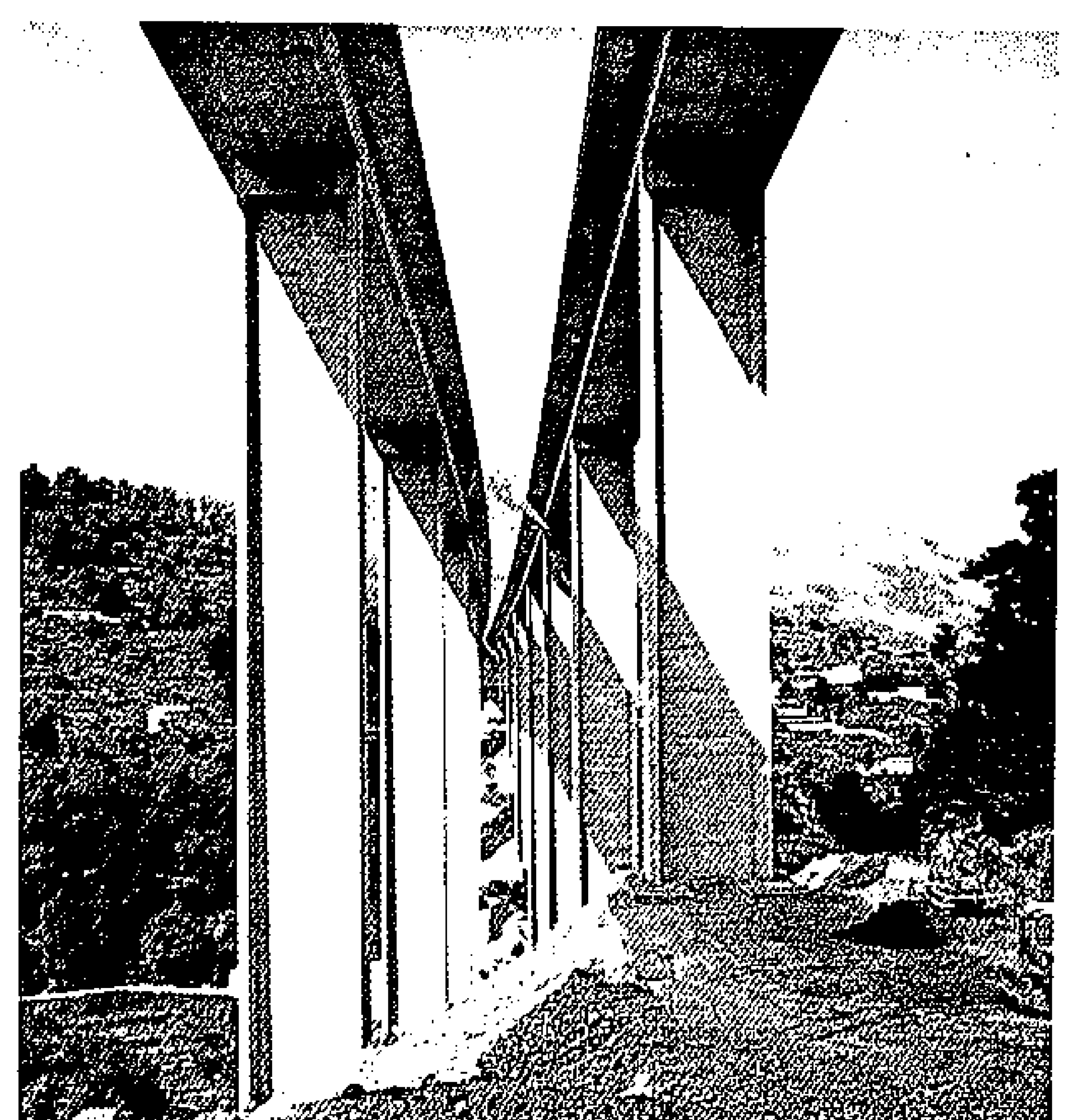

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UK yes to SA oil swop plan

55 30/6/79

LONDON — The Conservative government has approved a plan by British Petroleum for an oil swop with European countries that will result in BP having more crude oil available for export to its South African subsidiaries.

The decision to allow BP to exchange North Sea oil for crude-oil supplies is a reversal of the former Labour government's policy.

In the past, the Labour government had turned down BP requests on the grounds that Britain was anxious to conserve the oil supplies of the Common Market countries and did not want North Sea oil involved in direct supply to South Africa.

The Conservative action, taken by the Foreign Secretary, Lord Carrington, will be opposed by the Labour Party.

News of BP's plans were revealed yesterday in two letters — one by Dr David Owen, the former Foreign Minister and now shadow Energy Secretary, addressed to Lord Carrington, and Lord Carrington's reply to that letter.

Dr Owen asked for an assurance that no North Sea oil had passed to South Africa in any way, directly or indirectly.

In his reply, dated June 26, Lord Carrington said: "In response to an approach from the company, we have told BP that we would have no objection to arrangements they propose whereby they would make North Sea oil available for sale in the EEC or IEA (International Energy Authority) markets in exchange for non-Embargoed third-country crude which can be supplied to their South African subsidiary."

Yesterday, Dr Owen said the Labour Party was not advocating an international oil embargo against South Africa. It had not done so in government and would not do so now.

But "in a time of shortage, South Africa should not be given any priority over the British consumer and our partners and friends."

South Africa's Minister of Industrial Affairs, Dr Schalk van der Merwe, welcomed the Conservative government's decision.

But he said it was too early to gauge effect of the new approach.

Dr Van der Merwe said it was no secret that the South African Government had been investigating various possible lines of supply of crude oil, but he did not know if North Sea oil had been one.

He welcomed the fact that the Conservative government had not taken as "dogmatic" a political line as its predecessors.

Informed British estimates are that the new arrangement would give South African about a million tons a year.

The Tory government is likely to come under severe attack for its go-ahead to BP.

The Labour Party is planning a private notice which it hopes to bring on "emergency grounds," querying whether this oil to South Africa could not also go towards sanctions busting in Zimbabwe - Rhodesia.

Also in the forefront of the attack is likely to be Nigeria which feels so strongly about South Africa that it has cut supplies by thousands of barrels to one tanker that called in at a South African port.

Nigeria is expected to put pressure on BP to stop its sales to South Africa. — SAPA-DDC.

U.K. oil plan not significant

55 NM 7/6/79

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Political Correspondent

CAPE TOWN — Britain's decision to allow British Petroleum to enter into "swop" arrangements with other EEC companies is expected to be of little significance for South Africa.

According to sources close to the oil industry it will also definitely not mean less oil for Britain and the EEC as reported yesterday morning in the Left-wing British newspaper, the Guardian.

As far as could be ascertained there was no direct ban on North Sea oil reaching South Africa in the first place.

A spokesman explained that in terms of "swop" arrangements, a company with an oversupply of a certain grade or quality of oil could swop it with another which needed that particular oil for specific refinement needs.

This means that if British Petroleum had an unrequired cargo of oil it could use it in its overall international marketing strategy. Once swopped and refined in the EEC some of the products could reach South Africa.

The spokesman pointed out that different oils produced certain products in varying quantities.

Welcomed

In a statement the Minister of Trade and Industries, Dr. Schalk van der Merwe, welcomed the British approach but said it was too early to know what effect it could have.

Former British Foreign Secretary, Dr. David Owen, criticised the move and said that Britain would now be part of the supply link to South Africa.

Britain's decision to supply South Africa with oil from the North Sea fields would only make a difference if the prices were substantially lower, the senior Deputy-Secretary for the Department of Commerce and Consumer Affairs, Mr. E. G. de Beer, said in Johannesburg, report Sapa.

He was speaking at a conference on the importance of diesel fuel and its conservation.

Fuel rationing, which would be far more stringent than present curbs, would be a "last resort" he said.

Import cut

In Tokyo the seven major industrial democracies, condemning the new increase in oil prices, yesterday announced a plan to cut oil imports in the hope of averting a looming energy crisis.

At the end of their two-day Tokyo summit the seven issued a communique setting out limits for their individual oil imports and declared their intention to go all out to expand nuclear energy, switch to coal where possible and explore new technologies such as solar power.

Reacting in dismay to Thursday's announcement from Geneva of a new price rise by the Organistion of Petroleum Exporting Countries they declared:

"We deplore the decisions taken by the recent Opec conference . . .

"The unwarranted rises in oil prices . . . are bound to have very serious economic and social consequences. They mean more world-wide inflation and less growth.

"That will lead to more unemployment, more balance of payments difficulty, and will endanger stability in developing and developed countries of the world alike."