LIFE STYLE
TALKING POINT

ON JANUARY 13 and 14 The Canberra Times published articles in which a Dr Brian Martin attempted to show "flaws in the reasons given for selling our uranium".

To the European reader, who is fairly well informed on nuclear power technology and on the overall energy situation, Dr Martin's efforts make quite interesting and in places even amusing reading.

The reasons used to justify exporting Australian uranium, according to Dr Martin, were listed at the beginning of his first article:

Export of uranium is necessary to help the poor peoples of the world.

Cheaper nuclear power in the rich countries is necessary as a stop-gap source of energy until sources of renewable energy can be exploited and energy-conservation measures implemented.

Export of Australian uranium can help preclude "forcing" some countries to move more quickly towards breeder technology as a source of energy.

Dr Martin admits that these are only some of the reasons used in favour of exporting, but he does not state the others.

However, that is the point: it is no good selecting from a choice of sound reasons the four poorest ones, to distort them, and then to set out to prove them wrong.

As a matter of fact, he does not only attack false reasons, he also, by doing so, gets entangled in a series of contradictions in his own postulates, and he shows poor knowledge of nuclear technology.

No doubt some of his statements are true, and some of the slogans he uses may sound convincing to the quick reader.

While Dr Martin considers nuclear power to be ill-suited for most Third World countries he advocates Australian exports of coal to meet truly urgent energy needs in those countries. Mind you, at the same time he wants these countries to become as economically independent as possible, an aim which could not be achieved by making them dependent upon Australian coal.

Shock

The 1973 oil-price shock may not have been felt in Australia very seriously. In Europe it was felt beyond doubt; not only has it been shaking the economies of most countries there, it has also made clear to every man on the street that the dependence upon imported oil must be diminished.

The question is how? Lacking natural resources in their own soil, those countries (they, by the way, include the US) have but one choice: nuclear power.

There is plenty of coal, though, but it sits very deep in the ground, it therefore is very expensive to mine, and the pollution from burning it is considered to be intolerable.

Hydraulic power is exhausted already, and all of those "exotic" energy sources like wind power, solar energy and the energy of the ocean-currents may contribute their share (which is a few per cent) to the total energy requirements, once they have become a feasibility on a large technical scale.

Switzerland, for example, has to import 80 per cent of her total energy supply, in the form of oil. That is far too much by any means. For nearly two years, the Swiss Government has been in the process of drawing up a plan to reduce the share of oil, to diversify the energy supply, and yet to satisfy the energy demands of a free, democratic and highly industrialised society. Not an easy task. In the draft of the plan, energy conservation and substitution of oil is given first priority.

Provided all conservation measures worked, which involve industrial innovation and heavy capital investments, it is hoped that by 1990 a maximum of 15 per cent of the present energy consumption can be saved.

However, by then total energy requirements will be far higher than today, and this on rather conservative estimates, which would bring about an even greater dependence upon Middle-East oil.

Therefore substitution of oil is mandatory, the more so as world oil reserves are drawing to a close in just 30 or 40 years.

How can this be done? Swiss and international research reveals that solar power can never take a major role in countries of high northern latitude, where most highly industrialised nations are situated.

As for Switzerland, a share of 2 per cent of the total energy needs is a possiblity by the year 1990; and because of the climate — relatively little sunshine, very cold winters — those 2 per cent will only contribute towards heating water for household purposes. Contribute, for solar heaters alone won't suffice; they have to be combined with standard oil heaters.

With so little hope for solar power, and with coal (of which Switzerland has no resources of her own) an intolerable environmental hazard, nuclear power is seen as the solution. Nuclear power to generate electricity, and nuclear power supplying heat for both industry and homes from the electricity-generating plants. Much research work is being done into heat-supply methods, which will need widespread networks for distribution.

Germany

The Federal Republic of Germany, depending upon oil imports to some 57 per cent at present, and having her own coal deposits, for the same reasons as Switzerland, has been turning towards nuclear power. The Germans, famous for their thoroughness, have been making great efforts to make nuclear power plants safe, and they are completely satisfied with their results in every respect.

And like Germany, countries like France, Italy, Austria, Spain and those behind the Iron Curtain plan everything possible to cut oil consumption, both by saving and by replacing it with nuclear power.

Yet Dr Brian Martin knows better: "There is no evidence that rich countries will cut their consumption of oil". And he continues: "Nuclear-gen-

SUBSTITUTION OF OIL 'IS MANDATORY'

Morally indefensible' not to supply uranium to industrialised countries

From Dr RUDOLPH WEBER, in Berne, Switzerland

erated electricity is morally indefensible".

He supports his view with statements like "more energy makes the rich countries richer and does not help the poor".

As for the rich and the poor countries, Dr Martin appears to have all too simple views, which he expresses by "most trade between rich and poor countries is exploitive". Just remember that there are some countries which to this day have no trade ties with the rich countries, and yet they are very poor.

Even Dr Martin expects help for the poor to come from the rich only; how could they do it if they are made poorer themselves through lack of energy? It rather seems that not supplying the industrialised countries with nuclear fuel is morally indefensible.

Claim

In his article, Dr Martin implicitly claims that breeders are utterly dangerous; reasons he does not give. He continues, "breeder reactors are not yet proven sources of energy, whereas solar technology is, at least on a small scale".

Power plants equipped with breeder reactors have been working for many years; admittedly there are some technical problems yet to be mastered, but they do not concern the breeder reactor itself or plant safety.

In France, a breeder-power plant of 250 megawatts has been performing extremely well since 1974, and the French are building a much bigger one at the moment. Another breeder plant will come into operation in Germany in 1981, and in the Soviet Union a breeder has been operating for many years. Breeder reactors are as safe as any other reactors, and they will become a commercial reality by the 1990s.

The advantage of breeders over the currently employed 'converter' reactors: from non-fissile material they generate more fissile matter than they use up themselves — thereby becoming virtually independent of natural uranium!

". . . Whereas solar technology is", claims Dr Martin, and wisely he adds "at least on a small scale". And that is the crux. The effort needed to develop a certain technique from small scale to large scale is at least as big as the one required to shape a laboratory idea into the base small-scale technique.

That is not to say that solar power could not take a major share of the energy supply in a country like Australia with her wide-open spaces and plenty of sunshine, in 10 to 20 years. But by all we know about solar technology at present, it will hardly ever become a viable means to generate electricity.

It is a widespread misunderstanding that solar and nuclear power compete against each other; each of them has its dominions, which overlap marginally only. If anything, solar and nuclear must serve together and complement each other to supply the energy needed tomorrow and after.

Prevention

Dr Martin suggests that Australia might be in a better position to influence safeguard arrangements by not exporting uranium than by exporting it.

Can Australia help prevent nuclear proliferation at all? To answer this question one has to consider some facts.

Firstly, safeguard measures against the misuse of nuclear materials are accepted by all member states of the Non-Proliferation Treaty anyway; non-member countries obviously don't have to rely on uranium imports. The technical means of safeguarding are being permanently improved upon and applied by the International Atomic Energy Agency, in which Australia has a say.

Secondly, Australia does have large deposits of uranium, but not so many that the nuclear world would depend upon them — a world in which discoveries of new uranium sources are reported almost daily.

Therefore, if Australia wants to increase her influence on nuclear materials control, she can only do so by exporting uranium and thereby taking a substantial share of the market; to be in a bargaining position you have to offer something, and not exporting uranium certainly is not.

Danger

Thirdly, and most importantly, the danger commercial nuclear power installations pose to peace is widely exaggerated far beyond reality. E.g., it is incomparably easier to produce weapons materials with small research reactors than with power plants, and as for terrorists and bombs: in Western Europe no fewer than 11,000 nuclear warheads are stored and frequently transported around both by truck and plane.

If I were a terrorist and wanted a nuclear bomb, I would rather stick to the military specimens and steal one, for they are not better guarded than civil power plants. With a slight difference: if you steal a bomb, you have one; if you steal nuclear fuel, you still need enormous skill and extensive facilities to make a crude bomb.

Beyond doubt, nuclear technology is not without risks. But so is any big-scale technology, be it the motor car, air traffic, water dams, burning of coal and oil, or conditioning food by chemicals. Life just happens to be a dangerous business.

One has, as in the case of a new technology to be introduced, to weigh its risks against its advantages, and against the risks imposed by alternative technologies. When deciding to install nuclear programs, the governments in Europe carefully considered all these aspects, and their unequivocal conclusion is that of all methods nuclear power is amongst the most suitable in every respect.

To stay

Apart from the risks emerging from the technology itself, there is also a risk in forgoing that technology, with a possible or even certain lack of energy and all the consequences of such a situation.

Seen through European eyes, nuclear power is here to stay, and it will do so with or without Australian uranium.

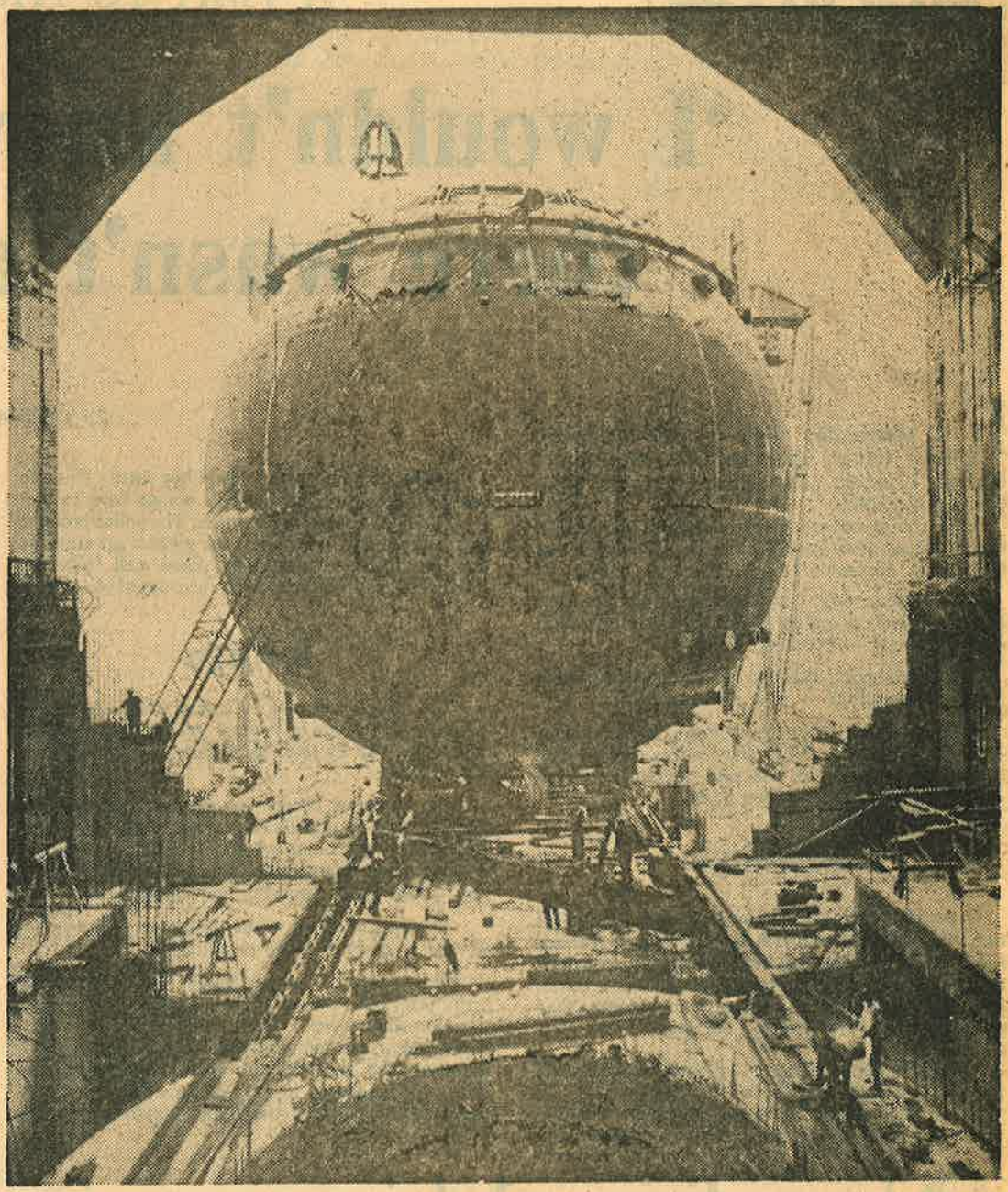
The only bargain Australia can get for her uranium is to sell it as long as there is someone who will buy it.

As for the moral issue of exporting uranium from Australia, there can be but little doubt that exporting will do no harm whatsoever and help both rich and poor countries by Australia being a reliable supplier of the fuel.

Revenue

By not exporting, Australia robs herself of easy-to-come-by revenue, which would strengthen her economy.

Yet there appears to be one way in which Australia could reap financial rewards despite leaving her uranium in the ground: in that case, by the middle of the 22nd century, the deposits at Ranger, Jabiluka, etc, would be the last ones of their kind in the world, and as no-one would need them any more, they should become famous tourist attractions for curious people from all over the world.



Workmen move a giant steel safety container into position at the Wurgassen nuclear power plant, West Germany. "The Germans have been making great efforts to make nuclear power plants safe, and they are completely satisfied with their results in every respect", Dr Weber writes.

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LETTERS to the Edi

Nuclear power inappropriate

Sir, — Dr Rudolph Weber's defence of nuclear power and uranium mining (The Canberra Times, August 3) is supposedly in response to previous articles of mine (Canberra Times, January 13-14).

In my original articles, I pointed out that nuclear power is inappropriate for poor countries because it is capital-intensive, creates little employment, and requires an extensive infrastructure of pubiic services (such as electrification). I am glad that Dr Weber seems to agree.

His position is that nuclear power, based ultimately on fast breeders, is most important as part of a high-energy, high-risk society for the rich countries. Arguments about helping poor countries through uranium exports, put forward by such pro-nuclear lobbyists as Professor Sir Ernest Titterton and the Uranium Producers Forum, are justly reduced by Dr Weber to their true insignificance.

Dr Weber does not really address my arguments, and as well misunderstands and distorts my views. However, his presentation is valuable in suggesting the fundamental assumptions underlying the pro-nuclear outlook. Here I briefly will try to spell out some of the basic differences between our respective viewpoints.

(a) Energy growth

Dr Weber assumes that energy usage in the rich countries will have to keep increasing. This has been the conventional view until recent years, and remains unquestioned doctrine among most nuclear advocates.

The alternative, to which I subscribe, is that per-capita energy use can be stabilised and eventually reduced. This can be accomplished in the short term by technical fixes (through energy conservation in particular) and in the long term — assuming policies are changed soon — by changes in institutional arrangements and life style (such as restructuring the city to reduce transport requirements, and community generation and use of wind and solar power). This alternative, which is most persuasively presented by Amory Lovins (see his 'Soft Energy Paths', 1977), has also formed the basis for official studies in the US. (The Ford Foundation, 'A time to Choose', 1974) and Sweden (The Ministry of Industry, 'Energy Planning in Sweden', 1975).

Large-scale versus small-scale.

Dr Weber assumes that energy needs must be served by large-scale generation, preferably of electricity.

The alternative is to match energy generation to its eventual use. If the aim is to produce domestic heat or hot water, it is more sensible thermodynamically to use solar energy than to produce electricity centrally to do the job.

And with suitable reservoir systems for a group of households, the problem of variations in collection of solar and wind power are overcome.

Thermodynamically sensible energy use includes constructing buildings with windows and eaves to make best use of the sun's rays for heating; combined generation of electricity and heat in industry; and the recycling of organic wastes on to the land (rather than energy-intensive production of artificial fertilisers).

(c) Who decides?

Dr Weber assumes that governments know best. He also identifies the opinions of government agencies with the opinions of the people as a whole.

My observation is that very often the government does not know best. Many times it takes strong citizen action to bring about an urgently required change in government policy. Historically this has often been the case, from the opponents of slavery, to the feminists and unionists of the late 1800s, to the environmental movement of today.

Dr Weber does not mention the strong anti-nuclear movement in Germany, France, Switzerland, Spain, etc, nor the numerous "experts" around the world who oppose nuclear power.

For example, at Whyl in Germany, proposed site of a nuclear power plant, 28,000 people demonstrated in 1975 to begin an occupation lasting 11 months.

Dr Weber does not mention the demonstrations against uranium mining in Bonn and Paris during Mr Fraser's recent visit to Europe. The strong anti-nuclear movements in Europe and elsewhere demonstrate that the export of Australian uranium is not as morally defensible to all people as it is to Dr Weber.

The differences in fundamental assumptions about energy growth, large- versus small-scale energy production, and decision-making about energy policy show that opinions about nuclear power are likely to reflect deep-seated political and social values.

My own feeling is that decision-making about nuclear power and uranium mining should be based on widespread involvement of an informed populace. In this way energy policy, instead of being determined by the vested interests of companies, bureaucracies, and "experts", can reflect the values of the community at large.

BRIAN MARTIN

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Energy wasted on armaments

Sir, — I admire President Carter and Mr Fraser for their ability to keep a straight face when pleading that Australian uranium is required to satisfy the energy needs of the world's population, especially in developing countries.

Beyond any doubt they know that the gigantic diversion of energy for the manufacture and maintenance of armaments is the crux of the immediate energy crisis. Equally they know that the additional input of energy would also be used primarily for more of the same, from guns and tanks to satellites and submarines — not to mention cruise missiles and neutron bombs.

Top marks for dissembling must go to President Carter, who claims that the neutron bomb is for the defence of Europe when it is obviously aimed for use in Third World countries like Thailand, the Middle East, Africa and South America. It is only in the Vietnam-type situation that its use could possibly escape immediate nuclear retaliation from the USSR.

I find it mind-boggling that people in all walks of life, who can be truly hard-headed and persistant in relatively trifling matters, such as small variations of income, are so gullible and lackadaisical concerning issues that invlove the fate of everything they hold dear.

Our educated, intelligent and well-disposed people are acting like unquestioning sheep. They are being led to the slaughter by the servants of those who think only in terms of financial profits which, at best, will not be enjoyed for long.

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