Letter from Israel

from Nechemia Meyers, Tel Aviv

WHILE international attention has been focused on plans for nuclear power stations in Israel (and neighbouring countries), Israeli scientists have continued their search for new sources of energy, or for more efficient means of exploiting old sources. Everything is being considered, from the proposal of a scientist at the Haifa Technion to construct 10,000 giant energy-generating windmills to the scheme of his colleague for a thermonuclear power reactor.

Research continues on an obvious energy source in this sub-tropical climate—the Sun. Unfortunately, solar energy has not proved itself economically viable except for the heating of household water supplies. And its benefits in this sphere are cancelled out, in the eyes of environmentalists, by the ugliness of the roof-top solar energy installations which, together with the omnipresent television aerials, manage to create a particularly horrifying urban skyline.

Even though Israel has far more ample supplies of solar radiation than of water, there is even talk of constructing a 120-MW hydroelectric station near the northern end of the Sea of Galilee.

A small hydroelectric station was actually opened on the River Jordan, south of the Sea of Galilee, way back in 1932, but it has been out of action since the 1948 war. The proposed new plant would be placed at a point where the Jordan plunges 830 feet down into the northern end of the Sea of Galilee.

Utilisation of oil shale is also under active consideration thanks to Professor Yehoshua Schachter of Bar-Ilan University, an Orthodox Jewish institution where all the scientists wear skullcaps. Professor Schachter believes that the estimated 700 million tons of oil shale recently discovered in the Negev Desert would be sufficient to generate some 1,000 MW of electricity for 30 years. This is an impressive figure in Israeli terms, as the country's present generating capacity is 1,600 MW.

Schachter's plan, now being studied by a government-appointed engineering company, calls for the shale to be burnt on-site to generate electricity, rather than for the oil to be extracted first and then burnt at a power station. Such a direct burning process has been used successfully in West Germany and Estonia, and skyrocketing fuel prices have made it look attractive here.

Professor Schachter also emphasises the fact that the power-generating facility he suggests would be particularly valuable in wartime, when other fuel imports might be cut off.

● War, of course, could come here at almost any moment, and in the meantime Israel has a full-scale anti-terror campaign of her hands, one in which scientists have already played some role. Their contributions, unfortunately, have not always been utilised. For example, a reliable Israeli-developed device for 'sniffing' explosives was not used to check the explosives-laden suitcase of a young man who arrived recently at Lydda (Ben-Gurion) Airport. The next day he used the explosives to make bombs which he subsequently exploded inside a Tel Aviv cinema.

● Israel's special problems made it the natural venue for an International Conference on Psychological Stress and Adjustment in Time of War and Peace, which opened at the University of Tel Aviv on January 6. One of the papers presented at the conference described a study carried out by Dr. Avner Ziv, University of Tel Aviv, on 'shelter children', youngsters in border areas who must spend extended periods in underground shelters because of recurrent shellings. Dr Ziv and his colleagues found that kibbutz children under bombardment adjusted to the stresses of the situation much more successfully than did children at nearby small towns. He speculates that the highly organised social structure of a kibbutz, and the fact that it operates almost like an extended family, may provide a more secure atmosphere for children in times of crisis than does the nuclear family in a town.

Mr Trip's purple book

from Arie de Kool, Rotterdam

AFTER a year and a half of actively, but silently consulting everybody, the Dutch Science Minister Mr F. H. P. Trip, finally ventured into the limelight to present his 'Purple Book' on science policy.

Mr Trip is a most remarkable man. He has roots in industry (as a managing director of Naarden Chemie, a specialised company with more people in its laboratories than in its production departments) and in academe (as President-elect of Utrecht State University), so many regarded him as the ideal science manager. Also, surprisingly, he is a member of one of the most radical political parties in the Netherlands.

Yet, according to his new plans, he is not after radical changes in the structure of science policy. The universities maintain their rate of income per student and their freedom to handle the sum of Dfl. 1,000 million as they please. But they are requested, if not required, to set up a reasonable book-keeping system for their research projects, in accordance with the government's technical guidelines. In view of the present state of the average university administration, implementation of this rule will call for a major effort.

Something like Dfl. 100 million a year is now handed out by the ZWO, the organisation for pure scientific research. It is rightly being claimed that this rather insignificant amount has a very considerable steering effect. The Foundation for Basic Medical Research funded by the ZWO, claims to coordinate about Dfl. 80 million worth of research on a budget of Dfl. 4 million. They get there by adding a man here and a centrifuge there—on conditions, of course. The ZWO (and the Royal Academy, as far as its own institutes are concerned) will be transformed into a Council for Scientific Research (RWO), with departments for fields like physics, life sciences and social sciences. Each department could have many 'working groups', consisting basically of everybody working in a specific discipline. There could be working groups for solid state physics, molecular biology, sociology of the family and so on.

The working groups elect ten members of the department; five others are appointed by the Academic Council (the cooperative institution of the universities), and five more, together with a president, by the government.

Some Dfl. 1,000 million is spent on more or less applied research sponsored by the government. This will stay under direct ministerial control although the ministers concerned will receive advice, and even planning schemes to cover several years from sectorial councils, such as a council for environmental problems, one for maritime research or the environmental movement.

The councils are to be meeting points for government and producers and consumers of science. So each council consists of some government representatives, some scientists from the institutes concerned and some people from 'society'—industrialists, labour union representatives and people from the environmental movement.

Mr Trip also hopes that industry (in the Netherlands some 75% of industrial research and development is done by five multinational companies) will be open about its own projects, so that good coordination of government-funded research and development will be possible. □