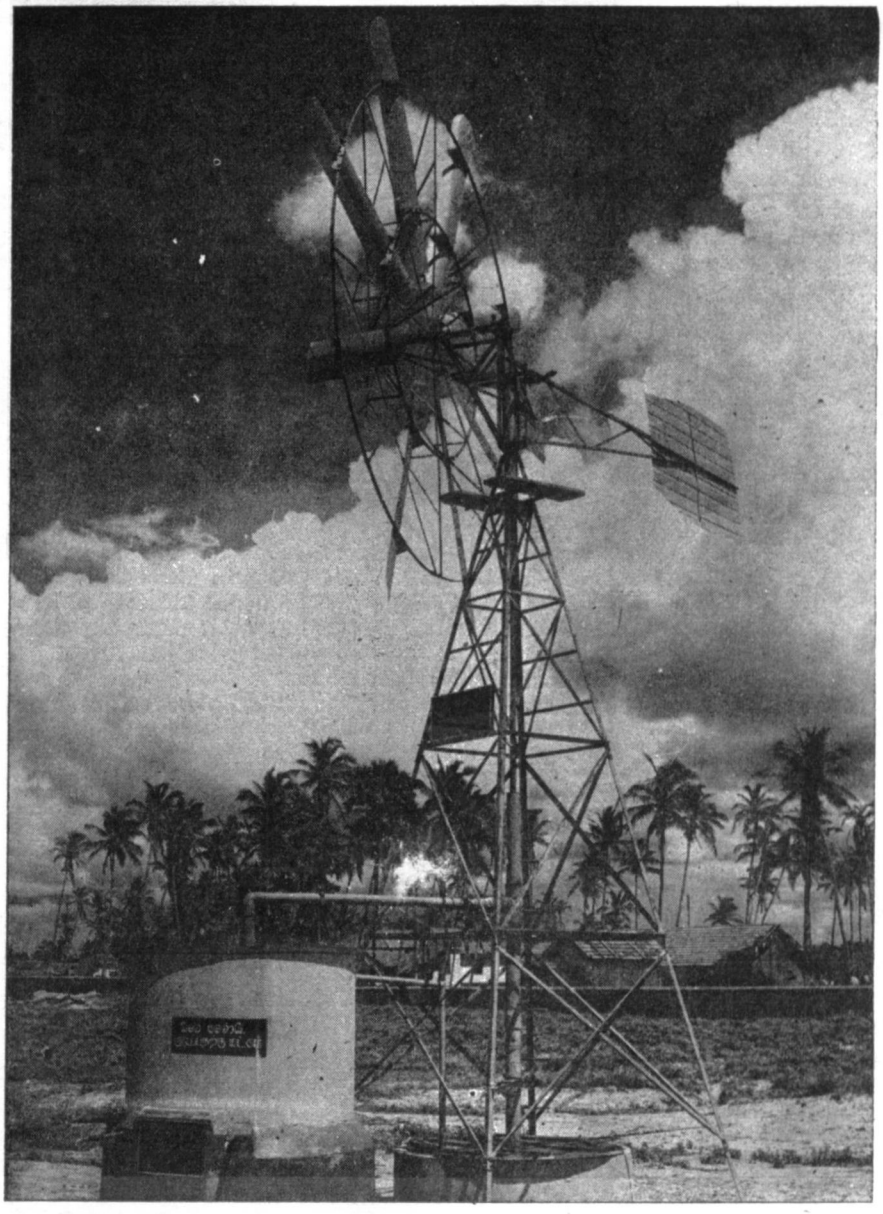

ENERGY II

The recent restriction in power supply has dramatically heightened for us the importance of energy and its vital role in the life of the nation. The rapid rise in energy costs, particularly petroleum prices, has created major dislocations in the economies of the industrially most advanced nations such as US and Japan; while the developing countries most of whom are dependent on oil, have been confronted with serious balance of payments problems and threats in their economic growth.

Sri Lanka, we have realised, is particularly vulnerable in the present energy situation with its heavy (85%) dependence on hydro-power (which means in essence that energy in Sri Lanka is drought prone) and on imported petroleum which is subject to periodic price rises.

The following excerpts, from a statement issued by the Ministry of Power and Energy at the height of the recent power shortages in May, indicates to an extent the lopsidedness and increasing seriousness of the energy situation in the country.

"Eighty-five per cent of Sri Lanka's power is hydro electricity generated with the use of water mainly at the Laxapana Complex and at Ukuwela. Fifteeen per cent of the electricity is produced with the use of diesel fuel mainly at Kelanitissa Power Station. Down the years successive Governments had naturally concentrated on the development of Sri Lanka's hydro power resources as opposed to developing thermal power resources. The strategy of large reliance on hydro was adopted because of the relative cheapness of water power."

"The disadvantage of hydro power is that such a system is obviously vulnerable to droughts. If hydro power had not been developed on the other hand (and if the current development of water power under the Mahaveli Scheme had been postponed), the power would have had to be generated more expensively by the use of either coal or oil."

"Over the last two years, in particular, the power demand has increased dramatically at an average annual rate of 14 per cent per year, compared with an average annual rate of 6.5 per cent in the seven years preceding that. This means, virtually that power requirements forecast for the year 1983 had to be met in the year 1980".

"Hydro power development was the most economic power development alternative in this country whilst the installations of thermal power facilities is very expensive. (In 1961-62 the Kelanitissa thermal Power Station was constructed at a cost of around Rs. 50 million. At today's prices a similar facility would cost around Rs. 540 million (i.e. over ten times the previous cost). The decision not to over-invest on thermal back-up capacity, which would have most of the time have remained idle is a valid one on cost criteria. However, in April 1978, when it became clear that the power demand projections were increasing steeply, the CEB recommended to the then Ministry of Irrigation, Power and Highways that Gas Turbines should be installed."

"The awareness of the increasingly serious power and energy situation in the country led the Government to appoint a Special Committee on Energy headed by the Secretary to the Ministry of Power and Energy. That Committee submitted two reports to the Government and in its first report reiterated the increasingly serious energy situation. In recognition of these recommendations the Government has authorised the investigation by the Ceylon Electricity Board itself of developing the balance hydro resources outside the accelerated Mahaveli Scheme and the systematic develop-

ment of what is loosely known as the Mini Hydro Potential."

"Development of hydro - electricity, however, is so tremendously expensive that the resources for development of the potential outside the Mahaveli Basin has itself to be financed from sources outside Sri Lanka, since the Government alone cannot carry out the burden of such vast development programs".

The situation demands effective energy management and planning policies on a short term and long term basis. With a view to exploring and highlighting the true situation in this country a national seminar on "Energy in Sri Lanka" was held in Colombo in January this year (i) to highlight the nature of the energy crisis, its relevance for Sri Lanka, and the crucial need for energy planning at the national level; (ii) to draw out and emphasize the many relationships among different forms of energy (including substitution possibilities) by discussing all of these topics within a single comprehensive forum; (iii) to achieve a measure of self-reliance by consolidating the knowledge of Sri Lanka energy experts and by identifying national energy issues before obtaining foreign expertise to fill in the gaps; and (iv) to facilitate the exchange of ideas and awareness on energy matters among the principal policymakers, the scientific - professional community, and the concerned public. The Seminar accepted that a national energy plan (such a plan is now in existence) could clarify the long range role of the three major forms of energy or sub-sectors within the energy sector in Sri Lanka, namely; electricity, oil and traditional fuels (wood).

The following papers, selected from this seminar, (scaled down from the originals due to editorial considerations) are intended to highlight some of the important aspects of the overall energy situation, trends in the future, and possible solutions.

This Special Report is titled "ENERGY II" as this is one of the few occasions when the importance of the subject was such that the "Review" has had to deal in-depth with a topic for a second time. The first occasion when we dealt with ENERGY was in the 'Economic Review' of August 1977 when many of the basic issues connected with the local and global energy situation were discussed.