

When to cherish white elephants

Nuclear power stations in several places have become the most conspicuous of unused resources. What will happen to them if it emerges that the greenhouse effect is a reality?

HARDLY anybody would have known of the Long Island Lighting Company (called Lilco) if it were not the owner of the Shoreham nuclear plant — ready to operate for the past three years, never used and now likely to be abandoned. That appears to be the objective of the protracted negotiations between Lilco and the Long Island Power Board, a regional utility operated by the state of New York. On one version of the talks, the power board will simply take over Lilco (but not Shoreham). On another, Lilco will agree not to operate the power plant if it can secure supplies of electricity from elsewhere (and increase its charges to its customers in the process). While the Shoreham plant appears to meet the technical safety standards required of new nuclear installations in the United States, it appears not to be possible for its owners to satisfy state and federal requirements (made more stringent after Three Mile Island, when Shoreham was almost complete) for the evacuation of the neighbouring population in the case of a nuclear accident. Meanwhile, the company is to face a trial next September of a civil lawsuit alleging that it defrauded the regulatory authorities and its customers in the building of the Shoreham plant. It is just over a month since the Seabrook plant in New Hampshire was also abandoned, but for different reasons.

Profligacy on such a scale is even these days uncommon, even though the US nuclear industry has an unenviable record of ill-judged and mismanaged investment in nuclear plants. But until recently, the government of Austria seemed to hold the record for deciding not to use a nuclear plant whose technical safety was not disputed. (Now, after Chernobyl, that plant is being dismantled.) In Sweden, where it has been decided to build no further nuclear plants, the existing plant is being operated successfully and, unsurprisingly, safely, which is a sensible use to make of expensive capital equipment. On Long Island, the cost of Shoreham is put at \$5,000 million (allowing for interest on the construction cost). That is a lot of anybody's money to discard. The present value of the plant, the difference between income and operating costs amortized to the present, is probably several times as much, no doubt enough to provide each of the families in the disputed evacuation zone with a new automobile and new highways on which to drive them.

Under the theoretically hands-off system of government of the United States, the loss of the cost of Shoreham will be borne, in the first instance, by private persons and companies — the shareholders of Lilco and those who bought the bonds whose proceeds were used to build the plant. Ultimately, however, the costs will be more widely spread. To the extent that those who buy bonds as investments will be persuaded by Shoreham and its predecessors that utilities operating nuclear plants are an unpredictable risk, the cost of some conventional power developments will be increased while that of financing nuclear developments of any kind may be made uneconomically high. That will not matter if nuclear power, in the circumstances of the United States, is uneconomic now and likely to be so for the rest of time. But what if circumstances should change? What, for example, if the effect of accumulating carbon dioxide in the atmosphere is indeed shown to cause climatic change?

The many who complain that it is facetious to suggest even

indirectly that the remote risk of a nuclear accident can be made tolerable on economic grounds may find themselves differently impelled if it becomes clear that the only economically feasible way of mitigating the damage that might be done by carbon dioxide is to moderate the use of fossil fuel. Then, it would be necessary to trade the risks of nuclear accidents against those of climatic change. What then will be the general opinion? Undoubtedly, there will be many who protest that they do not care for the dilemma in which they find themselves, and that they would prefer that they and others should use energy from renewable sources, or that they and others should use less energy of any kind. But the general opinion is likely to settle for the lesser evil.

But the dilemma of the greenhouse is not as remote as may be thought. It is already something of a mystery that the atmospheric concentration of carbon dioxide has increased by a third without climatic fluctuations showing through the usual interannual noise. Most probably, the estimates of the changes derived from simple climatic models are overestimates. The fact that models have only recently been able to take reasonably realistic account of cloudiness, negative feedback in the context, is one possible explanation, but there are many other mechanisms that could account for a delayed response of climate to increased atmospheric carbon dioxide. While no one year's unusual weather can be statistically significant, it will be a great surprise if the greenhouse has not made its appearance before many decades have passed.

What will happen then? On the model of the Convention on the Protection of the Ozone Layer, signed last year, there will be international negotiations to limit the use of fossil fuel. There will be endless arguments about the magnitude of the limits and about the quotas due to various countries. But with luck, there will be a convention, and even the most reluctant communities will begin building nuclear power stations again. Shoreham itself may by then, of course, have been torn down, or perhaps converted to some other use. □

Making European policy

Last week's sensible NATO compromise points to the need for an external policy for Europe.

THERE are two predictably contrasting views of last week's meeting of the ministerial conference of the North Atlantic Treaty Organization (NATO). One is that the underlying disagreements were so great that important issues were buried in a frosting of sugary compromise, the other is that NATO's members triumphed over centrifugal tendencies by acknowledging that each must accommodate the views of others.

There is some support for both opinions, which are identical when allowance is made for the emotiveness of the language used. In deference to West Germany, as much concerned with what the opening to the East may hold as with the fear that modernized nuclear weapons, if ever used, are most likely to fall on German speakers, the pursuit of modernization was ringed