European Communities
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Press Release

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August 11, 1977

COMMUNITY NUCLEAR STRATEGY

THE PROBLEMS OF PEACEFUL NUCLEAR FUEL ABUNDANCE

The battle over nuclear energy - the most revolutionary scientific discovery of the Twentieth Century - is taking on a new form in the seventies. In the Fifties it was 'Ban the Bomb'; now it is 'Ban the Breeder'.

President Carter has urged a moratorium on the development of fast breeder reactors; clashes in France, West Germany, Britain and even the Channel Islands have recently hit the headlines, as public fears mount that scientific and commercial interests, having first devised the most deadly weapon known to mankind, now intend using nuclear development for peaceful purposes to contaminate future generations in more insidious style.

The arguments are highly technical as well as emotional, depending on forecasts of future energy supplies. Scientists, environmentalists, populists differ not only among, but between, themselves on these matters. For the lay person decisions can be both agonizing and confusing.

The present argument, however, rests on the method to be employed in producing nuclear energy in the future. Fearful of an energy gap in the late 1980's and 1990's, Community countries have been developing reprocessing plant and fast breeder reactors to utilise uranium - the basic ingredient - more fully. The Community has no known indigenous source of uranium; natural supplies of the ore are believed to be limited and political considerations can affect supply.

Fast breeders extract 60 times more energy from the original uranium than conventional nuclear reactors. Both produce plutonium which can be used to make nuclear bombs. Reprocessing plant can reconcentrate the U-235 atoms required to produce atomic power, and plutonium from the used fuel can be re-used in conventional reactors. At present plutonium from these older reactors is just stored away.

Fast breeder reactors are potentially of great commercial value, particularly to developing countries. But the prospect of generating so much plutonium around the world is alarming. Yet as Barbara Ward and René Dubois pointed out in their 'Only One Earth'* - the unofficial report before the UN Stockholm Conference on the Environment in 1972 - nuclear energy is the only certain way of ensuring a sufficient supply

* Pelican Books, 1972, p. 196

of world energy in the next century to enable developing countries to industrialize.

While insisting that every effort must be made to find alternative sources of energy, they conclude: 'But to keep seven to ten billion people alive and reasonably well served on this planet, atomic energy looks like being the most likely answer. The alternative - of too little energy - would cause infinitely larger rates of malformation and death'.

But, they add, in using this 'Promethean Fire', commercial interests must be subordinated to strictest public and international control in the interests of public safety.

The Community

The European Commission is in no doubt that, from the late 1880's the Community will face an energy gap unless Member States pursue the production of nuclear energy with more vigour. This is in addition to positive policies on energy conservation and expansion of indigenous coal production.

At present the nuclear energy programme is lagging behind target, partly because of economic recession, partly because of public alarm.

In an effort to maintain momentum, the Commission has now submitted proposals to the Council of Minsters urging a Community nuclear strategy to cover:

Reprocessing (COM (77) 331 final)

Fast Breeders (COM (77) 361 final)

Waste Disposal (COM (77) 397 final)

Reprocessing

The Commission points out that because the Community's own reserves of nuclear material are insufficient for future requirements, it cannot afford to throw away spent nuclear fuel which can be reprocessed and reused in advanced types of reactors such as fast breeders.

By the year 2000 the Community will have become one of the largest consumers of nuclear fuel, accounting for about one-third of world demand. At present 80 per cent of the uranium consumed is imported. Reprocessing, the Commission argues, could reduce by about 20 per cent a year, the requirement for natural uranium in the medium term; in the long term it could mean virtual freedom from dependency on external supplies.

In addition, the Commission suggests, reprocessing would reduce the radiological risks for future generations. Without it the plutonium not recovered would remain in the spent fuel elements. This waste would remain radioactive for a very long time and thus its storage would be a long term risk.

As part of a peaceful nuclear strategy, subject to strict Euratom control, the Commission proposes that the promoters of reprocessing facilities and the power station operators should be brought together in joint ventures, possibly with the addition of third countries, such as the Community's European neighbours; that financial aid and the offer of reprocessing services at the best possible price should be made available to Member States, and that a Committee should be created to study and implement this strategy and report by the end of 1978.

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The Commission notes that at present the development of reprocessing is handicapped by technological difficulties, by problems of finance, and by problems connected with the industrial application of the technology of waste disposal, irrespective of public concern about the whole enterprise. As a result, capacity will remain inferior to needs until at least 1986-89 and the stock of irradiated fuel accumulated since 1975 will not be entirely reprocessed until some time after 1988 at the latest. Meanwhile storage problems increase.

Fast Breeders

The Commission sees the fast breeder as an essential link in the Community strategy for reducing dependence on outside sources of energy.

In 1976 nuclear energy contributed about 2.1 per cent of total consumption of primary energy in the Community, representing about 8.4 per cent of electricity production. By 2000, if the programme is able to proceed, nuclear energy should contribute to a maximum of 20-25 per cent of total consumption, and 70 per cent of electricity production.

A full commercial fast breeder programme will require more than twenty years, but with the help of these reactors 5,000 tons of uranium could provide as much energy as all the oil in the North Sea (i.e. about 3,000 million tons of recoverable reserves).

Thus the Commission urges the Council to go ahead with the fast breeder programme, while at the same time increasing the effort to achieve fully adequate performance in terms of safety, radiological protection and impact on the environment. To this end, Community funds should be made available and all Member States should adopt Community safety codes and standards.

Waste Disposal

As part of the overall strategy, the Commission has also given thought to the difficult problem of disposal of nuclear waste, with its long life toxicity of thousands of years.

At present this waste is produced in relatively modest quantities and its existence has not posed serious difficulties. But as the Community's nuclear power programme comes into effect the problem assumes new dimensions.

The Commission notes that there have already been experiments in the treatment of this waste, e.g. vitrification, and development on an industrial scale is now being examined. Some promising solutions for permanent storage are also under study, such as, after conditioning, in certain geological formations.

Recognising that the waste must be handled with the greatest care to ensure protection of the population and the environment from radiological risks and that its management must be a public service, the Commission urges Community action to avoid unnecessary multiplication of waste storage sites.

It proposes a new plan concerned with all the problems posed by the differing types of radioactive nuclear waste, extending from 1978 to 1990.

The plan centres on six main points:

- Analysis of the basic situation in the Community, leading to the adoption of solution in due time;

- Measures to draw up a Community network of storage sites;

- Harmonization and progressive standardisation of practices and policies concerning waste management;

- Continued research and development for the entire duration of the plan;

- Study of ways in which the Community could share certain costs concerned with the management-storage of the waste;

- A policy of giving regular information to the public at Community level.

Informing the public

The Commission believes that, while constant vigilance is essential to any nuclear energy programme, much of recent public protest and alarm is based on ignorance of the real issues at stake.

It is, therefore, preparing to hold comprehensive public hearings on the future of nuclear energy in Brussels in the autumn, at which Mr Guido Brunner, the Commissioner responsible for Energy, plans to make public as much information on the subject as possible.

The stakes are high; the choices difficult. Can this generation risk depriving those of the next century of the energy resources required to maintain the living standards of a world population almost double that of today? Or is the risk of accident and death from radioactive waste too high?

As the authors of 'Only One Earth' pointed out, at least part of the answer lies in scientific and public control. Can Euratom in the Community and the International Atomic Energy Authority (IAEA) on the wider front, exercise that control?

That also, surely, must be a matter of public debate.

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