The Netherlands

Dutch to fall back on coal

IN an energy memorandum designed to foresee the country's needs until the beginning of the next century, the Dutch government has recommended a drastic reversal of its post-war policy to run down coal production. From a pre-eminent position in 1955, when coal contributed 96% of power plant fuel, the mining industry declined as natural gas fields came on stream in the sixties and early seventies. By 1975, coal contributed only 0.7% of the country's power plant fuel stock, and even after the 1973 oil crisis (which led to the re-opening of mines in the south of Holland), it still contributes no more than 6%.

Now the government intends to boost coal production to a level where it supplies 40% of power plant fuel (12 to 14 million tonnes of coal a year) by the year 2000. Gas and oil, which currently account for 90% of power plant fuel, will be restricted to a 20% contribution, and a decision on where the remaining 40% can be found will be delayed at least until 1983.

At present there is an over-capacity in Dutch electricity generation, but this will disappear gradually as older plants are taken out of operation. Of the country's total of 15,000 MW installed capacity, 520 MW is nuclear, and although the government made a decision in principle six years ago to install three more nuclear plants, discussions on specific proposals are expected to occupy at least two or three years yet.

An increased role for coal in industry is also forseen in the memorandum, which talks of fluidised bed combustion accounting for the use of five million tonnes of coal in the year 2000. This is expected to require an investment of at least 1½ billion guilders (£1 = 4.4 guilders).

Eventually, new technologies of *in situ* gasification and hydraulic mining will be needed to exploit the 100 billion tonnes of coal lying beneath the entire country at currently non-viable depths of 1,000 to 6,000 metres. In the meantime, an investment of three billion guilders will be required for the gasification of 7½ million tonnes of coal annually for industrial fuel and chemical production.

This coal gas will also be used in a mix with high-calorific North Sea or Algerian gas, or even burnt in power stations — an area in which Shell and the utilities have already taken an intitiative.

In a separate report, a group of Dutch industries has concluded that the role of coal should be even bigger than the government intends, and they call for an expenditure of 25 billion guilders (in contrast with the official estimate of 10 billion) to get the coal industry into gear by the turn of the century. They want reserves to be re-exploited at a quicker pace, and they urge demonstration projects in gasification and fluidised bed combustion within the next two years. To see this combustion revolution on its way, the industrialists suggest, Holland should have a national energy fund and a special under minister for energy (which at present remains in the portfolio of the Minister for Economic Affairs).

A corollary of both the government's and the industrialists' dreams for Dutch coal is that research and development will be required to ensure that the environment remains as clean as it is currently on a gas-dominated energy regime. Anticipating an increase in coal use from 1½ million tonnes now to 26 million tonnes a year by the end of the century, the government is setting up a national R&D programme to concentrate on atmospheric problems, pressurised fluidised-bed combustion and coal gasification, while applications will be explored for flue gas desulphurisation work already carried out elsewhere.

Altogether, the research effort will cost 750 million guilders over the next five years. **Caspar Schuuring**

International exchange

Scientific forum was not a great success

LAST month's Hamburg Scientific Forum was probably the first and last of its kind. For while the two-week meeting was useful as a platform for western participants to air their views on human rights, and for the eastern bloc served as a reinforcement of the notion that detente is still a going concern, it was in scientific terms virtually useless.

Certainly the UK government was unimpressed by the event. Speaking in the House of Lords, Lord Trefgarne has said that while "a number of useful conclusions" were reached at the forum, he could not give any general assurance about support for future meetings.

Earlier, the UK delegation said in its closing statement that the "practices and processes of the Conference on Security and Cooperation in Europe" were hardly suitable for establishing a framework of scientific meetings. Soviet participants were so embarrassed by the human rights debate which dominated the forum that they are likely to demand strict limits on the agenda of any future meeting. In the event they will probably be saved the trouble. Member governments meeting in Madrid later this year are likely to shelve proposals for another forum.

While it lasted, the forum brought together well-staffed national delegations of experts prepared to put their heads together in order to discuss "interrelated problems of common interest" in medicine, the human environment and urbanisation. What they produced was not always original thought, but it was interesting as an indicator of the divergent paths seen by different countries as solutions to broadly similar problems.

The energy group, for example, found that the participant countries interpreted "alternative energy" in widely different ways. To the Soviet Union it meant primarily nuclear energy, with the emphasis on fusion research. Sweden stressed energy from biosystems, while Professor P. Boger (West Germany), urged the biological production of hydrogen as a means of using solar energy.

The food production group was hardly revolutionary in its findings, and called simply for "sustained R&D efforts in all aspects of the food system". International cooperation, it decided, was particularly needed in the development or plants with higher photosynthetic capacity, more efficient capability to use available mineral nutrients and better ability to withstand environmental stresses. In particular, international efforts are needed in identifying and preserving plant and animal germ plasm in the natural ecosystems. More comprehensive gene banks should be set up "to preserve genetic materials for the benefit of plant and animal production in the future".

The medical group, dealing with cancer cardiovascular and virus diseases stressed the need for data sharing and the avoidance of unnecessary duplication. Further international cooperation, they found, is needed in such fields as standardization of diagnostic materials, recombinant DNA (including safety regulations and the evaluation of benefits) and large-scale studies (e.g. drug trials) where insufficient patients would be available in a single country.

Large-scale surveys of this kind, with comparison of the patterns of change in different countries were also urged by the social science (urbanisation) group. They suggested a regular programme or scientific review conferences and seminars, with special emphasis on the inter-disiplinary approach. Yet, not even this group, keen as it was for meetings, suggested that a further 'scientific forum" was the appropriate setting. Rather, it suggested, the proposed meetings should take place under the auspices of UNEP, the ECE or UNESCO. □

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