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** THE COMMUNITY'S ENERGY INDUSTRIES EMPLOY MORE THAN A MILLION WORKERS, and investments in this sector amount to about one quarter of the total fixed assets of industry as a whole. The energy imported from non-Community countries represents 17% in value of the total Community imports. The importance of secure and relatively cheap supplies to the Community's economy as a whole makes it essential to achieve further progress towards a COMMON ENERGY POLICY. A note summarizing the present situation in this sector will be found in an ANNEX.

** THE EFFECTS OF THE COMMON MARKET ON INDUSTRY are judged as follows, according to the results of a general enquiry carried out in July 1971 by the Directorate-General for Press and Information of the Commission of the European Communities:

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The information and articles published in this Bulletin concern European scientific cooperation and industrial development in Europe. Hence they are not simply confined to reports on the decisions or views of the Commission of the European Communities, but cover the whole field of questions discussed in the different circles concerned.

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(%)

	Germany	Belgium	France	Italy	Luxembourg	Netherlands
Good for the industry of the Six	46	40	35	46	52	41
Bad for the industry of the Six	2	4	3	2	3	3
On balance advantageous to the industries (of the country of the person questioned)	18	13	8	9	7	21
On balance disadvantageous to the industries (of the country of the person questioned)	9	8	11	7	14	11
No opinion	25	35	43	36	24	24
Total	100	100	100	100	100	100

** The departments of the Commission of the European Communities have lately undertaken consultations concerning the advisability and the possible content of a formal proposal by the Commission relating to the creation of GROUPEMENT D'INTERET ECONOMIQUE, or economic interest groupings (see "Industry, Research and Technology" No. 116).

THE FIGHT AGAINST WATER POLLUTION, AND IN PARTICULAR THE THERMAL EFFECT OF POWER PLANT COOLING SYSTEMS -- one aspect of this problem -- is considered by the Commission of the European Communities to be one of the priority projects to be studied and implemented in the context of both the Community's environmental policy and the common energy policy. This was reiterated by the Commission in a reply to a written question from Mr Oele, a Dutch member of the European Parliament. The Commission therefore proposes to join forces with experts from the Six and electricity producers in determining the measures to be taken in this field, with due consideration to their economic and health implications and their effects on environmental hygiene.

** The first general assembly of the EUROPEAN MANAGEMENT FOUNDATION was held in Amsterdam on 8 November 1971. The Foundation's aim is to improve the quality of management training in the European context. The creation of a European Foundation was recommended by the Commission of the European Communities in its memorandum on the Community's industrial policy (see "Industry, Research and Technology" No. 48).

** SOME 60 LIBRARIANS, DATA-PROCESSING EXPERTS AND SPECIALISTS IN SCIENTIFIC INFORMATION met in Luxembourg on 10 and 11 November 1971 under the auspices of the Commission of the European Communities in order to exchange views on the possibilities of applying new techniques in scientific libraries.

ANNEX D.1The European Community's Energy Policy

The Community's power industries employ more than one million workers, and investments in this sector constitute about one quarter of the total fixed assets of industry as a whole. The energy imported from other countries represents 17% in value of the total Community imports.

Gross internal energy consumption almost trebled between 1950 and 1970, rising from 300 to 850 million tce (tons of coal equivalent, or 7.10^{12} /kcal), with a mean growth rate of 5.3%. At the same time the demand structure underwent the following major changes:

1. A reduction in the proportion of energy consumed in its original form and a corresponding increase in the consumption of converted forms of energy (chiefly electricity and oil products).
2. Differences in the growth rates of the various demand sectors.
3. A major change in the part played by the various energy forms in meeting needs, this being characterized by the predominance of oil (which now meets almost 60% of needs), making the Community increasingly dependent on outside supplies, a marked drop in coal consumption, a spectacular rise in the use of natural gas and a slower growth of nuclear energy than that forecasted in 1956-57, due mainly to keen competition from liquid fuels.

While a moderate rate of economic development may be expected in the next 15 years, there are grounds for thinking that the rate of growth of energy needs might be higher than in the past. Thus it is estimated that between now and 1985 internal energy consumption might rise by 5% a year, from 850 million tce in 1970 to about 1,810 million in 1985.

Two diagrams of the evolution of energy supplies are possible, depending upon whether it is assumed to result from the free play of market forces (prolongation of present trends) or from explicit decisions directed mainly to limiting the part played by oil.

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The first diagram of the 1985 supply position, corresponding to a continuation of present trends, would assign 1,100 million tce to oil products, which would cover more than 60% of the internal primary energy requirements. Natural gas would account for 15% of the market (280 million tce), and nuclear energy 10% (175 million tce), provided it attained the objectives fixed by the second target programme. The contribution of solid fuels would amount to 11% (207 million tce).

The second diagram, directed mainly to limiting the share of oil in Community supplies, could become a reality only as a result of concerted action in the three following fields:

1. Pursuit of a coal importing policy leading to an increased contribution of coal to electricity production.
2. Accelerated investment in nuclear power plants.
3. Increased exploitation of natural gas, either through the discovery of new deposits within the Community or by increasing imports.

Taken in conjunction, these measures should enable the share of oil in Community supplies to be reduced to about 50%; The contribution of solid fuels would be 14%, that of natural gas 20% and that of nuclear energy 12%.

In a note on the implementation of the "First Guidelines for a Community Energy Policy" (see "Industry, Research and Technology" No. 109), which it forwarded to the Council in July 1971, the Commission of the European Communities drew conclusions from the changes which had taken place in the world energy market over a period of more than a year, but most markedly in the early months of this year, owing largely to events in the oil sector. The Commission pointed out in particular that while present circumstances vindicate the action undertaken and the measures proposed hitherto in implementation of the "First Guidelines" (see "Industry, Research and Technology" Nos. 3, 47 and 86), they also show the need for further progress towards a common energy policy.

The Commission's practical activities and proposals fall into the following three categories:

1. The definition of a field of activity.
2. Measures aimed at the implementation of a policy for cheap and secure supplies.
3. Measures directed towards the establishment of a common market.

1. Field of activity

This includes the compilation of annual reports on the energy position, and in particular of estimates and forecasts showing current trends and suggesting the directions in which they should be guided.

A report on overall long-term energy prospects is in preparation.

Medium-term guidelines (1980-85) for the hydrocarbon sector are being drawn up. They will outline the conditions necessary to ensure greater security of supplies, and also the problems raised by the sector's industrial structure, on the basis of trends now becoming apparent (rapid growth of needs up to 1975, and thereafter increased use of other energy sources; change in supply conditions and upward price movements; change in consumers' requirements - environmental factors - and hence in refinery structures). Some concentrations or regroupings will thus be likely, and their effects on competition will need to be watched closely.

In the nuclear sector a second target programme, covering the period 1975-85 and also outlining the general outlook up to the end of the century, is in the course of preparation. It is based on the principle that as nuclear energy is now becoming competitive with the main fossil fuels, it should be exploited with a determination to ensure that it makes the maximum possible contribution to supplying a Community whose internal energy resources are, and in the foreseeable future will continue to be, inadequate to cover its needs.

Since nuclear energy is still used mainly for the production of electricity, this nuclear programme is situated in the wider context of medium-term guidelines for the electricity sector, which are now being drawn up.

The forward analysis of electricity demand suggests that the current trend towards a doubling of demand in ten years will be maintained. Changes in the electricity production structure will be relatively long-term, leaving oil still in a dominant position in 1985, unless a "voluntarist" attitude favours the massive development of nuclear electricity, thus reducing the Community's energy dependence on outside countries. The Commission of the European Communities will endeavour to encourage such a development by removing the remaining obstacles facing it in the technological, industrial and financial fields. In a wider context, the Community will insist on an effort being made to optimize investments at Community level, in particular through fuller exploitation of plant by more intensive pooling of production reserves.

2. A. supply policy

Interruptions of, or difficulties with, energy supplies may have extremely serious consequences for the economy as a whole and for the well-being of the population. It is therefore essential for the Community to take appropriate measures to cope with a possible interruption of energy imports. In July 1971 the Commission of the European Communities sent the Council a draft directive designed to raise the compulsorily held stocks of oil and oil products to the equivalent of 90 days' consumption of the previous year by amending the directive of 20 December 1968, which fixes this requirement at 65 days' supply. In addition, the Commission has instructed a group of geologists to study the possibility of stockpiling reserves underground, since this is cheaper than surface storage. The Commission is also concerned to anticipate possible tensions (as in 1971) in the market for the sea transportation of oil (and to a lesser extent liquefied gas and coal) by the creation of a reserve capacity to be immediately available in case of need.

It would also be advisable to decide on the procedures for consultation between the governments of the Six and the Commission of the European Communities concerning the measures to be taken in the event of a supply crisis, in order to ensure coordination at Community level.

Since the Community depends on outside sources for two-thirds of its supplies, a joint commercial policy must be the primary instrument of any joint energy policy. In conformity with the obligation incumbent upon it by virtue of the Treaty establishing the European Economic Community, the Commission intends to propose such a policy.

It also intends to map out a policy for cooperation between the Community and the developing countries, which while promoting the industrial, economic and social development of these countries would also widen the area of trade between them and the Community, improve the stability of their mutual relations and provide more satisfactory operating conditions for the companies which supply the Community with fuel oil.

The supply policy must look for the cheapest and most secure way of meeting the Community's needs. The Commission has already taken, or plans to take, the following measures to this end:

1. In order to enable the coal industry to continue to make as large a contribution as possible to meeting needs at reasonable prices and in satisfactory social conditions, the Commission may in certain conditions authorize the grant by the Member States of aid to the coal industry (Decision No. 3/71/ECSC of 22 December 1970) and to producers of coking coal and coke for the steel industry (Decision No. 1/70/ECSC of 19 December 1969 - see "Industry, Research and Technology" No. 11). Furthermore, with a view to remedying the difficulties caused by divergences between the coal import systems of the Member States, since early 1970 the Commission has been conducting exchanges of information on the programmes of coal imports from non-Community countries.

2. As regards mineral oil products, in December 1969 the Commission submitted a proposal for a Council regulation providing for the communication to the Commission of hydrocarbon import programmes. The proposed procedure should make it possible to follow the Community mineral oil supply position and to ascertain whether the import programmes are meeting the requirements of diversification and security of supply. In addition, in December 1969 the Commission forwarded to the Council a proposal for a Council regulation on the communication of investment projects of interest to the Community in the oil, gas and electricity sectors. The Commission will thus obtain more complete information on the Community's internal supply structure and its development.

In order to stimulate certain activities of the hydrocarbon industry, notably exploration and development of resources, and transport and storage, which are of importance as regards security of hydrocarbon supplies to the Community, on 29 July 1971 the Commission proposed to the Council a regulation extending the application of the status of joint undertaking to these activities. The proposed regulation provides for the establishment of a framework for cooperation between undertakings in pooling their resources, and the creation of specific facilities for aid on a Community basis (e.g., tax relief, loan guarantees, low-interest loans or loans which are not repayable in the event of exploratory work proving unsuccessful).

In return for these advantages, the joint undertaking or its constituent companies could be subjected to certain conditions, in particular to an obligation to make a priority contribution to meeting the Community's needs in a crisis.

3. In order to promote the development of nuclear power plants, and thereby reduce the Community's excessive dependence on outside energy sources, on 29 July 1971 the Commission proposed to the Council that it should decide to apply Article 172 of the Euratom Treaty in order to authorize the Commission to raise loans which would be used

to grant repayable loans at market rates to electricity producing companies, and thereby help to provide the additional capital required for the exploitation of nuclear energy, thus accelerating the development of this new energy form.

The revision of the text of Chapter VI of the Euratom Treaty, concerning the Community's nuclear fuel supplies and the powers of the Supply Agency, had been proposed in 1964 by the Commission of the European Atomic Energy Community. In October 1970 the Commission of the European Communities submitted a fresh proposal to this effect; this proposal envisaged the passage of laws enabling the Community to obtain its supplies by means adapted to the various market situations; this proposal adheres to the principles of the 1964 proposal, but is appreciably simplified in form.

The intensification of uranium prospecting activities by Community companies in non-Community countries, and the strengthening of inter-company collaboration, possibly under joint undertaking status (see "Industry, Research and Technology" No. 109), are also among the Commission's aims (in June 1970 the Commission organized a colloquium on these matters with the companies concerned).

As regards the supply of enriched uranium, in July 1971 negotiations were opened with the US authorities with a view to improving the conditions governing the supply of nuclear fuels by the US.

In addition, in May 1969 the Commission proposed to the Council the creation within the Community of an autonomous uranium-enrichment facility to commence operations before 1980 - by which time the existing capacities will have become insufficient - and thus to implement the aims of the joint energy policy, and in particular to ensure that supplies are ample in quantity and stable in price (see "Industry, Research and Technology" No. 18).

A special study group was set up to prepare a technical and economic file for this purpose and is still at work. The subsequent work of this group should, however, be influenced by the memorandum published on 14 July 1971 by the US government, which states that it is ready to make the US gaseous

diffusion available to countries interested in the construction of uranium-enrichment plants. On 30 July 1971, in agreement with the departments of the Council, the Commission informed the US authorities of the interest taken by the Community in the above memorandum, and said that it would like to receive any further information which the US government might be able to give it.

3. Unification of the market

An internal market embracing all the Member States and functioning according to uniform rules is an essential condition for the implementation of a common energy policy.

Alongside measures directed in a general way to ensuring the free circulation of persons, services and capital and the unification of the market throughout the Community, certain provisions either adopted or planned relate more particularly to the energy sector:

1. A proposed directive on the harmonization of the legislation of Member States on technical safety measures for the construction and operation of oil pipelines was forwarded by the Commission to the Council in July 1968.
2. A proposed directive on the harmonization of specific consumer taxes on fuel oils was forwarded by the Commission to the Council in December 1970 (see "Industry, Research and Technology" No. 83).
3. With a view to the harmonization of the regulations governing the construction and operation of refineries, pipelines, and petrol stations, together with the provisions concerning prices in the various Member States, the Commission of the European Communities has created study groups to prepare a comparative inventory of the policies followed in these fields in the Member States, as expressed in the laws and regulations and in actual practices. This inventory will enable the Commission to draw the appropriate conclusions and plan the appropriate measures.

4. Lastly, the Commission will institute a system for the periodic collection of information on the prices obtaining for the various forms of energy. This should enable it to analyse the effects of price movements and to exchange views with the governments and circles concerned.

In a forthcoming issue we will examine the interrelations between the common energy policy and the other policies (social, regional and industrial policies, policy on science and research and environmental policy).