

industry research and technology

WEEKLY

REPRODUCTION AUTHORIZED

Brussels, 27 June 1972

No. 150

** European electricity producers cannot be sure of regular and reliable supplies of ENRICHED URANIUM beyond 1980, i.e., supplies for power plants whose construction will have to be decided by 1974. It is therefore a matter of urgency to frame a policy for the supply of the enriched uranium essential to cover the Community's estimated requirements at this time, so as to avoid causing a delay in the development of nuclear energy which would jeopardize the attainment of the principal objectives of the joint energy policy. The Commission has therefore decided to send the Council a further communication and a draft resolution concerning the creation of a COMMUNITY URANIUM ENRICHMENT CAPACITY. Details are given in ANNEX 1.

** IN 1970 THE EUROPEAN AEROSPACE INDUSTRIES OCCUPIED ONLY 9.5% OF THE WESTERN MARKET (UK industries 5.7%); the remainder was taken up by the US. If the Community market alone is considered, it will be found that the aerospace industries of the Six occupy only 15.2% of it. In 1970 the turnover of the aerospace industries of the Six and the UK represented only 15% of that of the US.

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This bulletin is published by the Directorate General 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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This situation has been studied by the Commission of the European Communities (see IRT No. 90), which is at present preparing a communication to the Council concerning the lines which industrial and technological policy might take in the aerospace sector. Further details are given in ANNEX 2.

** FIRMS EMPLOYING BETWEEN 100 AND 500 PERSONS are apparently becoming the most important class of firm in the Community in several industries. On the other hand, despite the greater trend to concentration witnessed in the Community during recent years, no appreciable increase in the number of firms employing more than 500 persons is observable. This is one of the points made by Mr Flory, Director of Industrial Policy in the Commission of the European Communities, when he described the Commission's efforts to assist SMALL AND MEDIUM-SIZED FIRMS to the section of the Economic and Social Committee specializing in self-employed activities and services. A short summary of his address is given in ANNEX 3.

** The Commission of the European Communities is putting the finishing touches to an ILLUSTRATIVE NUCLEAR PROGRAMME FOR THE COMMUNITY which sets a minimum target for the Six of an installed nuclear capacity of 100,000 MWe by 1985. The representatives of the circles concerned in the Community and the applicant countries discussed this subject with the Commission during a colloquium organized by the Commission in Brussels on 19 and 20 June 1972. The broad agreement emerging from this consultation gives this programme a reference value both for the analysis of the present situation and as an indication of future guidelines. ANNEX 4 contains a short analysis of the Community's nuclear objectives.

** THE CREATION OF A REGIONAL DEVELOPMENT FUND would enable the Community to shoulder its responsibilities in the matter of regional development. In addition (and not as an alternative), it would be useful to create a REGIONAL DEVELOPMENT COMPANY in which the Community would participate, whose tasks would be research and information for investors, technical assistance, and where appropriate temporary participation in undertakings - particularly of the small and medium-sized categories - set up in priority regions. These proposals are recalled by the Commission in a communication submitted to the Council on 19 June 1972 to assist the Council's decisions concerning the Community's regional policy.

In this communication the Commission suggests that the Council should decide before 1 October 1972 on the proposals submitted to it by the Commission in October 1969 and May 1971. These advocate the granting to the Community of the financial resources to enable it to embark on regional policy projects, and in particular a Regional Development Fund. The Commission also requests the Council to agree in principle on the creation of a regional development company with Community financial participation, and provided with a Community guarantee in the matter of loans.

** At its last meeting, the Commission for Energy, Research and Atomic Problems of the European Parliament approved those parts of the document on ENVIRONMENTAL PROTECTION by the Commission of the European Communities with which it is competent to deal (see IRT No. 138). It particularly welcomed the emphasis laid in this document on POLLUTION PROBLEMS ARISING FROM THE PRODUCTION AND CONSUMPTION OF ENERGY, and approved the first steps which the Commission proposes to take in this matter in the near future. It insisted that the necessary coordination

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and rationalization should be undertaken immediately, despite the prevailing uncertainty as to the legal basis for Community intervention in this field.

The Parliamentary Commission also heard an address by Mr Spinelli, Member of the European Commission with special responsibility for industrial affairs and research, on COMMUNITY RESEARCH and the future of the Joint Research Centre (see IRT No. 148). In the opinion of members of the Parliament, an extension of Community authority in the field of research is essential if European research is to develop. The Parliamentary Commission therefore decided that one member of Parliament from each of the Six states should ask the responsible minister in his government whether he was willing to agree to the use of all existing means provided by the European Treaties in order to endow the Commission with the necessary powers in the field of research.

** The present state of development of HIGH TEMPERATURE GAS REACTORS was discussed by representatives of the governments and principal electricity producers of the Community, the UK, Denmark and Norway, during an information meeting held in Brussels recently by the Commission of the European Communities. One conclusion which emerged was that this type of reactor cannot be produced commercially in Europe, as is obviously desirable, except in the widest possible multinational market, since no country is willing to bear unaided the entire cost of developing it for its national needs. The meeting therefore considered that it was very important to reach agreement in Europe on the future development of the HTR.

As a first step, the Commission was invited to approach the EURO-HKG company and ask it to define as broadly-based specifications as possible for the construction of HTRs. (It

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will be recalled that the EURO-HKG company, whose creation was supported and encouraged by the Commission of the European Communities, includes the chief electricity producers of the enlarged Community and has the purpose of exchanging technical and economic experience on the development of HTRs (see IRT No. 125).)

- ** The Commission of the European Communities has asked Petroleum Economics Ltd, London, to carry out a study on THE EVOLUTION OF WORLD SHIPPING TONNAGE AND ITS EFFECT ON FREIGHT RATES. This company already conducted a study on behalf of the Commission back in 1970 which revealed the main factors determining the demand for and the supply of maritime transport tonnage and enabled the medium-term trend of freight rates to be estimated as a function of tonnage. Since these rates are a major factor affecting oil prices on the European market, the Commission has asked Petroleum Economics Ltd to pursue and deepen this study with a view to estimating future freight rates more precisely.

- ** An information session on TECHNICAL MEASURES AIMED AT DUST PREVENTION AND SUPPRESSION IN MINES will be organized by the Commission of the European Communities in Luxembourg on 11, 12 and 13 October 1972. The main topics will relate to the results of ECSC-backed research on dust prevention, dust measurement, the physics of dust and the epidemiology of miners' pneumoconioses. Information about this session can be obtained from the Secretariat of the Information Session "Dust Prevention in Mines", 29 rue Aldringer, Luxembourg.

- ** COMMUNITY EUROPE TODAY: under this title, two members of the staff of the Information office of the Community in London, Roger Broad and R.J. Jarrett, have published a book giving a complete account of what is going on in the European Community, including the terms of the negotiations for British membership.

The Commission of the European Communities defines its views on
THE CREATION OF A COMMUNITY URANIUM ENRICHMENT CAPACITY

European electricity producers cannot be certain of regular and secure supplies of enriched uranium after 1980, i.e., for nuclear power plants whose construction will have to be decided by 1974. Experts consider that by 1980 the US enrichment installations on which the Community at present depends for the greater part of its enriched uranium requirements will no longer suffice to meet the increased demand from the large fraction of the world market which they supply (see IRT Nos. 105 and 135).

It is therefore essential to formulate a policy as soon as possible, and at the latest during 1974, for ensuring the enriched uranium supplies required to cover the Community's estimated needs at this time, so as to avoid slowing down the development of nuclear energy and jeopardizing the attainment of the principal objectives of the joint energy policy (see IRT No. 119 and Annex 4 of the present number).

After considering the report of the study group composed of representatives of the Commission and government experts which was asked by the Council in 1970 to study the question of the Community's long-term supplies of enriched uranium, the Commission has decided to send the Council a further communication and a draft resolution concerning the creation of a Community uranium enrichment capacity.

An analysis of the situation reveals two important factors:

- (a) Time. Only two years are left in which to formulate an overall policy for the Community's enriched uranium supplies.
- (b) The need to concert the efforts of the various promoters in order to ensure the rapid and efficacious integration of efforts into a coherent Community framework and the establishment of a joint programme for the construction of enrichment capacities.
1. The principal bases of a joint policy for the Community's enriched uranium supplies

The Commission is carefully watching the market and future prospects for natural uranium supplies, particularly in relation to the development of the mining industry; where appropriate, it will make proposals to the Council in this field.

As regards the industrial services necessary for enrichment, the Commission considers it essential to announce without delay the Community's determination to provide itself with a uranium enrichment capacity. These alone can provide really secure enriched uranium supplies and confer on European industries the manifold advantages accruing from the acquisition of advanced techniques and access to the world market in this important raw material.

If the Community took this course it would meet the lively concern felt by European electricity producers, who can no longer be sure of regular supplies after 1980.

In order to list the Community's energy and industrial targets, the approximate size of the capacities to be constructed should be in line with the estimated growth in European needs as from the end of the present decade. The size of the factory or

factories to be built should from the outset be at least sufficient to meet the requirements of economic operation of the installations, allowing for the technology adopted in each of them, and should make it possible as from the beginning of the next decade to cover a substantial and growing part of the Community's needs.

2. The instruments of concerted action

The wide range of choices still open, particularly as regards techniques, and the fact that the various promoters work in separate compartments, make the undertaking difficult and complex. It is true that approaches to ultracentrifugation have recently taken an operational industrial form, and a Study Association for the construction of a gaseous diffusion plant in Europe has recently been created with the participation of organizations and industries of the member countries and the UK (some of which participate in companies created to exploit the other technique), but there is still some way to go in order to reach the concerted effort required by a joint strategy.

This next stage must comprise both an enlargement of the technical guidelines followed by each of the present promoters and closer cooperation resulting in coordinated decisions.

It is thus essential to create a legal framework at Community level for the regrouping of efforts and the integration of initiatives. The creation of a joint undertaking in the sense of Chapter V of the Euratom Treaty is the best way of ensuring in the early stages the coordination of all interests and the development of joint studies, and later on, the creation and management of the necessary isotope separation plants.

The Commission therefore proposes to forward to the Council after certain consultations appropriate proposals for the constitution of a joint undertaking.

This joint undertaking would have the following tasks:

1. To conduct market studies on enriched uranium, embracing the possibilities and guarantees offered by supplies from non-member countries and also the possible contributions from capacities to be created within the Community, in the light of the industrial maturity of the techniques utilized.
2. To list the basic characteristics of the various techniques, jointly to organize performance controls, and to make an overall assessment of the processes used.
3. To organize an exchange of information and experience between the participants and to facilitate the conclusion of the necessary contracts.
4. To consider with organizations in non-member countries the conditions which should govern access to or provision of information relating to uranium enrichment techniques, and to prepare or negotiate, where appropriate, the industrial agreements to be concluded for this purpose, in the context of the agreements concluded with non-member countries.
5. To concert initiatives and investments in the matter of the construction of uranium enrichment capacities, together with commissioning programmes.

6. To present to the Commission by 30 June 1974 a report enabling it, as laid down in Chapter V of the Euratom Treaty, to present to the Council proposals either for the amendment of the joint undertaking statutes or for the constitution of a new joint undertaking for the purpose of creating and jointly administering one or more isotope separation plants.

THE EUROPEAN AEROSPACE INDUSTRIES(a) The aerospace market

In 1970 the European aerospace industries held only 9.5% of the market in the Western world (5.7% being accounted for by the UK alone). The remaining 90.5% were in the hands of US manufacturers. The aerospace industries of the Six occupy only 15.2% of the Community market and those of the UK 1.4%, the preponderant percentage being taken up by US equipment (83.4%). The proportion of the US market accounted for by Community and UK equipment is insignificant (2.1%).

The following table shows the relationships between the relative size of the various markets and the place occupied on the market of the Western world by the products of the various industries:

	Size of the market of the different countries as compared with the Western market (%)	Place occupied on the market of the Western world by the industries of the various countries (%)
EEC + UK	14.7	9.5
Other European countries	6.3	-
Europe	21.0	9.5
US	63.9	90.5
Rest of Western world	15.1	-
Western world	100.0	100.0

In 1968 intra-Community trade in aerospace equipment totalled about \$200 million. This level must be considered low, since extra-Community trade totalled about \$600 million (the Community market is completely open to external competition, since the customs duty on aircraft of over 15 tonnes is suspended up to 1 January 1973, whereas the US apply a 5% duty and the UK 7%).

While the level of exports from the Community and the UK to non-member countries is far from negligible in relation to their turnover (in 1963 exports represented 23% of the turnover of Community aerospace firms and 43% of that of UK firms), in absolute figures the European exports in 1968 (Community and UK) totalled only \$1,000 million, as against US exports of \$2,700 million.

The Community has a permanent negative external trade balance in aerospace products which averaged \$153 million in 1964-68. But the two principal European producer countries (UK and France) show a positive balance (\$665 million in 1970 as compared with the positive US balance of \$3,092 million).

(b) The structure of the European aerospace industries

In Europe the last twenty years have witnessed a series of concentrations, usually within national frontiers: in the Community the number of airframe manufacturers fell from 12 to three in West Germany in 1963-70 and from five to two in France in 1952-70; in Italy there are still five groups, one of which is much larger than the others and is the result of concentration. In the UK the number of aircraft manufacturers fell from 16 to four in 1959-61. In the aeroengine industry only one large firm remains in West Germany, two in France and three in Italy, which operate partly under licence. In 1966 almost the whole of the UK aeroengine production potential was concentrated on Rolls Royce.

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The European aerospace industry is more concentrated than that of the US: the five biggest firms in the enlarged Community account for 60.4% of the total European turnover (as against 52.5% for the five first firms in the US), and the ten first European firms for 85.1% (as against 79.2% for the first ten US firms). However, it is the comparative size of the firms rather than the degree of concentration which indicates the limitations of the European industry's potential: the mean turnover in 1969-70 of the five first European firms is \$455 million, as against \$2,392 million for the first five US firms. The average size of the first five firms is thus 5.2 times greater in the US, and that of the next five 6.5 times greater.

The average Community turnover for 1967-70 was 7.8% of that of the US, and the UK turnover 5.9%. Thus the enlarged Community will have a turnover equal to 13.7% of that of the US. A slight improvement in the turnover of the enlarged Community with respect to that of the US is, however, noticeable, since it rose from 12.7% in 1960-61 to 14.8% in 1969-70.

(c) R&D expenditure

The civil R&D expenditure of three European countries (France, UK and West Germany) is relatively high, totalling 35.7% of the corresponding figure for the US.

In France and the UK, expenditure on civil R&D (from public and private sources) in 1969 was 39% of the civil turnover; this is somewhat higher than the US figure - 32%; in absolute value, however, the French and UK industries spent only \$450 million, as against \$1457 for the US.

Since only some of the civil programmes are implemented on a cooperative basis by the two countries, it may be considered that except for Concorde the funds available for each civil programme in France and the UK are well below US spending.

However, the considerable volume of aid granted by the state to civil R&D should be noted (in 1970, \$180 million in France, \$192 in the UK and \$52 million in West Germany).

The critical factor in every aerospace programme is the amortization of capital costs, since, in order to absorb these, it is necessary to produce sufficiently large series. However, it has been found that the average production run of civil aircraft built in Europe in 1955-68 was 138 units as against 492 in the US.

ANNEX 3, p.1THE PROBLEMS OF SMALL AND MEDIUM-SIZED FIRMS IN THE
COMMUNITY

(according to an address given by Mr Flory, Director for Industrial Policy in the Commission of the European Communities, to the section of the Economic and Social Committee specializing in self-employed activities and services)

Firms employing 100-500 persons appear to be becoming the largest class of company in a number of industries in the various Community countries. On the other hand, despite the trend towards concentration in the Community in recent years, no appreciable increase in the number of firms employing more than 500 persons is to be observed.

Small and medium-sized firms are therefore holding their position well and maintaining their economic importance in the Community. Their durability and development are due to the following causes:

1. While there is a higher mortality among small and medium-sized firms than in other classes, this is more than offset by the appearance of new firms, the majority of which are in the small and medium-sized category.
2. Small and medium-sized firms are often more profitable than many large firms. For this reason some firms categorically refuse to expand, and as a matter of deliberate economic calculation prefer to remain in the small and medium-sized category.

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3. Small and medium-sized firms are better adapted than large firms to some of the functions of an industrial economy, such as innovation, services (particularly maintenance) and subcontracting.

Small and medium-sized firms in the Community nonetheless face a number of specific problems: (a) they have less reserves and do not enjoy the same opportunities for conversion of certain parts of their assets as large firms, so that economic and technical changes may be more difficult for them; (b) they do not have the same facilities or resources as large firms for profiting from the big market opening up within the Community; (c) funding is often a highly sensitive and delicate problem.

The general measures at present being taken in the Community with the aim of providing firms with a suitable legal framework, a harmonized taxation system and a flexible and swiftly operating capital market will no doubt help the development of small and medium-sized firms. In addition, the Commission is implementing or planning a series of specific measures in favour of small and medium-sized firms (see IRT No. 146). In order to facilitate closer cross-frontier contacts between firms, the Commission will shortly propose to the Council the adoption of a statute for a European "Groupement D'intérêt économique". It might also propose the creation of an office for promoting contacts between firms, to be concerned mainly with small and medium-sized firms. It has consulted all the professional organizations concerned. Lastly, for more than a year it has been studying means of encouraging subcontracting.

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As regards financing, since 1968 the European Investment Bank has been granting grouped loans to regional development bodies in order to enable them to aid projects of interest to small and medium-sized firms. The sums devoted to the financing of small and medium-sized firms by the European Investment Bank at present represent 10.8% of its activity, i.e., 22 million u.a. in 1971.

In addition, in order to encourage technical cooperation between firms of different nationalities, the Commission will shortly present a plan for the creation of Community development contracts; these would take the form of loans repayable in the event of success and would be intended mainly for small and medium-sized firms, which usually do not have enough money to carry out research projects. But it is in the field of technical assistance that the Community should act with particular vigour. The competent bodies for providing administrative assistance already exist in the Member States, and the Community's role would consist principally in encouraging an exchange of experience between those responsible for these questions in the Community countries.

Certain projects for assistance in marketing, and particularly for aiding exports, are at present being examined by the Commission. They include the establishment of trade missions or commercial centres abroad in order to encourage exports by small and medium-sized Community firms.

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Finally, as regards technical aid to innovation, measures at Community level to disseminate knowledge in a form adapted to the needs of small and medium-sized firms could be useful. They could take various forms, such as the intensification of relations between national professional centres, or the creation of centres for the dissemination of knowledge at Community level (similar to the Centre for Information and Documentation (CID) set up by Euratom) for industries in which small and medium-sized firms are particularly active.

The enlargement of the Community could give a new impetus to the Community's work on behalf of small and medium-sized firms, and in its contacts with governments and professional circles in the applicant countries the Commission has encountered a great interest in this work.

ANNEX 4, p.1THE DEVELOPMENT OF NUCLEAR ENERGY IN THE COMMUNITY

The representatives of the interests concerned are in broad agreement on the draft for a second Community illustrative nuclear programme to which the Commission is at present putting the finishing touches.

Reasonable cost, security of supplies and respect for the environment - these must be the main guidelines of the Community energy policy. By virtue of its potential advantages from these three standpoints, nuclear energy must play an increasing part in the development of our society. Its development should therefore be speeded up in Europe, and the Common Market is the most appropriate framework for this purpose.

The Commission of the European Communities is putting the finishing touches to a Community illustrative nuclear programme, which proposes as a minimum objective the commissioning in the six of an installed nuclear capacity of at least 100,000 MWe by 1985. This would make it possible to reduce the dependence of the electricity industry on imported oil. The nuclear contribution to the Community's energy balance sheet would be considerable, amounting to 37% of the electricity generated by thermal power plants, or 33% of the total energy output; nuclear energy would thus cover 10% of the total energy needs for the Six (see IRT No. 143).

The Community's nuclear objectives and the means of attaining them were discussed by representatives of the

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interests concerned (governments, utilities and nuclear manufacturers) in the Community countries, together with delegates from the applicant countries, at a colloquium held by the Commission in Brussels on 19 and 20 June of this year.

The proposal in the second illustrative nuclear programme for the installation by 1985 of an installed nuclear capacity of at least 100,000 MWe must be regarded as a minimum objective; it is indispensable not merely to attain it - in order to flatten the curve of fossil fuel imports - but to pursue it with the firm intention of exceeding it. Since the publication of the First Illustrative Programme, European supply conditions have been worsened by a change in the relations between oil producer and oil consumer countries, by the emergence of the US and Japan as large consumers on the world energy market and by the problems created by respect for the environment. These new factors must reinforce the need to exceed the objectives set by the Second Nuclear Illustrative Programme. The programme also emphasizes the immediate efforts required in order to eliminate the obstacles which have hitherto prevented the Community's nuclear industry from expanding at the desired rate. The establishment of a real electronuclear common market and the permanent availability of nuclear fuels are basic conditions for the development of nuclear energy in Europe.

The broad agreement reached during the consultation between interested circles gives this programme a reference value both for the analysis of the present situation and the indication of future guidelines.