

# industry research and technology

WEEKLY

REPRODUCTION AUTHORIZED

Brussels, 6 March 1973

No. 179

\*\* Between 1955 and 1972, under the auspices of the European Coal and Steel Community (ECSC), Community aids totalling six million u.a. have been made available to promote some 70 research studies in connection with TECHNICAL MEASURES TO COMBAT THE PROBLEM OF DUSTS AND WASTE GASES IN THE IRON AND STEEL INDUSTRY. A short note on the subject is contained in ANNEX 1.

\*\* The 1972 General Report on the activities of the Community, which has just been published by the Commission, is devoted mainly to NEW MEASURES BEING TAKEN IN THE ENVIRONMENTAL SECTOR. ANNEX 2 contains extracts from this Report dealing with the activities of the Community in the environmental field.

\*\* It has now become apparent that the traditional energy resources of the United States are no longer capable of keeping pace with that country's increased energy consumption requirements. Given these conditions, it is quite clear that, contrary to what may have been possible in the recent past, the United States will no longer be in a position to help solve the Community's supply problems except as a temporary expedient. Furthermore, growing US reliance on imports is bound to have important repercussions on the world energy market and even more so on the Community energy market. Accordingly, the European Commission is keeping a close

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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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watch on all developments which might affect the energy supply situation in the United States and has just made a detailed statement of its views in an answer to a written question by Mr Wolfram, a member of the European Parliament. In its answer, extracts from which are quoted at length in ANNEX 3, the Commission draws attention to the declared objectives of Community energy policy.

\*\* A selection of RECENT PUBLICATIONS acquired by the Scientific and Technical Library of the Commission of the European Communities can be found in ANNEX 4. This literature can be consulted on the premises (1 avenue de Cortenberg, 1040 Brussels, Office Loi, 1st floor, Room 43) or can be taken out on loan.

\*\* The indices show that from 1965 to 1971 total tax receipts increased by nearly 70% in Germany, France and Italy. Furthermore, they almost doubled in Belgium and more than doubled in the Netherlands. The smallest increase (+59%) was in Luxembourg.

The table below shows how the tax burden per capita, as it affects the six original Members of the Community, has increased over the period 1965-71:

	1965	1966	1967	1968	1969	1970	1971
West Germany	459	485	495	523	625	716	806
France	462	494	519	564	622	620	663
Italy	213	228	255	277	298	315	346
Netherlands	367	409	456	501	556	629	729
Belgium	376	435	478	523	584	651	724
Luxembourg	441	466	477	502	588	706	675
The Six	379	406	429	462	524	567	627

The foregoing data are taken from the Tax Statistics for 1965-71, which have just been published by the Statistical Office of the European Communities.

\*\* Experts from the Member States currently studying the Commission memorandum to the Council on industrial and technological policy measures to be implemented in the AERONAUTICAL sector (see IRT No. 153) have reached agreement on the creation of Community procedures designed to coordinate aeronautical programmes in the Member States and to harmonize the structures of industry in this sector.

\*\* The Commission has just submitted to the Council a proposal for a directive concerning the approximation of the laws of the Member States with regard to ELECTRICITY METERS. This directive sets out the basic specifications and the principles to be adopted by the manufacturers with a view to producing "European" meters. It also lays down technical requirements designed to ensure the proper functioning of the meter with regard not only to the accuracy of the readings but also to operational safeguards. The various provisions contained in the directive have been worked out in close collaboration with the European Committee for Electrical Standardization (CENELEX), taking into account the work carried out by the International Electrotechnical Commission.

The principle of harmonization on which this directive is based is of a voluntary nature, i.e., the Member States shall not attempt to prohibit or restrict the marketing and bringing into service of electricity meters conforming to the requirements laid down in the directive, while at the same time retaining full freedom to allow the continued sale of meters complying with their existing national requirements. In this way it will be possible for the manufacturers to choose what they consider to be the most appropriate moment for the adoption of the Community specifications and thus take advantage of the vast new market which will be opened up to them.

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\*\* A meeting was held in Brussels on 26 February 1973 of the Ministers of Social Affairs of the Member States. In particular, the Ministers heard an exposé by Mr Hillery, a Vice-President of the Commission, who presented the working document on the social policy programme proposed by the Commission. This programme is centred on three points: creation of full and better employment; improvement of living and working conditions; increased participation by both sides of industry in Community decisions concerning economic and social matters. The Council has instructed the Commission to draw up, on the basis of this working document, a more detailed scheme which would then be submitted to the Council by 12 April. The next meeting of the Council of Ministers of Social Affairs has been fixed for 21 May 1973.

\*\* Within the framework of the policy of promoting COOPERATION AND CONTACTS BETWEEN THE COMMUNITY AND THE ANDEAN GROUP (the members of this group being Chile, Peru, Ecuador, Colombia, Bolivia and Venezuela - see IRT No. 175), a meeting was held in Brussels on 21-23 February 1973 under the aegis of the Commission between a delegation from the Andean Development Corporation and representatives of the Community electrical and engineering industry.

This meeting provided an opportunity to explore possible ways in which European industry could participate in the Andean Group's industrial development programme with special reference to the implementation of the electrical and engineering industry programme recently adopted by that group.

\*\* The Community Economic and Social Committee has just delivered an opinion on the fourth proposal for a directive on the harmonization of company law. This directive, which was submitted by the Commission, deals with the harmonization of national requirements concerning the ANNUAL ACCOUNTS OF LIMITED LIABILITY COMPANIES

(SOCIETES DE CAPITAUX) (see IRT No. 121). The Economic and Social Committee declares that it has been favourably impressed by the clearly progressive thinking which underlies the Commission proposal and is in agreement with the stated objectives, i.e., to improve the intelligibility of the annual accounts and their comparability at Community level.

\*\* In an opinion just published on COMMUNITY ENVIRONMENTAL POLICY the European Centre for Public Undertakings (CEEP) feels that the initiative taken by the Commission in this area is particularly appropriate (see IRT Nos 109 and 138). In the view of the CEEP an overall strategy for the environment must include a research and study programme, a flexible and harmonized system of standards and regulations, preventive measures, taxation and incentives and also the promotion of industries and home-produced goods. In addition, however, such a strategy is also an exercise in the dissemination of information and the education of the citizen. Finally, a strategy of this kind must be written into a programme of priorities and allows the possibility of choice which, while safeguarding the conditions of activities of firms, can guide their development.

\*\* The departments of the Commission of the European Communities currently engaged on the preparation of a memorandum on the development of the European data-processing industry set an example two years ago by their action in replacing the IBM computer they were using with a computer of European manufacture. The need to match the software programmes to the new equipment, however, has necessitated the extension, for a limited period, of the lease contract with IBM.

RESEARCH FINANCED BY THE COAL AND STEEL COMMUNITY IN CONNECTION  
WITH TECHNICAL WAYS AND MEANS OF COMBATING POLLUTION IN THE IRON  
AND STEEL INDUSTRY

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Between 1955 and 1972, Community aids to the tune of some 6 million u.a. were granted by the European Coal and Steel Community (ECSC) to help finance about 70 research projects concerned with developing technical ways and means to combat air pollution in the iron and steel industry.

These aids have covered between 10% and 90% (on average 55%) of the cost of the various projects. The total cost of all the projects amounted to some 11 million u.a. for 15 years, or roughly speaking an annual outlay of 725,000 u.a.

The latter figure corresponds to one tenth of the sum of 7.2 million u.a. estimated as the annual cost of all technical research eligible for Community aid in the iron and steel industry<sup>1</sup>.

Community aid is awarded by virtue of Article 55 of the ECSC Treaty which stipulates that the Commission of the European Communities is to encourage technical and economic research in connection with steel production, the development of steel consumption, and also health and safety in the iron and steel industry. It is to do this notably by granting aids, subject to the approval of the Council of Ministers, from funds derived from ECSC levies. The results of the research financed in this way are to be placed at the disposal of all who are concerned with these problems in the Community.

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<sup>1</sup>See IRT No. 171.

Results obtained in the course of the first ECSC research programme, together with results of other projects relating to technical means of combating air pollution in the iron and steel industry, were published in an illustrated brochure giving a brief account of the work up till June 1968. Another report has just been completed, giving an account of projects financed under the second ECSC research programme (situation at 30 June 1972).

Financial support from the ECSC is mainly channelled into applied research. Particular emphasis is being laid on efforts to solve the problem of "brown smoke" and important results have been obtained in this sphere.

"Brown smoke" is produced in various steelmaking processes particularly when steel is produced - bottom-blown basic Bessemer converters with oxygen enrichment, or in top-blown (LD, LDAC, OLP, Kaldo) or bottom-blown (OBM, LWS) converters using pure oxygen. The smoke is also produced when oxygen is used during smelting of special steels in open hearth or electric furnaces, and during flame scarfing.

In addition to projects devoted to developing more efficient and/or more economic methods of collecting and cleansing smoke and waste gases, other projects in the same programmes have been concerned with trying to avoid at least some of the production of this gas, smoke and dust. For instance, investigations have been made into the effect of the capacity and mode of operation of open hearth furnaces on the emission of dust,  $SO_2$ , NO and  $NO_2$ , and also ways of improving fuelling and operating conditions in sintering plants. In the latter case, efforts are directed at reducing dust emission and determining the concentration of the noxious constituents of waste gases ( $SO_2$ ,  $SO_3$ , Pb, Zn).



Another series of projects has been concerned with lessening the noxious character of pollutants which are unavoidably produced during certain manufacturing processes. For instance, work has been done on the decontamination of cyanogenetic dust, sludge and effluent issuing from plants which cleanse blast furnace gases.

As regards the measurement of air pollutants, several projects are or have been concerned with determining the nature and extent of air pollution in and near iron and steel plants. Other projects in the same field have been aimed at improving and harmonizing measurement techniques (methods and equipment), particularly the techniques used for sampling and analysing different types of dust, smoke, steam or gas.

Research of a more fundamental nature has been, or is being, pursued in connection with the very important question of gas filtration at high temperatures, especially in the region where the temperatures reach 500°C.

Finally, certain projects have tackled the problem of fluorine precipitation during dry dust removal from waste gases containing CO (gases from converters) and, in another field, the question of the diffusion of pollutants through factory workshops on air currents caused by heat, wind and ventilators.

The second programme is due to end this year as all the funds have been used up. The competent departments of the European Commission, in close collaboration with the various circles concerned, are now preparing a third programme of research for 1973 in a continuing effort to develop technical ways and means of combating pollution in the iron and steel industry.

It is planned to broaden the scope of the programme so that it covers not only air pollution but also the treatment of industrial effluent from iron and steel plants. Thus the problem will be tackled as a whole and "pollution transfers" will be avoided. A major part of the programme will deal with the disposal of waste from the iron and steel industry.

COMMUNITY ACTIVITIES IN THE ENVIRONMENTAL FIELD

(based on the 1972 General Report on Community Activities)

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On 22 July 1971 the European Commission drew up a preliminary communication on Community environmental policy (see IRT No. 109). On the basis of opinions expressed during intensified talks with the competent authorities of the Member States and also in accordance with those of the professional organizations and trade union bodies, the Commission submitted on 24 March 1972 a memorandum to the Council of Ministers on a Community environmental programme (see IRT No. 138).

In April an ad hoc committee was set up by the Committee of Permanent Representatives to examine these proposals. In order to facilitate matters, the Commission, with the assistance of national experts in this field, submitted a common terminology draft which was adopted in September. The basic terms such as criteria, levels, guidelines, standards, quality objectives, etc., have been defined jointly. The delegations of the Member States and acceding States are prepared to accept this terminology in the work done by international organizations which are also concerned with environmental protection.

The meeting of Heads of State or Government in Paris and the Ministerial Conference which took place in The Hague and Bonn during October also stressed the significance of environmental problems. (See IRT Nos. 151, 162, 164 and 165.)

The declaration of the Heads of State or Government of 21 October 1972 underlined the importance of a Community policy for the environment and called upon the Institutions to draw up a programme of action, together with a precise timetable, before 31 July 1973.

The Member States signatories of the Berne Convention establishing the International Commission for the Protection of the Rhine against Pollution met at The Hague on 25 and 26 October 1972 at ministerial level to discuss the problems posed by the fight against the pollution of the Rhine. The Commission was represented by Mr Spinelli. During this conference important decisions were taken with the aim of reducing the level of salt and thermal pollution. The International Commission for the Protection of the Rhine against Pollution was given the task of preparing a medium-term action programme, a study of the chemical pollution of the waters of the Rhine and proposals for improving its own working methods. The Commission noted with satisfaction that the proposals concerning the preparation of an overall medium-term programme for cleaning up the waters of the Rhine and the creation of a European agency for the Rhine basin had occupied the attention of the governments concerned.

On 30 and 31 October a ministerial conference on the environment was held in Bonn. Discussion here centred round the general principles of a Community policy for the environment and the results of the United Nations Conference in Stockholm.

The Ministers responsible for the environment in the enlarged Community considered, as did the Commission, that a common environment policy should aim at improving the quality of life and could not be limited to purely economic considerations.

The first international conference on the environment which was held in June 1972 highlighted the close links between the protection of the environment and the economic development of the most handicapped countries. It showed that solutions which are acceptable as regards the economic and social aspects and appropriate from the ecological and health standpoints can no longer be found

solely on the local and national level. -- Agreements on the continental and world level have become necessary. Solutions to environmental problems can no longer be found in the context of any particular sector of economic or social activity, but must be sought for in the light of the full range of human activity.

#### Continuation of work in hand

Pending the setting-up of a common programme for the environment, the Commission has continued and developed the activities already undertaken pursuant to the provisions of the Treaties.

Under the ECSC research programme, work was carried out on pollution and on working conditions in the coal and steel sectors. Euratom pursued its activities with regard to the protection of workers and the general public against the dangers arising from ionizing radiations, in accordance with the provisions of Chapter III of the Treaty. The Commission also continued its work on the approximation of legislation by calling together groups of experts to draw up a list of the laws and regulations and administrative provisions on air, water and noise pollution and on waste. With regard to the elimination of the technical barriers to trade in products, the Commission submitted to the Council on 23 March 1972 a plan to extend the general programme for the elimination of technical barriers. This extension provides for the introduction of new products likely to have harmful effects on man or the environment, such as vehicles, public works machinery and fuels.

The Commission set about increasing its experience and knowledge of environmental problems by studies and investigations relating to particular questions (economic aspects, pollution of the air by sulphur dioxide, thermal pollution of waterways, pollution of the Rhine basin, and pollution caused by certain industries, in

particular petrochemicals). Within the PREST Group it provided the Secretariat of the Committee set up to manage activities in the field of town planning: working party on "town planning and structure of the habitat". (See IRT No. 176.)

Finally, in the course of the year, the Commission asked for and obtained the agreement of the Member States and the acceding States to work together and, where possible, to adopt a common attitude in international organizations which are concerned with problems of the environment. This cooperation, achieved through the work of the Environment Committee of the OECD and the principal committees of that organization on the one hand and the United Nations on the other enabled Member States to adopt a common attitude on a considerable number of questions.

## COMMUNITY ENERGY POLICY

(extracts from a reply by the Commission of the European Communities to a written question from Mr Wolfram, a Member of the European Parliament, concerning European and American energy policy)

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The European Commission is following the development of the energy situation in the United States with great interest. It seems that the United States is now facing a situation where, in the short term at least, traditional domestic energy resources would appear to be incapable of keeping pace with the development of the country's energy consumption. In these circumstances it is obvious that, contrary to what may have been possible in the recent past, the United States will no longer be in a position to help solve the Community's supply problems, except as a temporary expedient. Furthermore, growing US reliance on imports will have significant consequences for the world energy market and even more so for the Community market. However, at the present it would be premature to conclude from this that the United States have not yet decided on their future energy policy.

On 4 October 1972 the European Commission approved a memorandum on "Necessary Progress in Community Energy Policy" (see IRT No. 160). This memorandum defines the basic problems facing the Community's energy policy, in the same terms as the "Preliminary Guidelines for a Community Energy Policy", but taking into account changes that have since taken place on the energy market and the developments that are likely to occur in the future. It also includes a set of actions which the Community intends to introduce; the Community also intends to put before the Council of Ministers particular proposals for these actions.

This memorandum has meanwhile been submitted to the Council of Ministers, the European Parliament, other Community bodies and institutions and also to public opinion.

In accordance with Article 40 of the Euratom Treaty, the Commission has just approved the text of a "Second Nuclear Information Programme for the Community" (see IRT No. 161). The minimum objective of this programme is that, by the end of the set period, i.e., by 1985, the generating capacity of the Community's nuclear power plants should total at least 100,000 MWe. The corresponding output of electricity will then represent 10% of total primary energy needs and 33% of the total electricity output.

The development of nuclear energy plants which will have to be carried out in the Community can be considered as follows: starting with the available power of nuclear electricity generating plants in service (5,500 MWe) and taking into account plants still under construction, the total nuclear generating capacity will be in the order of 12,000 MWe in 1975 and 23,500 MWe in 1977. If the objective set for 1985 is to be achieved, at least 45,000 MWe should be in service by 1980. Yearly undertakings in nuclear power should thus cover a minimum of about 7,000 MWe on average between 1972 and 1975 and 11-12,000 MWe annually between 1976 and 1980.

As for long-term prospects: the programme estimates the nuclear power that should be available in 1990 and 2000 at 210,000 MWe and 620,000 MWe respectively.

In its memorandum on "Necessary Progress" the Commission points out the need to define the future role of coal in the energy supplies of the Community and to adopt provisional guidelines for the coal sector with this aim in mind.



The results of this study will enable the Commission to introduce or propose the appropriate measures. The Commission has already issued the draft of a new Community aid scheme for coking coals and cokes intended for the Community iron and steel industry, a scheme to replace, as from 1 January 1973, the one put into effect by Decision No. 70/1/ECSC concerning coking coals and cokes. This draft is now before the Council of Ministers awaiting its assent and also before the Consultative Committee. As part of the preparation of guidelines for supplying electric power stations with fuel, the Commission also intends to examine the conditions where it would be possible to maintain or develop a capacity for coal consumption in thermal power plants.



RECENT PUBLICATIONS

acquired by the Scientific and Technical Library of the Commission of the European Communities which can be consulted on the premises (1 avenue de Cortenberg, 1040 Brussels, Office Loi, 1st floor, Room 43) or taken out on loan.

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GENERAL

The Mature Society (EU 17114)

GABOR, Dennis

Secker & Warburg, London, 1972

The Doomsday Syndrome (EU 17111)

MADDOX, John

McGraw-Hill, New York, 1972

Economie et société humaine (EU 16431 C)

Rencontres Internationales du Ministère de l'Economie et des Finances organisées à Paris, 20-22 June 1972

Denoël, Paris, 1972

Une image de la France en l'an 2000 (EU 15314 (30))

La Documentation Française

Schéma général d'aménagement de la France, No. 30, Paris, 1972

Stiftungen in Europa (EU 15066 (5))

Eine vergleichende Übersicht

NEUHOFF, Klaus & PAVEL, Uwe

Nomos Verlagsgesellschaft, Baden-Baden, 1971

ENERGY

Symposium on Energy Resources and the Environment (EU 16881  
(I-II-III-IV)) Kyoto, 9-12 July 1972

Vol. I-II-III-IV

Mitre Corp., McLean, Va., November 1972

TELECOMMUNICATIONS

Der Dienst bei der deutschen Bundespost (EU 16180(6)6-III)

Band 6: Fernmeldetechnik - Teil 6: Telegrafentechnik

Teilband III: Fernschreib- und Datenvermittlungstechnik

Decker & Schenck, Hamburg, 1971

PHYSICS

Cosmic Plasma Physics (EU 17106)

Proceedings of a Conference held at Frascati, 20-24 September 1971

SCHINDLER, Karl (Ed.)

Plenum Press, New York, 1972

Studies in Physical Oceanography (EU 17104 (I-II))

A Tribute to Georg Wüst on his 80th Birthday - Vol. I-II

GORDON, Arnold L. (Ed.)

Gordon & Breach, New York, 1972

Computers and their Role in the Physical Sciences (EU 17098)

FERNBACH, S. & TAUB, A. (Ed.)

Gordon & Breach, New York, 1970

NUCLEAR ENERGY

Extraction of Uranium from Sea Water (EU 17049 (I-II-III))

Vol. I: Coprecipitation of Uranium in Sea Water with Metal Hydroxides

Vol. II: Adsorbents for Extraction of Uranium from Sea Water

Vol. III: Concentration of the Uranium in Weak Uranium Solutions by  
means of Surfactants - LE/G/2980-81-72 e

OGATA, N. & KAKIHANA, H.

UKAEA, Harwell, 1969-70