

# COMMISSION OF THE EUROPEAN COMMUNITIES

COM(82) 555 final.

Brussels, 3 August 1982

## PROPOSAL FOR A COUNCIL REGULATION (EEC)

on the granting of financial support for pilot industrial projects  
and demonstration projects relating to the liquefaction and gasi-  
fication of solid fuels

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(Submitted by the Commission to the Council)

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## SUMMARY

The Commission of the European Communities has proposed to modify and improve the existing Council Regulations (EEC) Nos. 1302/78 and 728/79 in the light of the evaluation report on the demonstration projects and, in particular, of the first results in the field of liquefaction and gasification of solid fuels.

The main innovations are:

- a regulation for the liquefaction and gasification of solid fuels;
- extension of the regulation to cover industrial pilot projects and feasibility studies for which the question of reimbursement does not arise;
- the possibility of carrying out projects outside the Community;

The draft regulation fits in well with the rôle for coal in the Community's energy strategy and meets the energy objectives defined by the Community.

## EXPLANATORY MEMORANDUM

1. Action at Community level launched by the Commission concerning demonstration projects relating to the liquefaction and gasification of solid fuels is at present covered by:
  - a) Council Regulation (EEC) No. 1302/78<sup>(1)</sup>, which concerns alternative energy sources, together with Council Regulation (EEC) No. 728/79, which concerns the liquefaction and gasification of solid fuels; and
  - b) Council Regulation (EEC) No. 726/79<sup>(2)</sup>, which lays down the maximum amount of aid for projects to exploit alternative energy sources.
  
2. Following on from these regulations, two invitations to submit projects have been published and 35 projects have been submitted, involving a total cost of around 1 000 MioECU. In view of the limited amount of funds available, only 70 MioECU have been committed contractually, mostly relating to the initial stages of the 12 projects selected. The Commission's contribution was generally 40%, but 10% for one project.

It should be borne in mind that the projects in question are long-term ones entailing fairly considerable investment. Consequently, and in view of the cash limits imposed, it was thought preferable to support individual stages rather than entire projects.
  
3. There is considerable evidence to confirm the effectiveness of the provision of financial support by the Community as regards the commencement of demonstration projects: the considerable response to the invitations to submit projects, the value of the first results, the publication of regular newsletters, meetings between the various parties concerned, and the expectations in relation to the invitations to submit projects aroused in the organizations and firms concerned. However, the experience acquired so far also indicates that the application of the arrangements should be improved, and therefore reviewed.
  
4. In July 1981 the Commission submitted to the Council a preliminary evaluation report<sup>(3)</sup> on the application of the regulations. It gave an account of the progress made with the Community demonstration programme, with particular reference to the initial experience gained and the problems involved in implementing the regulations.

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(1) OJ No. L158, 16.6.1978

(2) OJ No. L93, 12.4.1979

(3) COM(81) 397, 17.7.1981

5. In June 1982 the Commission submitted an evaluation report<sup>(1)</sup> assessing the first results of the demonstration projects, including the projects relating to the liquefaction and gasification of solid fuels, and indicating the impact of the Community demonstration programme and the measures introduced by the Member States in the context of their national programmes.
6. The main conclusions about the impact of the Community programme relating to the liquefaction and gasification of solid fuels are as follows:
- only one of the gasification projects at present holds out good prospects of commercial exploitation, while the other projects, in particular the liquefaction and underground gasification projects, are by no means ready for industrial-scale use, as a large number of technical problems have yet to be resolved;
  - the projects relating to the gasification and liquefaction of solid fuels are large-scale ones and therefore expensive, with the result that considerable resources are needed (which is why funding has generally been limited to individual stages);
  - there is now an urgent need to go beyond these stages, to ensure that the technology involved in the projects selected is ready to be used on an industrial scale and, as a result, alternative fuels can replace oil and natural gas;
  - considerable public and private funds are still needed in order to enable these projects to reach the operational stage. That is why the industrial pilot stage for the liquefaction and gasification of solid fuels is so very important.
7. Reference should also be made to the second evaluation report, where the Member States' national programmes are concerned. As such programmes are non-existent in certain Member States or for certain sectors, action at Community level should complement the national efforts in order to ensure that the various projects are homogeneous and consistent with one another, in order to avoid duplication of effort within the Community, e.g. thanks to close cooperation in the context of the advisory committees, in order to encourage firms to appreciate the Community dimension of the efforts and, in this way, to remedy the absence or possible limitations of national programmes.

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(1) COM(82) 324, 27.5.1982

8. Although the present programme is limited in scope by the funds available it covers most of the main technological fields. The often considerable technical problems involved in applying them on an industrial scale still have to be resolved through development and demonstration.

A few projects are close to economic viability, but others are still very close to the industrial pilot stage, a stage which entails less investment, resources and time and makes it possible to gather sufficiently precise data in order to progress from the research and development stage either to the industrial stage or to the demonstration stage (in the case of a major installation). In addition, one of the features of the industrial pilot stage is that there is considerable flexibility as regards modifying plant and equipment.

9. The industrial pilot and/or demonstration stage, which comes after the research and development stage, is the stage permitting the transition to the industrial and commercial exploitation of techniques, processes and products which are innovatory in themselves or in their application.

The industrial pilot stage is characterized by the operation of an installation having an adequate capacity (20-25 tonnes a day) and using suitably large components with a view to increasing the reliability of the technical and economic data needed to progress to the demonstration stage, and in certain cases, the industrial and commercial stage.

The demonstration stage is characterized by the operation of an industrial-scale installation which should make it possible to bring together all the technical and economic data, in order to proceed at the least possible risk to the commercial and industrial exploitation of the technology. In most cases, industrial pilot and/or demonstration operations are a vital adjunct to the research and development programmes at Community and national level.

10. The projects relating to the liquefaction and gasification of solid fuels are fundamentally different from those relating to the exploitation of alternative energy sources (e.g. geothermal energy and solar energy) and energy-saving, particularly as a result of their size, the fairly long lead times and the high costs involved. They therefore have specific features of

their own which are not comparable with those of the projects relating to other energy sources. Moreover, in this field it is unlikely that a project will be ready for industrial-scale use in the short term, and an industrial pilot stage (20 to 25 tonnes a day) will usually be needed before the commercial demonstration or industrial application stage. This was in fact already evident following the invitations to submit projects - many projects had to be ruled out because they were pilot projects rather than demonstration projects - and during the work on the projects under way.

11. In the light of the evaluation of the first results and the conclusions, and on the basis of the experience acquired and the need for certain less well advanced processes to go through the industrial pilot stage, the Commission is proposing a single, specific Council Regulation (EEC) No. .../82 on the granting of financial support for pilot industrial projects and demonstration projects relating to the liquefaction and gasification of solid fuels.
12. Apart from introducing support for industrial pilot projects, this proposal for a regulation provides for the following main additions, amendments and improvements :
  - the possibility of carrying out projects outside the Community, in particular in the developing countries, provided that these projects are definitely of mutual interest to those countries as well as to Community firms and Community countries;
  - the possibility of granting financial support for project feasibility studies, as these are expensive in certain cases;
  - the repayment procedures, which will be defined contractually for the demonstration projects on a case-by-case basis, will not apply to the industrial pilot projects and the feasibility studies;

- as regards the financial aspects of the programme relating to the projects for the liquefaction and gasification of solid fuels, the amounts to be made available by way of support should be entered in the general budget of the Communities in order to involve the budgetary authorities in the decisions.

13. The Commission attaches special importance to the projects for the liquefaction and gasification of solid fuels, as the processes used are intended to make it possible to replace naturally-occurring gaseous and liquid hydrocarbons as energy sources by substitute products derived from solid fuels. The development of the liquefaction and gasification of solid fuels (industrial pilot and demonstration projects) in order to reduce dependence on imported oil and natural gas and to diversify energy supplies should further the attainment of the Community's energy policy objectives and fits in perfectly with Community energy strategy and the rôle of solid fuels in this strategy.
14. At present, because there is a slight, and no doubt temporary, surplus of naturally-occurring hydrocarbons, a number of industrialized countries are losing interest in the development of these solid fuel conversion processes, but the Commission considers that the Community therefore has a duty to take the responsibility itself for the development and demonstration of this technology which it will need in view of its vulnerability where energy supplies are concerned, all the more so since projects in this sector are expensive in view of their size and the fairly long lead times involved. This shows that the benefits of joint development and demonstration activities at Community level are real.

15. The Commission intends to step up its efforts to disseminate the results of the projects within the Community, in order to make the technical and economic information acquired available to interested parties. The recipients of the support are contractually required to allow this information to be made available.

To this end, the Commission intends to organize periodic seminars at which the various contractors working in any one sector can meet, and European conferences with a wider audience so that experience of the national and Community programmes can be compared.

16. It is for these reasons that the Commission is proposing not only to pursue the demonstration activities with resolution, subject to certain adjustments in order to take into account the specific features of the sector involved, but also to bring industrial pilot projects within the scope of the arrangements. To this end, and for all the reasons explained above, the Commission hereby submits to the Council the attached proposal for a Regulation on the liquefaction and gasification of solid fuels.



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THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,  
and in particular Article 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament, (1)

Having regard to the opinion of the Economic and Social Committee,(2)

Whereas, pursuant to Article 2 of the Treaty, the Community has as its task  
to promote throughout the Community a harmonious development of economic  
activities, a continuous and balanced expansion and an increase in  
stability;

Whereas, in its resolution of 9 June 1980 (3), defining the new energy  
policy objectives for the Community, the Council stressed the need to reduce  
dependence on oil, inter alia by reducing oil consumption in the Community  
to a level of about 40% of gross primary energy consumption, by using energy  
more rationally and by diversifying the sources of supply to a greater extent;

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(1)

(2)

(3) OJ No C 149, 18.6.1980, p. 1.

Whereas the development of a new energy strategy for the Community reaffirms the role for coal and the other solid fuels<sup>1)</sup> in this strategy;

Whereas the conversion of solid fuels into gaseous and liquid products represents an alternative energy source which, after it has been developed to the industrial stage, could improve energy supply conditions in the Community by contributing towards diversification, and could reduce the Community's dependence on imported hydrocarbons;

Whereas the Community should ensure the development of this new technology;

Whereas financial support should be granted after the research stage for pilot industrial projects or demonstration projects relating to the liquefaction and gasification of solid fuels which, as a result of their size and period of development including a lengthy stage which is needed in order to acquire experience with large-scale installations, are particularly expensive and entail considerable risks due to the new technologies which they embody;

Whereas support for such projects, which are to be undertaken following studies and research giving favourable indications as to their technical, commercial and economic viability, will help to encourage the exploitation of the conversion of solid fuels into substitute hydrocarbons and encourage their use in the Community;

Whereas the execution of these projects relating to the liquefaction and gasification of solid fuels could result in the development in the Community of an industry with potential markets outside the Community;

Whereas the granting by the Community of the benefits envisaged must not adversely affect the conditions of competition in a manner incompatible with the principles embodied in the relevant provisions of the Treaty;

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(1) OJ No. C105, 26.4.1982, p. 1.

Whereas, in view of the need to limit such support to that which is essential, the Community must have at its disposal every means of assessing case by case, the possible benefits to it of such projects and their compatibility with the energy objectives defined at Community level;

Whereas, to this end, the recipients should assume obligations towards the Community in return for the benefits to be granted;

Whereas the liquefaction and gasification of solid fuels have genuine exploitation prospects calling for the availability of proven technologies in good time;

Whereas the Community has already granted financial support to projects relating to the liquefaction and gasification of solid fuels pursuant to Council Regulation (EEC) No. 1302/78 of 12 June 1978 on the granting of financial support for projects to exploit alternative energy sources (1);

Whereas the Commission has evaluated this action in the context of reports which it has presented to the Council and to the European Parliament on the application of the said Regulation;

Whereas the Community programme in the field of the liquefaction and gasification of solid fuels should be extended to include pilot industrial projects as well as demonstration projects, so as to cover all the techniques in the field concerned, and should be reinforced subject to increasingly close coordination and complementarity with the initiatives undertaken at national level;

Whereas in this field the size and complexity of the projects, the time needed to carry them out, their costs and the risks that they involve make necessary specific rules covering the field;

Whereas the Treaty does not provide the specific powers necessary for these purposes;

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(1) OJ No. L158, 16.6.1978, p. 3.

HAS ADOPTED THIS REGULATION:

Article 1

1. Under the conditions laid down in this Regulation, the Community may grant financial support for pilot industrial projects and demonstration projects relating to the liquefaction and gasification of solid fuels.
2. For the purposes of this Regulation, "pilot industrial installation" means a plant having an adequate capacity, in the region of 25 tonnes of coal a day, and using suitably large components with a view to increasing the reliability of the economic and technical data needed to progress from the research and development stage to the demonstration stage and, in certain cases, directly to the industrial and commercial stages.

For the purposes of this Regulation, "demonstration" means the operation of an installation which makes it possible to bring together all the data concerning technical and economic viability and to proceed at the least possible risk to the industrial and commercial exploitation of the technology.

Article 2

1. All projects within the meaning of Article 1 must satisfy the following conditions:
  - they must relate to pilot industrial installations or demonstration installations;
  - they must exploit techniques or processes which are innovatory in themselves or in their application;
  - they must be likely to increase the technical and economic reliability of the process and constitute a reference;  
they must present difficulties with regard to finance;
  - in view of the significant technical and/or economic risks involved;

- they should, as a general rule, be carried out within the Community; if, however, a project is definitely of mutual interest to the Community and to a third country, and in particular a developing country, on industrial or other grounds, it may be carried out in that country, if that country agrees.

2. A list of the possible fields of application of this Regulation is given in the Annex .
3. Financial support may be granted for a project as a whole or for individual stages. The stage constituted by a feasibility study may also be awarded financial support.

### Article 3

Responsibility for projects shall devolve upon a natural person or a legal person constituted in accordance with the laws in force in the Member States.

If the creation of a legal entity with the legal capacity to carry out a project involves additional costs for the participating undertakings, the project may be carried out simply by cooperation between natural or legal persons. In that case, such persons shall be jointly and severally liable for the obligations resulting from Community support.

### Article 4

1. Support for a project shall take the form of a Community financial contribution to the project, half of which contribution shall be repayable under certain conditions in the case of demonstration projects, taking into account any other financial aid for the project received or expected from Community, national or other sources, as well as the share of the risk which should be borne directly by those responsible for the project.

2. Such support shall not exceed 49 % of the total cost of the project.  
The level of support shall be determined for each project individually, in accordance with the procedure laid down in Article 5. The amount of support which is repayable and the detailed repayment procedures shall be specified in the contracts with the recipients.
3. Financial support for the stage constituted by a feasibility study or for pilot industrial projects shall not be repayable.

#### Article 5

1. Every project submitted for consideration by individuals or undertakings in the Community following an invitation to submit projects published in the Official Journal of the European Communities shall be examined by the Commission on the basis of the following information, to be provided by the applicants :
  - a detailed description of the project, including the organization of its administration;
  - the energy implications;
  - an evaluation of the possible effects on the environment;
  - the time-scale for carrying out the project;
  - the financial situation and technical capability of the person or persons responsible for the project;
  - the nature and extent of the technical and economic risks inherent in the project;
  - the cost of the project, its economic viability and the financing arrangements proposed;
  - the application prospects of these technologies and the benefits thereby obtainable for the economy as a whole;

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- details of any financial aid which the project has received, at an earlier stage of research and development, from the Community or from the Member States;
- details of any other financial support by, or expected from, the Member States or the Community;
- any other information which may justify the Community support requested;
- how it is proposed to make public the results.

2. The Commission shall decide whether to grant or refuse support for projects after consulting the Advisory Committee on the Management of Demonstration Projects instituted by Commission Decision .....<sup>1)</sup>, which shall be composed of representatives of the Member States. The Commission's decision shall be communicated to the Council, the Member States and the Parliament forthwith.

3. A periodical report shall be drawn up by the Commission for the Council and the European Parliament on the policy pursued in relation to demonstration projects in order to ensure cohesion of national and community action and to enable the Commission better to assess the results of that policy. The Council and the European Parliament shall express an opinion on the report.

The Commission shall establish a procedure for regular communication with the Member States in order to obtain the necessary information on demonstration actions carried out at national level.

#### Article 6

The benefits granted by the Community must not adversely affect the conditions of competition in a manner incompatible with the principles embodied in the relevant provisions of the Treaty.

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1) OJ No

Article 7

1. The Commission shall negotiate and conclude the contracts necessary for the implementation of projects selected pursuant to Article 5. To that end, the Commission shall draw up model contracts setting forth the rights and obligations of each party, and in particular the procedures for any repayment of financial support granted, as well as the terms of access to and dissemination of knowledge.
2. The person or persons responsible for implementing a project in receipt of Community support shall send to the Commission, every six months or at its request, a report on the fulfilment of the contractual obligations towards the Commission, and in particular the progress of work on the project and the expenditure incurred in carrying it out.
3. The Commission shall have access at all times to the accounts relating to the project. It may have checks carried out on the spot and on the basis of documentary evidence as a means of monitoring the performance of the contract and in particular the progress and implementation of projects.
4. Where the extent of financial support from the Community and the size of the project so warrant, the Commission shall participate as an observer in meetings of the bodies responsible for the management of projects, if the contract so provides.

Article 8

The amounts of financial support to be granted pursuant to this Regulation shall be entered in the general budget of the European Communities.

Article 9

This Regulation shall enter into force on the day following its publication in the Official Journal of the European Communities.

It shall apply until 31 December 1987.

This Regulation shall be binding in its entirety and directly applicable in all Member States.



ANNEX

LIQUEFACTION AND GASIFICATION OF SOLID FUELS

- List of possible fields of application -

For the purposes of this Regulation, "industrial pilot or demonstration projects" means projects relating to the gasification, the underground gasification and the liquefaction of solid fuels.

This list is not exhaustive, nor does it reflect priorities.

1. Gasification

- 1.1 Production of gas of a medium calorific value intended in particular for industry, heat generation and power stations.
- 1.2 Production of synthesis gas as a raw material for the chemical industry.
- 1.3 Production of substitute natural gas (SNG) of a high calorific value, for use in the distribution network.
- 1.4 Combined and/or integrated cycle electricity generation (gas/steam turbines).
- 1.5 Partial gasification of solid fuels (in particular in order to eliminate harmful fuel components).

2. Underground gasification

- 2.1 Underground gasification - new processes under pressure.
- 2.2 Underground gasification at great depth.

3. Liquefaction

Production of a series of liquid and chemical products by means of:

- 3.1 Selective synthesis processes to improve the range of liquid products.
- 3.2 Direct liquefaction processes (hydrogenation, extraction, dissolution, etc.) offering increased efficiency and better operating conditions.
- 3.3 New processes such as the hydrolysis of solid fuels.

FINANCIAL RECORD SHEET

1. Budget line concerned: Art. 702 - Item 7021

Title of the budget line: "Liquefaction and gasification of solid fuels"

2. Legal basis:

2.1 Article 235 of the EEC Treaty

2.2 Draft Council Regulation (EEC) No. .../82 on the provision of financial support for industrial pilot and demonstration projects in the field of liquefaction and gasification of solid fuels, modifying and replacing Council Regulations (EEC) Nos. 1302/78 and 728/79.

3. Description of the action:

Provision of financial aid to Community enterprises or undertakings for the realisation and exploitation of industrial pilot or demonstration projects in the field of liquefaction and gasification of solid fuels. The aid may be granted for complete projects or for certain phases of the projects chosen; this continues the action undertaken by Council Regulations (EEC) Nos. 1302/78 and 728/79.

4. Justification of the action:

Given the technical risks, the high capital costs and the introduction of partially new techniques and technologies, the execution of the projects could not be assured, or would be postponed, without the intervention of financial support from the Community.

Moreover, because of its vulnerability in the energy sector, the Commission judges that the Community must itself undertake the development and demonstration of the technologies that it will need.

5. Financial repercussions of the action on the intervention appropriations:

5.1 Total cost over the duration of the action = 170 MioECU, of which 51.6 MioECU committed and 19 MioECU authorised to be committed in 1982.

5.2 The Community's financial participation is limited to a maximum of 49%, and the remainder is to be financed by the public and/or private sectors.

5.3 Commitment appropriations	:	1983	25 MioECU
		1984	33 MioECU*
		1985	23 MioECU*
Payment appropriations	:	1983	28 MioECU
		1984	25.6 MioECU*
		1985	21 MioECU*

6. The action is not new, except for the industrial pilot projects.

7. Financing of the costs of intervention:

7.1 No

7.2 No

7.3 Yes

7.4 Yes

8. Possible repercussions on resources: None

9. Method of control envisaged:

9.1 No control by the Member States is envisaged. The organizing service and the Financial Control will carry out periodic checks on site and on documents, and will follow the progress of the projects through the technical and financial reports that the enterprises or undertakings are required to provide periodically, as well as by participation by the appropriate Commission services in meetings of the managing bodies of the projects.

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\*Appropriations including amounts relating to Spain and Portugal

9.2 The Commission is required to make periodic reports to the European Parliament and the Council on the application of the Regulation in the field of liquefaction and gasification of solid fuels.

10. Staff required:

10.1 Tasks: Examination of projects, management of the A.C.P.M., consultation and decision procedure, negotiation and conclusion of contracts, control of contractual commitments, evaluation reports and periodic reports.

10.2 Supplementary staff:   1 official (B)  
                                  1 secretary (C)