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COMMUNICATION FROM THE COMMISSION TO THE COUNCIL
CONCERNING COMMUNITY ACTION IN THE
NATURAL GAS SUPPLY SECTOR

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ACTION IN THE NATURAL GAS SUPPLY SECTOR

Introduction

At the beginning of 1979, the Commission presented to the Energy Committee a detailed report entitled "Natural gas supplies and prospects in the Community". *) The Energy Committee asked for examination of the report by experts of the governments and the industry concerned as the basis for subsequent proposals by the Commission to the Council for action on a Community and national basis. The present Communication takes account of these further consultations. The Commission asks the Council to endorse his conclusions.

The main results of this report are as follows :

1. The role of natural gas in the energy supply of the Community

Since the inception of the Community, the share of natural gas in total primary energy consumption has continually grown to reach a current proportion of 18 %, or in absolute terms a thirty-fold increase from 6 million toe to nearly 180 million toe in 20 years. Natural gas has almost reached the same proportion in the energy balance for the Community as coal.

One of the common energy policy objectives set by the Council on 17.12.74 was for natural gas to achieve an 18 % share of total energy consumption by 1985. This figure has already been attained and it is evident that natural gas helped significantly in reducing the dependence of the Community on imported oil by 13 % since 1973.

(*) Doc. COM/ENER/31/78

Up to 1985 a further increase in natural gas consumption by the Community of nearly 4,5 % per annum is foreseen. Since the growth rate in total energy consumption is likely to be lower, natural gas could reach a 20 % share of total energy consumption in 1985, thereby continuing its role in reducing the Community's dependence on oil imports.

By the mid 80's however, we have to expect a sharp decrease in growth rates for natural gas consumption. The national objectives for 1990 of the Member States show an average annual growth rate of 1 % from 1985 to 1990. Consequently the share of natural gas in the energy balance for the Community is likely to begin to decline.

Priority for natural gas usage should therefore be given to premium uses (eg. household and small consumers). The Council Directive of the 13th February 1975 *) requiring Member States to submit for authorisation, which is only given under certain conditions, proposals for the new use of gas in power stations, is consistent with this policy.

2. The causes of the forecast changes in trends

a) Decrease in production within the Community

The rapid expansion of natural gas supplies over two decades, at times with extremely high rates of growth, arose chiefly from the extensive natural gas deposits in the Community itself, namely in the Netherlands and later in the North Sea. Production from the major gas fields has now levelled off and is showing the first indication of beginning to decline. The "objectives" of the Member countries indicate a stagnation in natural gas production in the early eighties and a more rapid decrease by 1985. By the end of the century the production could fall to half of the current level, if new reserves are not discovered. Industry estimates for natural gas production for the year 2000 range from 80 to 130 million toe. Even if the highest figure is reached this represents a decline of 15% compared with the maximum production figure attained in 1976.

b) Negotiations on new-importation-contracts

The forecast increase in natural gas consumption is partly covered by long term contracts currently amounting to 104 million toe/year over a period of 20 to 25 years, which have been concluded with the following countries :

* Official Journal No. L 178 of the 9.7.75.

Natural Gas Import Contracts with Third Countries

	Million toe/a	%	time	
			supply begins	supply ends
1. Algeria	43.6	41.9	1966-84	2000
2. Norway	25	24.0	1977/78	1997/98
3. USSR	18.2	17.5	1977/80	2000
4. Iran	7.7	7.4	1982	2004
5. Nigeria	7.0	6.8	1986	2006
6. Libya	2.5	2.4	1972	1992

However these contracts alone are not sufficient to reach the 20% share of total energy consumption foreseen for 1985. Taking for example an average increase rate of 2 % per year for the consumption of natural gas, a gap of 100 million T.O.E. can be expected around the year 2000 in the supply. This gap, however, could increase to 150 million T.O.E. with a rate of 3 %.

c) Certain contracts recently concluded in doubt

Some of the contracts listed in the table, with an annual quantity of about 27 million toe, can no longer be regarded as firm. Amongst these is the contract with the National Iranian Gas Comp. for which the future is doubtful. However, even if work was restarted on the project, it is certain that gas deliveries could not start on time. For three contracts with Algeria, representing about 19 million toe it is uncertain if the gas will be delivered in liquefied form as contracted. The Algerian government has declared a reluctance for the export of gas as LNG (liquefied natural gas), because of the large investment and associated finance this requires.

Negotiations are under way and a final decision cannot be expected before mid 1980. The construction of one or two pipelines crossing the Mediterranean sea as an alternative method of delivery would not only increase the transportation cost but also prevent the start of the deliveries foreseen until 1984.

Therefore the danger of a substantial gap between actual natural gas supply patterns and the 1985 objectives, leading to supply problems in certain regions of the Community, cannot be excluded.

3. Security of supply

The security of natural gas supply is estimated to be high, mainly due to the large gas resources located within Community territory. However, the dependence on imports from non-member countries is increasing very rapidly. In 1975 at 6 % it was still rather small; for 1980 it is estimated at 25 %; by 1985 it is forecast at about 40 % and by 1990, a figure of about 50% has to be expected.

If, as forecast, indigenous production decreases and consumption continues to increase, a similar dependence on gas imports will result at the end of the century as we currently have on oil.

The Community is confronted with a difficult problem. The dangerous dependence on oil imports can be reduced by turning to natural gas, although it must be ensured that the reduction in the dependence on imports of one fuel is not replaced by the same dependence on imports of another.

Therefore efforts have firstly to be directed to maintain adequate supplies from indigenous resources. Although further imports are indispensable, they must be kept within acceptable limits. A higher degree of diversification should also be attained. Unilateral dependence should be avoided and supplies from politically stable and suitable located countries should be strengthened.

The Commission has charged independent experts to pursue detailed studies on ways of improving the security of supply. With the completion of these studies, the Commission will prepare a comprehensive report and submit the conclusions made, together with suitable proposals, to the Council.

4. Common actions

The maintenance of secure and durable supplies of natural gas to the Community must be based on three main approaches :

- production within the Community
- conclusion of natural gas import contracts with non-member countries
- development of substitute gases

a) Natural gas production within the Community

Proven recoverable reserves of natural gas within the Community amount to about 3 billion toe. A substantial increase in production based on these reserves seems to be unlikely. On the contrary the current production rate of about 140 million toe will probably fall after 1985. However, experts estimate the total natural gas potential of the Community, in particular on the continental shelf, rather optimistically. The natural gas industry estimates natural gas reserves in the Community, recoverable up to the year 2000, at 5 to 5,5 billion toe. This potential should be utilised as rapidly as possible since although a substantial increase in production is unlikely, the forecast decline in production can be postponed. The following is a summary of areas of action.

- i) There are, particularly in the North Sea, many known fields with associated or non-associated natural gas, which are not connected to existing gaslines. The construction of suitable gathering lines could make use of most of these reserves.
- ii) In special cases the recovery of gas from isolated fields can only be achieved by the application of new technologies i.e. liquefaction, methanol production or power generation on platforms.
- iii) There are in the Community geological structures with known gas reserves which cannot be exploited, because of the unsuitable properties of the rock stratum. New, but expensive, production methods can extract such gas.
- iv) Hopes for natural gas reserves in deeper geological strata are also expressed by experts. However drilling into such strata is very costly and risky. Suitable means should be developed to encourage such exploration efforts.

v) The Community's recoverable natural gas reserves would be substantially increased over the next 10 to 15 years, if the above actions were pursued. Extending the indigenous reserves available to the Community would improve the security of gas supply, and increase their timespan.

b) Importation contracts with non-member countries

Despite efforts to increase the production potential of the Community, the conclusion of new importation contracts is inevitable, if the contribution of natural gas to the energy supply of the Community is to be expanded or at least maintained in the longer term.

Known recoverable world gas reserves are sufficient to meet the growing demand - not only for Europe - until the next century. However, supply problems do not arise from insufficient reserves but from :

- transport costs rapidly increasing with distance
- uncertainty over whether countries with large natural gas potential are willing to export their gas
- the need to avoid over-dependence on politically unstable regions.

The Community should ensure that imports are diversified as far as possible but despite the recently concluded contract with Nigeria the current degree of diversification cannot be regarded as satisfactory. Further opportunities for increasing the diversification of supplies in the medium term may be offered by gas from Cameroun, Canada, Qatar and some other countries in the Persian Gulf.

From the point of view of geographical proximity and close economic cooperation, Norway must be regarded as offering an exceptional opportunity, with its considerable natural gas reserves in the North Sea.

The Community is highly interested in the conclusion of further importation contracts of natural gas with Norway.

Accelerated development of major new importation projects such as a pipeline from the North Sea - or possibly a pipeline crossing the Mediterranean from Algeria - could help to solve the medium term supply problem mentioned under point 2 c. However, the implementation of the requested investments, suppose enormous financial means and can only be realised if the Governments and industries concerned work in close mutual cooperation, making use of Community's suitable financing instruments as, for instance, the European Investment Bank and the Ortoli fund.

c) Development of natural gas substitutes

Even increased effort on exploration for new natural gas reserves within the Community cannot prevent an increasing dependence on imports, which could reach a dangerous degree by the end of the century. Consequently the Community should encourage the development of substitute gases to avoid this over-dependence.

i) In the medium term LPG (liquefied petroleum gas - Propane/Butane) could make a useful contribution. The supply of this hydrocarbon is likely to increase rapidly in the coming years, in particular from the Middle East and Algeria, but also from the North Sea.

Apart from its utilisation as a feedstock in the petrochemical industry, LPG may be employed on the energy markets of the Community in three ways :

- as an automotive fuel
- to supply regions not connected to natural gas lines
- for extending natural gas supplies by mixing

The first use is only likely to increase with more favorable taxation treatment. The second use could replace substantial quantities of fuel oil, in particular in rural regions. The third use could increase natural gas supply by 5 to 10 % for a limited period. This last possibility could make a useful contribution to a possible shortfall in the mid-eighties.

ii) In the long term, coal gasification must be considered. Even though the known technologies are not yet commercial, they must be further developed together with new technologies, as for example the application of nuclear heat or high pressure in-situ coal gasification.

Indeed the Commission is currently supporting a number of demonstration projects in this area but a useful contribution to gas supplies could only be made by widespread adoption of any successfully developed technologies.

5. Price policy

Even if it is desirable that - with respect to securing the total energy supply of the Community - natural gas supply should increase or at least maintain its position, natural gas should be employed in an economic and rational way.

A suitable price policy and appropriate tariff structures present a means to avoid waste and encourage rational use. Furthermore gas prices should reflect supply costs on the world energy market.

The Commission, in collaboration with national administrations and the gas industry, is currently preparing appropriate recommendations relating to a convergence of price policies in the natural gas sector, which will be submitted to the Council in the near future.

6. Conclusions

The Commission proposes that the Council should endorse the following guidelines for Community and national action with respect to the supply of natural gas.

a) DEVELOPMENT OF INDIGENOUS PRODUCTION

Maintain and if possible increase the production of natural gas in the territory under the jurisdiction of the Member States.

This implies:

- an intensification of exploration effort in the Community,
- development of gas gathering systems, in particular in the North Sea,
- the exploitation of marginal fields of associated and non-associated gas that are isolated or have a high inert gas content,
- encouragement for the development of very deep wells and the employment of tertiary recovery methods,
- the application of new technologies in the areas of transport and storage.

b) DIVERSIFICATION OF GAS IMPORTS FROM THIRD COUNTRIES

Increased diversification of gas imports by

- the development of new gas importation links with third countries, giving the greatest stability of supply and diversification of sources possible,
- the encouragement of co-operation between the governments of Member States and between gas undertakings for the realisation of large importation projects for supplies from third countries,
- optimal use of existing financial instruments in the Community with a view to aid, as necessary, the realisation of importation projects with particularly heavy investment requirements, such as under-sea gas pipelines and long distance LNG chains,
- the development of programmes with common interest in the framework of economic co-operation with producer countries,
- the growing participation of the Community in the expansion of the world market in liquefied petroleum gas.