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COMMUNICATION FROM THE COMMISSION TO THE COUNCIL
CONCERNING MEASURES TO ENHANCE THE
SECURITY OF NATURAL GAS SUPPLIES TO
THE COMMUNITY

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Communication from the Commission to the Council
concerning measures to enhance the security of natural
gas supplies to the Community.

INTRODUCTION

The Council at its meeting of the 27th October 1981 welcomed the Commission's Communication concerning natural gas (COM(81) 530 final) and noted the analysis of the growing dependence on imports of gas from outside the Community. The Council invited the Commission to study this area in more detail, taking into account the views of the Member States. The present Communication represents a first follow-up. It concerns the security of natural gas supplies to the Community. The Council is invited to agree the principal lines of action given under "Conclusions".

RECENT DEVELOPMENTS IN NATURAL GAS TO THE COMMUNITY

The Commission's previous Communication described the rapid growth of natural gas in the energy market over the last decade followed by the recent fall in demand and the lowering of consumption forecasts, resulting from the economic difficulties experienced by Member States and the uncertainty surrounding certain import contracts. Recent price increases have also reduced the demand for gas through increased energy conservation and switching to other fuels.

"The major development on the supply side has been the negotiations for new imports from Algeria and the USSR. An agreement between Algeria and France has been made and negotiations are continuing for Algerian gas supplies to Italy. For the USSR the terms of the contracts have been agreed with gas importers from the Federal Republic of Germany and France whilst negotiations with undertakings from other countries, including Belgium, Italy and the Netherlands of the Community, are continuing."

These contracts confirm the growing share of imports from third countries which are forecast to increase from the current share of 28 % of total supplies in 1981, to about 36 % in 1985 and over 45 % by 1990.

SECURITY OF NATURAL GAS SUPPLIES

With the increasing dependence on imports of natural gas from considerable distances outside the Community and the possibility of problems in supplies as a result of technical or other problems it is essential that further measures are developed to ensure the continuity of natural gas supplies. The measures proposed by the Commission and broadly affirmed by the Member State's experts are :

- i) long term supply measures :
 - encourage indigenous production, exploration, development
 - diversification of imports
 - development of SNG (Substitute Natural Gas)

- ii) measures for short term imbalances between supply and demand :
 - interruptible contracts with large consumers
 - storage (gas or substitutes)
 - spare production capacity
 - interconnection of transport networks

These measures should be seen as a whole, as their suitability varies with the various circumstances of the Member States, and are indeed often complementary to one another. For this reason it is generally recognised that considerable advantages are to be gained from some measure of co-operation between the different undertakings in the Member States at Community level.

Member States' experts recognise the importance of the question and the Community dimension as well as the role of the national administrations and the individual gas undertakings. In addition the importance of close relations with exporter countries to ensure the stability necessary for this long term and capital intensive type of trade was expressed.

A preliminary review of each of these measures was undertaken with Member States' experts, together with a general consideration of the security of supplies, with the following broad conclusions :

i) Long Term Supply Measures

Indigenous Production

The sentiment expressed in the Commission's last Communication on natural gas that indigenous production could not be significantly increased without very substantial new discoveries of gas was endorsed by Member States. This results from the optimum exploitation of a gas find, which prefers a fairly steady production profile over a number of years rather than a very short intense development, as well as the desire to preserve an acceptable contribution from indigenous production in total gas supplies over the longer term.

Natural gas resources in the Community are mainly accounted for by the Netherlands and the United Kingdom which have roughly one half and one quarter respectively of both Community reserves and production.

The Netherlands, whose supplies of natural gas to fellow continental Member States following the discovery of the huge Groningen field laid the foundations of natural gas development in these countries, are now directing their attention to other fields so that the Groningen field can be conserved and used as a flexible source of supply. This policy will continue to assure an important contribution to the flexibility of the Community's natural gas supplies.

In the United Kingdom, where most of the known gas reserves are off-shore, flaring controls have been introduced to ensure the recovery of gas associated with off-shore oil production. Consideration is being given to a number of pipeline schemes by private developers to recover such gas and one scheme has already been announced, in place of the single Gas Gathering Pipeline which was abandoned after an unsuccessful attempt to arrange finance.

Given the desire to conserve known natural gas reserves so as to give their optimal use over the longer term, the most scope for ensuring the contribution of indigenous production within the Community lies in increasing proven reserves by a more intensified exploration effort.

Of course this would incur a cost which may only partly be offset by immediate production, but this is already the case with past exploration because of the long term considerations we have already discussed. In theory there is an optimal balance between known reserves, the rate of production and the rate of exploration. In practice it is impossible to evaluate accurately, but it is likely that there is room for a shift towards a higher rate of exploration.

With the need to maintain a certain contribution to natural gas supplies from indigenous production in the longer term and given the relatively limited size of indigenous proven gas reserves, the greatest scope for increasing indigenous production lies in increasing proven reserves through a more intensified exploration effort in the Community.

Diversification of Imports

This is a measure which is judged to be very important by the Member States more dependent on imports from third countries and indeed preliminary talks or negotiations are under way between several Community undertakings and new sources of supply including Bahrein, Cameroun, Canada, Qatar and Nigeria. A contract for 8 milliards m³/yr has been agreed between Nigeria and a consortium of undertakings from Belgium, the Federal Republic, France, Italy, Netherlands and Spain but the development has been delayed because of financing problems and the withdrawal of one of the members of the developing consortium. The other countries too could only begin to supply the Community in the second half of this decade and in some cases, not until the next decade.

Although already a major supplier to the Community, Norway has considerable scope for further exports of gas. Recent years have seen a rapid increase in estimates of reserves, a trend which is likely to continue. New contracts have been agreed for an additional 16 milliards m³/yr of gas to be collected by the planned Norwegian Gas Gathering Pipeline due for completion in 1985, that will link into the existing pipeline from Ekofisk to Emden in Northern Germany.

Future development could include the Sleipner field and the huge 31/2 field as well as possible resources north of the 62nd parallel, although this will depend on Norwegian development policy and the formidable development problems entailed.

There may be scope for a more global approach to the development of North Sea gas resources between the national administrations and companies involved, even after allowing for the various specific national requirements and it is important that the close contacts with the Norwegian authorities be maintained.

Further diversification of the sources of Community natural gas imports should be vigorously pursued.

Substitute Natural Gas

Until the advent of natural gas, gas supplies were mainly based on "town gas" produced from coal. This gas was mostly composed of hydrogen and carbon monoxide, whereas natural gas is mostly methane and has roughly twice the heat value of town gas. This meant that the capacity of the gas transport system was effectively doubled and ^{this represents} one of the great advantages of natural gas. To maintain this advantage, research is continuing on the improved production of Substitute Natural Gas (SNG), with a high methane content, which can be produced from coal, peat, oil and other liquid hydrocarbons.

The view expressed that SNG could begin to make an increasingly important contribution to Community gas supplies in the longer term and that research and development should be pursued was endorsed by Member States' experts. One advantage of SNG is based on the considerable coal reserves in the Community, particularly in the UK and the Federal Republic of Germany. Several projects are under way or planned, some of which receive financial support from the Commission.

Research and development into the production of Substitute Natural Gas (SNG) should be fully encouraged.

ii) Measures for short term imbalances between supply and demand :

Interruptible contracts

This is a contract made between the gas undertaking and certain consumers (usually large industry) allowing supplies to be reduced or interrupted at short notice so as to deal with increased demand by other customers (e.g. the seasonal demand of domestic customers) or a shortfall in bulk gas supplies to the undertaking.

Interruptible contracts are indeed regularly used to help deal with peak demands in winter and have also been used to deal with shortfalls in bulk supplies. There may be scope for further development of this measure although the interests of the "interruptible" consumer must always be remembered. The scope is also likely to diminish with the tendency towards the premium use of gas.

Some consideration was given to the question of the implementation of an interruption in supplies to the consumer under an interruptible contract. It is generally felt that current dispositions are adequate both to ensure that consumers have adequate access to alternative fuels and also in a legal context to allow the implementation of an interruption in various circumstances.

A more detailed study into the possibilities offered by "interruptible contracts" would be desirable.

Interruptible contracts offer a useful addition to the flexibility of matching supply with demand and should be employed wherever appropriate.

Storage

Large scale storage of natural gas, whilst relatively expensive, is one of the measures being actively adopted, mainly by the Member States using natural gas but without their own substantial natural gas reserves. Several large schemes are under development in Belgium, the Federal Republic of Germany, France, Italy and the UK.

Such large underground storage schemes require suitable geological strata which cannot be expected to occur where ideally required and it is clear that some measure of co-operation, perhaps at a Community level, is likely to be more efficient. The question of storage is also related to the ideas of spare production capacity and the conservation of known resources.

Again a more detailed study into the possibilities offered by storage of natural gas seems necessary.

Large scale storage of natural gas can help to assure the continuity of supplies and should be fully developed where appropriate

Spare Production Capacity

It is noted that Member States wish to prolong the contribution of their indigenous resources and indeed the major Community producer, the Netherlands, is planning to steadily reduce its production with this objective in mind. However this long term policy does not preclude the maintenance of spare production capacity to meet short term imbalances between supply and demand. Indeed Dutch supplies, including the contracts for supplies to fellow Member States, already have considerable flexibility which reflects such a provision.

The maintenance of spare production capacity incurs a cost, but except for costly off-shore developments it is generally less expensive than underground storage with which it may be compared as a sort of "natural" storage. Because of the different distribution of natural gas resources between Member States it is again likely that some measure of co-operation may be desirable.

A study in this area also seems necessary.

Spare production capacity has a very important contribution to make to the security of natural gas supplies and appropriate levels should be ensured.

Interconnection

As has been observed this is not an end in itself but a means to allow the flexibility of other measures to be used more widely and sometimes more economically. Already the natural gas transport grid in the Community is highly integrated with connections between most neighbouring Member States, although the United Kingdom and Ireland are both separate systems. Denmark is in the process of developing a national grid based on its North Sea resources but initially to be fed via a new link into the Federal Republic of Germany. Greece has no natural gas grid but is giving consideration to a possible link with supplies from the USSR or from Algeria via the new trans-Mediterranean pipeline to Italy. Spain, which is currently negotiating for accession to the Com-

munity is not connected to the transport grid in the Community although consideration is being given to a link with France. Portugal also negotiating for accession, has no gas transport grid in view.

This transport grid has evolved from the pattern of regular natural gas supplies, initially from the Netherlands and then from the pipeline and LNG (Liquefied Natural Gas) imports from Norway, the USSR, Algeria and Libya.

Further interconnection may be required for new supply patterns but an interconnection to deal with occasional imbalances may be harder to justify, depending on its costs and benefits. The first requirement, obviously, is that there is gas to be transferred although the interconnection may then have other benefits. An example is provided by the possibility of a link between the UK, which currently imports almost a quarter of its gas requirements from Norwegian fields in the North Sea, to Continental Europe. Such a link, however, could be justified as part of a pipeline bringing further Norwegian gas down Britain for delivery to continental Member States which would also improve the flexibility of supplies.

A more detailed study into the question of interconnection is required to identify the possibilities.

Further interconnection of the natural gas transport grid in the Community may be desirable to allow the optimal use of the various measures to ensure the security of community natural gas supplies.

FURTHER STUDIES

The Commission, with the co-operation of Member States, intends to study in further depth the exact need and scope of the measures reviewed above and the opportunities for further co-operation at Community level to ensure the security of natural gas supplies.

This study, which will have to look well into the future, will not however be concerned with the details of distribution but only the major considerations which can benefit from a global examination. It will need to examine in broad terms whether the current flexibility is adequate to deal with possible imbalances in supply and demand, in different circumstances, using existing and planned resources.

COMMUNITY APPROACH

All the measures outlined above have a contribution to make to the security of supplies, depending on the particular circumstances of the Member State. In addition, because of these different circumstances, there is considerable benefit to be gained from a more global, Community, approach and Member States recognise their common interest in the development of these measures.

On the basis of the studies mentioned above the Commission will make appropriate proposals to the Council to ensure the security of natural gas supplies.

In addition the Commission proposes to look at ways of using its existing framework of relations with producer countries, where applicable, to help assure the mutually advantageous trade in natural gas.

CONCLUSIONS

The Council is asked to agree the following conclusions :

1. that with the growing dependence on imports of natural gas from outside the Community, Member States recognise their common interest in developing measures to limit the risks inherent in a growing dependence on external supplies of natural gas.
2. that the following measures can contribute to this end and should, depending on the particular circumstances, be pursued by Member States with due regard to the possibilities for cooperation at Community level :
 - i) to encourage further exploration for natural gas thereby increasing known reserves and the possible scope for further indigenous production, bearing in mind long term considerations
 - ii) to increase the diversity of sources of supply for imports from third countries
 - iii) to encourage research and development into the production of Substitute Natural Gas (SNG)
 - iv) to ensure the optimal utilisation of interruptible contracts with large consumers where appropriate
 - v) to ensure adequate storage facilities for natural gas
 - vi) to ensure appropriate levels of spare production capacity
 - vii) to ensure the widespread applicability of the various measures by ensuring an adequate transfer capability of the natural gas transport grid in the Community where appropriate
3. The Commission, on the basis of further studies undertaken with the co-operation of Member States, will present the Council proposals on the measures to be taken in order to reinforce the security of supply of natural gas to the Community.