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Report

drawn up on behalf of the Committee on Energy, Research
and Technology

on European Community gas policy

Rapporteur: Mr Allan ROGERS

At its sitting of 11 October 1982, the European Parliament referred the motion for a resolution tabled by Mr Purvis and Mr Seligman (Doc. 1-653/82) pursuant to Rule 47 of the Rules of Procedure to the Committee on Energy, Research and Technology as the committee responsible and to the Committee on Economic and Monetary Affairs, the Committee on Development and Cooperation and the Committee on Transport for an opinion.

At its meeting of 20 October 1982 the Committee on Energy, Research and Technology decided to draw up a report, and at its meeting of 3 December 1982, it appointed Mr Rogers, rapporteur.

The Committee considered the draft report at its meetings of 14 June 1983, 25 January and 22 February 1984. At the last meeting it adopted the motion for a resolution unanimously.

The following were present for the vote: Mr GALLAGHER, acting-chairman; Mr SELIGMAN, vice-chairman; Mr IPPOLITO, vice-chairman, Mr ROGERS, rapporteur; Mr ADAM, Mr CALVEZ (deputizing for Mr GALLAND), Mr FLANAGAN, Mr FUCHS, Mr LINKOHR, Mr MARCHESIN, Mr PURVIS, Mr RINSCHÉ, Mr SALZER, Sir Peter VANNECK, Mr VERONESI, Mrs VIEHOFF (deputizing for Mrs LIZIN).

The report was tabled on 1 March 1984.

The opinions of the Committee on Economic and Monetary Affairs and the Committee on Transport are attached.

The deadline for tabling amendments to this report appears in the draft agenda for the part-session at which it will be debated.

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The Committee on Energy, Research and Technology hereby submits to the European Parliament the following motion for a resolution, together with explanatory statement:

MOTION FOR A RESOLUTION
on European Community gas policy

The European Parliament,

- having regard to the motion for a resolution tabled by Mr PURVIS AND Mr SELIGMAN (Doc. 1-653/82),
 - having regard to its Resolution of 8 February 1982 on Soviet exports of natural gas to certain Member States of the European Community¹,
 - having regard to its Resolution of 11 March 1983 on the methods of setting natural gas prices and tariffs in the Community²,
 - having regard to the report of the Committee on Energy, Research and Technology and the opinions of the Committee on Economic and Monetary Affairs and the Committee on Transport (Doc. 1-1512/83),
 - having regard to the Communication from the Commission to the Council concerning natural gas³,
- A. whereas the formulation of an energy policy for the European Community is a matter of high importance and urgency;
- B. whereas this must include a policy for gas based on an accurate analysis of the situation in the Community gas market;
- C. noting the increasing dependence on gas from European countries other than Member States of the Community;
- D. whereas the Community must not be dependent for its supplies of a major energy source on any single exporter or exporting region;
- E. whereas imports of natural gas from third countries are expected to account in future for an increasing proportion of the Community gas supplies;
- F. whereas trade in natural gas had special characteristics which complicate the development of an international market;

¹Doc. 1-653/82)

²0J C66, 15.3.82, p60

³0J C99, 11.4.83, p107

⁴Doc. no. not available at time of writing

- G. whereas the emergence of such a market is nevertheless being assisted by the construction of long-distance pipelines, by the growth of the infrastructure needed for international trade in liquefied natural gas (LNG) and by the enlargement, modernisation and interconnection of local gas distribution networks;
- H. where the terms on which supplies of natural gas are acquired from outside the Community should realistically reflect the economics of gas production and transport;
- I. whereas the terms on which gas is sold within the Community should realistically reflect the economics of the production or acquisition of gas, of its distribution and of the management of gas reserves;
1. Considers that the time has come to introduce more order and transparency in the gas market in the Community;
 2. Congratulates the Commission on the factual analyses of various aspects of the gas situation in the Community which it has provided in its recent Communications;
 3. Takes note, in particular, of the most recent Commission Communication on natural gas, which gives a satisfactory prognosis for availability and security of supplies up to 1990, but highlights the need for the Community to start making plans and taking decisions soon to make sure that secure sources of supply are open to it by the end of the century;
 4. Endorses the Commission's views on the general strategy to be followed with regard to diversification and security of supplies;
 5. Draws attention to the fact that the benefits to the Community of a correct strategy with regard to diversification and security of supplies, as well as other aspects of gas production and trade, can be negated if disorderly and distorted conditions exist in the internal gas market of the Community;
 6. Believes that the next step is to ensure that such conditions cannot exist;
 7. Requests the Commission accordingly to examine what specific measures the Community as such should take, and, where appropriate, what new powers it should assume, to ensure that developments in its gas market are consistent with the Treaties and with Community energy strategy objectives;

8. Invites the Commission, in making this study, to consider the scope for a Community role in the following areas, among others:
 - (a) approving supply contracts concluded with third countries,
 - (b) setting criteria to be observed in the management of stocks and reserves, and arrangements for storage within the Community,
 - (c) the planning of distribution systems and their interconnections,
 - (d) drawing up and enforcing rules designed to secure comparability and transparency in methods of fixing prices and tariffs,
 - (e) encouraging investment, especially in exploration, development, interconnections and gas gathering systems both within and without the territory of the European Community,
 - (f) harmonising standards for the protection, in connection with the use of gas, of persons, property and the natural environment,
 - (g) protecting the interests of gas consumers of all categories.
 - (h) ensuring the competitiveness of gas in the financial consumer market,
 - (i) industrial exploration for primaeval gas.

9. Asks that the Commission study requested in paragraph 6 above should
 - (a) give an assurance that conditions in all sectors of the gas market in the Community are consistent with the Treaties or are the subject of derogations permitted under the terms of specific Treaty provisions;
 - (b) in the case of any derogations, indicate for how much longer these are expected to continue.

10. Reserves judgment on the details of Community gas policy until the study requested from the Commission is available;

11. Congratulates the European Investment Bank on its work in helping to provide finance for infrastructure projects in the gas sector;

12. Instructs its President to forward this Resolution together with explanatory Statement to the Council and Commission of the European Communities, the European Investment Bank and the parliaments and governments of the Member States.

EXPLANATORY STATEMENT

INTRODUCTION

1. The purpose of this report is to analyse the political issues raised by natural gas production, consumption and trade, for the European Community and to state the policy considerations which should guide the Community in its deliberations on gas matters in the foreseeable future.

2. The European Parliament has not made a report on the general gas situation for a number of years. Under the immediate influence of the 1973 energy crisis, Parliament adopted a resolution "on certain prerequisites for future guidelines concerning the supply and use of gas in the Community"¹. This was based on a report by Mr. BOUSCH (Doc. 213/73). In this resolution, Parliament expressed the view that the situation as it was then, and foreseeable developments in the natural gas sector, called for systematic measures on the Community's part within the framework of the Community energy policy. It saw a need for the introduction, in view of the growing opportunities for importing natural gas, of a genuine common commercial policy. It saw a role for derived gas and placed the main emphasis here on research into the gasification of coal.

3. This is a good time to re-examine the role of gas in the energy economy of the European Community. We need to know how gas stands in the general context of the Community's efforts to reduce its dependence on imported energy supplies. It is, after all, both an important indigenous energy resource and at the same time a commodity that is being imported on a large scale. Second, we need to know the position of gas in relation to the whole question of rational use of energy. That is to say, we need to be clear in our minds how large a role gas can play in the energy-efficient society, and what forms this role can take.

4. The Commission has published a certain number of documents and proposals on gas over the past three years. There have been Communications on (a) natural gas², (b) the security of natural gas supplies to the European Community³, and (c) on Community natural gas supplies⁴, as well as a proposal for a Council Recommendation on the methods of setting natural gas prices and tariffs in the Community⁵.

¹Doc. No. C 108 of 10.12.73, p.21

²COM (81) 530 final

³COM (82) 45 final

⁴COM (82) 653 final

⁵COM (82) 603 final

5. This proposal on gas prices was the subject of a report drawn up by Mr MORELAND on behalf of Parliament's Committee on Energy and Research, which was adopted on 11 March 1983¹. The MORELAND report called for certain amendments to the proposed Recommendation, which the Commission subsequently accepted. In broad terms the report welcomed the Commission's ideas and said developments in the gas market after adoption of the recommendation should be monitored with a view to the possibility of the Commission proposing Community legislation in the future.

6. The occasion for the present report was provided by a Motion for a Resolution tabled by Mr PURVIS and Mr SELIGMAN on a natural gas policy in the European Community², which was inspired by the need for rapid and energetic efforts to draw up and implement a common energy policy for natural gas supplies so as to avoid over-dependence on any one third-country supplier and in particular the Soviet Union. The need for such a common policy had already been expressed in a resolution of the European Parliament of 18 February 1982³.

7. Before moving to a discussion on the political aspects of gas policy, it will be desirable to summarise the factual background. Accordingly, the remainder of this explanatory statement will be divided into two parts: a technical section and a political section.

II. TECHNICAL SECTION

(i) Natural gas: Evolution of use and definitions

8. Compared⁴ with the long history of the use of oil, the gaseous hydrocarbons have only come into use recently. The intensive utilization of deposits containing solely natural gas has only taken place in the last few decades, starting out with the deposits that lie directly adjacent to consumer centres. Even now, associated gas arising during recovery of oil remains totally unused in some cases.

¹Doc. 1-1317/82

²Doc. 1-653/83

³OJ C66, 15.3.82, p60

⁴11th World Energy Conference, Munich 1980,
Survey of Energy Resources 1980, London 1980, p118

9. The main reason for the late development of interest in this high-value raw material lies in the relatively difficult problems of transport and storage. However, by now the technical problems have been largely solved and there is no longer any fundamental problem of gas mobility. Large-diameter gas pipelines for transporting the gas over considerable, sometimes intercontinental, distances are either already in operation or in construction. Additionally, the technology of liquefaction of natural gas has been developed, and this makes it possible to transport large quantities of gas by ship. In the consumer centres, multiple-branched pipeline systems are available for gas distribution. Last, the latest advances of technology make it possible to store considerable volumes of natural gas in salt domes or porous rock.

10. During the last 20 years, the utilization of natural gas has seen an astounding expansion, and without doubt even today has not yet reached its peak. The relationship of proved reserves to current production is nearly 50 : 1 and is thus considerably more favourable than in the case of oil.

11. Pipeline quality gas sold today by utilities (with a high net calorific value of 7,500 to 10,000 kcal/cubic metre or of 850 to 1,100 Btu per cf) can be produced from several sources. These can be grouped as follows¹:

- Conventional Natural Gas (NG),
- Unconventional Natural Gas (e.g. from tight sands, Devonian shales, geopressurized formations, coal seams, biomass),
- Synthetic Natural Gas (SNG) (e.g. from coal gasification, liquid hydrocarbons).

12. Almost all pipeline gas is produced at present from conventional gas fields and gas associated with oil. Although the contribution made by unconventional sources could become significant around the turn of the century, conventional gas will continue to dominate the gas picture².

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¹International Energy Agency (IEA), Natural Gas : Prospects to 2000, Paris 1982, p63

²Output from tight sands and Devonian shale is often included in conventional production because of the difficulty of defining the border line.

13. The conventional natural gas which comes directly out of the deposit consists of a range of lighter hydrocarbons together with water and impurities. The composition of this product varies considerably from deposit to deposit. The major hydrocarbon is methane (CH_4) which constitutes 50 - nearly 100% (in the case of "methane deposits"). Various other hydrocarbons containing greater numbers of carbon atoms are found to a proportion decreasing as the number of carbon atoms increases right the way up to hexane (C_6H_{14}). Some of these hydrocarbons are liquids under normal temperature and pressure. According to the composition of the product and the changes that take place in the thermodynamic conditions during the recovery process, some of these constituents can condense out in the above ground separators as liquids. Such liquids are called gas condensates.

14. The proportion of the various impurities can vary within considerable margins. The most important impurities are nitrogen, carbon dioxide, sulphur compounds, and helium. According to the particular requirements of the user, the product must be freed from these impurities in natural gas treatment equipment. This is particularly important in the case of gases containing appreciable amounts of sulphur compounds (acidic gases) because these compounds are strongly corrosive and can cause difficulties in petrochemical processes (catalyst poisoning).

(ii) Reserves and resources

15. As definitions of NG-reserves are not uniform throughout the world, we refer in this report to a recently published IEA study¹ on natural gas dividing NG-reserves into two categories :

- proved reserves : those reserves which, on the available evidence, are potentially productive given current technology and current prices;
- additional reserves : all reserves and potential recoverable resources in addition to proved reserves.

¹ IEA, op.cit. p.65. This section is largely based on the IEA study.

16. Table 1 provides a summary of oil and gas reserves (proved and additional reserves). Following the IEA-NG study¹, there is general agreement that proved natural gas reserves amount to more than 60,000 Mtoe. However, the estimates of additional recoverable gas reserves vary considerably. This uncertainty is due to the rather limited amount of gas exploration undertaken in prospective gas-bearing sedimentary basins outside the major gas-consuming countries. The IEA² has further pointed out that from 1967 to 1979 world gas reserve additions were almost four times longer than world cumulative marketed production (i.e. cumulative gross production minus gas flared, lost or reinjected), whereas in the same period world oil reserve additions were only twice as large as world cumulative production (and in the latter part of the 1970s annual oil reserve additions were even smaller than world production). Thus the oil reserve/production ratio (RP-ratio) fell from 32 years in 1967 to 28 in 1979, while the gas RP-ratio increased during the same period from 37 years to 47 years³.

17. Table 2 gives a more detailed picture of world gas reserves.

18. The European OECD countries have a share of only 5% of total proved reserves, whereas 42% of proved reserves are in developing countries. As far as additional gas reserves are concerned (with again a 40% share in developing countries) a high amount is located in regions with hostile environments, so that it appears unlikely, as the IEA⁴ has pointed out, that a major proportion of them will be made available to markets over the next two decades. Furthermore, the IEA⁵ pointed out, that considerable reserve additions are likely to be found over the next two decades, but the additions are likely to take place chiefly in OPEC and other developing countries, and in centrally planned economics.

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¹ IEA, op.cit, p 65. This section is largely based on the IEA study

² Ibid

³ Ibid

⁴ Ibid

⁵ IEA, op.cit., p67

⁵ Ibid

19. When considering the gas reserves mentioned above one has to take into account that these gas reserves may be either associated or non-associated. Non-associated gas¹ is found in reservoirs where it may come into contact with water, but not with oil. Its production is discretionary, in the sense that it can be shut in and remain undeveloped until the economic climate warrants commercialisation. Associated gas, on the other hand, is not discretionary because it is produced in association with crude oil. Unless there is a market for the associated gas, it must be either reinjected for reservoir pressure maintenance or flared.
20. The purpose of reinjection is to maximise the recovery of oil from a reservoir. It also has the effect, however, of allowing producing countries to postpone the decision on how ultimately to use the associated gas, 80% of which may be recoverable after oil production ceases. There are, however, limits to the amount of gas that can be reinjected depending upon the specific conditions of a given reservoir. The remainder, in the absence of a gas-gathering system, will be flared. Although the amount of gas per unit of oil varies considerably, estimates have been made of the gross availability of associated gas. On the basis of figures from 19 oil-producing countries which accounted for 45% of world oil production, the World Energy Conference estimated an average gas to oil ratio (GOR) of 160 cubic metres of gas per cubic metre of crude oil. The estimate of remaining recoverable oil is about 360 bcm, implying estimated associated gas of 57,000 bcm, while proved oil reserves of 70 bcm imply associated gas of about 11,200 bcm. Associated gas reserves are heavily concentrated in the Middle East and Africa where they account for a larger proportion of total gas reserves than in other parts of the world.
21. As was shown in Table 2 the RP-ratio indicated that proved natural gas reserves would last 46 years ; but these ratios are "static lifetime", so that they do not take into account either changes in production or additions to proved reserves. When taking into account that a high percentage of "additional reserves" are most likely to be exploitable economically in the future, it is obvious that the natural gas resource base can easily support a considerable expansion of world gas production and trade. The major question, however, is whether the economic and political climate will allow the development of these resources.

¹ IEA, op.cit., p67

22. When considering gas reserves and resources one must also take into account the potential contribution from unconventional and synthetic gas. Limited production of unconventional gas takes place already today (about 25 bcm, compared with a natural gas world production in 1980 of about 1500 bcm). The IEA¹ stresses that the contribution from these sources will not significantly alter the energy situation of the 1980's. Towards the turn of the century, however, production may reach 280 bcm provided a vigorous R & D effort is made, backed by favourable regulatory and fiscal policies. Recent retrenchments in industrial countries in supporting R & D and construction of pilot and demonstration plants, combined with temporarily falling world oil prices and high interest rates which undercut private sector investment incentives, raise serious doubts as to whether the upper ends of the ranges for production levels of unconventional gas supplies are likely to be achieved².

(iii) Production and consumption

23. Table 3 gives an overview of the natural gas world production level from 1970 to 1982. Total world production increased from 1053 bcm in 1970, to 1504 bcm in 1980 and to 1530 in 1982 (i.e. an average annual growth rate between 1970 and 1980 of 3.6%). It is obvious that the United States is still the most important producer of natural gas in the world, but its total share of world production declined significantly from 59% in 1970 to 32.5% in 1982. On the other hand, the USSR, the second most important producer, expanded its production considerably and reached 1982 with 32.7% of total world production - nearly the US-production level. EC production, however, amounted in 1982 only to 9.9% of total world production.

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¹ IEA, op.cit., p73

² Ibid

24. A more detailed description for 1970, 1981 and 1982 of the EC's and its member states' energy situation in general, and of production, consumption and net imports of natural gas in particular is provided in Table 4. The total production of primary energy in the EC (=Eur 9) rose significantly from 328 mtoe in 1970 to 486 Mtoe in 1982, but NG-production increased more rapidly, so that NG accounted for 23.5% of total EC (=EUR 9) energy production in 1982 (compared with only 18.7% in 1970). The main NG producers in the EC are the Netherlands followed by the UK and Germany. As far as gross inland energy consumption is concerned the percentage of NG in the EC (=EUR 9) increased considerably from 1970 to 1982 (from 7.4% to 18.2%), but compared with oil and even with coal NG is still of minor importance. Only in the Netherlands, as the dominant NG producer in the EC, is energy consumption mainly based on NG (percentage of NG in 1982 was 49.2%).

25. Finally, Table 4 shows that in 1982 only 10.9% of total net energy imports were NG imports, thus again revealing the EC's high oil dependency.

26. Table 5 summarises some important gas economy indicators for the EC (=ECU 10) as a whole. It is clear that natural gas dominates other types of gas, and that this will continue. Its percentage share of inland consumption has risen significantly since 1970 and accounted for more than 90% in 1982. Other gases (coal-oven gas, blast-furnace gas, works gas) are now of minor importance.

27. As Table 5 shows, private households have considerably increased their respective share in natural gas consumption, so that in 1982 48.7% of total NG consumed in the EC was delivered to this sector.

28. Finally, Table 5 reveals the EC's increased dependence on imported gas, as the substantial increase of NG consumption in the EC since 1970 could not be provided exclusively from indigenous gas. (Its share in total NG gas consumption in the EC dropped from 97.9% in 1970 to 70.5% in 1982.) Natural gas from third countries was mainly delivered by Norway and the USSR (with respective shares of 13.9% and 11.6% of total NG consumption in the EC in 1982).

(iv) The future of NG: Its role in a Community energy strategy and its prospective share in future total energy consumption.

29. To face the energy challenge for the European Community the Council passed two resolutions - in 1974 and 1980¹ - setting Community energy objectives. The main features were a reduction in oil dependence through the more rational use of energy and a broader diversification of energy supply. The Commission, however, pointed out² that these Council Resolutions have not led to the implementation of an overall strategy comprising action by the Community, Member States and producers and consumers; and the inadequacy and inconsistency of the action taken in the wake of these expressions of political will can only be deplored.
30. In order to face the serious energy challenge and to develop a framework for action allowing the Community to respond more effectively and without harmful delay to the problems which the energy question raises now and in the future, the Commission presented a report³ in October 1981 for the "Development of an Energy Strategy for the Community".
31. In this report the Commission pointed out that NG has become over the past fifteen years an important element in the energy balance of the Member States, making a useful contribution to the diversification of supply and thus to a reduction in oil dependence. Maintenance of this trend however, as the Commission pointed out further, poses a number of problems as regards security of deliveries, coordination of investments and coherence in pricing policy.
32. In the framework of this "Energy Strategy for the Community", which is not yet however adopted by the Council, NG is expected to play a more important role in the future and to increase its share in total energy consumption considerably. This general tendency is also in accordance with the national energy objectives in the Member States.

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(1) OJ No. C 153 of 9.7.1975, p.2 and OJ No. C 149 of 18.6.1980, p.1

(2) COM(81) 540 final, The Development of an Energy Strategy for the Community

(3) COM(81) 540 final

33. In order to allow NG to play a more important role in the future, there are two main problems, which have to be resolved. These two main problems, which confront the gas industry in the Community, and which are likely to become more acute in the future, are price developments and the security of supplies. In its latest proposals¹ for Council Resolutions concerning NG the Commission suggested various measures to improve the security of natural gas supplies; these measures may be summarised as²:
- (a) measures to reduce the importance of a given external source of supply :
- encourage indigenous production, exploration, and development
 - diversification of imports
 - development of SNG
- (b) measures to mitigate the short term effects of an interruption:
- interruptible contracts
 - storage (gas or substitutes)
 - interconnection of transport networks
 - spare production capacity.
34. In its latest report³ on Community natural gas supplies the Commission gave a forecast of Community natural gas supplies for 1990. The pattern of this forecast is given in Table 6. According to this forecast the total natural gas consumption in the Community (= EUR 10) will be 273 milliard cubic metres in 1990 (compared with 202,4 milliard cubic metres in 1982), of which 56 % will be accounted for by indigenous production (compared with 72 % indigenous NG-production in 1982). Taking into account the contracts already agreed or assumed to be agreed the next years between the respective Member States and the main third-country-suppliers (namely USSR, Norway, Algeria and Libya) the forecast in Table 6 also provides the respective figures of the estimated imports from third countries. According to this forecast NG imports from third countries will reach an 8 %-share of total EC-Energy consumption in 1990 (compared with 5 % in 1982).

(1) COM(81) 530 final, COM(82) 45 final
(2) COM(81) 530 final
(3) COM(82) 653 final

III. POLITICAL SECTION

(i) The political advantages of gas

35. Any discussion of the politics of gas must start with the factors which make it a desirable commodity. Some of these will by now be clear: gas is abundant and versatile, and, historically, it has been comparatively cheap. It can be a substitute for oil; its combustion is easy to control and it appears to involve few environmental hazards.

36. To these may be added certain points connected with the geographical distribution of world gas reserves. Unlike oil reserves, these are not heavily concentrated in one, politically sensitive region. Indeed the distribution of gas reserves does not invariably coincide with that of oil reserves.

(ii) Absence of a true international market

37. These are the advantages, and they are very real ones. However, the development of a true international market in gas is not yet complete. Indeed, it is still an open question whether there really could be a world gas market analogous to those existing in other commodities. This is because of the special problems involved in moving gas from the producer to the consumer.

38. Foremost among these is the need to invest heavily in a large amount of fixed plant and equipment. The need to find the money for this initial investment creates one set of problems, and the need to amortize the investment by long-term supply contracts creates another, especially since this question is bound up with that of pricing. Again, solving the price problem is not made any easier by the absence of a free market in this commodity, and so the situation complicates itself still further.

39. The growth of a world market is helped by the development trade in LNG. The recipient country only has to have suitable port installations, linked to its distribution network, and it can buy gas from any source, at least in theory. This promotes flexibility. However, the investment in infrastructure in the supplying country can be very great, and a return must be assured.

40. LNG trade is one of the few aspects of the gas business to have given rise to misgivings on environmental grounds, because of the risk of explosion. Although precautions are necessary against this risk, it should not be allowed to halt the use of LNG.

(iii) Supply and demand forecasting

41. In the opinion of the rapporteur, forecasts of gas supply and demand in the Community between now and the end of the century should be treated with great caution. The advantages of gas are real enough, but if oil prices remain comparatively soft, or decline still further, it is questionable whether there will be sufficient enthusiasm for shouldering the heavy investment burden of creating new gas transport and distribution infrastructure to sustain a significant rate of increase in gas consumption in the industrialised countries, which are the main consumers.

42. At the same time the natural desire of the developing countries which possess natural gas reserves to exploit a potential foreign currency earner will tend towards an increase in available world supplies.

43. Very recently the OPEC Bulletin published an article entitled "Why the world gas trade is in the doldrums", which pointed out that "the global trade in gas last year accounted for only 165 m toe, or a mere 12% of consumption, failing to meet by a large margin the expansionary projects made for its interregional prospects just a few years ago"¹. This indicates that demand has been lower than anticipated, which in turn implies that supply requirements may have been overstated. This inference is supported by an even more recent report by a research body which predicts that western Europe faces the possibility of a gas glut in the near future².

44. The medium-term situation has recently been transformed by a change of policy in the Netherlands. In July 1983 Gasunie said it was in favour of concluding new export contracts for natural gas. In September, in its memorandum on the 1984 Budget, the Dutch government made the change of policy official. This means that, contrary to expectation, gas from the Groningen field will be available to help meet European demand after 1990³.

45. Gas supply contracts commonly run for long periods: decades rather than years. It would be ironical if European countries, impelled by a desire to loosen the ties of dependence on oil and thus achieve greater flexibility in energy matters, got locked into unrealistic gas supply contracts with third countries on the basis of unnecessarily pessimistic forecasts of the supply

¹OPEC Bulletin, Vol XIV, No. X, November 1983, p62

²Data Resources (DRI), reported in The Financial Times of 4 January 1984

³Tweede Kamer, vergaderjaar 1983-1984, 18 100 hoofdstuk Xiii, W2 PE 82.193/f:

and demand situation. Yet it could be argued that this has already happened in some cases.

46. It is one of the contentions of the present report that this type of consideration is, in many practical instances, more important than some of the broader-range factors which sometimes claim attention in discussion of the politics of gas.

(iv) Political problems associated with indigenous Community production

47. A major political problem arising from the Community's indigenous production (largely concentrated in the Netherlands and in the North Sea) is the problem of depletion policy, with its corollary: the need to strike a balance between indigenous production and foreign imports.

48. Since not all Member States of the Community are equally involved in the production of natural gas, their interests do not all fall along the same perspective. In rough terms, the Netherlands accounts for about half of the EC production and the U.K. for another quarter.

49. It has hitherto been the policy of the Dutch government to husband the remaining resources in the enormous Groningen field and to treat them as a strategic reserve. This implied that no further export contracts to the rest of the Community would be signed. As noted above, this policy appears to be changing. However, this does not mean that the Netherlands is weakening in its resolve to use gas in an economically prudent way.

50. Other elements of this approach have included an insistence on realistic pricing and an emphasis, as regards domestic consumption on the use of gas for purposes for which it is a particularly suitable energy source (premium uses) rather than as a fuel for electricity generation.

51. Turning to the exploitation of the natural gas resources of the United Kingdom in the North Sea, one sees the importance for gas policy of the nature of the relationship between a national government and a national gas undertaking, especially in regard to such matters as taxation, pricing, the share of the private sector and the management of resources.

52. The British Gas Corporation has been obliged by the UK Government to raise prices to consumers in the interests of "realistic" pricing. However, in view of the scope for intervention by the Government in the economics of BGC, the mataphysics of this concept could be described as somewhat tortuous.

53. If the Government has the power to impose a levy on BGC's profits (which last financial year exceeded those of ICI, Beecham and Marks and Spencer combined¹) and to order the disposal of its oil assets, as well as to make or break the Corporation's monopoly of gas supply, what is there left that is "realistic" about BGC's position in the market?

54. One reality which BGC does have to face is that, while it has recently been able to make large profits on its gas from the southern North Sea, it will in future have to pay considerably more for its gas - either in the form of higher extraction costs further north in the North Sea, or of imports from Norway:

55. These comments are not so much intended as criticisms of the Member State in question as indications of the difficulty of securing, or even identifying "real" market conditions in gas.

56. A causal chain links all the following: reserves, rate of depletion, price. How this chain ties up with major energy parameters is well expressed in the following quotation:

" Virtually every major energy policy decision in the UK depends on assumptions about oil and gas reserves - nuclear policy, support for the coal industry, oil and gas depletion policy, attitudes to the establishment in the UK of energy intensive industries."²

¹The Times, 27 July 1983

²Lehmann and Shaw, "British gas buying rights and natural gas depletion", Energy Policy, Vol. 10, No. 1, March 1982, pp 57-61

(v) Political problems associated with imported supplies

57. The main political problems associated with importing natural gas from outside the Community are generally regarded as those of over-dependence on a single supplier, and of security of supply. However, these are not the only problems. As has already been indicated, there is a secondary range of problems associated with the actual conclusion of supply contracts. Indeed, once the primary problems of over-dependence and security are solved, the secondary ones move into the first rank.

58. For example, many of the arguments now being used by critics of the Soviet gas deal concern the terms of the deal itself, rather than macropolitical issues.

59. The critics say that the contracts with the Soviet Union signed in 1981, before the current downward trends in inflation rates and oil prices, provide for a steady rate of increase in the price to be paid for the Siberian gas up to the end of the century. It is alleged that the current price of gas under the contract is \$34 against a current oil price of \$29¹.

60. Then there is the question of the equipment supplied by European companies for building the Urengoi pipeline. The critics say the Soviet Union used its monopsonist position to beat the suppliers down to a minimum price, then "paid" for the goods with European credits which will be repaid out of the inflated revenues accruing from the unrealistic gas supply contracts.

61. Such criticisms should be treated with reserve insofar as they emanate from the sources responsible for the more alarmist and controversial macropolitical objections to the Siberian pipeline deal.

62. The other side of the coin is that the Soviet Union is believed in the West to have had to accept a considerably lower price for the Siberian gas than it originally wished for because of the vital role of the agreement in its overall gas plans².

63. Moreover it is important to keep a sense of proportion over the Siberian gas project. In the first place, since it is clear that the Ten cannot meet future demand from their own reserves, the Community should be glad to have

¹Wall Street Journal, 8 and 16 December 1983

²Wionczel and Serrato, "The Present and Future of Natural Gas", OPEC Review, Vol. VI, No. 3, Autumn 1982, p276

this abundant new source of supply, always provided that it is treated as one source among several.

64. Generous praise should also be given to all those responsible for the technical achievement which the pipeline represents. The first gas from the Siberian fields crossed the Czechoslovak-German frontier on 1 January 1984, from where it was to be sent on by Ruhrgas to France¹. This is a matter for congratulations, even though the pipeline is not yet complete. When it is complete, it will be 4.500 kilometres long.

65. The other major long-distance gas pipeline to Europe completed in recent years is the Transmed pipeline carrying gas from Algeria, via Tunisia, to Sicily and mainland Italy. This pipeline is a major technical achievement not only on account of its length (2.400 kms), but also because it includes a major undersea section attaining a maximum depth of 600 metres.

66. (At the same time it is important to realise that even the installation of local distribution networks can represent major engineering projects. For instance, the new transmission and distribution system for the supply of natural gas to the island of Funen in Denmark will require the installation of more than 2.000 km of piping. This is part of a plan to supply the whole of Denmark with natural gas from the Danish sector of the North Sea.)^{2,3}

67. Algeria, with the Soviet Union and Norway, is one of the most important suppliers of natural gas to the EC. Here too there is a danger of overstating the issues of over-dependence and security, at the expense of contract and pricing questions. Two of Algeria's largest clients are France and Italy.

68. Italy has an urgent need to curb its reliance on imported oil, coupled with a relative lack of other energy options. These factors have caused Italy's energy planners to aim for a 40% increase in gas consumption between 1982 and 1990.

69. Many informed observers believe that the price which Italy agreed to pay Algeria for gas through the Transmed pipeline was a high one. However, if this is so, some of the main causes did not arise from Italy's general energy situation, but from special factors.

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¹ Agence Europe, 3-4 January 1984, p9

² Agence Europe, 28-29 December, p11

³ The Transmed and Funen projects are examples of infrastructure schemes which have benefited from finance by the European Investment Bank

70. One was the fact that Italy had taken on the whole burden of financing the pipeline. Therefore when, in 1980, with the pipeline nearing completion, Sonatrach insisted on an upward renegotiation of the gas price originally agreed, Italy was faced with the prospect of a huge interest burden on an unused pipeline until it managed to strike a new deal.

71. Meanwhile Algeria was also negotiating with Belgium and France. There is no need to sit in judgment on the two Member State governments involved for reaching the agreements with Algeria which were finally concluded, since they were acting within the constraints of their respective economic and political situations. It is widely understood, however, that the prices which they accepted served to weaken the arguments being used by the Italians in defence of their own position.

72. Thus as well as the problems of over-dependence and security, other political issues complicate the conclusion of gas supply contract with third countries. These include:

- (a) Bilateral relations between the buyer and seller countries in non-gas domains (e.g. general trade policy);
- (b) Competition, or at best lack of coordination, between EC Member States seeking supplies;
- (c) Issues relating to the sale of equipment and services necessary for the construction of gas transport facilities;
- (d) Issues relating to the finance of transport facilities;
- (e) Any decision by a government involved to make the contract serve a political purpose beyond that of simply obtaining gas;
- (f) Miscellaneous, contingent factors affecting price negotiations.

73. The importance of Norwegian gas supplies, now and in the future, must be stressed. These are of mutual benefit since they promote the EC's diversity of supply, while offering Norway a large and accessible market for its gas, which might not be so conveniently disposed of to other purchasers.

74. To the extent that production in the northern areas of the North Sea involves technical difficulties and thus higher costs, Norwegian gas will not be cheap. The argument for paying a "security" premium for Norwegian gas is, however, not proven, given that gas from other sources can hardly be said to be sold at a discount.

(vi) Political problems associated with pricing

75. Because of the abnormal market situation, there is a major question as to what philosophy should guide the setting of prices in contracts between producers and consumers, including the big national gas undertakings, as well as the level of tariffs set by the distributors for their customers.

76. Another question is what criteria should determine the level of the charges demanded by transport and distribution undertakings for those specific services, especially when transport across intra-Community frontiers is involved.

77. There is a strong body of opinion which holds that the price of gas should fully reflect the costs of exploration, development and production as well as depreciation on what is unquestionably a dwindling resource. This attitude is justified by natural prudence and also by the political desirability of establishing objective criteria for the setting of gas prices so as to avoid distortion of the terms of trade in the common market by the application of prices so low as to amount to indirect subsidies.

78. On the other hand, a new dimension of the problem is opened up when one starts to consider the influence of the oil price on gas prices and tariffs. When oil prices are rising, one sees a tendency for producers to claim that the price of gas should rise to comparable levels. This undermines any attempt by the importer side to counteract the inflationary effects of high oil prices by encouraging industrial and other consumers to switch from oil to gas.

79. When oil prices are falling, this will tend to undermine the attempt to tie the price of gas to the objective criteria mentioned above, namely production costs and depreciation.

80. It is the strategy of the Commission to work towards, not a harmonisation of gas prices and tariffs in the Community, which would not in any case be a feasible objective in the feasible foreseeable future, but a certain comparability in gas prices which could be achieved by an improvement in the transparency of gas pricing structures, as well as by the establishment of standard criteria for the formation of prices and tariffs.

81. The fact that the market for natural gas is limited to a certain comparatively small number of countries means that in principle these countries are in a position of bargaining strength when it comes to negotiating with potential suppliers, although much depends on the opportunity that a third-country supplier may or may not have to play one potential customer off against the other.

82. A measure of coordination among European Community purchasers is achieved by the formation of consortia of continental undertakings to negotiate with the various outside suppliers. It should be noted that the largest organisations buying gas in the Community are Ruhrgas and the British gas Corporation.

83. There is no such thing as a consortium grouping all ten Member States.

84. As far as tariffs to final consumers are concerned, the prime need is for greater transparency, both as regards the tariffs themselves and the procedures and criteria which govern the levels at which they are fixed.

85. There is also a need for more information about the impact of the taxation policies of the various Member States on their domestic markets, and about subsidies, whether overt or implicit. These are matters which the Commission should continue to study within the terms of the relevant Articles of the EEC Treaty.

IV. CONCLUSIONS

86. The Commission, in its recent Communications, has successfully analysed many of the major issues of European Community gas policy, and has identified the appropriate strategies, particularly as regards the problems of over-dependence on sources of external supply and of security of supply.

87. However, the Commission has not yet gone far enough in recommending measures to bring about greater coordination of the activities of Member State governments and gas undertakings in the interests of the Community as a whole.

88. This is the next step. It must go hand in hand with a rigorous insistence on the application of rules laid down by the Treaties in such areas as, for example, competition rules, tax provisions, free movement and social policy.

V. THE COMMISSION COMMUNICATION OF MARCH 1984

89. While the present report was in the process of being considered by the Committee on Energy, Research and Technology, the Commission completed a new communication concerning natural gas¹. This was a follow-up to the Communication of 15 October 1982 on Community natural gas supplies.

90. The new communication examines the likely situation in 1990 and 2000 as regards (a) supply and demand and (b) security of supplies, with certain observations on the integration of the Community's natural gas market.

91. Consumption forecasts for 1990 have again been revised downwards. Since current supply contracts with Algeria, the USSR and Norway were concluded when demand predictions were higher, the Community's needs for 1990 are more than covered. The Commission predicts that in that year shares of total Community gas supplies for the main external sources will be as follows: USSR 19%, Norway 14% and Algeria 10%. The figure for the USSR will represent 4.5% of total energy supplies.

92. The Commission reports that the security outlook for 1990 has improved and is in line with the target whereby the gas industry should be able to cope with an interruption of 25% of total gas supplies from outside the EEC.

93. Looking ahead to 2000, the Commission says that by then additional imports will be needed - between 20 and 55 mteq, according to the basis of calculation. The figure would in any case be somewhat lower if there was a cross-channel pipeline in existence. By the end of the decade, the Commission sees an important rôle for supplies from Holland, the United Kingdom and the Norwegian Sleipner field. It attaches importance in the slightly longer term to the Norwegian Troll field.

94. With reference to all these possibilities the Commission stresses the need to make decisions soon on development of the respective fields, so that the Community is not left in a position of suddenly having to take its supplies from whatever source happens to be available at the time.

95. With regard to supplies from the United Kingdom, it is relevant to note that the Department of Energy recently announced that 1983 was the U.K.'s best year for offshore oil and gas discoveries since the record

¹ Doc.No. not available at time of writing

year, 1975. In 1983 there were 21 significant oil and gas discoveries (including 10 gas), against 28 in 1975¹.

96. The Commission also stresses the need for increased cross-border cooperation in the Community with regard to stocks and transport, particularly after 1990 when the need for imports becomes greater. Again, the need for early plans and decisions is clear.

¹DOE Press Notice No. 16 of 3.2.1984

TABLE 1

Total World

Summary of Oil and Gas Reserves
(Mtoe as of 1 January 1980)

	Oil	Gas	Oil to Gas Ratio
Ultimate Recovery	354 000	252 000	1,4
Cumulative Production	56 000	25 000	2,2
Remaining Recoverable	298 000	227 000	1,3
Proved Reserves	86 000	60 000	1,4
Additional recoverable	212 000	167 000	1,3

Source: International Energy Agency

TABLE 2

Natural Gas Reserves, Production and Production Ratios

	Reserves 1 January 1981						Production 1980 (bcm)			Reserve/Prod. Ratio (1)	
	Proved bcm	%	Additional bcm	%	Total bcm	%	Gross (2)	Flared or lost	Net	of proved	of total
OECD Total	13,472	17	49,275	26	62,747	24	849.7	29.9	819.8	16	74
North America	8,188	11	41,077	22	49,265	19	634.6	18.8	615.8	13	78
OECD Europe	4,246	5	5,223	3	9,469	4	202.0	10.4	191.6	21	47
OECD Pacific	1,038	1	2,975	1	4,013	1	13.1	0.7	12.4	79	306
Developing Countries	32,353	42	76,308	40	108,661	41	338.4	158.3	180.1	96	321
Geographical Distribution											
Middle East	18,396	24	29,332	16	47,728	18	121.9	74.5	47.4	151	392
Africa	5,906	8	26,253	14	32,159	12	71.7	51.7	20.0	82	449
Latin America	4,830	6	10,234	5	15,064	6	86.0	20.5	65.5	56	175
Far East/Pacific	3,221	4	7,289	4	10,510	4	58.8	11.6	47.2	55	179
Antarctic	—	—	3,200	2	3,200	1	—	—	—	—	—
Political Distribution											
OPEC	25,585	33	28,531	15	54,116	20	223.0	125.3	97.7	115	243
Non-OPEC	6,768	9	47,777	25	54,545	21	115.4	32.9	82.5	59	473
Centrally Planned Economies	31,752	41	63,011	33	94,763	35	507.6	13.0	494.6	63	187
Total World	77,577	100	188,594	100	266,171	100	1,695.7	201.2	1,495.5	46	157

(1) Gross production

(2) Excluding reinjected gas

Some subtotals do not add due to rounding.

Source: International Energy Agency

TABLE 3: WORLD PRODUCTION - NATURAL GAS - (billion of m³ (150 C, 1013 mbar)¹⁾

	1970	1973	1979	1980	1981	1982	1982/81 %	Δ 80/70 %
World (without China)	1052,6	1252,2	1492,7	1503,6	1551,7	1529,9	- 1,4	+3,6
Africa	3,5 (0,3)	10,2 (0,8)	29,6 (2,0)	20,9 (1,4)	30,6 (2,0)	35,0 (2,3)	+14,4	+18,2
America	713,3 (67,8)	759,4 (60,6)	716,2 (48,0)	690,0 (45,9)	683,5 (44,0)	638,6 (41,7)	- 6,6	-0,4
- United States	620,7 (59,0)	643,6 (51,4)	579,7 (38,8)	547,9 (36,4)	543,3 (35,0)	497,2 (32,5)	- 8,5	-1,3
- Canada	56,8 (5,4)	75,1 (6,0)	73,4 (4,9)	74,8 (5,0)	72,3 (4,7)	69,7 (4,6)		
Asia (without China)	25,9 (2,5)	51,8 (4,1)	74,3 (5,0)	94,5 (6,3)	111,8 (7,2)	101,3 (6,6)	- 9,4	+13,8
Oceania	1,6 (1,5)	4,4 (0,4)	9,3 (6,2)	10,2 (6,8)	12,4 (0,8)	13,9 (0,9)	+12,1	+20,3
Europe	308,3 (29,3)	426,4 (34,0)	663,3 (44,4)	688,0 (45,8)	713,4 (46,0)	741,1 (48,4)	+ 3,9	+8,4
- EUR 10	77,7 (7,4)	146,9 (11,7)	179,9 (12,2)	167,7 (11,2)	163,2 (10,5)	151,1 (9,9)	- 7,4	+8,0
- FR of Germany	13,4	20,5	20,0	18,2	19,1	16,5		
- France	6,9	7,7	7,8	7,5	7,1	6,6		
- Italy	13,2	15,4	13,5	12,5	14,0	14,6		
- Netherlands	33,3	74,7	98,8	91,2	80,6	69,4		
- United Kingdom	10,9	28,6	39,2	37,3	41,0	42,0		
- Ireland	-	-	0,6	0,9	1,4	2,0		
- Rest of Europe	230,6 (21,9)	279,5 (22,3)	483,4 (32,4)	520,3 (34,6)	550,2 (35,5)	590,0 (38,6)	+ 7,2	+8,5
- USSR	191,9 (18,2)	236,3 (18,9)	407,0 (27,3)	434,8 (28,9)	464,9 (30,0)	500,8 (32,7)		
- Norway	-	-	20,9 (1,4)	26,9 (1,8)	26,5 (1,7)	25,3 (1,7)		
World (without China)	1052,6 (100)	1252,2 (100)	1492,7 (100)	1503,6 (100)	1551,7 (100)	1529,9 (100)	- 1,4	+3,6

Source: EUROSTAT and own calculations

¹⁾ in brackets: percentage part of total world production

TABLE 4 (continued)

		EUR 10	EUR 9	D	F	I	NL	B	L	UK	IRL	DK	GR
among which NG	1981	42,6	42,6	27,6	17,4	11,4	-32,0	8,2	0,3	9,6	-	-	-
	1982	43,4	43,4	25,9	16,1	11,0	-25,1	7,0	0,3	8,2	-	-	-
% NG of 3)	1981	9,6	9,9	20,6	13,5	9,9	n.c.	22,9	9,7	n.c.	0,0	0,0	0,0
	1982	10,6	10,9	20,2	13,8	9,8	n.c.	19,7	8,3	n.c.	0,0	0,0	0,0

Source: Eurostat

Table 4: EC-Energy Balance-Sheet, production, consumption and net imports (Mtoe)

	EUR 10	EUR 9	D	F	I	NL	B	L	UK	IRL	DK	GR
1) Production of primary energy												
1970	-	327,9	122,1	46,8	22,9	29,3	7,3	0,0	98,0	1,2	0,0	-
1981	484,0	480,1	124,9	55,3	18,2	63,8	7,9	0,0	207,0	2,2	0,8	4,0
1982	490,8	486,0	124,7	55,3	19,9	55,6	8,8	0,0	217,3	2,6	1,7	4,8
among which natural gas (NG)												
1970	-	61,0	10,1	5,9	11,0	24,4	0,0	-	9,6	-	-	-
1981	125,2	125,1	14,5	6,0	11,5	60,9	0,0	-	31,3	1,1	-	-
1982	114,2	114,2	12,6	5,5	12,0	52,5	0,0	-	29,9	1,6	-	-
% NG of 1)												
1970	-	18,7	8,2	12,7	48,1	83,3	0,6	-	9,6	-	-	-
1981	26,0	26,2	11,5	10,9	63,4	95,5	-	-	15,1	50,0	-	-
1982	23,3	23,5	10,1	9,9	60,3	94,4	-	-	13,8	61,5	-	-
2) Gross inland consumption:												
1970	-	829,8	237,0	149,9	112,0	48,5	40,7	4,6	211,4	5,9	19,7	-
1981	909,9	895,0	257,8	180,5	130,4	60,7	43,3	3,2	194,4	8,0	16,8	14,8
1982	872,2	857,0	244,6	173,4	126,7	55,7	41,4	3,0	187,6	7,9	16,8	15,2
among which NG												
1970	-	61,6	12,9	8,4	10,8	15,7	3,5	0,0	10,4	-	-	-
1981	165,8	165,8	42,5	21,9	21,9	28,9	8,2	0,3	40,8	1,1	-	-
1982	155,7	155,7	38,4	21,2	21,9	27,4	6,8	0,3	38,2	1,6	-	-
% NG of 2)												
1970	-	7,4	5,4	5,6	9,6	32,4	8,5	0,2	4,9	-	-	-
1981	17,2	18,4	16,2	12,0	17,0	47,2	19,1	9,3	21,2	13,6	-	-
1982	17,9	18,2	15,7	12,2	17,3	49,2	16,4	10,0	20,4	20,3	-	-
3) Net imports (1)												
1981	444,4	432,2	134,3	129,2	115,4	3,6	35,8	3,1	-12,6	5,8	17,4	12,2
1982	417,5	398,7	128,5	116,3	111,7	7,9	35,6	3,6	-25,2	5,4	15,5	10,8

1) imports minus exports

TABLE 5 : EC (= EUR 10) Gas Economy indicators

	1970	1980	1982
Share of the different types of gas in consumption of the inland market (in %)	%	%	%
- natural gas	61,8	90,0	91,0
- coke-over gas	5,7	2,8	2,5
- Blast-furnace gas	15,4	5,3	4,8
- Works gas	17,1	1,9	1,7
All gases	100	100	100
Share of principal sectors in natural gas consumption (in %)	%	%	%
- non energy consumption	7,6	4,8	3,7
- Electrical power stations	18,7	15,1	12,9
- Industry	35,7	33,6	33,5
- Households etc.	23,9	45,9	48,7
- Other sectors	14,1	0,6	0,2
Total all sectors	100	100	100
Share of natural gas consumption accounted for by (in %)	%	%	%
- Indigenous gas	97,9	75,0	70,5
among which Netherlands gas	39,6	38,9	33,7
- Imported gas from third countries	2,1	25,0	29,5
among which: Norwegian gas	-	13,2	13,9
Russian gas	-	9,7	11,6
Libyan gas	-	0,6	0,0
Algerian gas	2,1	1,5	3,8
Total	100	100	100

Source: EUROSTAT

	Total Natural Gas Consumption	Ind. Prod.	Intra Community trade (Exp.- Imp.+)	Estimated Imports from Third Countries					Natural Gas Imports from Third Countries as :	
				Total	Algeria	Libya	Norway	USSR	% of Total Energy Consumption	% of Natural Gas consumption
Fed. Rep. of Germany	68.0	17.5	22.5	28.0	-	-	8.0	20.0	7%	41%
France	42.9	3.1	6.5	33.3	9.2	-	2.9	12.0	11%	78%
Italy	45.5	7.8	6.5	31.2	13.0	2.6	-	7.0(8.0) ²	14%	69%
Netherlands	38.0	75.8	-39.8 ⁽¹⁾	2.0	-	-	2.0	-	2%	5%
Belgium	12.7	-	4.3	8.4	5.0	-	2.9	(0.5) ³	11%	66%
Luxembourg	0.7	-	0.7	-	-	-	-	-	-	-
United Kingdom	61.5	45.0	-	16.5	-	-	16.5	-	5%	27%
Ireland	2.1	2.1	-	-	-	-	-	-	-	-
Denmark	1.9	2.6	-0.7	-	-	-	-	-	-	-
Greece	0.1	0.1	-	-	-	-	-	-	-	-
EUR 10	273.4	154.0	0	119.4	27.2	2.6	32.3	39.0(8.5) ^{2,3}	8%	44%

(1) Based on forecasts for importers

(2) Contract not yet Government approved

(3) Under negotiation. Quantity given would be the estimated take in 1990.

Notes(i)The sum of the imports given by source country is not necessarily equal to total imports as the source of some supplies is not yet settled.

(ii)Forecasts based on expert group work. Not necessarily official Member State forecasts.

Source : COM(82) 653 final

MOTION FOR A RESOLUTION (DOCUMENT 1-653/82)

tabled by Mr PURVIS and Mr SELIGMAN

pursuant to Rule 47 of the Rules of Procedure

on a Natural Gas Policy in the European Community

The European Parliament,

- A. recalling its motion for resolution of 18 February 1982 appealing to the Council and Commission to make rapid and energetic efforts to draw up and implement a common energy policy for natural gas supplies, such that Soviet supplies of natural gas would not endanger Community independence and security,
- B. mindful that the Soviet Union interrupted energy supplies for political purposes to Yugoslavia in 1948, to Finland in 1958, to Albania in 1961, to China in 1962, to Ghana in 1965 and to the Federal Republic of Germany in 1981,
- C. noting that the latest forecasts for the Community's imports of natural gas and oil in 1990 suggest a dependence of 54%, 58% if imported coal is included, compared with the agreed target of 50% for all imported energy, contained in the Community's 1990 Energy Objectives,
- D. considering that the price and supply of energy has dominated issues such as inflation and the level of economic activity for the past decade,
- E. concerned that the Community's economy in the coming decades should be less susceptible to increases in the price of energy which have little or no relation to market conditions,
- F. aware of the current negotiations between gas undertakings in Belgium, Italy and Spain and the Soviet agency, Soyuzgasexport,
- G. in the light of the Community's expected dependence on the Soviet Union for 45% of total imports of natural gas in 1990,
- H. stressing the benefits to fair industrial competition within the Community and to competitiveness with third countries of having ample supplies and the lowest possible common pricing of natural gas throughout the European Community,
1. Emphasises the need for the Community to make its own efforts to obtain reliable energy supplies at tolerable prices, such that they are approximately uniform and do not lead to distortions in industrial competitiveness within the Community and vis-à-vis third countries;

1. Draws attention to the dangers to the Community's economy of growing dependence on natural gas imports as well as oil, especially if these sources are not adequately diversified;
2. Expresses concern at the strategic and political implications of excessive reliance on any single source of natural gas supply;
3. Views with alarm the risk that in the coming years the world market in natural gas may replicate that of oil in the past decade;
4. Believes therefore that a policy of diversification of sources of supply of natural gas is essential to protect Europe from accidental or intentional interruptions;
5. Calls upon national gas undertakings, governments and the Commission in conjunction with the private sector oil and gas companies, to show determination in securing immediately diversified sources of supply for natural gas;
6. Calls for the creation of adequate buffer stocks, controlled within the Community, to absorb any short term difficulties;
7. Requests the Commission to submit a report to Parliament and Council on immediate, medium and long term measures to enhance the security of the Community's natural gas supplies, having regard to projections of likely demand, source of supply, relative cost and reliability;
8. Requests a technical and economic report on the following potential projects:
 - a) a European natural gas grid linking all Member States and supplied interchangeably from the northern North Sea, the Soviet Union, Middle East, North Africa and West Africa
 - b) the use of southern North Sea gas fields as replenishable reservoirs
 - c) arrangements with the ACP states for the extraction, production and transport of natural gas
 - d) further development of industrial processes for coal gasification within the Community and accessible ACP states which have substantial coal reserves;
9. Requests a political assessment of the suggested projects;

1. Calls for proposals regarding the involvement of the private and public sectors in recommended schemes with their respective management and financial roles;
2. Requests its President to forward this Resolution to Commission and Council for urgent attention and action.

OPINION

of the Committee on Economic and Monetary Affairs

on

the motion for a resolution, tabled pursuant to Rule 47 of the Rules of Procedure, on a natural gas policy in the European Community (Doc. 1-653/82)

Draftsman : Mr. F. HERMAN

On 20 October 1982, the Committee on Economic and Monetary Affairs appointed Mr HERMAN draftsman of the opinion.

The committee considered the draft opinion at its meeting of 18 January 1983 and unanimously adopted the conclusions at that meeting.

The following took part in the vote: Mr Hopper, acting chairman; Mr Macario, vice-chairman; Mr Herman, draftsman; Mr Beumer. (deputizing for Mr Collomb), Mr von Bismarck, Mr Delorozoy, Mr Leonardi, Mr Papantoniou, Mr Purvis (deputizing for Sir Brandon Rhys Williams), Mr Rogers, Mr Wagner and Mr Wedekind (deputizing for Mr von Wogau).

I. Trends in reserves and world consumption

1. In 1980, the known world reserves of natural gas were 78 billion cubic metres, i.e. 52 times annual consumption (1.5 billion cubic metres). These 52 years of gas reserves compare with 30 years of reserves for oil.

The substantial increase in reserves (which doubled between 1970 and 1980) is due to the prospecting carried out in recent years and the development of new techniques like those for deep-sea drilling and transportation in hostile environments such as the Arctic regions. Further prospecting, encouraged by the prices currently offered for natural gas, will make it possible to maintain a rate of discovery above that of consumption over the next few years, and thus to increase the number of years of reserves. Experts estimate the ultimate reserves of natural gas (i.e. the sum of known, probable and possible reserves) at 3 to 4 times the known reserves.

II. Location of reserves, production and consumption of natural gas

2. A breakdown of known gas reserves between the various parts of the world reveals the size of the reserves situated in the USSR and the Middle East. In comparison with oil reserves, it can also be seen that gas resources are more widely distributed in geographical terms. The shift of prospecting activities towards the polar regions will improve this geographical spread still further.

A breakdown of natural gas production and consumption by country shows that:

- the United States and the USSR are the world's leading producers and also the largest consumers of gas;
- Western Europe produces 0.192 billion cubic metres per year (13% of world output) and consumes 0.22 billion cubic metres (15% of world gas consumption).

Natural gas currently accounts for 19% of the primary energy consumed in the world and 15% of that consumed in Western Europe.

III. International trade

Current position

3. Of the 1.5 billion cubic metres consumed in the world in 1980, only 0.19 billion (13%) derived from international trade; the remaining 87% was produced from domestic sources. 84% of the gas traded was conveyed by pipeline and 16% in liquid form (LNG).

A ranking of countries on the basis of the quantities of gas imported and exported in 1980 shows that:

- the USSR is the leading exporter of gas, followed by the Netherlands;
- the United States, although the leading gas producer, is also the second-ranking importer because of the scale of domestic demand.

The main reasons for the still relatively small proportion of international trade are:

- the broad geographical distribution of reserves and hence the relative proximity of current production centres to centres of consumption;
- the fact that the two largest producer countries (the USA and the USSR) are also the largest consumers.

Prospects

4. In the coming years, the part played by international trade in meeting the demand for gas will increase significantly through the interplay of the following considerations:

- the continuing rise in demand for gas because of its advantages over other fuels;
- the fact that this future demand will be met increasingly by imports of gas from distant regions, because:

- the reserves there are plentiful,
- the policy factors concerning the security of supplies are prompting the consumer countries to diversify their supply sources and conserve domestic reserves or those situated in neighbouring countries,
- the technology for exploiting deposits and transportation is constantly being improved (techniques for deep-sea drilling, production and transportation, LNG technology, transport by pipeline in Arctic regions, etc.).

5. The majority of experts agree that international trade in natural gas can be expected to double in volume over the next ten years from 0.19 billion cubic metres in 1980 to around 0.38 billion in 1990. This trade would then account for 20% of a total gas consumption of 1.9 billion cubic metres. Trade in the form of LNG sales would undergo a proportionately far greater increase, from 0.03 billion cubic metres (gas equivalent) in 1980 to 0.14 billion in 1990.

The reasons for this anticipated growth of trade in LNG are:

- the improvements made in techniques for producing and transporting LNG (especially via the economy of scale);
- the fact that transportation of LNG by tanker provides a direct link between producer and consumer states, without third countries having to be crossed;
- the fact that transportation costs are lower than by pipeline over longer distances and for small or moderate quantities.

IV. Conclusions

6. The Committee on Economic and Monetary Affairs:

- (a) supports the resolution insofar as it requests the Commission and the Council to formulate a common natural gas policy;
- (b) considers, that in the long term, the outlook for natural gas prices is brighter than for oil prices, in that the ratio of reserves to consumption is better and the market far more

Limited, requiring massive investment (pipelines and gasification) and consumption on an extremely large scale (the market is in fact restricted to Europe, Japan and the USA);

considers gas to be a fuel with much more attractive properties than oil in that it is markedly less pollutive;

(c) although recital G is not in line with the facts (the dependence of 45% in 1990 is on imports as a whole and not on the USSR alone), believes that the possible increase in our level of dependence calls for special endeavours in terms of:

- prospecting for new deposits on European territory and nearby, in the North Sea and in the Mediterranean,
- the diversification of sources, which are at present too greatly restricted to Algeria and the USSR,
- storage capacity,
- link-ups in the network;

(d) considers that the potential of the North Sea has by no means been fully exploited and sees no reason for the Commission not to enter into negotiations with Norway and the United Kingdom with a view to stepping up prospecting and exploitation and, in any event, removing the legal, administrative and fiscal barriers to further exploration.

OPINION

of the Committee on Transport
on

the motion for a resolution tabled by Mr PURVIS and Mr SELIGMAN
on a natural gas policy in the European Community (Doc. 1-653/82).

Draftsman: Mr J. MOORHOUSE

On 26 January 1983 the Committee on Transport appointed Mr MOORHOUSE draftsman of an opinion on the motion for a resolution tabled by Mr PURVIS and Mr SELIGMAN on a natural gas policy in the European Community (Doc. 1-653/82).

The committee considered the subject of the draft opinion at its meeting of 17 February 1983, and the draft opinion itself at its meetings of 26 April and 26 May 1983. At the latter meeting the committee adopted the draft opinion by 15 votes in favour, 1 against and 1 abstention.

The following took part in the vote:

Mr SEEFELD, chairman; Dame Shelagh ROBERTS, vice-chairman; Mr MOORHOUSE, draftsman; Mrs von ALEMANN, Mr BAUDIS, Mr GABERT, Mr HOFFMANN, Mr JANSSEN van RAAY, Mr KEY, Mr KLINKENBORG, Mr LAGAKOS, Mr LOO (deputizing for Mr ALBERS), Mr MARSHALL, Mr MARTIN, Mr MORELAND, Mr SKOVMAND and Mr VANDEWIELE.

Transport and natural gas

1. The motion for a resolution tabled by Mr PURVIS and Mr SELIGMAN (Doc.1-653/82) draws attention to the Community's expected dependence on the Soviet Union for 45% of total imports of natural gas in 1990, and expresses concern at the strategic and political implications of excessive reliance by the Member States on any such single source of natural gas supply.
2. Although your draftsman fully shares this concern, the specific aim of this opinion will be to consider the suggestion for a Community natural gas policy at the level of transportation, in particular pipelines. It will be for other, more directly competent committees of the European Parliament to examine the foreign policy and energy policy implications of the current situation on the natural gas market.
3. The importance of transportation to the Community's fundamental objective of enhancing the security of natural gas supplies¹ was recognized by the Council of Energy Ministers at its meeting of 9 November 1982. On this occasion the Council called upon the Commission, "in cooperation with Member States' representatives and assisted as necessary by experts from the gas industry, to assess the possibilities for further collaboration between the Member States; in particular, studies will be made of the adequacy of the natural gas transport systems."²
4. The Commission, for its part, in its communication on Community natural gas supplies³, emphasized that the one physical constraint which could prevent improved cooperation between Member States in dealing with a major interruption to supplies, "is the inability of the gas transport system to re-allocate resources as required."

¹ Cf. COM(82) 45 final - communication from the Commission to the Council concerning measures to enhance the security of natural gas supplies to the Community

² Council press release 10786 e/82

³ COM(82) 653 final, p.11

5. Your draftsman has ascertained that both the Commission and the International Energy Agency are currently studying in detail the whole question of the interconnection of gas pipelines in the Community's Member States. He suggests that the Committee on Transport should reserve the right to draw up a comprehensive report on the Community pipeline network following the publication, expected by the end of this year, of the results of the work undertaken by these two organizations.

6. The importance of this work was highlighted by the approach adopted in the abovementioned Commission communication, which describes the scenarios of an interruption of 10% and 25% in normal forecast natural gas supplies, expressed as an annual rate, for a six-month winter period in 1990, which was chosen as the reference year. In addition, Member States' experts were asked to examine how they could deal with such interruptions in both a normal and severe winter. The answers given by the Member States in questionnaires returned to the Commission indicate that the gas industry in the Community considers itself able to cope with all the scenarios examined, and that only certain limited peak supply problems would arise in some countries "in the most extreme circumstances". The table contained in the Commission document further indicates that even those countries which are most reliant on imports from outside the Community would be able to deal with an even more severe shortfall in supply than that represented by the most extreme scenario - such at least is the Commission's current view.

7. Nevertheless, as stated above, an essential pre-condition of Member States' ability to deal with shortfalls of the extent envisaged is the capacity of the gas transport system effectively to re-allocate resources as required. Hence the need to reinforce the Community grid in order to guard against the dislocation of supplies resulting from a major interruption.

"Russia No.6" - the Urengoy pipeline

8. This 5,500 km. long pipeline will link the gas fields of western Siberia (Urengoy and Medvezhe) with the German-Czech border, and is intended to supply western Europe with at least 40 billion m³ of additional natural gas per year. The following table shows estimated supplies of Soviet natural gas to western Europe in 1990, as a percentage of total natural-gas supplies and overall energy supplies:

	<u>Natural gas</u>	<u>Overall energy</u>
Germany	34%	7%
France	26%	4%
Italy	35%	6%
Netherlands	11%	4%
Belgium	38%	9.5%

9. It would appear that the USSR has, for technical reasons, chosen to lay two 1.42m - diameter pipes operating at a pressure of 45 bars, rather than a single one operating at 140 bars. The total capacity of the double line is understood to be 50-70 billion m³ per year. This will leave a pipeline capacity of at least 10 billion m³ per year by the end of this decade for supplies to other European countries.¹

¹Source: International Defense Review, 1/1982, pp.15-18

10. The "Russia No.6" project will thus clearly play a major role in supplying a large number of countries with primary energy.

However, there is another side of the coin. Reports indicate that, in addition to the political and strategic indications mentioned above, grounds also exist for technical reservations¹ as to the viability of the Soviet pipeline system. Soviet gas reserves are scattered over a vast territory twenty times the size of France, four-fifths being situated in the extreme east of the country. As the USSR has no gas liquefaction plants, production depends upon the pipelines operating properly. These, however, are subject to the extremely harsh climatic conditions, including snow-storms in Siberia and sand-storms in Turkmenistan, which frequently hamper access for the repairing of defective sections or the laying of new ones.

Your draftsman would therefore request the Commission to examine, in the context of its next Communication on natural gas supplies, the possibility of technical problems arising in connection with the operation of this pipeline (including the possible need for additional de-sulphurization plants).

Pipeline interconnections

11. Given the new situation created by the "Urengoy agreement", and the fact that the bulk of future EEC demand will undoubtedly be met by pipeline gas, there is a clear case for further cooperation at Community level with a view to improving pipeline integration and links. Your draftsman is aware that certain gas undertakings have expressed their reluctance to be involved in a formal system of EEC pipeline interconnections, and would consider such a proposal as interfering with their management responsibilities and commercial freedom of action.²

¹ idem

² See Memorandum submitted by the British Gas Corporation to the House of Lords Select Committee on the European Communities (Session 1981-82 - 15th report)

12. What is required, therefore, is measures which, in addition to enhancing security of supply, also have some justification in commercial terms. The Commission has indicated that these two objectives could be met by the implementation of a project whereby Norwegian gas would be exported to continental customers via an overland route through the UK. Your draftsman would agree that such a link would be preferable to a simple cross-Channel pipeline between the UK and the continent, for which there exists at present no commercial justification. Indeed, if the aim was to increase capacity on an interconnected European grid, the Dutch Groningen field, which has an extensive infrastructure and to which most Member States are already connected, represents a less costly alternative than the British gas fields. However, the UK landbridge linking Norway's fields to the continent would seem an even more advantageous solution.

13. Fortunately, a report recently published by the Norwegian Ministry of Petroleum and Energy¹ points to the existence of significant spare capacity in the pipelines that have been or are being laid on the Norwegian shelf. The report goes on to state that "the Government attaches importance to the fact that the gas resources in this field can contribute to ensuring long-term gas supplies to western Europe, provided it can be delivered on commercial terms."

Following this clear and positive statement by the Norwegian Government, the time would seem to be ripe for the Commission to give detailed consideration to appropriate means of promoting the construction of a Norway - UK - cross-Channel pipeline. Your draftsman would add that both the UK Department of Energy and the British Gas Corporation have stated that they "would consider the possibility of importing Norwegian gas to the UK and re-exporting part of it via a pipeline link to the continent."²

¹ Report no.40 relating to the perspectives in the petroleum activity in the coming years (1982-83)

² See abovementioned report by the House of Lords Select Committee on the EC, p.XI

14. As a final point relating to interconnections, the Committee on Transport expresses the hope that the possibility of connecting Spain and Portugal to the European grid is being given due consideration within the context of the current accession negotiations (particularly in the light of a projected pipeline between Algeria and Spain).
15. In conclusion, the draftsman would refer to a further means of transporting gas, namely in liquid form (LNG) in tankers. In particular, the Commission is asked to examine in its next communication on natural gas the safety aspects of land terminals for LNG.¹

RECOMMENDATIONS

16. In the light of the above considerations, the Committee on Transport invites the Committee on Energy and Research to include the following points in its motion for a resolution on a natural gas policy in the European Community:
 - (i) the effectiveness of the gas pipeline network within the Community is a key factor in enhancing security of supply both for the Community as a whole and, in particular, for those Member States whose dependence on external energy sources is almost total;
 - (ii) every effort should be made to integrate the gas grid still further, with a view inter alia to facilitating the switching of supplies in the event of shortfall or major interruptions;
 - (iii) in addition, given that current sources of supply would appear unlikely to meet demand from the 1990s onwards, consideration should be given forthwith to the development of such alternative sources as Norway, Algeria, Canada, Nigeria and the Middle East (among others);

¹ See written question no. 1799/79 on this subject by Mr ALBERS