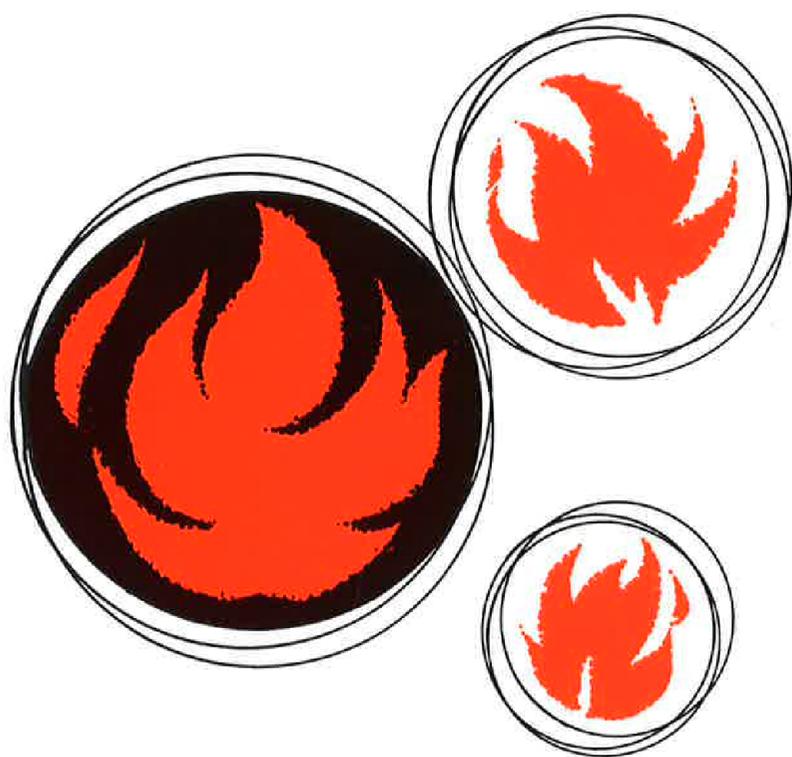


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Norwegian Gas in the New Europe

How politics shape markets

EDITED BY OLE GUNNAR AUSTVIK

Norwegian Gas in the New Europe

Norwegian Foreign Policy Studies no. 76

Norwegian Gas in the New Europe

How Politics Shape Markets

Edited by Ole Gunnar Austvik

Norwegian Institute of International Affairs



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Cover design: Stein Davidsen

ISBN 82-412-0064-1

Published with financial support from the Norwegian Research Council for
Applied Social Sciences (NORAS)

Printed in Norway

Distributed by:
Vett & Viten A/S
P.O. Box 381
N-1301 Sandvika
Norway

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Introduction

The process of European integration is accelerating and the EC Community may be expanded by new member states. The economic, political and military situation in what was called the Eastern Bloc is changing dramatically. The East–West tension is weakened and it seems rather unlikely that the economic and political situation that prevailed in Europe as late as in the eighties may recur in the nineties.

The field of energy is being increasingly drawn into this process of change, both in the EC and in the East–West context. Many of the factors that have shaped the framework and functioning of the European gas market until now may be quite different in the future. Furthermore, economic growth, increased environmental concerns and a desire to reduce dependency on Middle East oil indicate need for more natural gas.

For Norway, these processes are of fundamental economic and political importance. The result will not only depend on exogenous shifts in the surroundings and other countries' and companies' policies. Norway's own policy towards the New Europe, and commercial steps taken, may have significant impact on outcomes, as well. This is especially valid in the gas sector where Norway has a significant market share. The importance of Norwegian gas as an alternative to the other suppliers may give an additional say in the formulation of a New European energy policy.

No other European country has identical interests with Norway in the field of petroleum. Norway is the major energy exporter in Western Europe, while most other countries are importers. Therefore, participation of one kind or another in the processes that lay the foundation for future European energy policy seems to be of vital importance for Norway, regardless of formal EC membership or not. In the gas market, small margins may soon constitute huge amounts of money.

In a rapidly changing Europe and given Norway's central position in the energy field, may be a need for reassessment of established guidelines and practices. How does the New Europe influence the framework and trading rules

in tomorrow's gas market? How should Norway, from her role as a major natural gas exporter, adapt to these changes, on the political and commercial level? Should gas strategies be designed differently in the nineties than in the eighties? What is the optimal volume of and pricing policy for Norwegian gas? These are among the questions that, from various points of view, are discussed in this book; "Norwegian Gas in the New Europe. How Politics Shape Markets".

In the first article, Martin Saeter focusses on "European Integration and Energy Policy: Consequences for Norway". It gives a comprehensive introduction to the overall European and EC processes towards the Single Market and the broad consequences for the market for natural gas. Saeter argues that the Single Market poses challenges of a new kind. The development of a common energy policy foresees a transfer of competence from the national states to the Community level as well as readjustments on the part of reluctant companies. The question is not whether there should be national state control or control by the multinational companies, he argues. The challenge is rather how to fit practices of both states and companies into the frameworks of regional integration in such a way that it furthers the process toward economic and political union. The principles and regulations of the energy market must be in accordance with those of the Single Market in general as Community principles are likely to prevail.

Energy is one of the most vital areas, especially for countries like Norway and the Soviet Union. Saeter stresses that through a policy of adaptation to the internal market, Norway will increasingly be subjected to Community rules and regulations as in the ongoing redefinition of the relations between the EC and European non-members. Both Norway as a state and Norwegian petroleum exporting companies will have to orient themselves increasingly towards the Community as such, i.e. in the first place the EC Commission. The one-sided dependence on the importing companies on the Continent will have to be balanced out, he argues.

Terje Vareberg in Statoil argues in his article "Major Challenges Facing Norway as a Gas Producer" that demand for natural gas can be expected to grow in the coming years. However, he underlines that higher prices are necessary to give suppliers the ability to meet this demand with sufficient supplies. Thus, the relationship between oil and gas prices should be reconsidered, he argues, to fully represent the correct properties of natural gas.

The present commitment for natural gas exports from Norway amounts to 47 BCM annually by the year 2005. The entire volume will be exported to countries within the EC. Vareberg sees difficulties in increasing Norwegian gas production above 60-65 BCM within this time-frame, largely because of technical

and resource limitations. However, the commercial conditions will be the dominant factor in deciding the future production level. In order to manage to develop the total field portfolio on the Norwegian Continental Shelf in an efficient manner, cooperation between companies and production licences is necessary. He concludes that the combination of physical integration, the GFU, an allocation process and what is called the Troll Commercial Model is an adequate way to organize gas activities in Norway.

Ole Gunnar Austvik's article "The Open Access Issue: A Gas Producer's Perspective" outlines that governmental regulations are often needed for natural gas pipelines to operate efficiently. With the introduction of the Single Market in 1992, the EC Commission has put particular focus on the role of the natural gas transmission companies. It considers the introduction of some sort of a Common Carriage, or Open Access, system in order to regulate what they call *de facto* monopolies in the market. However, a number of rather complicated issues must be clarified before any detailed regulation can be introduced. Such concerns relate both to various techno-economic problems as well as to how regulations can be expected to work within the context of the Western European gas market.

The complex nature of the problem indicates that no easy and "once-and-for-all" solutions can be expected to be found. However, if these problems are resolved, Norway may benefit by getting easier and cheaper access to markets in non-neighbouring countries. This may require a greater downstream activity and sales network. Even though a regulation of the transmission lines may lead to lower prices to consumers (distribution companies, electric utilities and large industrial users), prices to producers may increase if the concentration of market power on the hand of producers can be maintained. Austvik argues that the economic profit now earned by transmission lines, *may* be distributed to consumers and producers, respectively.

Janne Haaland Matlary studies in her article "The EC Policy-Making Process in the Field of Energy: An Analysis With a View to Norwegian Interests". She follows the decision-making for major proposals of the internal energy market, and argues that ultimately interest groups in the segment mean less than the logic of the internal market as such. She supports this by the development towards a more comprehensive energy policy at the Community level, exemplified by the majority voting on internal market directives. Also external events, such as the situation in the U.S.S.R. and the need for "cleaner" forms of energy in Eastern Europe, account for this development.

Janne Haaland Matlary's article "Selling Norwegian Gas: From Collective Domestic Strategy Towards Individual Downstream Integration?", deals with the strategic choices facing Norwegian gas companies, especially with regard to

downstream integration. Hitherto none of the Norwegian companies have been very active beyond Norwegian borders in terms of developing a presence in the market in Europe, she argues. Norsk Hydro is an exception, but in its gas selling strategy also this company has stuck to the common strategic choice of cooperating in the Gas Negotiation Committee (GFU).

Matlary underlines that it has been very difficult to "go downstream" in Europe because of national restrictions on foreign ownership of pipelines and gas import companies. But the opportunities for investments downstream are multiplying with the advent of the internal market of the EC. She argues that the companies should pursue such a strategy.

Ole Gunnar Austvik addresses in "Norwegian Energy Policy in an International Context: The U.S. Embargo of Soviet Gas in 1982", the increased role of petroleum in Norwegian foreign and commercial policy. The U.S. failure in halting huge new Soviet gas supplies to Western Europe in the beginning of the eighties, and the encouragement of using Norwegian gas as a substitute, are used as examples on how Norwegian energy policy has been drawn into and influenced by international political processes and conflicts.

Austvik underlines that as long as energy still is a "life-line" for any country's economic life, Norwegian petroleum may increasingly be politicized, whether Norway likes it or not. Therefore, the formulation of an international petroleum strategy must involve a dynamic and active attitude to an international political and commercial situation that evolves over time and which may even change suddenly and abruptly. Today's processes in Europe is an example of a challenge that Norway faces in her international energy policy. The important role of energy in international affairs indicates that Norwegian energy policy must adjust to the, at any point in time, existing framework for the gas market and also, if possible, influence market rules. The author suggest some options that Norway could have chosen, and critically assesses the options that were chosen, in case of the embargo of the Soviet gas pipeline.

Oeystein Noreng points out in his article "Prospects for Norwegian Gas to Central and Eastern Europe", that the new Europe, with no Berlin Wall or Iron Curtain, has created a different world. In Central and Eastern Europe there is an urgent need to replace pollutant brown coal with other sources of energy. The new governments of these countries give high priority to reducing dependence upon the Soviet Union, as well. Noreng underlines that these countries' major problem, except perhaps in eastern Germany, is the ability to pay and currency convertibility.

Noreng sees the possibility that the eastern parts of Germany, eventually together with Czechoslovakia and Poland, may become important new markets for Norwegian gas. The demand would be in the residential-commercial sector

and to some extent in cogeneration of steam and power. Austria and Hungary could buy smaller volumes of Norwegian gas for households and power generation. Noreng argues that market conditions, then, justify the construction of a new trunkline for gas from Norway to north-west Poland, with an extension to Austria, Czechoslovakia and Hungary. From a Norwegian point of view, one advantage of such a new trunkline would be to bypass Germany and the area presently controlled by Ruhrgas, Noreng argues.

The alternative views and strategic approaches set forth in this book may diverge from one another. The perception of how politics shape markets, and how markets shape politics, have profound consequences for the formulation of Norwegian gas strategies. The authors and the editor of this book have sought to illuminate the issues and expose a range of assumptions and estimates of the situation that underlay the choice of policy. It is for our readers to absorb and evaluate these debates, and to judge for themselves which choices best serve the interest of Norwegian gas in the new Europe.

Ole Gunnar Austvik

Oslo, July 1991

European Integration and Energy Policy: Consequences for Norway

By Martin Saeter

Regional integration: a new challenge to states and transnationals

The type of advanced regional economic and political integration developing in Europe contributes significantly to changing existing frameworks for the management of trade and other economic relations, including energy, both at national, regional and international levels.

The difficulties met with in trying to establish a single internal energy market and a common energy policy in the European Community (EC) in parallel with the integration of the single internal market (SIM) in general have been particularly great. This is due both to the special character of energy in international trade relations and to its political significance in the context of regional European integration. The aims of integration represent a challenge both to the EC member states and to state-owned as well as private companies.

In the postwar period, as a result of a general liberalization of international trade and a transition to "oil economy" in most of the industrialized countries, there took place a dramatic enhancement of the role of the big – predominantly American – oil companies, which increasingly acquired a transnational structure. Then, from the late 1960s onwards and especially in the wake of the OPEC revolution and the 1973 oil crisis, national state authorities reclaimed, and to a great extent also regained, control over energy resources and energy policy within their respective territories. Norway, as a newcomer among the oil and gas exporters, took advantage of this general change of climate when drawing up the main guidelines for its petroleum policy in the 1970s, e.g. giving Statoil, the state-owned company, a central role (M.G. Klapp 1987).

The strategy of national control, however, went contrary to the still continuing general trend towards liberalization, privatization and internationalization

of trade and economics. Internationally, the transnational companies retained much of their power, taking advantage of the growing interdependence among the economies of the Western world in general in order to check the influence of state companies. As it turned out, by the mid-1980s a kind of *modus vivendi* had been established, which in reality meant that state oil companies had to accommodate to norms and rules at the international level that in the main were decided by the big transnationals.

This new balance, however, provided no answer to the challenges arising from European regional integration. The development of the European Community into a single internal market, an economic and monetary union (EMU) and a political union (EPU) poses problems of a quite different kind. The question is not whether there should be national state control or control by the transnationals, but rather how to fit practices of both member states and companies – private national, state or transnational – into the frameworks of regional integration in such a way as to further the process towards economic and political union (F. McGowan 1989, L. Hancher 1990, J. Surrey 1990).

It should immediately be added that the process of integration in Europe is not restricted to the members of the EC. Increasingly the EC is becoming the dominant centre of gravitation for the whole of Europe, economically as well as politically. The development of SIM, the decisive steps taken in the direction of EMU and the ongoing discussions on EPU are expressions of the internal strengthening and deepening of the Community that is taking place (Padoa-Schioppa 1987).

Externally, at the all-European level, the central role of the Community is shown through developments like the EC-EFTA dialogue on the establishment of the European Economic Area (EEA), the system of association of the Central and East European countries through the so-called European Treaties, the inclusion of the former GDR following German reunification, the strengthening of the relationship between the Community and the Soviet Union, and – not least – the decisive role of the EC in furthering the all-European process within the framework of the Conference for Security and cooperation in Europe (CSCE). With the dramatic change that recently has taken place in Soviet policy – away from military deterrence to a policy of interdependence and cooperation with the West – the whole security situation in Europe has changed in a way that enhances the role of the EC at that level as well. The Soviet Union not only accepts the EC as a significant factor in European politics, it counts explicitly on the EC as a main partner in the shaping of the wider European system of security and cooperation. The strengthening of the EC in such a perspective is accordingly seen by Gorbachev as complementary to his own effort at building the “common European house” (M. Saeter 1989).

Regarding the turbulent situation in the Soviet Union at present, there is of course a risk for future setbacks to this all-European strategy. Given the existing agreement on German reunification, however, a return to the bloc division of Europe seems out of the question. As paradoxical as it might sound, a further loosening up of the Soviet Union would be likely to speed up the CSCE process rather than slow it down. Such a development would increase the need to have an all-European framework capable of absorbing in an orderly manner those Soviet republics that acquire their independence. However, even after a break-up of the union there would remain Russia as a great power. And the interests of Russia would not be dramatically different from what is now called Soviet interests. In the field of energy, Russia would hold almost the same position as the Soviet Union holds today, due to the fact that the energy resources and the energy production are mainly to be found on Russian territory. Freed from the present obligation to provide the other republics with oil and gas, Russia might even find a dissolution of the union advantageous in terms of hard currency income possibilities.

Energy and EC union: the question of approach

As regards energy market and energy policy development in the EC, this has to be considered as part not only of the internal integration process itself, but also of the policies pursued by the Community in a wider European and international context. It thereby acquires great significance also for European non-member countries in general and for a petroleum exporting country like Norway in particular.

The internal development of the EC since the middle of the 1980s has been characterized by the linking together of economics and politics into a stronger, more coherent whole, both institutionally and practically. The realization of the internal market as defined in the White Paper of 1985 has to be seen in the context of economic, monetary and political union. The White Paper on SIM was adopted as part of the Single European Act, which combined the supranational Community institutions and the hitherto almost purely intergovernmental institutions of the European Political Cooperation into a single decision-making structure.

Although a single energy market and a common energy policy were not explicitly included into the SIM domain from the start, it goes without saying that the energy field is a vital part of both SIM and EMU. As will be discussed below, the proposals of the Commission leave no doubt that the aim is to have the internal market principles applied to energy as well. This means that the

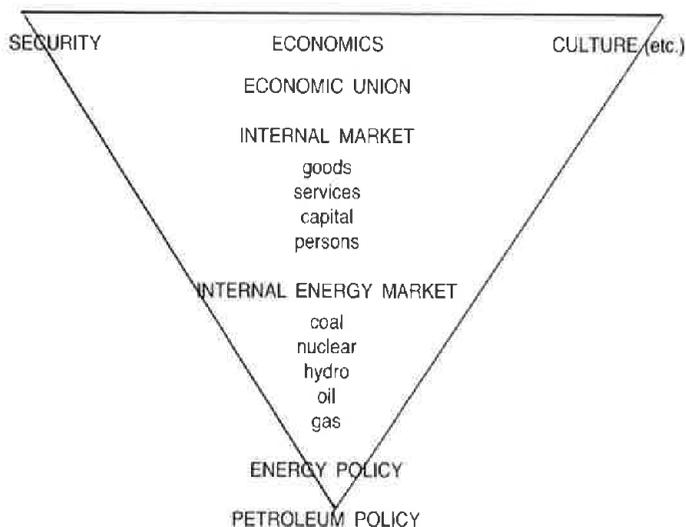


Fig. 1. The internal energy market as part of the EC union.

development of the energy market and the common energy policy must be looked upon as something subordinate to the overarching aims of economic and political integration. This has to be taken into consideration when one evaluates the prospects for realizing the aims of the common energy policy. There is disagreement among the member states regarding how to solve many difficult problems of integration in this sector as in others. But somehow solutions will have to be found in the energy field that are compatible with the overall strategy of integration, or the realization of SIM, EMU and EPU will be hindered. In addition, the strategy of making the EC into the centrepiece of the all-European system of security and cooperation would also be threatened.

For the proper orientation of Norwegian petroleum policy it is necessary to consider how the internal energy market and the common EC energy policy relate to the single internal market and the integration process in general. The assumption is that energy is to be seen as part of SIM and that the common energy policy is part of the more general strategy of integration, internally as well as externally. A further assumption is that the European Economic Area, to which Norway and the other EFTA countries belong, is to be seen as an extension of SIM, including in principle also energy. On the whole, there seems to be reason to assume that Norway – even as a non-member state – as well as the Norwegian exporting companies will have to adopt SIM regulations in full scale

also in the field of energy. An interesting question that needs to be discussed is to what extent the establishment of the EEA in practice will require a single internal energy market and a common energy policy for the EEA as a whole. How significant is the difference between member status and non-member status in this regard? In view of such questions, it becomes of great interest to Norway as a petroleum exporting country to know as much as possible about the factors that are influencing and shaping EC developments regarding both the internal energy market and the common energy policy.

The single internal market and energy in the wider European context

The links between the internal EC process and the wider European framework are likely to become stronger in the field of energy than perhaps in any other field, due to deliberate policy steps on the part of both the EC itself and some of its most important member states and to the high degree of complementarity of interests that exists between the EC and the Soviet Union in this field. The comprehensive agreements since the early 1980s on the import of Soviet natural gas constitute part of the general policy of detente and cooperation between the Community and the Eastern European countries as well as providing a crucial instrument for furthering that policy. In addition, they form part of the Community's long-term energy policy. As we will see below, recent initiatives point in the direction of the Soviet Union and other European non-EC members now becoming more directly and formally tied to the EC process through the establishment of an energy arrangement extending from the EC and comprising the whole of Europe. Such a development would have a strong influence on European politics in general and on energy policy in particular.

The relations between the EC and European non-member states are, since the late 1980s, undergoing a redefinition according to the principles of the single internal market. For the EFTA countries this means adapting to SIM on the basis of reciprocity but without formal participation in EC decision-making. The new EC association treaties with the Central and East European States also assume a gradual adaptation of these countries to SIM. Because of the unequal levels of development, the principle of reciprocity is here applied flexibly in favour of these countries. The important thing, however, is that any exemptions and transitional arrangements are defined according to the general SIM rules. There is in practice no alternative model.

Through the policy of adaptation to SIM, the EFTA as well as the Central and East European countries are being increasingly included into the process of

integration centred on the EC. In this wider European context of negotiation and potentially increasing cooperation, energy is regarded as one of the most important and promising areas.

There are, as already mentioned, clear indications that the EC increasingly tends to look upon itself as the core and pace-maker of specific integration and cooperation measures also at the all-European level. Solutions to problems in the fields of security, energy, environment, transport, etc. have to be worked out and organized in a framework comprising in principle all European states. The logic, given the overarching aim of an all-European system of security based on cooperation and interdependence rather than alliances and military deterrence, is that the frameworks of cooperation in non-military fields have to be structured in such a way as to further interdependence in Europe as a whole. This in practice means that the core function of the EC will have to be explicitly linked to arrangements of a wider European, i.e. *inclusive* kind, open in principle to all European states.

One of the main challenges confronting the EC at present is to find a strategy of all-European integration that is complementary to the changes taking place in the Central and East European countries, not least the Soviet Union. Energy is a field which seems particularly well suited for wider European arrangements. There is a high degree of complementarity, the EC possessing technology but needing oil and gas, the Soviet Union possessing energy resources but lacking both efficient technology and hard currencies. Given the important role of the Soviet Union as an exporter of natural gas to Western Europe, there already exists a high degree of interdependence in this field. The EC countries want to diversify their import sources. And the Soviet Union has agreed to market oriented prices. Treaties of cooperation, including both energy and other fields, have recently been concluded between the Soviet Union on the one side and the EC, as well as single EC countries like Germany and France, on the other. Regarding energy, concrete proposals as well as multilateral declarations of intent and principle have been produced both at EC and CSCE level.

Politically, a stage seems to have been reached where a common EC energy policy cannot be decided exclusively at an EC level. Such a policy will be an integral part of the all-European structure of security and cooperation.

A kind of multilateral recognition of the internal market principles and of the EC as the core of an all-European system of economic cooperation was the factual content of the document adopted on 11 April 1990 by the CSCE economic conference in Bonn. This basic document contains a large number of concrete statements to the effect that all the participating states will endeavour to achieve or maintain the following:

- Fiscal and monetary policies that promote balanced, sustainable economic growth and enhance the ability of markets to function efficiently;
- International and domestic policies aimed at expanding the free flow of trade, capital, investment and repatriation of profits in convertible currencies;
- Free and competitive market economies where prices are based on supply and demand;
- Policies that promote social justice and improve living and working conditions;
- Environmentally sustainable economic growth and development;
- Full recognition and protection of all types of property including private property, and the right of citizens to own and use them, as well as intellectual property rights;
- The right to prompt, just and effective compensation in the event private property is taken for public use;
- Direct contact between customers and suppliers in order to facilitate the exchange of goods and services among companies – whether private or state-owned – and individuals in both domestic and international markets (“Europe”/Doc. 1990 no. 1612: 3).

The detailed character of the Bonn document reflects the fact that at this conference not just the governments of the CSCE states were represented but enterprises, trade unions, associations of employers, etc., as well. All the aims and principles cited above are in accordance with the SIM principles, and all of them are also of great relevance for energy policy in Europe. Furthermore, the document contains some paragraphs more specifically relating to energy, stressing the significance of extended and deepened energy and technology cooperation. Ensuring “environmental sustainability” is a primary concern (pp. 5–6).

A European Energy Community comprising the whole of Europe?

The Dutch Prime Minister Ruud Lubbers presented in June 1990 a memorandum calling for a European Energy Community integrating the Soviet and East and Central European energy industries into those of Western Europe. The document’s point of departure is the “need for *more concrete* ways of giving substance to the ideal of European cooperation and, in particular, providing support for the developments in Central and Eastern Europe”. The general

political aim of the European Energy Community should be to “achieve economic integration beyond the frontiers of the European Community within a specific area”, serving at the all-European level “the same purpose as the Coal and Steel Community (did) after the Second World War” by being “both a symbol and an instrument for a Europe proceeding towards cooperation and unity”. Economically, an energy community “would ensure the transfer of capital and technology” as well as “safeguard stability and the relationship between supply and demand”, thereby producing “a positive knock-on effect on both economic growth and the development of rational economic relationships in Central and Eastern Europe”. As regards energy policy more specifically, such a community would make possible a long-term approach in solving problems that can only be tackled at an all-European level, such as environmental protection, guaranteed supplies, efficient energy production and saving through new technologies, transport and distribution facilities, etc. The memorandum also contains a number of considerations and suggestions concerning geographical as well as organizational aspects of the different types of energy: natural gas, oil, coal, nuclear energy and electricity (Lubbers 1990).

The Lubbers memorandum received strong support from other EC members, not least Great Britain (EC Energy 1990 21: 10). Following up the Dutch initiative, President of the EC Commission, Jacques Delors, at the CSCE summit in Paris on behalf of the EC launched the project for a European Energy Charter and a European Energy Centre, stating that:

A European Energy Centre could create a climate of confidence which would ensure that resources were put to best use and brought to where they are needed, both in the East and the West. It would help *in diversifying sources of supply* and, we might hope, in reducing tensions and imbalances in the international community. It would make full but reasonable allowance for *environmental* considerations (“Europe” 1990 no. 5373: 7).

Delors saw it as the “essential objective of energy policy” to ensure security of supply on terms that would enhance the “competitive position of the economy and the well-being of citizens, while at the same time offering the energy producers a stable and beneficial situation” (p. 7).

The “Charter of Paris for a New Europe”, adopted by the CSCE summit meeting on 21 November 1990, took up the ideas presented by Lubbers and Delors. Underlining “the important role of the European Community in the political and economic development of Europe”, the document pledges to give “the necessary impetus to cooperation” in such fields as energy, welcoming, “in particular, practical steps to create optimal conditions for the economic and

rational development of energy resources, with due regard for environmental considerations" ("Europe"/Doc.1990 no. 1672: 2+6).

As the discussion on the Lubbers initiative clearly shows, the questions related to the internal energy market and the common energy policy have to be looked at in a broad context, as part of the internal integration process generally as well as of the external policies pursued by the Community towards Europe as a whole. There is, of course, still much disagreement among the EC members as regards aims and means of the common energy policy both internally and externally. To a certain extent the motivation behind Dutch and British support of Central and Eastern Europe's participation in a European Energy Community might be a desire to slow down the progress towards an internal market and a common policy for energy, keeping this field outside the supranational decision-making as applied in SIM procedures. This would be contrary to the policy line of the Commission, but perhaps consistent with British and Dutch interests as oil and gas producers. Both of them would like to see a liberalized EC energy market extended to cover all of Europe, but both seem to be opposed to an energy community for the whole of Europe built on SIM principles. Such opposition reflects strong company interests not just in the U.K. and the Netherlands but also in other member countries, including Germany. Not surprisingly, the project of a European Energy Community reveals the same kind of conflicts of interest between the Commission on the one side and the member states and the companies on the other, as can be observed as regards the development of IEM and CEP in general.

Energy market – energy policy

Hypothetically, one could ask if energy is not a special case that warrants exemption from SIM rules. Could not energy conveniently be left to the proposed European Energy Community as a framework functioning on its own treaty terms, maybe linked to CSE, the International Energy Agency (IEA), the UN Economic Commission for Europe (ECE) or some other existing institution? Answering such a question requires a careful analysis of the role of energy in the SIM context. Can for instance SIM be completed effectively without including energy? Would not economic and political union be jeopardized by such limitations of scope? Further questions pertain to the roles of the EC in general and of SIM, IEM and the common energy policy in particular within the wider European setting. Could the centrepiece role of the EC in the CSE be fulfilled if important sectors like energy are excluded from the mechanisms of supranational integration? Could a wider European Energy

Community work according to intentions without being linked firmly to SIM, IEM and the common energy policy of the EC?

In discussing questions like these, one should draw a distinction between *market* and *policy*. The term "single internal market" (SIM) relates primarily to the framework conditions and not to the content of policy. Once established, as part of the more general strategy of integration, the market will function according to certain recognized rules and principles. SIM serves the general aim of binding the economies of the member countries together, thus increasing their interdependence and contributing to further integration. This also holds true for the proposed single internal energy market. A "common energy policy", on the other hand, building on the common rules and principles of the internal market, constitutes a common *strategy* for achieving particular political as well as economic ends related to energy. Such ends are established through the Community's decision-making process, and the IEM serves as the instrument for implementation. In the wider European context, it seems natural to regard the establishment of a European Energy Community as an aim of common energy policy, which is sought and achieved through the application of IEM principles at the all-European level. To think that the proposed European Energy Community could be based on other principles and rules than those of SIM and IEM seems rather unrealistic. In that case, there would either be two different sets of rules and principles to be observed by the EC member states – which would prove difficult – or there would be no real internal energy market.

According to this view of energy as an integral part of the larger process of integration, the IEM is not an ultimate aim but rather a prerequisite for an effective EC energy policy. It would be misleading to identify it exclusively with deregulation and liberalization. It is a logical and necessary step in the process of constructing an economic and political union. The internal energy market makes up the framework for the transition from several separate national energy markets to a common one. The developing common energy policy decides the content filling this framework.

The Commission's stand is clear. To avoid distorting trade and competition, the energy field has to be integrated in parallel with the internal market generally. As Clive Jones, the Commission's Deputy Director-General for Energy, puts it:

In fact the inescapable logic is that the one must progressively follow the other. Energy policies are, at the end of the day, market interventions, and such interventions by an individual country would obviously risk distorting trade and competition with other Member States. ... None of this means that interventions of this type must be ruled out. What it does mean is that

interventions of this type should in future be decided at Community level and applied equally in all member countries. In that way no unacceptable distortions would be created in trade and competition (1989: 6)

In the same way as the single member states in their energy policies have as their aim to solve problems that the "market" cannot take sufficiently care of, a common EC energy policy is to be seen as joint market interventions on behalf of all the member states with the aim of achieving certain commonly established political ends. Such interventions may be linked to the more general aim of attaining economic and political union as well as to specific aims related to the internal energy market. "Energy policy is never an end in itself: it serves economic policy in general and consumers in particular" (Maniatopoulos 1989: 7).

A prerequisite for a common energy policy is that the member states adjust their national energy policies to Community aims and rules as well as to the continuous political decision-making process at Community level. The demand for adaptation to Community rules also applies to companies, both private and state-owned.

The Commission's longer-term energy programme for the period up to 1995, adopted unanimously by the Council on 25 September 1986, emphasizes the need for increased integration of the energy market, including the abolition of trade barriers, with the end view of increasing security of supply, reducing costs, and strengthening economic competitiveness (Bull. EC 9-86: 61f). As regards future EC energy policy a distinction is made between "sectoral" and "horizontal" aims. The first ones can be realized through coordinated measures at member state level, but the latter ones foresee Community action. Sectoral aims include increasing energy efficiency by 20%; bringing oil consumption down to 40% of total energy consumption; securing stable gas supplies; increasing the share of solid fuel; increasing use of renewable energy sources, etc. Among horizontal aims are the following: completing the internal energy market; setting-up common pricing principles for the whole EC energy market; increasing energy security; developing the Community's external energy relations; environmental safeguarding; regional development as part of energy policy; and energy technology development.

This longer-term program of EC energy policy development was explicitly linked to the single internal market. It was based on the Commission's general view that the energy market should be regulated as far as possible in accordance with SIM principles and in parallel with the development of the latter. Free movement of goods, services, capital and persons should also be secured in the field of energy through the removal of physical, technical, and fiscal barriers.

Competition should be strengthened by establishing price transparency, open access to region-wide gas and electricity grids, open public procurement bids, etc. Economic and political cohesion should be strengthened by making the conditions of competition as equal as possible throughout the Community regarding both energy supply and costs, if necessary by the use of the structural funds and the European Investment Bank.

Community requirements and opposing interests: a gradually changing balance of power

Strong opposition both from certain member states and from companies explains why energy was not included in the White Paper on the internal market. Therefore, the long-term energy programme as well as other Commission proposals in this field lacked a legal basis comparable to those included in the White Paper. Consequently, every directive on energy, therefore, required unanimity in the Council of Ministers – a slow and cumbersome process. In several respects, there has been a coalition of interests between member states and companies against the Commission. British, Dutch, French and German government representatives of course take the interests of their respective home companies into consideration when participating in EC energy decision-making. A full realization of the energy policy aims related to the internal market would mean fundamentally changing the structures of energy relations in Europe, especially regarding discriminatory state regulations and existing monopolistic or quasi-monopolistic practices. This explains the strength of the opposition against including energy as part of the formal internal market proceedings. In the field of natural gas this opposition is more pronounced than elsewhere, as we shall see.

As long as the realization of the internal market remains incomplete in many other sectors as well, the non-inclusion of energy does not seem to make much difference at the practical level. However, this is certainly going to change as a result of and parallel with the entering into force of SIM regulations by the end of 1992. The disturbing effects of an energy sector that does not behave according to the general rules of competition will cause increasing concern at the Community level. The need for greater stringency will probably play into the hands of the Commission. The competence and power of the Commission can consequently be expected to increase through the SIM process. Seen in perspective, therefore, the transfer of general policy-making competence to the Community institutions may become increasingly important in deciding the outcome of the conflict over the inclusion of energy in SIM procedure.

Focus of conflict: natural gas

The main line of conflict in EC energy debate is between the Commission as a proponent of Community regulation on the one side and the gas industry, representing company interests, on the other. The disagreement between the two sides concerns questions of fundamental significance for the future development of the Community. As seen in the perspective of further integration, the outcome of this conflict seems pretty clear: the gas industry will increasingly have to adapt to "the inescapable logic of the internal market".

The gas importing companies are, by and large, supporters of the status quo regarding market regulation. On the Continent they constitute a kind of consortium, or monopsony – providing supply and distribution of gas within their separate geographical areas through their own pipelines on the basis of long-term contracts with companies in the exporting countries. There is almost no direct competition among them. Having an exclusive control over their respective pipelines, they are able to effectively prevent other sellers from entering their markets. Not surprisingly, they therefore have no strong motivation for building an integrated gas grid covering the whole Community area, especially not if third parties should have open access to this grid. They usually keep prices secret. In practice, this means that the companies can adjust their offers of supply in such a way as to maintain relatively high prices. Given the existing competition between exporters, the companies are in a position to pressure the import prices by playing the exporters off against each other. They seem to prefer a gradual and controlled development of their respective markets to a more rapid and substantial increase in import volumes in competitive markets. The importing companies as a rule also have strong interests in other kinds of energy, like oil, coal and nuclear, and for this reason want to secure for them optimal energy balance in the market (P.R. Odell 1989).

In their opposition to the Commission, the big gas importing companies are evidently coordinating their arguments. They maintain that the market functions well as it does; that there is nobody to take over the long-term contracts of supply; that open access or common carriage will reduce the security of supply by making it difficult for the companies to fulfill their obligations towards exporters as well as consumers; that IEM risks reducing the companies to transporters of gas only; and that reduced company strength will primarily benefit the producing countries.

These are all weighty arguments as long as there is no agreement on what kind of system should replace the existing one. However, this is exactly what the debate on IEM and the common energy policy is about. The new IEM system has to be made operable *before* it can take over functions from the importing

companies. Once it is established, however, the final responsibility for securing supplies on a long-term basis will be removed from company level to Community level. The amounts of supply to be made available as well as the framework conditions for establishing contracts would then have to be decided through negotiations between the Commission and the authorities of the exporting countries. This need not at all mean reduced security of supply. The economic or "market" aspects of the contracts could as before be left to the companies, as long as they observe the given IEM framework. Concrete projects and tasks in connection with the interconnection and operation of the EC gas grid could be licensed to the existing companies, in accordance with Community rules of competition. The main difference from present practice would be that the companies would have to subordinate themselves to framework conditions and energy policy aims decided at Community level.

The possible consequences of the Commission's IEM proposals for an exporting country like Norway have to be estimated in light of such expected changes in the internal EC market. As long as the importing companies are the sole contracting partners, the exporting companies in Norway cannot but stick to present practice. But with the implementation of the IEM, the exporting companies will, in dealing with their counterparts in the EC, have to adjust to the new market norms and regulations decided by political EC authorities. This need not turn out to be a constraint, because it might lead to a widening of the markets and a greater demand for natural gas. But it will require a different approach by the exporting companies in estimating market prospects. The main point of orientation will in future necessarily have to be the long-term energy decisions made by Community institutions instead of as earlier by the companies. A question of great significance will be to what extent free access for natural gas to the internal EC market will require the adoption of IEM rules also by the exporting country. Will Norway, the Soviet Union and Algeria be in different or similar positions vis-à-vis the EC market in this respect? These are questions we will return to below. First, an attempt is made to assess the relative power of the Commission in its conflict with the importing companies.

The Commission, in its endeavour to further IEM and CEP, can build on the guidelines and goals that the member governments have already agreed upon for Community development in general and in the field of energy specifically. It can make use of its prerogative of initiative in proposing new guidelines and aims in the fields where it enjoys what is called general competence: investment, energy saving, substitution, energy efficiency, pricing, market stabilizing, and research and development.

Further, the Commission may – even in the absence of formal inclusion of

energy into the IEM—apply Community law in testing energy issues within areas belonging to its sphere of general competence. Such areas are:

- 1) *free circulation of goods and services*, which includes import licences, certificates of origin, barter trade, inventories, restrictions on the use of national services, subsidies to national procurement, price control, technical standards;
- 2) *abolishment of monopolies*: exclusive rights of import and export, distribution and transport rights, free transit (cf. open access/common carriage);
- 3) *competition rules*, according to which both states and companies can be brought before court for having disregarded the general rules of competition
- 4) *state subsidies*, which are in principle to be abolished.

The main obstacle, from the point of view of the Commission, has been that directives and regulations in the field of energy required unanimity. The Commission all the time has wanted to make use of qualified majority voting in matters related to the implementation of IEM. In its opinion, this should preferably take place on the basis of article 100A in the Single European Act, which lays the legal foundation for the creation of the internal market in general. The IEM, which is vital to SIM, belongs therefore in principle to the area of Community competence according to article 100A. Commission spokesmen have threatened to take the Council of Ministers to the Court of Justice if it resists this interpretation (EC Energy 1989(3): 5). Gradually, the Commission has succeeded in making the Council accept majority voting in IEM issues. Although the final decision to bring IEM on line with normal SIM procedure is still pending, there is no reason to doubt that this will be the result of the hard bargaining process that has taken place.

The Commission presented in July 1989 a number of draft proposals for the first phase in the establishment of IEM. During this phase measures should be taken to: increase intra-Community trade in gas and electricity; secure transparency of gas and electricity prices; and secure information and consultation on large-scale investment projects in the energy sector (Energy in Europe 1989, 14: 8–10; “Europe” 1989 no. 5056: 5–7).

Opposition, especially from the gas industry, delayed but did not stop the legislative process. Evidently, progress in the integration process generally tends to strengthen the position of the Commission. By means of deliberate linkages and a step-by-step approach in several fields at the same time, the Commission can utilize its agenda-setting power to gradually achieve its ends.

A breakthrough for IEM

At the internal market meeting of the Council of Ministers on 22 February 1990, "political agreement" was reached concerning a directive on public procurement in the sectors of energy, water, transport and telecommunications. Not only public authorities and public companies but also private companies that enjoy "exclusive or special rights delivered by a competent authority" must open the markets related to their infrastructures, the construction of networks, and supplies in general to Community-wide competition. Contrary to both the Commission's and France's wish, energy supplies were not yet covered by the directive. However, the Council rallied behind the Commission's basic statement that private companies enjoying "monopoly or quasi-monopoly" rights "do not operate in a competitive market", in this way legitimizing a continued effort on the part of the Commission to have also energy supplies included into the directive ("Europe" 1989 no. 5202: 7).

Part of the agreement was the politically important decision to introduce a community preference of 3% over third countries, meaning that a bid from within the Community has to be chosen even if its cost is higher (up to 3%) than a bid from a company outside the EC. This preference rule, however, does not apply to third countries with which the EC has signed reciprocity agreements, bilaterally or multilaterally. Thus, Norway and other EFTA countries – depending on the outcome of the EEA negotiations – will probably not be hit by this 3% preference rule, since reciprocity means that they will have open access to the internal market and be treated like member countries. The other side of the coin is that reciprocity treatment is dependent on the mutual acceptance of the internal market provisions, which also include those of public procurement.

The directive on public procurement was finally adopted by the Council on 17 September 1990. It marks an important step towards IEM. Before it can enter into force – the date foreseen is 1 July 1993 – there has to be a follow-up directive on its implementation. On a request from Norway, the EC agreed to temporarily exclude the topic from the EC/EFTA dialogue on EEA. There was a seemingly well justified fear on the Norwegian side that the British will be granted exemption from the directive, which will consequently work to the disadvantage of Norwegian companies, because the Norwegian shelf will have to be opened up (H.H. Ramm 1990). Certain guarantees against discrimination seem necessary before Norway will consent to having energy included into an EEA agreement.

A further important step towards IEM was taken on 25 October 1990, when the transit directives on electricity and natural gas were approved, the first one

definitely, the latter one to be finalized and adopted by a forthcoming meeting (which took place on 20 December 1990). It is noteworthy that the directive on natural gas was passed by a qualified majority decision (Denmark, Germany and the Netherlands abstaining), which in practice means that SIM procedure has also been adopted in IEM matters ("Europe" 1990 no. 5360: 7).

The arguments listed for the adoption of the directive can be summarized. To reach the aim of the SIM there must be a greater integration of the European energy market, of which natural gas is an essential component. The objective of the internal gas market is to ensure greater profitability and security of supply by freer trade. Security of gas supply would be improved and costs reduced by coordinating the building and operation of the interconnections required for such trade. To make it possible to coordinate the necessary investments, steps undertaken in the direction of exchange of natural gas between high-pressure transmission grids should be systematically known to the Commission. Obstacles to greater trade between grids are to be reduced by making the transit of natural gas through grids compulsory and enforced by an appropriate system for monitoring compliance with this obligation in accordance with Community competition rules. To achieve satisfactory competitive conditions, it is deemed necessary to approximate legislative, regulatory or administrative provisions introduced by member states in a way that secures the most transparent procedural framework for the formulation of transmission agreements. Complementary provisions could, if necessary, be decided by the Council of Ministers, without prejudice to the Commission's own powers. Special infrastructure measures would, for instance, help to accelerate the linking-up of outlying areas and islands in the Community to the interconnected grid. Because this grid extends over a geographical area which does not coincide with the Community's frontiers, there would obviously be an advantage in seeking cooperation with third countries involved in the interconnected European network.

The all-European Energy Community as a geographically more encompassing IEM?

The gas transit directive in practice links the internal market – both SIM and IEM – aspects to the broader European aims of integration and cooperation. It is no mere coincidence that this directive was adopted just a couple of weeks before Jacques Delors, on behalf of the Community, made his proposals to the CSCE on the European Energy Community. Development in Central and Eastern Europe – not least in the Soviet Union – had made it urgent for the

Community to develop its energy policy as an instrument of its broader European approach.

Among the "third countries" mentioned, Norway and the Soviet Union, as gas suppliers, are both of particular relevance to the EC, although their political positions are different. It follows logically from what has been said about the Community's EEC approach, that energy relations between the EC and both these countries have to be seen in the context of the wider European integration process. It is above all in this respect that their positions are different.

Norway, as an EFTA country, will have to build its energy relations with the EC on the results of the EEA negotiations. The Commission's view, which was made clear at the meeting on 25 October 1990, is that the transit directives on electricity and gas are to be treated as part of the "acquis communautaire" for the free movement of goods and that they will be included in the EEA arrangement being negotiated. In the same way that EFTA countries will be part of SIM, they will also be part of IEM.

To have Norway formally included in the internal energy market might have significance for the EC in view of the challenge posed by the Soviet Union as a potential partner of the wider European Energy Community. In case such an European Energy Community is established, this will probably mean a still further extension of the "acquis communautaire" in the IEM sector to cover also the Soviet Union (or maybe in the future: Russia). Whereas for Norway the adoption of IEM principles would be in accordance with its adaptation to SIM in general in the framework of the Single Economic Area, for the Soviet Union participation in an all-European Energy Community based on the principles of the internal energy market would mean a significant step towards realizing the aim of being integrated into the Western economy, and in the vital energy sector at that.

The Soviet Union being a more important long-term energy supplier to the Community than Norway, there is little reason to expect that in a European Energy Community Norway will enjoy an EC market preference over the Soviet Union, although the frame of reference might differ. For instance, while for Norway the application of the transit directive might follow from adopting an EEA treaty, for the Soviet Union the terms of trade would probably be based on an agreement related to the establishment of the wider European Energy Community. The point to be stressed is that SIM and IEM principles and rules will be decisive for both EEA and this wider energy community.

This probably means that both Norway and the Soviet Union, for all practical purposes, will have to operate in a future European Energy Community on the basis of common IEM rules in the same way as the Netherlands and the U.K. But again, it seems necessary to underline the distinction between energy

market and energy policy. While the market conditions would probably apply to all participants in the wider energy community in an indiscriminatory way, the participation in energy policy decision-making would differ according to their formal status in relation to the centre of the European integration process, namely the EC: either full EC membership, association through EEA, or energy community participation only. Through EEA, Norway will probably have a more direct influence on EC energy policy-making than will be granted the Soviet Union through the wider energy community. However, only full EC membership can guarantee formal influence in this context (Stern 1990). To a great extent, therefore, the relative positions of Norway and the Soviet Union regarding real influence on EC energy policy seem to depend on how the European Energy Community will be structured. The proposal for such a community is an expression of the great weight the EC attaches to the relationship with the Soviet Union, not only in the field of energy but generally. This fact makes it of vital importance also for Norway.

Norway: what conclusions can be drawn?

Through its general policy of adaptation to the single internal market, Norway is also adapting to the internal energy market, which, as already discussed, is increasingly becoming part of SIM. As regards trade with petroleum and petroleum products, public procurement, open access to pipelines, technical standards, pricing, etc., Norway, as a general rule, will have to adopt IEM regulations on the basis of reciprocity or risk being discriminated against in the internal EC market.

A European Economic Area (EEA) agreement will, as shown, incorporate practically speaking all basic internal market provisions, including energy. Because of this, the question of EC membership or not for Norway does not seem to make any significant difference as far as participation in the energy market is concerned. In the framework of the EEA, both Norway as a state and Norwegian companies, state and private alike, will in all probability have to observe IEM rules and regulations on a par with member countries. The contracts that Norwegian sellers enter into with importing companies in the EC will have to be in accordance with IEM provisions regarding transport, price transparency, technical standards, and environmental requirements. The IEM framework will determine obligations as well as opportunities for all market participants concerned.

The most significant difference, therefore, between being and not being a member of the EC, relates not primarily to existing market conditions but to

policy-making for the future. Formally, Norway and other non-member participants in the energy market will not be granted an equal right to take part in the CEP process, which both links IEM to the wider integration process and lays down policy strategies to be followed in order to achieve energy policy aims, internally as well as externally.

For Norway as a non-member, being one of the Community's main suppliers of energy, the effectiveness of its energy policy – and above all in the petroleum field – will depend very much on its ability to take properly into account this interrelationship between energy market and energy policy in the context of the Community process in general. As a consequence of a heightened level of integration, the role of both member states and companies in the energy policy context will logically be further reduced in favour of supranational decision-making procedures. In accordance with generally applied Community principles, it will probably continue to be the member states that take decisions on the further development of IEM as well as on the content of the common energy policy. But they will increasingly do so on the basis of majority voting. Companies will have to adjust to framework conditions as adopted by the governments and implemented by the Commission through supranational Community institutions.

To be able to tackle this challenge effectively, it seems especially important for Norway to establish as direct and effective channels of communication as possible to the EC centre of decision-making. To accomplish this, Norwegian energy authorities, in cooperation with the companies, will have to develop a long-term approach towards the EC in order to compensate for the lack of formal participation in IEM and the common energy policy decision-making. Because Norway is the only gas exporting country in EFTA, an EEA agreement will be of little practical value for Norway as a negotiation or policy instrument, beyond legitimizing a more active engagement on the part of Norwegian political authorities in trying to influence EC energy policy-making. The Lubbers plan for an EEC calls for such an engagement.

Traditionally, Norwegian authorities have left it to the companies – in the first place Statoil – to negotiate contracts with importing companies in the EC on “commercial terms”, without any regard to IEM and common energy policy perspectives. This practice will probably no longer be sufficient. In a situation where the importing companies in the EC have to adjust to guidelines of IEM and the common energy policy as decided by the Council of Ministers and administered by the Commission, it would no doubt be advisable for the Norwegian government to have a continuing dialogue on IEM and energy policy questions with the Commission as well as with member countries concerned. This is already an established practice within the EC. For Norwegian authorities

just to await the outcome of the EC deliberations, in the expectation that remaining issues will be solved by "market" forces, would place Norwegian companies at a disadvantage vis-à-vis their counterparts in the EC, letting the latter act as "translators" and implementors of the new "rules of the market". As long as the Norwegian exporting companies are thus onesidedly dependent on their contracting partners in the EC, they are effectively prevented from taking initiatives of their own concerning future IEM and energy policy developments. This existing imbalance can of course be fully redressed only through Norwegian EC membership. It could, however, at least to some extent be counteracted by a deliberate joint strategy by Norwegian political authorities and Norwegian exporting companies in approaching the Commission. Future Norwegian oil and gas interests will in any case be strongly dependent on the internal EC energy market. As the most important oil and gas exporter in Western Europe, Norway should logically profit from having the market opened for free competition within the EEA as a whole, which is what the Commission wants. The existing practice of relying on the quasi-monopolist company structure is rapidly losing ground parallel with the implementation of the IEM directives.

The adaptation to the single internal market in general is in itself a process of great importance for all EFTA countries, economically as well as politically. For Norway, the character of IEM adaptation is especially important because of the predominance of petroleum in the Norwegian economy. With regard to the common energy policy in the EC as well as to the proposed European Energy Community there are vital Norwegian interests to be taken care of: increased use of gas, transport arrangements, extension of existing gas grids to new markets, energy cooperation with the Soviet Union, etc. To try to influence future EC energy policy in such a way as to take Norwegian energy policy interests into account, and to communicate insights regarding IEM and energy policy developments to the Norwegian companies, are tasks that clearly ought to be taken seriously by the Norwegian government.

The fact that Norway is the most important energy exporting country in Western Europe, also makes it into an interesting dialogue partner for the Community in this field, thus increasing its possibility for exerting influence. For instance, the Commission has for several years advocated a "frontrunner" role on the part of Norway in the construction of an interconnected, continent-wide gas grid (Energy in Europe 1988, 10: 45). There is also every reason to believe that the Commission would like to have Norway – even as a non-member – as an active partner in the build-up of the wider European Energy Community. A dialogue with the Commission on the increased use of natural gas would also be likely to give Norway a greater *de facto* influence on the development of European environmental policy-making. As one of the most important energy

exporters in Europe, Norway can be said to have a special responsibility in pursuing an energy policy which takes appropriate account of long-term environmental consequences.

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Major Challenges Facing Norway as a Gas Producer

By Terje Vareberg

The gas market has gone through several phases of development. The future offers many challenges to a large gas producer like Norway. Let me give you some examples of these challenges. Is the market going to expand in line with the growing expectations in the gas industry? At what prices will the suppliers be able to meet increasing demand? How will the demand for gas be affected by increasing environmental concern? What will be the future level of gas sales from the Norwegian continental shelf? What will the Norwegian supply portfolio look like during the next 10–15 years? I cannot of course give you a definite answer to these questions, but I can make some reflections.

Outlook for the European gas market

A few years back, very few people believed in the idea of a flourishing demand for natural gas. The view was, as we all recall, that the market would grow slowly, if at all. Now it seems to me that there is a growing consensus among the analysts in the gas business and high growth demand scenarios are advocated with such strength that a gas supplier's heart begins to glow with joy.

For my own part I will add that the greater the consensus about future developments, the greater the need for scepticism. My central belief about high growth demand predictions is that over a longer period markets cannot be out of line with economic fundamentals. This is because strong forces, driving the market in a certain direction, will always create counterforces in order to push the overall economic conditions back towards equilibrium.

However, a number of fundamental developments are in fact now driving up the demand for natural gas. One of them is the prospect for sound economic growth. This is driven by greater geopolitical cooperation and coordination of macroeconomic developments both *within* regions (EC) and *between* regions (EC/EFTA, EC/U.S.A., EC/U.S.S.R., Japan, etc.).

Another development is increasing environmental awareness: people want cleaner fuels. In addition, more and more countries are putting a higher value on diversification of energy supply and these countries are considering natural gas as a part of this diversification. Economic and environmental considerations both point the way to a greater use of natural gas in power generation. Finally, developments in Eastern Europe emphasize the need for cleaner fuels and diversified energy supply.

Demand projections based on these driving forces are always uncertain, because every driving force contains its own counterforce. Let me give you some examples.

Conditions for economic growth, the basic determinant of growth in energy demand, could be eroded by any setbacks in the political cooperation we see today. Also, unfavourable developments in the US economy might have a negative effect on economic growth in Europe. Technological breakthroughs could reduce natural gas's environmental and cost advantage. For example, existing energy might be used more efficiently or the costs of cleaning alternative fuels might be reduced, or both. Disruptions in gas supply, from any one supplier, could easily damage the image of natural gas as a secure and reliable source of energy.

Figure 1 shows a rather modest growth in the demand for natural gas, indicating a level of 350 BCM/year in Western Europe by the year 2010. Some people believe the demand will be as high as 400–450 BCM. The graph also illustrates that there is a genuine need to contract for additional volumes after the turn of the century in Western Europe. The demand for additional volumes in Eastern Europe will come on top of this.

This brings me to the one other prerequisite for growth in the gas market: producers need to find it economically viable to make more gas available for the market. Basic to their decisions are expectations about future prices and the ability of sellers and buyers to enter into long-term commitments. The challenge for any producer will be to find gas, develop projects and establish concepts that make both supplier and buyer confident about the future.

Going back to my question of whether present expectations regarding gas demand will be fulfilled, I do believe some of the counterforces I mentioned will be activated. This will shift the optimism towards realism. However, I also believe that the forces related to environmental concern and the need for change

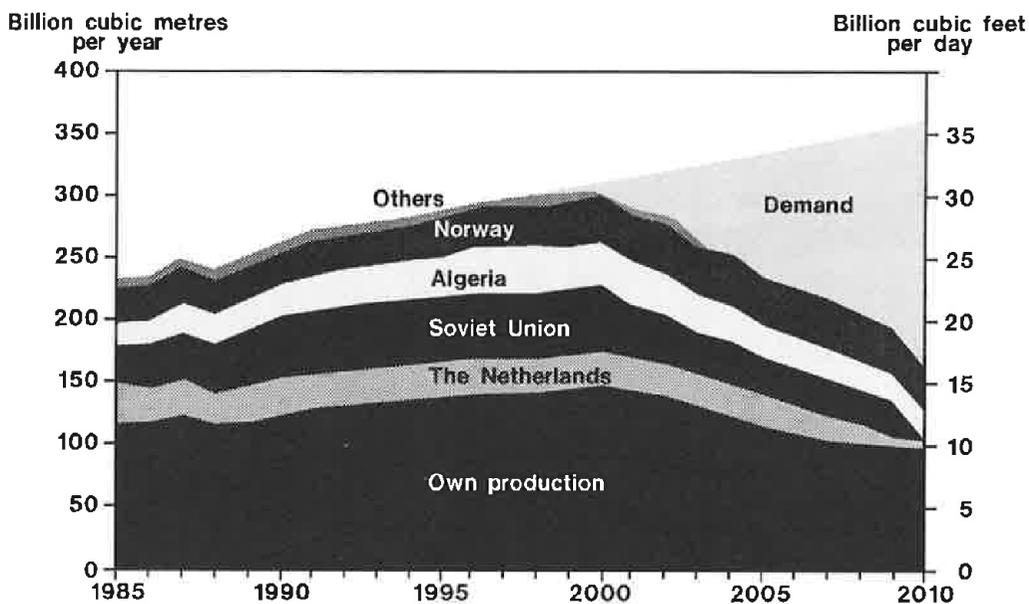


Fig. 1. Supply and demand balance, Western Europe.

in the energy-mix are very strong. Therefore I support the view that there will be a substantial growth in demand for natural gas.

Prices

I think the price level of natural gas will be the key element in deciding the future consumption of natural gas. Many of the present optimistic forecasts of gas demand are based on relatively low oil prices. To realize even modest market development, heavy investments would need to be made both upstream and downstream. The question is whether new supply projects will be profitable at current gas prices. There are two aspects to this; the oil price itself and the relationship between it and the gas price.

The gas industry can do little about the oil price, except talk about it. The relationship between the price of oil and the price of gas must, however, be clear in our minds. Increased environmental concern is one factor which will allow an increase in the gas price, while maintaining the competitiveness of natural gas in the end user market. In my opinion the present relationship between oil and gas

prices does not fully reflect the excellent properties of natural gas. This is a great challenge for the gas industry.

The environmental challenge

The role of energy in regional and global development is increasing, and the environmental challenge is ever present as a major concern. And yet, when it comes to fundamental goals like sustainable economic development, energy has never been more important.

In my opinion there are three main challenges facing an environmentally concerned energy scene: First, energy must be used as efficiently as possible. The added value of each unit of energy used must increase. Secondly, energy must be available. Interruptions in energy supply, for political, organizational or technological reasons must be avoided. And third, our pattern of energy consumption needs to change, so as to reflect our concern for the environment.

One way of improving our environment would be to increase our use of natural gas, at the expense of heavy fuels like oil and coal. Natural gas pollutes far less than these fuels. Not only is the emission of CO₂ lower when burning gas but natural gas has an even bigger advantage when it comes to the damaging elements NO_x and SO₂.

The challenge is to find the right incentives to promote changes that will benefit the environment. Responsibility for meeting the challenge and finding these incentives rests primarily with the international community and with various governments. The contribution of the industry must be to find cost-effective solutions, and develop technology to move the limits of what is economically and technically feasible.

One way of shifting the energy mix towards cleaner energy sources is to levy taxes on polluting sources. However, to be able to bring about increased use of natural gas, for example, one also has to stimulate the supply side. Part of the benefit of increased use of clean fuel should go to the producer. If importing countries want to encourage the use of natural gas by introducing taxes, the tax system should not just be used as a fiscal instrument.

A specific concern about possible increased use of Norwegian natural gas, is that increased production causes increased CO₂ emissions from Norway. If heavy taxes are levied on this production the supply of natural gas from Norway may be reduced. The possibility of increasing European use of clean Norwegian energy will then also be reduced. In a global context, this cannot be the objective. We must find other incentives. I believe that the international system will contribute to this, and that the next generation of international agreements

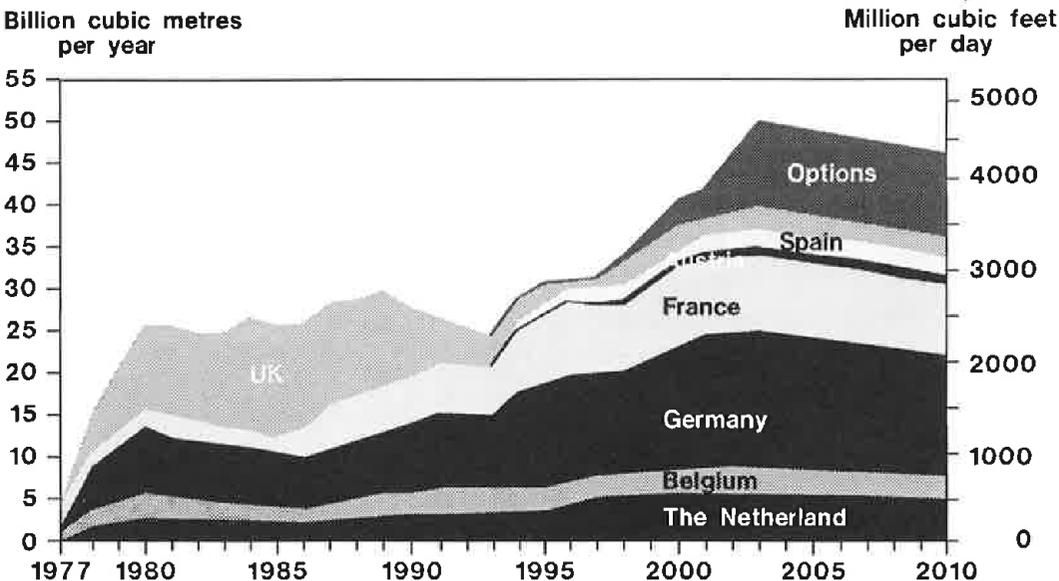


Fig. 2. Present commitments by country, including Troll options.

will give incentives to a more efficient and environmentally sound use of energy resources.

Norway's position as a natural gas exporter

What then is Norway's role in this challenging energy scene? Norway's abundance of energy implies that we are able to *export* most of our production of oil and natural gas. When it comes to natural gas, present deliveries are high and future commitments are considerable.

Figure 2 shows our present commitments to each country, including the Troll options. In 1990 natural gas exports amounted to 26.5 BCM. In 2005 our commitments will amount to around 47 BCM. This figure is based on our present portfolio of contracts and the remaining options under the Troll agreements. It is important to note that the main part of the 47 BCM will come from fields not yet in operation. Five large projects will have to be completed between 1993 and 1996 in order to fulfil existing commitments under these contracts.

The Sleipner Øst field will be the first to deliver gas under the Troll contracts. The field will produce condensate and dry gas, and be in operation when the first gas molecules under the Troll-agreements reach the Continent on October 1, 1993.

The Sleipner Condensate Pipeline will also be in operation in 1993, bringing the condensate from the Sleipner Øst platform to Kårstø.

The Zeepipe transportation system, from Sleipner and later from Troll, will be in operation by October 1, 1993. This pipeline will bring Troll gas to the market in France, Belgium and Spain. The volumes to Germany, the Netherlands and Austria will be transported in Norpipe for the first two years.

The Europipe transportation system will be in operation by 1995. By then, Norpipe will not be able to handle all the Troll volumes to Germany, the Netherlands and Austria. The new pipeline will start at the riser platform in the Statpipe system (16/11-S) and will be landed in Germany. Landing a pipeline in northern Germany means that we will have to pass through environmentally sensitive areas. Statoil has evaluated several rights-of-way and landfall areas in cooperation with the German authorities, to find the best solution. While we are laying the pipeline we will work as hard as possible to reduce potential environmental effects.

The fifth large project, *Troll* itself, is scheduled to deliver gas to the Continent from October 1, 1996. The Troll field, with its large reserve base, long production period and high production level, is the basis for all the new gas sales.

Between 1993 and 1996 we will see the start-up of new projects on the Norwegian continental shelf that – at plateau – will increase production capacity by around 30 BCM. Transport capacity will initially be increased by 24 BCM, with a potential for further increase by installing compression. Needless to say, completing these five projects between 1993 and 1996 is a huge challenge for Norway. The total investment is more than 60 billion NOK, which is a very large amount for our country. The organizing and developing of these projects require the utmost both of the operators and of the contracting companies at all levels.

When the new fields and pipelines are built, we will have a large, integrated infrastructure supporting natural gas production and deliveries from the Norwegian continental shelf.

Three pipeline systems will bring Norwegian natural gas to the Continent; Norpipe/Statpipe, Zeepipe and Europipe. What is important is that the three pipeline systems will be connected. The flexibility this gives will help both the producers and their customers. The total ability of the three pipelines will initially be 42 BCM a year. By adding compression we can increase this to about 60 BCM. In addition to this capacity to deliver to the Continent, the Frigg pipeline can by itself transport around 10 BCM a year to the U.K.

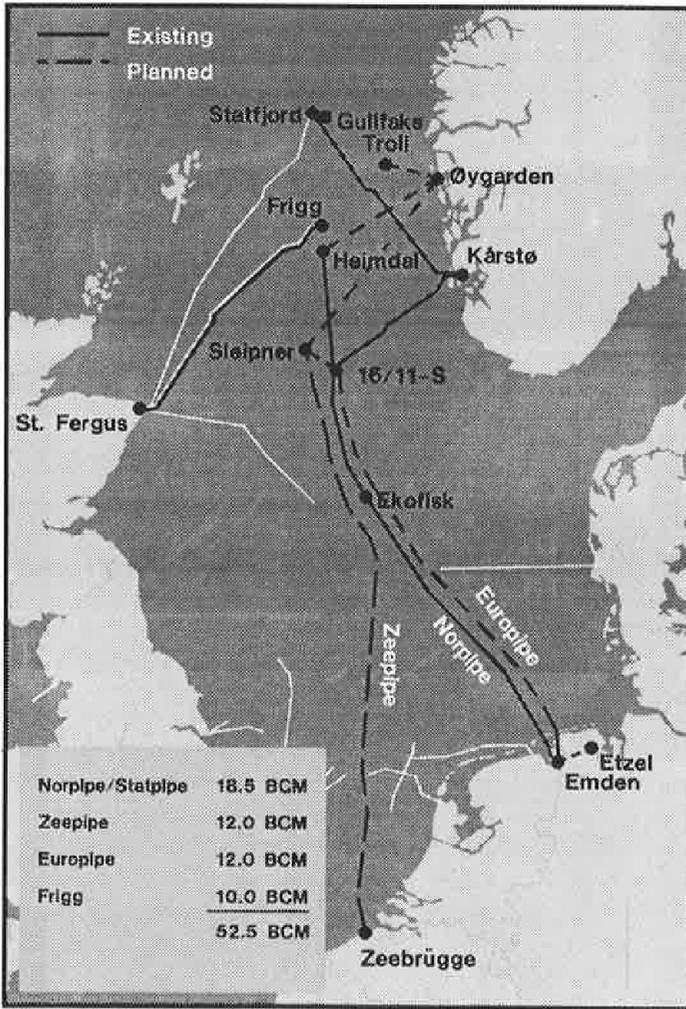


Fig. 3. Field and transportation systems NCS.

The Sleipner Øst and the Troll field, and several oil fields with associated gas, will be connected to the three pipelines to the Continent. So far, only the Frigg area is connected to the U.K. via the Frigg pipeline. However, the rest of the infrastructure can easily be connected to the Frigg pipeline, for instance through

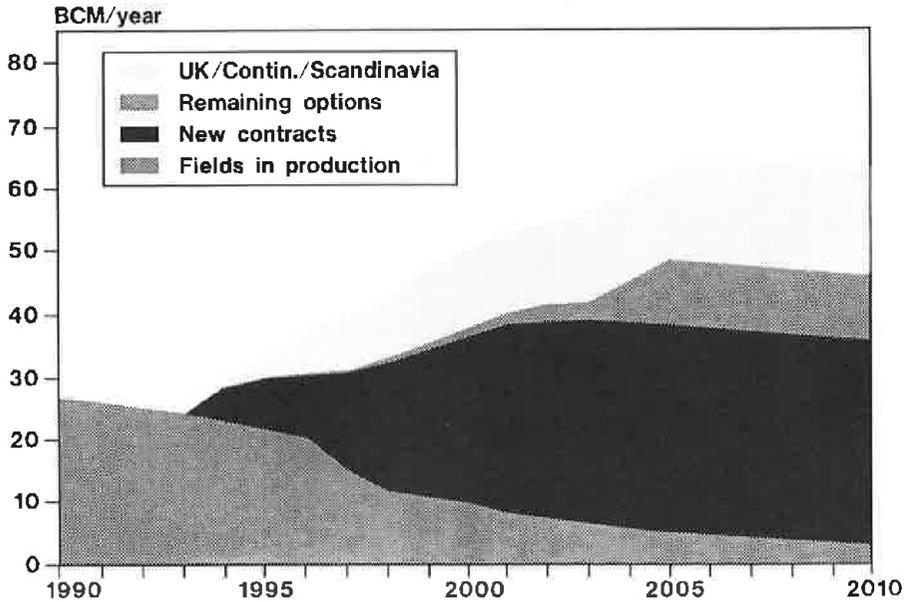


Fig. 4. Possible new volumes (including present commitments).

a pipeline to Heimdal. This large, integrated infrastructure underlines Norway's position as a reliable, long-term supplier of natural gas to Europe.

Additional sales volumes

What then would be an appropriate level of Norwegian gas sales after the turn of the century? Adding possible new volumes of 15 to 20 BCM per year to the present commitments, we will reach a yearly level of 60 to 65 BCM by 2005.

This is a scenario which is feasible when looking at proven reserves and matured fields. However, there may be some economic constraints, depending on commercial conditions. A level of 60 to 65 BCM after the turn of the century is an ambitious one. Why?

First, because the investments needed in fields and infrastructure are very large; more than 100 billion NOK in addition to the 60 billion NOK mentioned earlier. Secondly because the projects will require very intense construction activity. We also have to remember that offshore development projects have a long lead time.

I must emphasize that increasing sales is a *dynamic* process. Achieving additional sales of 15 to 20 BCM should therefore *not* be regarded as a goal or as a fixed number, but as a natural production level, given the right conditions.

Another scenario could be deliveries of up to 80 BCM per year. With a *static* approach we could have a supply problem, because the present number of mature projects will not allow for such a high level of production. However, in a dynamic process the commercial terms will decide how exploration activity and the maturing of fields are to be encouraged. If the prices are high enough, the possible supply will increase. The perception of future gas prices is thus a dominant factor in deciding the future level of Norwegian gas production.

Possible markets for additional Norwegian gas volumes are the U.K., Eastern Europe, increased deliveries to existing markets, the Nordic market and Southern Europe/Northern America via LNG.

The main criterion for selecting markets for new volumes is of course profitability. Transport distance and net-back to the producer is therefore of vital importance. But it is not only the gas buyers that want to diversify their portfolios. A large gas producer also sees benefits in diversification when it comes to customers, and when it comes to price and flexibility concepts. When discussing future levels of natural gas production and the selection of markets, a producer like Statoil is also concerned with possible structural changes that may have substantial effect on the market.

Integration of energy in the Single European Market process is causing intense discussions between the actors involved. Some believe integration will make the market work better. Others are afraid that it may have a negative effect. I believe integration throughout the gas chain is an important factor in keeping the unit cost down, and that this will make natural gas competitive in the end user market. This is even more important when there is a general desire to increase the share of natural gas in the energy mix. The cost must be kept down to secure a sufficiently high enough net-back so that we can increase supply.

A market for natural gas is not something that just pops up. It has to be developed by actors with a long-term view who are willing to invest in the infrastructure needed and in developing the market. Producers like Norway, with large investments in long-term projects, are dependent on customers who can develop the market in a professional way. Likewise the customers must be able to undertake long-term take or pay commitments. I am concerned that we may in the future see regulations which reduce the gas industry's ability to operate in a cost-effective way and with a long-term view.

The long-term security of supply is a basic concern in Prime Minister Lubbers's initiative in the direction of greater energy cooperation. Increased dialogue between energy producing and energy consuming countries will in-

crease security of supply. If it is possible to reach agreements that will increase the industry's ability to take on long-term commitments, I believe the gas industry will support the development of such cooperation.

Organizing natural gas activities

For a large gas producer it is a challenge to organize gas activities in accordance with both production and market needs. For Norway the following three elements form an important basis for discussion. First, the way activities are organized on the Norwegian Continental Shelf in general. Secondly, high cost producers need to be cost-effective and thirdly they need to be able to respond to the market in a changing world.

The Norwegian system has some characteristics which always play a part in natural gas activities. Several companies are invited to participate in each production licence and the companies differ from one field to another. In order to make investment decisions, close cooperation between the partners in a licence is necessary to ensure the sale of production capacity in a coordinated manner. If sales contracts require deliveries from more than one field, close cooperation *between* licencees is also needed.

So we can see that coordination between companies and between production licencees is necessary to meet sales commitments. Investments in natural gas production offshore are normally so large that the industry are not able to make such investments until the natural gas has been contracted.

To make Norwegian natural gas a profitable business, we have got to focus on cost-effectiveness. Also, efficient use of the infrastructure is crucial. Both the design and the utilization of fields and of transport systems have to be coordinated if we are to keep unit costs down.

Looking at the market, the producer has to fulfil different requirements. Some customers demand large long-term supply contracts, others require more limited quantities. If Norwegian producers are to be market responsive, we have to coordinate ourselves. Very few Norwegian fields, except Troll, can offer 20-year contracts on their own. Some fields need modulating services from other fields in order to deliver a marketable production profile. Through coordination and use of integrated transport systems, Norwegian gas producers can increase the ability to be market responsive. The need for coordination in marketing Norwegian natural gas is thus a result of the need to coordinate upstream relationships.

Organizing gas sales activities through the GFU – the gas negotiating committee – is only one part of our integrated natural gas activity. We can divide

this integration into a physical part and a commercial part. The *physical* integration of fields and transportation systems is necessary to keep unit costs down, and enables Norway to be a more flexible, reliable and market responsive supplier of natural gas.

It is a challenge to get the most out of these physical possibilities. Since there are many different participants on different fields and transportation systems, and since there is no direct relation between the fields and the sales contracts, there is a need for *commercial* integration. This integration can be seen in three parts; the GFU, the process of allocating fields to contracts and the Troll Commercial Model.

The GFU markets no source specific gas. In most cases it is not appropriate to specify deliveries in advance. The optimum field portfolio, with the lowest cost, may well imply that more than one field and contract should be combined. The objective of *the allocation process* is to find the best combination of fields and contracts. It is impossible to find solutions that will be supported by all companies. However, the process does imply discussion between all the interested parties and I believe this gives the authorities a good basis for their decisions.

Figure 5 shows us a possible allocation solution for a production level of 60–65 BCM/year. It illustrates the complexity of the allocation process, since a number of fields are involved. Also it shows us that even if Troll is the basis of our present contracts, several fields are needed if we are to increase the supply substantially.

The third element in commercial integration is the *Troll Commercial Model*. This concept forms the *contractual* link between the fields and the contracts. Without such a link it would be difficult to decide which field should get the income from which contract or how the transportation costs should be allocated between the companies.

The Troll Commercial Model implies that all fields delivering gas under the contracts allocated to this system will get an *average* gas price and be charged an *average* transportation cost. Associated fields will under this concept have an outlet for their gas. The Troll field will act as a sort of swing producer, receiving a compensation from the producers of associated gas.

This combination of the physical integration, the GFU, the allocation process and the Troll Commercial Model is in my opinion an adequate way of organizing the gas activities in Norway. But it is important to have a flexible system, and when the time comes we will have to develop our system further. We do see a market that is changing. The challenge is to develop our market activities in line with these changes.

I would like to summarize my reflections on the Norwegian Natural Gas Challenges. First of all, we believe the market for natural gas will grow and that

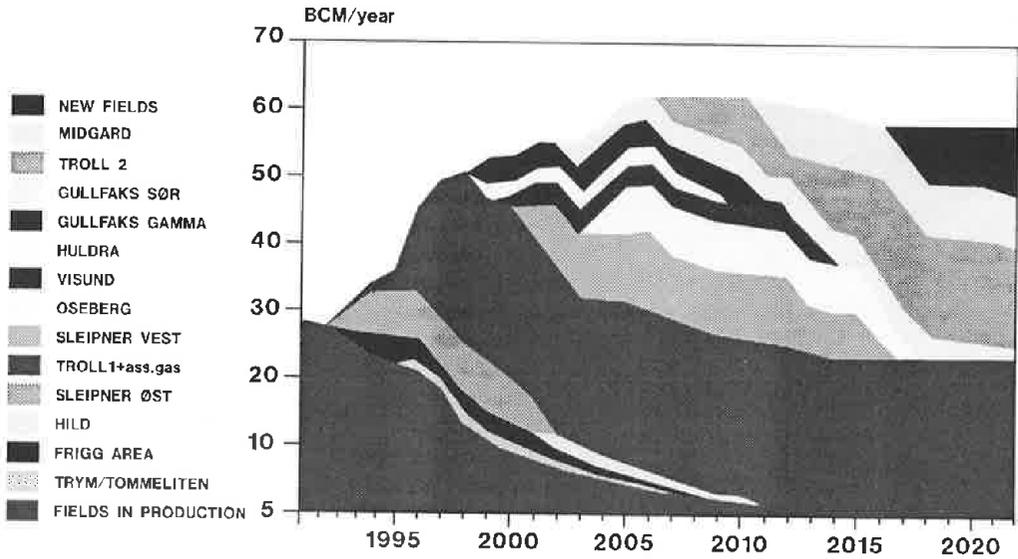


Fig. 5. A possible field portfolio.

there is a real need to contract new volumes, especially after the turn of the century. If part of this growth is to be supplied by new volumes from Norway, we have to come up with concepts that secure the producer a sufficiently high price. Within the timeframe up to the year 2005 it is difficult to foresee a Norwegian production level above 60–65 BCM per year. Additional sales volumes beyond the present commitments will probably be limited to 15–20 BCM. When deciding priorities between different sales opportunities, the net-back for the producer will be a crucial factor in the decision.

The Open Access Issue: A Gas Producer's Perspective

By Ole Gunnar Austvik

Today, the European Community purchases 100 per cent of Norwegian gas exports. Obviously, the arrangements in the market will be of the greatest importance for gas export revenues. Access to the pipelines, and the tariffs charged for using them, are crucial elements for Norwegian gas sales. Transportation through third-party countries is necessary in order to reach markets in non-neighbouring countries.

This article will discuss the economics of natural gas pipelines and the regulation objectives and problems in connection with the introduction of the Single Market in the EC. The goals of the EC regulations and alternative means to reach them will be reviewed. Questions on how regulative attempts may function in the Western European gas market structure will be analysed. A central focus of the article is to analyse which interests a gas producing country, like Norway, may have in various transmission regimes in Europe.

Introduction

The introduction of the European Single Market assumes free movement of labour, capital, goods and services. In the gas market, the Commission has focussed on the role of transmission companies. The reason for this is that they consider there are so few actors in the market that they characterize it as dominated by monopolies.

The biggest barriers to the free movement of gas in Europe are government control of natural gas imports and exports and undertakings holding a

monopoly or dominant position enabling them to block movements of natural gas (EC Commission Working Document May 1988: "The Internal Energy Market")

Thus, the Commission is concerned with the high degree of power concentration not only in the transmission sector, but also among export and import undertakings. Regarding the transmission lines the Commission stresses that:

Transport of gas in the Member States is characterized by the existence of statutory or de facto monopolies in the market place. Only in West Germany there are a number of actors but even here there is only one dominant transport enterprise... The presence of dominant or monopoly transmission undertakings in each Member State gives rise to segmentation of the Community market; these undertakings can restrict the through transport of gas and even, when no specific legislation exists, can block the import and export of gas.

On the basis of this description of today's situation, the Commission has been considering the introduction of an Open Access system, perhaps Common Carriage, for pipeline transportation of natural gas. Such a system should give access to everybody wanting to use it. The pipeline can charge a tariff covering its expenses and normal profits, but they cannot charge tariffs including economic profit (profit exceeding normal profit). The Commission has assumed that a larger, cheaper (for the customers) and more flexible gas network has the potential to increase the attraction of natural gas for consumers. Security of supply can be increased, as well as consumption, and efficiency promoted by removing what they call "bottlenecks" in the system. Obviously, this type of regulation will be of decisive interest to any seller in the market.

From producer to consumer: the issue of transportation

Natural gas has to pass three or four main stages from leaving the reservoir in the ground until it reaches its final user. Those providing these services are partly independent actors, partly horizontally and/or vertically integrated with each other.

a) The *producer* is usually the *gas owner* or *licensee* that extracts the gas from the ground. It does not need to be the owner of the ground itself. Example: On the Norwegian continental shelf, the Government owns the ground, while the rights to explore gas are given to different companies. Often several firms are producers of one field. One of these represents the others as *operator*.

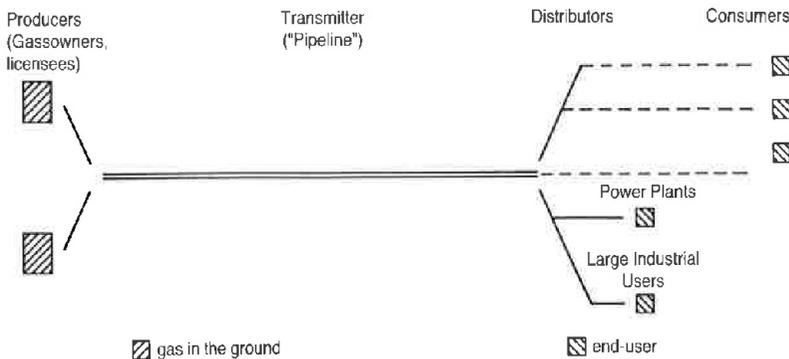


Fig. 1. Natural gas: from producer to consumer.

b) The *transmitter*, or the *pipeline*, transports gas from the area of production to the area of consumption. The pipes connecting various fields of production are generally part of the production sector. The gas may often pass through several pipelines on its way to the final consumer. Often there is only one route, or very few routes to choose from.

c) The *distributor* brings gas from the end of the pipeline to the final consumers. A distribution system requires heavy investment in infrastructure in towns, industry and homes. This contributes in making consumers rather rigid in their demand for natural gas with low elasticities of demand with respect to prices in the short and medium term.

d) The *consumer* is the final user of the gas. There are 3 main areas of consumption of gas in Western Europe. The *residential* sector has over the last couple of decades represented almost all the growth in the market. In 1987 it accounted for about half of total consumption or 104 million tonnes of oil equivalents (mtoe). The second largest user is *industry*, representing some one third (70 mtoe) of total consumption in 1987. Industrial use of natural gas has grown very little over the last decade. The third main user group is *power production*. Power plants reduced their demand by some 16 per cent over a decade and represented 13 per cent of total gas consumption in 1987 (27 mtoe). In the last few years, it seems that natural gas may regain its use in power production. The power plants and the industrial users get their gas partly from the pipelines and partly from distribution companies, while the residential sector gets gas from distribution companies alone.

As the EC Commission describes above, each stage of the market is characterized by a strong concentration of firms, often monopolies. Thus, not only the pipeline can exercise monopoly power; the producers and distributors may also, to a variable extent, do so. In Western Europe, inelasticities both in the supply and demand for gas and transportation services give each of the actors the possibility to influence profits and risks if they have a sufficiently strong position in the market. This is in contrast to the U.S. gas market, a market which is characterized by thousands of producers and numerous distributors.¹

Today, Norwegian gas is, for the most part, sold to the transmission companies on the Continent. These pipelines are in their turn selling the gas to distributors, power plants and large industrial users. Each of these contracts involve huge volumes and long-term stability for Norway. But Norway has also experienced difficulties with this way of selling gas. In 1986, when a 1 billion cubic metres (BCM) contract with Austria was signed, the German transmission company, which physically can transport the gas from Emden to the Austrian border, refused to do so. Instead, it expressed willingness to buy the gas from Norway and resell it to the Austrians. This has also become the solution to the problem, as the situation demonstrates that it is not enough for a gas producer to have a buyer. In fact, the transportation issue may be a bottleneck to such an extent that a contract can be blocked. But in some instances, third-country transmission arrangements have been easier agreed upon than in the Norwegian/German/Austrian example (e.g. in the case of Norwegian gas to France and Spain).

Transmission systems in Western Europe

The geographical position of markets relative to production areas has given the grid in Western Europe some particular features. In the period from 1975 to 1985, it doubled its transportation capacity in the EC alone.² The EC countries are now integrated in a network in such a way that gas can be moved between most of the member countries. But some countries have to go through a third country in order to do this. There is, for example, no direct connection between Belgium and Western Germany, nor between France and Italy or France and Spain. Similarly, there is no connection between the U.K. and the Continent, but the U.K. is connected to Norwegian gas through the Frigg pipelines to St. Fergus in Scotland. Neither is there any connection between the Norwegian fields and the virgin markets in Sweden and Denmark. And even though Soviet gas is supplying the entire Finnish market, no pipeline has so far been connected



Fig. 2. Pipeline transmission systems in Europe.

to the rest of Scandinavia. Three countries, Portugal, Greece and Norway, do not consume any gas, though all have plans to do so in the future.

Three main transportation routes have been constructed from the four major producing areas (Siberia, North Sea, North Africa and the Netherlands), to continental consumers.

The North-to-South grid: This network transports gas from the North Sea and the Netherlands to the Continent. The Norpipe and Statpipe transmission

systems bring Norwegian gas to Emden in Western Germany. This gas is transmitted onwards also to the Netherlands, Belgium and France. The SEGEO line transports gas from the Groningen field to Belgium and France. The DETG, NETG, SETG and METG lines transport Dutch gas to Western Germany. The TENP line runs from the Dutch border through Germany and Switzerland to Italy. The Deudan line is linking Western Germany and Denmark. To transport some of the Troll gas to the Continent, Norway is constructing a new, large transmission system, the Zeepipe, landing in Zeebrugge, Belgium.

The East-to-West grid: This network transports gas from the Soviet Union to Western Europe. The key east-west line is a twin MEGAL line carrying gas through Czechoslovakia to Western Germany and France. The TAG line also carries Russian gas to Western Europe, but crosses the border between Czechoslovakia and Austria at Baumgarten near Vienna. This gas is supplied to Austria and through it to Italy and Yugoslavia. The WAG line carries part of the gas destined for France from Baumgarten through Austria and joins the MEGAL line in Western Germany.

The South-to-North grid: The Transmed line transports gas from North Africa (Algeria) through Tunisia to Italy. A lot of the gas from North Africa is, however, transported in the form of LNG. While 11.2 BCM were transported through the Transmed line in 1989, the figure was 17.1 for LNG transport. The LNG is exported from Algeria and Libya to France, Belgium, Spain and Italy as well as to the U.K. and the U.S.

These grids are not the only ones, but illustrate the overall north-to-south, east-to-west and south-to-north orientation of the systems.

Underground storage plays an increasingly important role in determining the gas network. As load factors are expected to decline in line with the growing importance of the residential sector, storage is expected to increase its importance in the years to come. This is due to larger seasonal variations in residential as opposed to industrial and power plant, use. With more variable demand it may in many cases become cheaper, and also increase security of supply, to build storage facilities (old gas fields, salt caverns, aquifer etc.) rather than more pipeline capacity.

But is the existing structure of the European transmission systems that evolved according to needs over 10 years ago, optimal for tomorrow's, or even today's, energy situation with its few and large international trunk lines?

Table 1. Ownership of international pipelines in Western Europe.

Pipeline:	Route:	Ownership:
SEGEO	Dutch gas to France, through Belgium	Distrigaz, Gasunie
TENP	Dutch gas to Italy, – through Germany – through Switzerland (Transitgas)	Ruhrigas, Snam Swissgas, Snam, Ruhrigas
DETG,NETG SETG,METG	Dutch gas to Germany	Ruhrigas, Shell, Exxon
Deudan	Danish gas to Germany	DONG, Deudan Holdings (BEB/Ruhrigas)
MEGAL	Soviet gas to Germany/ France through Austria (WAG) and Germany	Ruhrigas, Gaz de France, OMV, Mecal Foundations, Netherlands
TAG	Soviet gas to Italy and Yugoslavia through Austria	Snam, OMV
Statpipe	Norwegian gas to Norpipe (Continent)	Statoil, Elf, Norsk Hydro, Mobil, Exxon, Shell, Total, Saga
Norpipe	Norwegian gas to Germany	Statoil, Phillips Group
Zeepipe	Norwegian gas to Belgium (under construction)	Statoil, Norsk Hydro, Shell, Exxon, Saga, Elf, Total, Conoco, Mobil
Frigg	Norwegian/British gas to the U.K. – Norwegian owned	Elf, Norsk Hydro, Total, Statoil
FLAGS	– British owned British gas (Brent) to the U.K.	Total, Elf Shell, Exxon
Transmed	Algerian gas to Italy	Snam, Sonatrach

Source: Bundgaard-Jorgensen (May 1988), Fact Sheet (1989).

The gas network, as it is today, contributes to some extent to the *security of supply*. Through back-up facilities, interconnections and storage alternatives, it provides some flexibility. If one source of supply is interrupted, the system can provide gas from other sources. If there is an interruption on the east-to-west axis, increased quantities of gas may go along the north-to-south axis as replacement and at rather low costs. But obviously, the more integrated a grid is, the more security it can provide. Further increases in flexibility will help to give natural gas a larger share of the Western European energy balance and thus increase security of supply further.

The other aspect of the integration and diversification process is to promote *economic efficiency*. Increased competition between transporters will usually lead to a more optimal use and extraction of natural gas and enable the market to function more efficiently. Until now, a buyer and a seller of gas needed to have a pipeline in place in order to sign a contract. Such a system tends to lower quantities traded in the market compared to one where the actors know they can buy transportation services at a reasonable cost.

The development in the Western European gas market has to a large extent been supply-driven. But the rate of increase in demand has been rather modest for several years now. Will the next jump in gas consumption occur when bottlenecks in the transportation sector are eliminated and the market is allowed to work more efficiently? This is part of the philosophy behind the EC Commission's considerations over some sort of an Open Access system. Before turning to this point, however, we will try to answer the question of why the transmission sector tends to have a concentrated market power.

Pipeline economics and their regulation

The huge sunk costs needed to construct a pipeline leads to decreasing costs with the scale of operation. Therefore pipelines are subject to significant elements of *natural monopoly*. It is a natural monopoly because it is usually cheaper for one pipeline to provide transportation service over a specific distance with relevant quantities transported than for two or more firms. Obviously, a market with such technological economies of scale tends to evolve towards very high concentration. The natural monopoly can achieve high return on its investments, especially if demand is sufficiently inelastic. A pipeline without competitors can restrict output in order to earn more than normal profits.

When a monopolistically-behaving pipeline company restricts its service to the point where marginal revenue equals marginal costs ($MR = MC$), this is

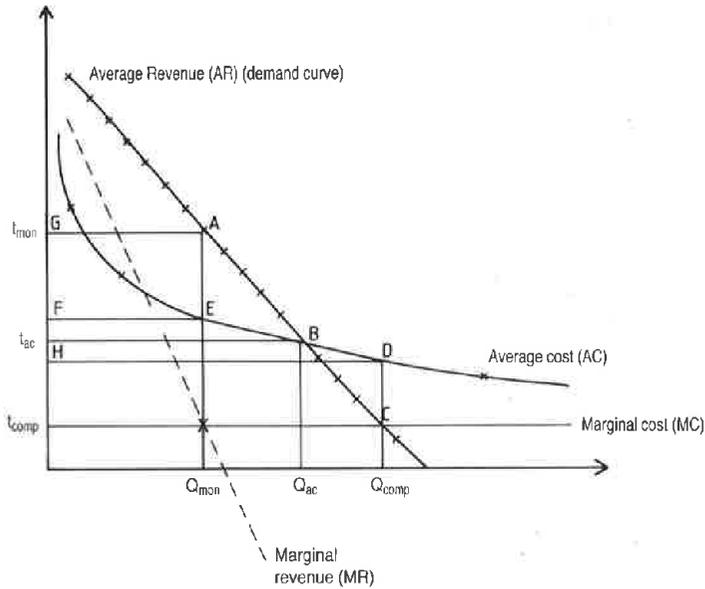


Fig. 3. Decreasing average costs in a pipeline; monopoly vs. competition.

illustrated by point X in Figure 3. Production (or quantity transported) will be Q_{mon} and consumers are willing to pay the price, or tariff, t_{mon} . If the pipeline increased the quantity of service provided, its marginal cost would be higher than its marginal revenue, and it would lose money on the margin. On the other hand, as quantity is increased, the firm will, in terms of efficiency, be more optimal. But as long as it is the only pipeline serving the distance, it is better off by not increasing service beyond Q_{mon} , where its profit is the largest.

If the pipeline should break even, price should equal average costs ($AC = AR$ in point B). The pipeline would earn normal profit but no economic profit. This point is in efficiency terms better than the monopoly solution (consumers' surplus gained is larger than producer surplus lost). But it is still inferior to point C as customers would be willing to pay for the incremental service as $AR > MC$ up to quantity Q_{comp} . Average costs would still be decreasing as quantity increases. If the pipeline should produce at the most efficient level, price should equal marginal costs ($MC = MR$), represented by point C. The problem is that, for a natural monopoly, this price would be less than average costs. The pipeline

would suffer a loss, and no transportation would, in fact, be provided, unless someone was willing to pay the deficit.

When transmission companies buy the gas from the producers at the entry and sell it at the exit of the pipe, often without competition, they will, as profit maximizers, charge maximum prices and exploit any possible inelasticity of demand in each segment of the market. We can denote a private carrier³ of natural gas's "tariff" (t), as the difference between the price it pays for the gas from the producer (p) and the price it receives from the distribution company (D), as $t = D - p$.

A monopsonistic pipeline will face a price function that will increase with quantity (q) purchased from the producer. Being the only purchaser, the pipeline will bid up its own price paid to the producers when increasing the throughput. If we, for simplicity reasons, assume the absence of all other costs and physical losses during the transmission process, this function can be expressed as:

$$(i) \quad p = p(q), \text{ where } dp(q)/dq = p' > 0$$

On the other hand, being a monopolist towards its customers at the exit of the pipeline, the price it receives from them will equivalently decrease with increases in quantity sold:

$$(ii) \quad D = D(q), \text{ where } dD(q)/dq = D' < 0$$

The pipeline's profit (P) will be:

$$(iii) \quad P = t \cdot q = D(q) \cdot q - p(q) \cdot q$$

Setting the derivative of (iii) with respect to quantity to zero yields:

$$(iv) \quad \begin{aligned} dP/dq &= q \cdot D' + D - p - q \cdot p' = 0 \\ &\Rightarrow p + q \cdot p' = D + q \cdot D' \end{aligned}$$

The left side of (iv) expresses the marginal cost of buying gas from the producers. The element $q \cdot p'$ tells us how much the price of gas to producers will *increase* if the pipeline buy an incremental unit. The right side of the equation expresses the marginal revenue of selling one additional unit of gas. The element $q \cdot D'$ tells us how much the price of gas to producers will *decrease* if it sells one more unit of gas. The equation (iv) shows that at maximum profit, marginal revenue from selling an additional unit of gas shall equal its marginal cost. By restricting quantity traded towards producers and distributors, power plants and

large industrial users in this optimal manner, the pipeline company can simultaneously exploit inelasticities of demand and supply in order to maximize its own advantage.⁴

Another particular feature of gas markets is the *economies of scope*. Producers, pipelines and distributors provide a unique service in bringing the gas to its ultimate users. Very often firms "bundle" together services. This may be justified by economies of scope, which give the industry savings in costs by combining services at any given level. In particular, the bundling between transportation and ownership of gas, where the pipeline buys the gas from producer for resale to local distribution companies, has been frequently used.⁵

There may be cost-saving "natural" economies of scope as a result of bundling. But very often it is a forced situation, giving monopoly power to the firm involved. In the latter situation, the benefits of the bundling firm overtake the increased costs caused by the inefficiency created. While the pipeline gains, it may be a net loss for society. We must ask how to avoid inefficient bundling in the natural gas industry and keep, or even create, efficient bundling.

What then should be the goal of a regulation? Should service be provided at the most efficient level where price equals marginal costs (point C in Figure 3) and the government pay the loss? This has often been the European solution to a natural monopoly; usually through governmental ownership of electric utilities, gas companies, airlines, banking, postal services, etc. Or should some regulatory institution set the price equal to the average costs, which has often been the U.S. solution? Or should some other principles be applied? How should bundling be introduced, or hindered, in an optimal manner?

A pure Common Carriage arrangement will set the tariff equal to average costs in the system. Thus, the EC proposal is in this respect a follow-up of U.S. traditions in the regulation of natural monopolies.

But obviously, the U.S. experience cannot wholly be applied in Europe. As already mentioned, there are thousands of producers and numerous distributors and other customers in the U.S., making the market structure at the entrance and exit of the pipeline much more competitive than in Europe. Also, the transmission lines in Europe are crossing numerous countries' borders. The huge amount of money and often long-term contracts, affect foreign economic and security considerations. Inter-state relations in the U.S. parallel international relations inside Europe.⁷

Nevertheless, even though in Western Europe the market structure, the political and not least the juridical area are different from those in the U.S., a gas pipeline tends to become a natural monopoly anywhere in the world for technical economic reasons. But one should not therefore expect that a similar

policy in the U.S. and Europe would have exactly the same effects on these markets.

The design of a Common Carriage (Open Access) arrangement

The general conditions for what initially has been called a Common Carriage arrangement are traceable to British law and consist of four main elements:⁸

- (a) The carrier must not refuse to serve.
- (b) The carrier must serve at a reasonable price. The criterion FERC uses in the U.S. gas market to judge “reasonableness” of a rate is a return-on-valuation standard. Valuation is determined mainly by the pipeline’s depreciation costs.
- (c) The carrier must serve in a non-discriminatory fashion.
- (d) The carrier is responsible for the safe delivery of the goods entrusted in its care.

A Common Carrier system establishes the pipelines as transporters as opposed to brokers of natural gas. If one can agree on what is “just and reasonable” returns on investments, one should be able to reach (on average) the point where price equals average costs (including normal profits), illustrated at point B in Figure 3. The idea is that the producer and distributor shall make direct contracts. They shall pay a reasonable tariff to use the pipeline, like a toll road. A reasonable tariff is usually assumed to equal average costs + normal profits but no economic, or monopoly, profit.

Thus, the merchant function of the transmission lines today is in conflict with a *pure* Common Carriage arrangement. But the system does not preclude the possibility of finding mixed solutions. For example, a system can be designed in such a way that the pipeline can act as a trader if it at the same time is obliged to transport the gas at a reasonable price for third parties.

Here we can already observe an important consequence for Norwegian gas sales of the regulation of the European gas market. If a *pure* Common Carriage system is introduced, the existing contracts are closed with parties that no longer are allowed to be a producer’s customer. If a mixed solution is found and pipelines can partly act as brokers, the contracts may still have to be renegotiated because of the lower profit margins and changed rules of the game for the transmission companies.

On the other hand, it will be easier to reach markets in more distant countries. Under a Common Carriage regime, a situation like the Norwegian/Austrian

deal should become impossible. The German transmission line would be forced to transport the gas at a reasonable price.

But even if these general ideas are quite clear, numerous techno-economic problems arise. We mention below some of the aspects that have to be clarified in order to critically evaluate the Common Carriage/Open Access idea, many of them taken from the U.S. experience. We will discuss these factors in order to illustrate how complicated the matter is. It may give some answers to why regulatory agencies, such as FERC in the U.S., easily become large bureaucracies. It illustrates the high competence requirements needed in such a bureaucracy. Errors made may impose huge costs on companies and national economies involved.

- 1 What is a *reasonable* tariff? Average costs in a natural monopoly are decreasing with the use of capacity. A pipeline with half of its capacity filled may have a substantially higher average cost than when it operates at full capacity.
- 2 Which *depreciation period* to use? The shorter the period the higher the tariff.
- 3 *How* shall average costs be recovered? Shall everybody be charged the same rate or should the pipeline discriminate on the basis of customers' inelasticity of demand, either by season or sector?
- 4 How to allocate *excess demand*? When demand exceeds capacity, not everybody can get their gas transported. In the U.S. different methods have been used: a pro rata system, some sort of priority, firm versus interruptible contracting of the service.
- 5 *Who* shall decide how large the capacity is? If it resides with the pipeline, it can downgrade the capacity in order to exploit inelasticities of demand and use monopoly power towards the gas owners on the margin.
- 6 How shall *new capacity* be priced? The average cost of the existing pipeline will obviously not be enough to cover the average cost of a new pipeline with newer and more expensive capital. Should the cost of the new pipeline be rolled into all old tariffs? Or should each pipeline be priced independently according to its costs?
- 7 *How large* should *capacity* be? Corrected for uncertainty, a new pipeline project should give a positive net present value at an appropriate *discount rate*. With society's usually lower discount rates compared to the private sector, mainly because of a more overall view of the national and EC economies than private businesses have, a project can give a positive net present value for the public sector at the same time as it gives a negative one

for the private sector. This could give arguments for both subsidies (as was done in Canada) and even publicly owned pipelines.

However, some sort of Open Access (or Common Carriage) system is not the only way to increase flexibility and decrease transportation costs in the market.

Alternatives to Common Carriage

Lack of *competition* is a major reason for pipelines to become monopolies. We have touched upon a few technical-economic reasons why this competition is lacking. However, in parts of the market “enough” competition may exist. Considering the often large regulatory costs, there should be less need for regulation of pipelines with competitors. In fact, if competition could be increased at strategically important distances, one could avoid regulations of today’s monopoly pipelines. Obviously, the costs of regulations have to be withdrawn from the benefits that the regulation creates in order to evaluate possible net benefits.

Another approach is to *change the property rights* of the pipeline. In economics, very often the bundle of property rights is taken as a datum, and the forces determining the price and the number of units of goods to which these rights attach is examined. But a pipeline is behaving monopolistically because its owner has an interest in maximizing profit in the pipeline. By changing the property rights, the new owners may have different goals than profit-maximum for the pipeline alone. If the owner of the pipeline has overall efficiency in society, or maximum profit in the distribution or production sector, as a goal, profit-maximum for the pipeline may not be in the owners’ interest. New property rights schedules may be, for example, public ownership or producers/distributors being “undershippers” in the pipeline. The public ownership, on a non-profit basis is, as already mentioned, the “old” European way of approaching the problem of natural monopolies.

Also *anti-trust legislation* and *taxes and subsidies* are possible means of regulating a natural monopoly, approaches that we shall not go deeper into in this article.

How would an Open Access system work for a European exporter?

The natural gas industry is an important part of the economy in both producing and consuming countries. An efficient well-functioning natural gas grid should, from society’s point of view, allocate costs and benefits between producer,

pipeline, distributor and consumer so that net benefits are maximized. However, among the various parties, the views of for whom benefits are to be maximized may diverge. Some countries and companies may be better off by exploiting a possible monopoly power in the market, even if it is not a zero-sum game as a total. Therefore, there will be contrasting views in determining net benefits for the companies, the countries, the Community, and in Europe as a whole.

If an industry is not structured "by itself" to operate competitively, some sort of intervention is normally needed in order to reduce the social losses of a monopolistic and/or monopsonistic behaviour. This behaviour does not usually lead to the most cost-effective way of producing a commodity or a service, with often large gaps between price and costs. Both seller and buyer of the pipeline service, as well as the pipeline itself, wish to capture the net benefits that this gap represents. Each of them may therefore have diverging views on how the market should be organized and these views may in turn be different from the societal point of view. These interests are important reasons why the issue is a complex economic and politically controversial one.

In Europe today, gas exporters sell their gas to the pipelines. Many of these pipelines are organized in a purchasing consortium on the Continent, while the suppliers (e.g., Norway, the Soviet Union and Algeria) do not cooperate. The dividing of suppliers and distributors and the uniting of pipelines in a purchasing consortium may have led to lower prices on the part of the exporters and higher prices to the pipeline companies than otherwise might have been obtainable (assuming that a monopsony has stronger market power than an oligopoly). When we add the fact that the pipelines tend to be natural monopolies for technical-economic reasons, this cooperation makes for a very concentrated market structure, underlining the strong position of the transmission lines in Europe.

Schematically (see Figure 4) under some sort of an Open Access regime, the exporters will sell their gas at point B rather than at point A as today. Will the old monopoly structure then be replaced by a new one consisting of producers and importing firms?⁹ And what about prices at different stages in the market?

Under an Open Access regime, it seems unlikely that (oligopolistic) producers should manage to end up in a strong enough position to be able to charge specifically higher prices from the customers than (monopolistic) transmission lines do today. Whether the prices to end-users (in this context: distribution companies, power plants and large industrial users) will remain the same or decrease, will to a large extent depend on the positions of importers and exporters in the market. Obviously, both parties wish to redistribute the possible economic profit of the pipelines to themselves. Therefore, it is logical

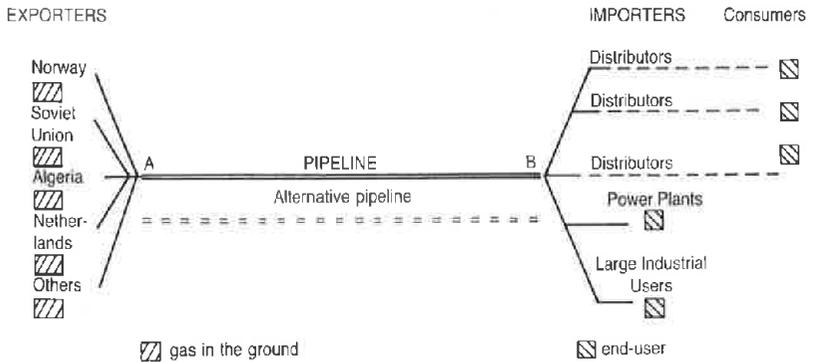


Fig. 4. Exporters and importers of gas in Western Europe.

that the Commission also considers how to regulate producers' and importers' monopolies.

But as long as mostly the EC countries are importers of gas, and the most important exporting countries are non-EC members (Norway, the Soviet Union and Algeria), a regulation of producers oligopoly may prove to be difficult (this situation may be somewhat changed if Norway becomes an EC member). Some sort of monopsony (or oligopsony) power should, from the consuming countries' point of view, be maintained in order to balance a possible producer market power. With a market structure like the one in Western Europe, the change *may* be marginal for many actors and it *may* lead to new inefficiencies in the market with the redistribution of income from pipelines to producers and/or importers.

One argument that is posed against the Common Carriage proposal is that the *long-term stability* for producers in today's contracts with the transmission lines will be challenged. However, a main reason for these contracts to be long term and stable is that consumers have a rather stable use of natural gas. It is difficult to see that this stability cannot be maintained for a producer by signing contracts with the customers directly rather than indirectly, through the transmission lines, as today. However, the argument should be modified by the costs of the transitional arrangements in moving from the existing system to a new one. Therefore, a gas producer may end up with a negative view of the proposal in the short term and a positive one over the longer term.

The situation in Germany is especially interesting. Germany is the biggest importer as well as the biggest consumer of gas on the Continent. At the same time they are the most important country for transmission of natural gas to other countries. Both Soviet, Dutch and Norwegian gas passes through Germany for destinations in France and Italy. Potential Soviet exports to the Netherlands, Belgium and Great Britain can be transported through German territory. Norwegian and Dutch gas to Austria and Switzerland has to pass through Germany. Germany's geographic location indicates that several destinations for natural gas are on a most cost-effective basis to be reached through Germany. The strategic importance of the country and the potential intensity of the trade may, therefore, give reasons to emphasize a market approach in that country, implying the construction of new pipelines and splitting the transmission sector into several *independent* companies. Such an approach would avoid regulative costs and physically secure routes by *different* shippers. Politically it may also represent an easier approach than regulation. No other European countries may be large enough, considering the size of the optimal capacity investment, for such a solution.

Therefore, a *flexible* approach that involves both increased competition and the establishment of open access, seem to serve the interests of many parties in the gas market. By introducing the regulations over some period of time, with some flexibility and in an increasingly more detailed manner, some of the costly inefficient decisions (as made in the U.S.) may be avoided.

The steps towards a more open network

A *transit directive* has been the starting point of the EC towards establishing some sort of a (more efficient) Open Access system. This directive, which was adopted by the Commission in October 1990, implies that one transmission line shall have access to the other pipelines in the Community in order to reach non-neighbouring markets. The pipelines shall negotiate the terms. If they do not agree, they can appeal to the Commission. When the first appeal eventually is made to the Commission, however, some decision must be made about tariffs and capacity allocation. This can be made by some pre-set rules/laws decided upon before that time. If such rules still do not exist, the courts must set them according to, as of yet, unknown principles (competition rules?).

The introduction of the transit directive is to a large extent in line with what we have suggested about moving slowly and with some sort of flexibility. Nothing is yet said about the terms for transportation. The choices about how to define

depreciation periods, whether all tariffs should be equalized or not, how excess demand should be allocated, how large pipeline capacity really is, how new capacity shall be priced as opposed to old capacity, how large the overall optimal capacity is, etc., still remain to be made. The alternatives to Open Access, such as increased competition (where it is possible), establishing publicly owned pipelines, anti-trust legislation or taxes and subsidies, are not ruled out. But the directive represents the first step towards loosening up today's rather rigid infrastructure existing in Western Europe. Thus, the process towards finding some solution to all these rather complex technological issues has started.

As the transit directive now is formulated, producers or consumers do not have the right to access the pipelines. The next step in the process will probably be to let them have this right. When and how the technical issues will be sorted out is very difficult to determine (other articles in this book discuss the speed of the EC process). Most likely, the Single Market is not necessarily introduced as a dramatic shift from one set of rules to another in 1992. "1992" may also work as a symbol of a process that may be expected to last throughout the decade, where the various regulations may be introduced step by step, i.e. with majority voting as with the transit directive.

Obviously, regulations and arrangements in this sector are of a very complicated economic, juridical and political nature. The half-century-long struggle in the U.S. with trials, new laws, regulations and deregulations is clear evidence of this. In Europe, one should similarly expect strong resistance, especially from the pipelines, against any regulatory efforts. Therefore, the difficulties and the complexity of the issue when establishing a possible regulative body to formulate details and find practical solutions should not be underestimated.

For a gas producer, it is therefore vital, as it is for other actors as well, to establish themselves as lobbies in Brussels, EC members or not, in order to influence the process of formulating the technical aspects and the speed of the process. For Norway the will and ability to do this may be of more importance than whether it becomes an EC member or not.

One result of the re-regulations of the market will eventually be that both exporters and importers must *increase* their *activity* in the market in order to replace the broker role of the transmission lines today. Producers should get a portfolio of direct customers, stabilize incomes and possibly increase sales. End-users (in this context: distribution companies, power plants and large industrial users) should allocate purchases between local producers and exporters in order to optimize their portfolio to secure supplies and minimize dependency on each seller. Thus, a re-regulation of the market should possibly, for Norway, imply a significantly larger downstream network and activity. A gas strategy that does

not include such an increased activity run the risk that the competitors will take market shares from Norway in the long run.

Whether the net result of these changes for a gas exporter will be positive or negative may well depend on the companies and the government's ability to be active both in the markets and vis-à-vis the policy-makers and regulators in Brussels. A strategy towards the "new market rules" should not be in conflict with the maintenance of contacts with today's customers of gas (the pipelines) and their governments. The transition period *may* last for a long period with both old and new rules, to a various extent, functioning in the market simultaneously.

What may prove difficult for Norway is if EC regulations also affect the way gas sales are organized. Obviously, a decrease in the purchasers' market power may be in Norway's interest. But if it also implies competition between gas producers on the Norwegian shelf, the "new" buyers may be able to push producer prices down. Therefore, concentration in this area should be focussed on how to maintain a maximum bargaining strength vs the market. Whether this must be done informally, whether the Norwegian Gas Negotiation Committee (GFU) can/should be maintained or whether entirely new concepts here must be found will be of decisive interest when assessing the totality of Norwegian interests.

As this article has tried to outline, it is difficult to really assess an Open Access system before details are clarified, whatever the streamlined theory is. In public regulations, many mistakes can be made that may well not be in the interest of a gas producer. Obviously, there are no easy once-and-for-all solutions. But the *idea* of the proposal, to get a freer movement for gas and reduce monopoly power in the market, should, in our opinion, be in a gas producing country's interest, if the country (both the government and the companies) approaches the issue actively.

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Notes

- ¹ Austvik (1990) reviews characteristic features of the American and Canadian gas markets.
- ² EC Commission, *Energy in Europe* 1988.
- ³ *Private Carriage* is transportation where the pipeline buys the gas from the producer for resale to local distribution companies, power plants or large industrial users. *Contract Carriage*, on the other hand, is transport of gas owned by others.
- ⁴ Austvik (1990) presents a more thorough discussion of the economics of natural gas pipelines.
- ⁵ See Kalt (1988) for a more detailed description of various bundling of services.
- ⁶ Some have anticipated that the Commission will be able to play the role of the U.S. federal government in this area.
- ⁷ Broadman (1987) page, 140–41. The term "Common Carriage" has over the last years often been understood to be similar to the system introduced in the U.S. in the mid-eighties, where excess demand is allocated on a pro rata basis (see below). This is originally, however, a limited interpretation of the concept. There are many ways of allocating excess demand within a "Common Carriage" regime. In this article, however, the system referred to will mostly be named "Open Access" regimes in order to avoid any misunderstanding about such a more limited interpretation of the term.
- ⁸ The pipelines themselves will, of course, be suffering from such a regime if it works according to the premises of the proposal.

The EC Policy-Making Process in the Field of Energy: An Analysis with a View to Norwegian Interests

By Janne Haaland Matlary

Introduction: Norwegian interests and the EC process in energy policy

The emergence of an internal energy market in the EC implies an increasingly open market structure. Already there are signs that market actors are beginning to act in accordance with and in anticipation of these changes in market structure. While remaining loyal to the traditional system of selling Norwegian gas to one buyer, viz. the consortium, Statoil has for example entered into a smaller contract directly with a consumer, the Dutch chemical company SEP. This agreement, whereas finally ratified by the Dutch government, caused consternation because Statoil thus “bypassed” the national gas company Gasunie.

Within Norway itself the new Petroleum Act, adopted in 1990, represents a massive deregulation of the transport and sale of electricity, something which could open up for domestic gas use in the power generation sector.

Further, the foreign companies on the shelf are eager to use their own downstream organizations for the marketing of the gas they produce, and although the remaining Norwegian companies Saga and Hydro have a relatively more influential say in the GFU than outside it in relation to the foreign companies, they have attractive options in going downstream in a freer European gas market. Hydro is already a major international company, well diversified and well represented on the Continent. Saga, although a small oil company, has already signalled a strong interest in being integrated in Europe

and has called for Norwegian EC membership as a clear advantage with regard to the internal energy market.¹

Thus, in response to the changes in the European gas market Norwegian companies may head in different, individual directions.

On the national political level, there has, however, been little or no discussion of national interest vis-à-vis the EC in the field of energy. Traditionally Norwegian petroleum policy has consisted of stressing that the sale of oil and gas represents a commercial activity that is taken care of by the companies. One has thus not had any discussion of the role of energy as part of foreign policy beyond denying preferential oil sales when the question has been raised from time to time. Although this 'commercial line' has been useful in the past, it is clear that in the present situation when energy policy needs to be defined in terms of a European-wide policy that takes account of both the environment and the need for stable and secure supplies, also to Eastern and Central Europe, the relegation of petroleum policy to the commercial sphere does not suffice. Norwegian policy-makers, therefore, must design their own energy strategy in light of the developments in Europe and within the EC.

Gas has no natural champion in the EC today. Norwegian membership may help the case of gas as the response to the need for "clean energy", especially as one sees how nuclear energy is advocated in this capacity by France.

Norwegian interests are very much in line with the signals EC energy policy currently gives, but this is a political process where participation in Brussels is crucial to the wielding of influence. I would, therefore, argue that the twin national Norwegian interests of improving the environment and selling gas are best enhanced by being an EC member. Access to the policy-making process is denied without membership status.

This argument is supported by the recent developments towards an environmentally sound energy policy within the EC. As the pure market concerns are supplemented by proposals for both environmental measures and security of supply, especially in light of the Gulf crisis, energy policy in the EC becomes more a question of political decisions than of implementing a freer energy market. Although the two are not necessarily contradictory, and although they both imply a political process of reregulation, I maintain that the *substance* of the recent energy questions, from 1990 onwards – environmentally sound energy types, supply security on a community level – demand political decisions of another kind than do the original IEM proposals. For Norway it would be much easier to adapt to the IEM without participation in the political process in the EC since the IEM accords a major place to market actors. In substance it represents, as stated before, a deregulation of energy markets. Contrary to this, any energy policy that concerns choice of energy types for environmental

reasons or security of supply questions demands political commitments on the part of national governments. Thus, the political process in the decision-making here becomes much more central. As energy policy in the EC increasingly turns to this kind of issues, Norwegian participation by policy-makers becomes much more important than before.

Political process towards the internal market

The original intention of the Treaty of Rome was to create a customs union and, gradually, a barrier-free market. The concept of a single market is thus not new to the EC, but has been given a renewed emphasis in the process that started in 1985. At that time there reigned extensive pessimism, the oft-quoted "Euro-sklerosis" was indicative of a certain economic gloom and inefficiency. Impetus for changes came from the growing concern with the competition from Japan and the U.S., as well as from within the EC itself.

The internal need for change must not be underestimated: in the EC there was considerable inertia and frustration in the mid-1980s.² Political elites and business leaders in especially France and Germany were discontented with the way the Community was developing, or perhaps, with the lack of such development. The effort to create a single market was born of economic necessity, but was carried out by political elites, especially in France and Germany.³ This was made possible by a new political attitude, emphasizing deregulation in order to achieve efficiently functioning markets. This new political trend gained support on the national levels, not only in conservatively governed Britain, but also in Mitterrand's socialist France.⁴ This laid the political basis for the launching of the EC internal market, where the central argument to which none objected on politico-ideological grounds, was that a more efficient market would create growth and minimize costs.⁵

The Single European Act, adopted in 1985, brought changes in the decision-making procedure of the Community in order to facilitate the adoption of the 300 or so directives necessary for the creation of the single market, as expressed in the so-called "White Book".⁶ Introducing majority voting in the decision-making that concerns the internal market, the EC can now adopt measures with a certain degree of disagreement. The rule of unanimity has previously blocked many proposals because specific interest groups in a country could induce its government to protest. For instance, for years a directive on the regulation of the noise level in lawn movers was blocked.

The Single Act introduces majority voting for most areas relating to the single market. Further, the European Parliament is now able to play a more active role

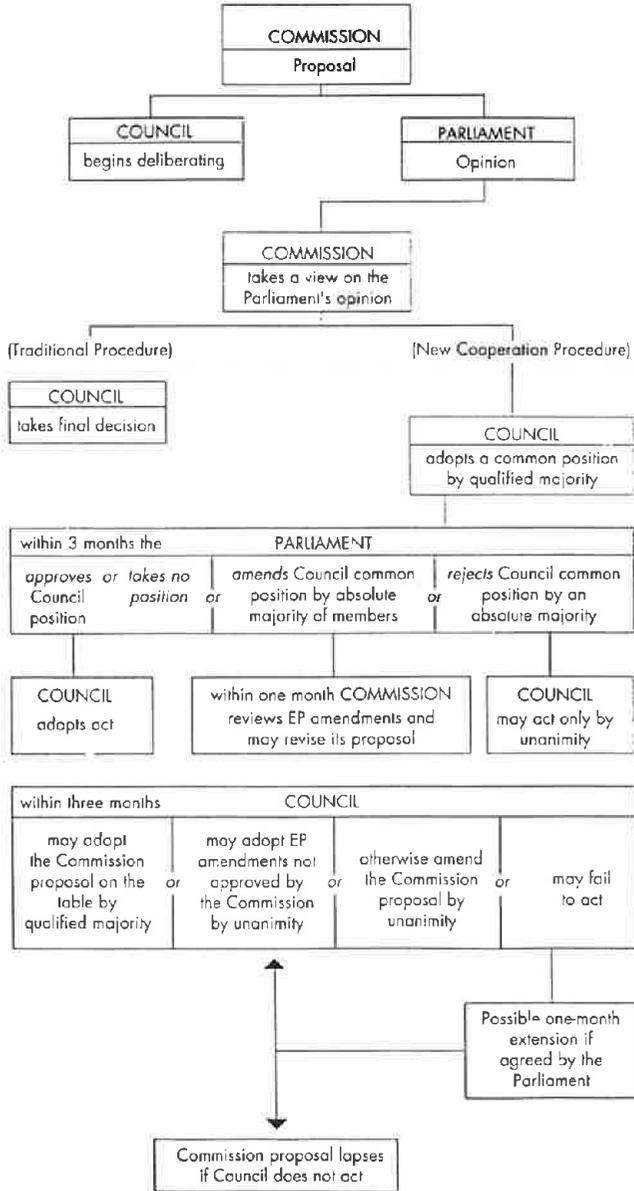


Chart 1. Community legislative process: new cooperative procedure.
(Source: U.K. department of trade and industry).

in amending proposals from the Commission.⁷ In the case of an amendment, a proposal is returned to the Commission, and if adopted by the European Parliament (henceforth EP), only a unanimous Council of Ministers can reject it. In the event it is adopted by the latter, a qualified majority is needed to do this.

Thus, the changes made in the Single Act allow greater independence for the Commission and also accord a larger, albeit yet somewhat uncertain role to the European Parliament. The Commission and the Parliament now have a mutual advantage in forming alliances, as the two in agreement will see a proposal through the Council unless, as stated, the latter rejects it unanimously.

However, the Parliament has to muster 260 out of 518 votes in order to amend a proposal, and it also must attempt to make the amendment acceptable to the Commission. This induces a strong work discipline, as well as cooperation between Parliament and Commission (see chart on decision-making structure).

The internal market in energy: plans and status

Energy policy in the EC has traditionally been rather insignificantly developed despite the fact that two of the three original EC treaties, the ECSU (European Coal and Steel Union) and Euratom both concerned energy.⁸

Thus, being based on the “lowest common denominator” among member countries of widely different interests, EC energy policy has not amounted to much. Expressed in “guidelines”, it has been confined to suggestions to member governments on energy conservation, import dependency, research on renewables, etc. These guidelines, usually valid for a five-year period, represent compromises between national energy policies.

The concept of the internal market presents the energy field with an entirely different challenge. The often monopolistic national energy segments face dismantling, and national energy policies must follow suit in the prising open of energy markets. Thus the task of the EC Commission is a bold one indeed, since European energy markets are considered to be some of the most difficult to change, as they are characterized by a heavy government hand in the form of strong, national energy policies. This was the explanation why energy was at first left out of the single market concept altogether, only to be added as late as in 1988.

This chapter is primarily concerned with the natural gas sector, although I will occasionally discuss other aspects of the energy market. Regarding natural gas, there are a number of proposals within the single energy market which affect it. These range from highly “free market” oriented proposals to very political ones.

There is, throughout the deliberations over the internal market in general, a potential conflict between what is often perceived to be the *deregulation* of markets – the push for more market and less politics – and the call for a *reregulation*, where political reordering of markets results in more political presence, at least potentially. This is perhaps much a question of national political styles – the British want a *laissez-faire* market, the Germans a “geordneter Markt” and the French more of a “dirigisme”, to use a cliché, but there are undoubtedly major differences of opinion as to what role the EC should play in the future internal market itself. Should the Commission be an active watchdog, or rather a laid-back observer once the work of reordering is done? Concretely, the tension between those who want less Brussels-based powers of intervention and those who want more power to control that market rules are followed is evident in the discussion over how the EC can ensure that, for example, the right to transit gas in third party pipelines is obtainable in reality. Some opt for a controlling bureaucracy in Brussels, others balk at this idea, fearing that it will lead to yet more political intervention and bureaucratic slowdown.

However, the change of rules that the internal energy market (IEM henceforth) represents is a *reregulation* in the sense that these changes are imposed on often reluctant market actors by politicians. If the effect of rule change is a freer market, it makes sense to speak of deregulation akin to, e.g., British national energy policy. Thus, the substance of the proposals may be termed deregulatory, yet the political process of rule change itself is a *reregulation*.

Natural gas trade has always been an issue of policy on the national level. Price⁹ groups natural gas policy concerns in three categories: health and safety concerns; economic concerns; and national security concerns, and cites instances of policy-making in these three categories across the universe of gas trade: Japan, the U.S., and Europe.

An EC ‘inventory’ of proposals relating to natural gas looks like this:

Proposals that aim at a freer market. Harmonization of indirect taxation, price and investment transparency, competition for public procurement, common carriage, integration of grids.

Proposals that demand an EC-level energy policy. “Security of supply”: integration of grids, plans for an EC policy of supply security by 2005, a European Energy Charter; the official merging of energy and environmental policies from 1990.

But also measures that pertain to the internal market as such have direct bearing on energy policy. Foremost among these is a directive on public procurement. In the case of public procurement, the energy sector as a whole was at first

included, then later left out of the directive. The reasoning behind dropping the energy sector from this directive was that¹⁰ "public entities must open to Community competition the markets related to their infrastructures, the construction of networks and supplies in general, but for the present these rules do not cover energy supplies themselves".¹¹ France wanted all energy supplies to be included in the directive, while others wanted this to be dealt with in the general context of the single energy market. The Council agreed that the full inclusion of energy is to be accomplished before 1995, the latest date for the completion of the single market. This directive also covers *private companies with exclusive rights*. Thus one may say that this very far-reaching directive has been slowed down in the energy area in order to facilitate the transition to competition for monopoly companies, which as mentioned earlier, typify the sector.¹²

The IEM proposals within the scope of the energy directorate were introduced as a package. Price transparency in the electricity and gas sectors was the subject of a communication in March 1989,¹³ and open access proposals for gas and electricity were set forth at the same time¹⁴, along with plans for the monitoring of large investments in the energy sector. The transit directives were adopted in 1989 and 1990 respectively.

The actors within the European Community

There are many institutions within the EC, and many levels of decision-making. I will now discuss the role of the decision-makers, first, within the Community, and second, outside of it, with special reference to energy policy in the area of natural gas.

The role of the *Commission* in preparing legislation is absolutely crucial. It is the Commission which prepares a proposal in its final form, but prior to this there is usually a long process of researching a subject, discussing it with interest groups, etc. However, the introduction of the majority voting procedure in single market legislation has sped up the decision-making process and made it less important to reach compromises en route.

However, the Commission thus must nevertheless take into account opposing interests in each case. This is done in consultation with interest groups in the sector as well as with leading national bureaucrats. These are the people that will be consulted by their national governments at the stage of decision-making later, especially in the Council. A very central part of the preparation of a proposal is thus the ongoing discussions with interest groups in and out of national governments before a proposal reaches the later stages of formal

adoption or rejection. A study of how the Commission incorporates interests is thus essential to understanding the real, not only the formal, decision-making procedure.

The various interest groups, often represented by large organizations that represent all European associations within an interest area, have regular consultations with the Commission on the various stages of development of a proposal. Also, within the Commission itself there are differing interests. The Environment Directorate (DG XI) obviously wants energy proposals to reflect the growing concern for the environment, while the Competition Directorate (DG IV) is in charge of making the EC markets barrier-free. DG XXI is in charge of harmonizing indirect taxation, which has direct bearing on energy prices. Thus, it is a complicated decision-making structure that pertains to the internal energy market.

The *Commission* is primarily pushing for proposals that will ensure a freer market in the energy sector. The expressed aim is to increase trade through the single energy market proposals.¹⁵ The Cecchini report estimates that 3 billion ECU may be saved by efficiently functioning energy markets.¹⁶ However, the Commission also wants to develop an energy policy: it wants to strike a balance between "intervention by governments or the Community on the one hand, and market forces on the other".¹⁷ But it is unclear how it will achieve both, as McGowan remarks.¹⁸

For the Commission, it seems that the American experience is significant as a model for gas market deregulation. Here was an example of deregulation which includes open access for pipelines, competitive pricing and spot market gas.¹⁹ Thus, the Commissioner for energy, Cardoso e Cunha, stresses that he wants a "totally free" market for energy in the EC. He rejects any suggestion of central control functions on the part of the Commission.²⁰

This optimistic view of the Commissioner must be seen against the background of the rapid inclusion of energy in the internal market programme. Left out of the original "White Book" which defined the issue areas of 1992 because it was then considered to be too difficult to change with its typical structure of monopoly companies and exclusive rights of buying and selling within national boundaries, energy is now part and parcel of the internal market effort. The Energy Commission, DG XVII, has been reorganized in order to meet the demands in energy policy, and a number of proposals have been launched that will effect fundamental changes in the structure of the gas market. This has happened very quickly, considering the fact that energy, as mentioned, was included in the single market effort only in late 1988.²¹

In May of 1988 the Commission presented an "inventory of obstacles" to the free functioning of energy trade, concluding that changes were needed in the

rules for transportation, taxation, public procurement, investment, monopoly practise and legislation, and in the secretive behaviour in energy pricing agreements. In short, the document signalled a major attack on all important aspects of energy trade.²²

The Commission is thus in a new role which is very unlike that of pre-internal market times. Some national governments see the Commission as their prime instrument in achieving a freely functioning energy market. Formerly the main two national groups within the EC were energy consuming and energy producing nations, with their different interests and well-developed energy industries. With the inclusion of Spain, Portugal, and Greece a third group has been added: the energy developers. These countries are without any significant energy industry or infrastructure, and stand to gain from the use of Community structural funds in this development.²³ These countries are strongly in favour of the single energy market.²⁴

Already in 1986 the Commission had called for a freer market in gas trade in a communication to the Council on gas.²⁵ The energy guidelines for 1995, also adopted in 1986, were in general compatible with such an idea. Thus, the Commission had started its work towards a single energy market before it was officially started.

According to the Commission, the development of the energy sectors of the new members of the EC will enhance the use of natural gas as the environment becomes increasingly important.

The foremost ally of the Commission will be the *European Parliament*, claims the energy commissioner. The EP's Committee for Energy, Research, and Technology (henceforth CERT) deals with energy matters. Energy Commissioner Cunha wants the political long-term views from CERT, to combine with the details of energy policy from work with the Council.²⁶

Lobby groups appear to find it increasingly necessary to talk to members of the European Parliament, and the rapid mobilization of public opinion in many European nations on issues related to the environment makes the EP an important forum for highlighting such issues. Judging from the amendments made on energy proposals, the EP favours a strong political touch on energy policy, and will probably make the environment a cornerstone of its views on the latter. In their plan for the 1991 work programme, the Commission recognizes that the Parliament puts priority on "the social dimension, the environment, and energy policy" and "accepts these priorities and will in large measure build them into its work schedule for 1991".²⁷

Another EC institution with a say in energy policy is the *Economic and Social Committee* (ECOSOC). It consists of 189 members from the 12, who are drawn from employers' organizations, trade unions, and various interest groups,

including small businesses and consumers' organizations. These representatives are independent of their national governments, and act as a "sounding board" for new policies. While possessing a great deal of expertise, they are also close to their nation of origin, as ECOSOC meets only 8 times a year, and members are appointed for a 4-year period only. Both the EP and the Commission pay considerable attention to the opinions issued by ECOSOC.²⁸ It has an Energy and Nuclear Section which in its views on energy questions seems to increasingly stress environmental factors, and that energy policy must reflect this concern.²⁹ It has accepted the single energy market proposals in general, and also the directive on investment reporting.³⁰

The *European Investment Bank* (EIB) funds, as discussed previously, projects in the energy sector. It is an important criterion that they are environmentally sound.³¹

The Commission itself sometimes acts directly in this sector as well: it will for instance act as intermediary for Algeria in seeking funding for financing of the proposed gas pipeline through Morocco to Spain.³²

But it is the *European Council* which is the most important EC actor, even after the reforms in the Single European Act. Budd and Jones recount how decisions were often referred to the European Council before the Single Act amended the voting procedure, and how the Council of Ministers and its deputy council, COREPER, had many times been unable to reach decisions in the days of unanimity.³³

At the Energy Council meeting in October 1989 there was very much opposition to the investment transparency directive. Although innocent by most standards, it was criticized as being 'dirigiste' and rejected by ministers. This shows the tension between deregulators and reregulators, between politics and market, in the single market process.³⁴

There was also opposition to the price transparency directive. Here the proposal is to report energy prices twice yearly to Brussels. Confidentiality would be kept because the Commission would only publish average prices, yet Germany has protested that this is unnecessary. The outcome this time was that prices to consumers may be made transparent, but not industrial prices. Compared to the U.K. regulation in this area, the EC proposals are very modest. In the U.K., all tariffs and rebates offered are public. At the same meeting there was disagreement on open access, but here the Commission has long-term plans to harmonize national energy policies.

The energy commissioner thinks that central planning on the EC level is needed in order to achieve a rational market that can overcome national boundaries in energy policy and investment. The laissez-faireists, mainly the U.K., oppose this, as they fear transfer of power to Brussels.

The main outcome of the meeting in October 1989 was principled agreement on price transparency and the returning of the draft directive on price transparency (COM(89)322) to COREPER (Committee of Member States' permanent representatives) which will work on exceptions to it. The views on open access were mixed. So far the transit proposals refer to inter-community trade only. However, in the 1990 October meeting, the energy ministers adopted the gas transit directive by majority voting, against (among others) the vote of Germany.

Interest groups: Brussels lobbying

As the internal energy market has taken shape, lobbies have formed in Brussels. However, as a general characterization there seem to be relatively few interest groups present, and those that have appeared are mostly large organizations, representing either the energy industry or large industries on the consuming side. A recent study identifies about 300–400 interest groups up to 1980,³⁵ but after that lobbying has, as could be expected, increased. With regard to energy, there are the organizations representing the gas industry, the large consumers, like the chemical industry, and gradually also consumer and environmental groups. The latter, The European consumers' organization, BEUC, and the environmental counterpart, EEB, represent issue areas "that are profoundly political. They involve values and priorities that cannot be decided on the basis of technical expertise, for this reason they direct a major part of their energy towards the EP".³⁶ The consumer organization has taken up environmental issues to a large extent, while the environmental organization proper is too heterogeneous to agree on any one strategy.

However, EC lobbying is still a far cry from the streamlined American system. Compared to the American experience, lobbying is not yet a popular form of public expression – literally speaking. But it must be added that the decision-making in the EC after the Single Act is still in the making, so that EC lobbying may become very important as part of this formative development.

Lobbies relevant to the energy issue area are³⁷ VEGIN, the Dutch association of gas distribution companies, KOMGAS, its Danish equivalent, and BASF, the German chemical company, which has its own gas company, Wintershall, and which proposes its own pipeline through Germany.³⁸ These groups call for complete transparency in pricing³⁹ but are less sanguine about open transportation.

COMETEC-GAZ, representing European gas producers and distributors⁴⁰, has been in strong opposition to all attempts to change the market structure for

natural gas. It is well represented in Brussels, and has presented proposition papers on the EC proposals. Its major opponent is CEFIC (Conseil européen des fédérations de l'industrie chimique) which represents large gas consumers in industry. These two major interest organizations have engaged in verbal battles over EC energy policy.⁴¹ Another important organization is UNICE, the federation of European industry and employers' organizations, which favours the single energy market.⁴² UNICE prefers the consensual road, and the use of existing legislation in the Rome Treaty, and currently awaits the result of studies that show that more legislation is necessary in the energy area.⁴³

So far relatively few lobbies are present in Brussels in the energy issue area, although the large industry associations play a major role. Organizations on the general consumer side and those representing the environment are less well organized and not coopted into the Commission's consultative procedures in the same manner as are the large lobbies. However, the environmental groups are still in their formative stage, and may become very important as public opinion throughout Western Europe focusses on the latter.

Major national governments

The major actor pushing towards the single energy market is France. It both favours the IEM proposals strongly as well as picking up on the concern for the environment. Both are made to fit nicely into French national energy policy. The U.K., on the other hand, is the least enthusiastic country regarding energy policy on the EC level, and finds that it is largely unnecessary. The British fear more Brussels bureaucracy in general. The Italians favour both environmental concerns in energy policy and more market in this sector, but appear vague in terms of policy commitments. The German government has a strong interest in environmental concerns, but echoes Ruhrgas's opposition to open access and price transparency.

This brief summary of national positions needs further elaboration:

France has increasingly come to support all major energy proposals towards an internal energy market. The French have been the driving force behind the open access directive because of their interest in exporting electricity. Now nuclear energy accounts for 70% of French electricity production, much of which is a surplus. With open access French production can be increased if export markets are assured. The director-general of the Ministry of Industry's Energy Division states that "as far as France is concerned, all recent EC proposals are in the right direction".⁴⁴ Against the stance of Gaz de France

(GDF), both Electricité de France (EDF) and the government espouse common carriage and open energy markets. The interests of EDF have traditionally been much more important than those of GDF, which has operated at a loss throughout much of the 1980s, and which has repeatedly been "overruled" in its commercial undertakings, most notably when president Mitterrand in 1981 changed the commercially negotiated gas price with Algeria for political reasons. It is, therefore, not surprising that the interests of gas "lose out" to those of the important nuclear industry and the prospects for exporting electricity.

The strong nuclear policy thus continues and has been given a new impetus by the adoption of common carriage for electricity by the Council of Energy Ministers.⁴⁵ EDF recently proposed to build 7 more nuclear reactors by the year 2000. This is an increase in comparison to last year's plan, which planned for four new reactors. The argument is that nuclear energy offers an alternative to fossil fuels for environmental reasons.⁴⁶ The addition of 3 reactors to the original plan must be seen in this light. Sales of electricity exported are already increasing.⁴⁷

Thus, the EC single market suits French interests particularly well. As a commentator put it: "With its traditional blend of cunning high-mindedness, France is welcoming the EC's opening of energy markets and subtly steering the debate toward solutions most beneficial to itself".⁴⁸

United Kingdom. The U.K. is a reluctant participant in the process towards the single energy market. First, its general stance on EC matters is that the less policy-making the better, and this view is reflected in the attitude towards energy policy. Further, and more importantly, "The U.K. believes the essence of the price and transparency, as well as transit proposals is already contained in Community legislation".⁴⁹

On the public procurement directive, the U.K. opposes what it sees as unnecessary bureaucracy,⁵⁰ and maintains that national legislation in this regard functions sufficiently to ensure open markets.

In general, the U.K. domestic developments are seen to pre-empt many EC proposals. Both the dismantling of monopoly position for energy companies and the introduction of common carriage were accomplished in 1985-86. But this has resulted in less domestic energy policy. In the words of the Commission, the annual review of Britain is "hampered by the lack of government projections and the absence of an overall policy statement on energy".⁵¹

Italy. Italy gets poor marks as an EC country in the view of the Commission, because it has not diversified its strong import dependence on oil. Italy has not been the most active policy-maker in the single energy market process; it seems

to want, however, both a free market as well as an energy policy that is well defined politically.

In the environmental field, quick and important action has been taken on the domestic level, and it is now in the lead on such measures compared to EC legislation in some respects. The revised national energy plan incorporates environmental concerns, and this indicates that the state is – perhaps surprisingly – able to adjust quickly. Italy⁵² has its own legislation on common carriage. In the new energy plan, the *Plan Energetico Nazionale*, there is an estimated greater use of gas, and a complete shut-down for nuclear energy.⁵³ This is in line with environmental policy.⁵⁴

The four proposals in the energy package will be accepted by Italy, although some reservations were made on open access.⁵⁵ It seems that environmentalists halted the construction of a coal-fired plant in Italy recently, demanding that it use gas. A comment concludes that “environmentalists are playing a greater role in writing Italy’s energy agenda”.⁵⁶ Italy is increasingly favourable to open access for gas transit in connection with its plans for transporting gas from Algeria to Yugoslavia.

Even industrial leaders stress the environmental factor in energy policy as energy demand is on the rise, and the existing heavy use of fossil fuels cannot cover this demand.⁵⁷ Confindustria (the powerful industrial association) wants a free gas market and more gas.⁵⁸

Germany. There has over the past few years been a general drop in gas use,⁵⁹ and the authorities have even introduced a gas tax (*Gaspfennig*). Government energy policy has generally been minimal, aiming at conservation and competition.⁶⁰ But environmental issues now dominate the public debate.

The German government has mounted a steadfast opposition to common carriage, thus reflecting the interests of the domestic gas industry.⁶¹ They have, however, used the opportunity to reduce coal subsidies beyond what was nationally planned and thus, like France, actively utilized the strategies inherent in the EC single market concept to achieve domestic political goals.

In sum, France is the most active promoter of the internal energy market as well as a staunch supporter of a stronger EC energy policy in general. The U.K. is the most resistant participant in this process despite having implemented an “internal energy market” domestically in its own deregulation of the energy sector. Germany is basically in favour of the IEM, but reflects the importance of the major gas industry interests in its attitude towards gas transit. Italy is enthusiastic in its support for an EC energy policy, but as a net importer of energy, has few national interests to defend.

Conclusions

During the course of 1990 EC energy policy has in fact come to deal explicitly with these issues that are in substance *political* ones. In the May 1990 Energy Council the ministers adopted the first explicit policy guidelines for an environmentally sound energy policy, the "Council conclusions on energy and the environment".⁶² These stress that all energy policies must be environmentally sound, and that a high level of protection be observed, as expressed in the Single Act. The environmental soundness of nuclear energy is the only point of contention between the ministers: here "the discussion should be pursued". The adoption of these "conclusions" is significant because it signals that environmental issues have come to stay on the energy policy agenda of the EC. In this light the proposal for a new European Community for Energy put forth by Dutch Premier Ruud Lubbers in June 1990 represents a continuation of this kind of thinking.⁶³ Here the points of departure are two political problems: one, that of energy security for the EC and Europe as such; second, that of the environment. The urgency of restructuring the polluting industries of Eastern and Central Europe is a major point in the proposal, but also the general need for international cooperation on energy questions because environmental problems are by their very nature supra-national. The Lubbers proposal is a call for a supra-national energy policy in Europe. It aims at securing supply through international charters for the exploration, production, and transportation of energy, and at restructuring the industries of Eastern and Central Europe through coordinated, political action in which Western energy supplies figure prominently. This proposal is the ultimate recognition of the strategic economic and environmental importance of energy, and as such, the consequence is that energy is too important to be left to market forces. The reception of the Lubbers plan is favourable within the EC, and it will have an important impact, but its implementation demands policy instruments other than the market mechanism. It presupposes some kind of supra-national energy policy in the EC. This is being called for by several member states.⁶⁴

The decision by the Council of Ministers to merge environment and energy policy calls for more use of gas and/or nuclear energy. The choice of fuel will be determined less by market forces than by political decisions. Specifically, EC environmental measures will indicate to what extent the use of natural gas will be encouraged. This is part of the ongoing discussions within the different groups in the EC. As mentioned, while nuclear energy has its proponents here, natural gas has no "national champion" apart from perhaps the Dutch. Further, the content of EC environmental policy will be determined from 1990 onwards, as the official "merging" of energy and environment is this recent. The timing for

Norwegian participation in the decision-making process is therefore important: some years ahead the parameters for an environmentally friendly energy policy will already have been determined.

Two conclusions therefore emerge. First, as EC energy policy increasingly demands national political preferences in the vital area of environment and supply security, the participation of national governments in the EC process becomes vital. Norwegian interests here cannot be represented by oil companies or other market actors vis-à-vis the Community. Second, the parameters for future EC energy policy is being laid from 1990 onwards. Norwegian participation in this process is therefore urgent.

Notes

- ¹ "Norsk gass i Europ: Nye utfordringer i lys av EF's indre marked", Saga Petroleum rapport, Oslo, 1989.
- ² A former EC official, Lars Kolte, discusses how the EC had lost considerable credibility at this time, so that there was a general need for reform, especially of the decision-making process. Lars Kolte, "Beslutningsprosessen i EF, 1985-89", *Politica*, 4, 1989.
- ³ Political elites as used here refer to European leaders themselves. Foremost among these in this process are Mitterrand, Delors and Kohl. W. Sandholz and J. Zysman argue that the time was ripe for a new bargain between business and politics in Europe because the "old" bargains made after WWII no longer had much meaning, "1992: Recasting the European Bargain", *World Politics*, XLII, 1, October 1989. Another substantial discussion is provided by Andrew Moravcsik, who argues that domestic interests account for the Single European Act and the willingness to integrate in the EC. "Negotiating the Single European Act: national interests and conventional statecraft in the EC", *International Organization*, vol. 45, no. 1, Winter, 1991.
- ⁴ Joel Krieger's *Reagan, Thatcher, and the Politics of Decline* (Polity press, Cambridge, 1986), discusses the ideological foundations of privatization and deregulation.
- ⁵ An influential EC publication in this regard is Tommaso Padoa-Schioppa, *Efficiency, Stability and Equity*, Oxford: Oxford University Press, 1987. Also the Cecchini report deals with the "cost of non-Europe"; Paolo Cecchini with Michel Catinat and Alexis Jacquemin, "Europa '92: realiseringen av det indre marked", Dagens Næringsliv Forlag, Oslo, 1988.
- ⁶ "Gennemførelse av det interne marked", Hvidbog fra Kommisjonen til Det Europeiske Råd, Milano, June 1985.

- ⁷ See discussion of the differences between the Rome Treaty and the Single Act in Michel van Meerhaeghe, "The Awkward Difference between Philosophy and Reality", *European Affairs*, 1, 1989, pp. 18–23.
- ⁸ For a history of early EC energy policy, see Nigel Lucas, "Energy, the U.K. and the European Community", in Belgrave, Robert (ed.), *Energy – Two Decades of Crises*, Gower House, London, 1983.
- ⁹ Robert S. Price, "Government Policy and International Natural Gas Trade", *Journal of Energy and Development*, Spring 1986, vol. 11, no. 2, 1986.
- ¹⁰ "Commission Drops Energy from Public Procurement Proposals", *EC Energy Monthly*, September 1989, 9, p. 12.
- ¹¹ *Bulletin d'Europe*, February 26, 1990, "Energy and public procurement", p. 7.
- ¹² *Proposal for a Council Directive on the Procurement Procedures of Entities providing Water, Energy and Transport Services*, COM (88)377.
- ¹³ *Transparency of Consumer Energy Prices*, COM (89)123.
- ¹⁴ *Draft Directive on Electricity Transportation*, COM (89) 336 and *Draft Directive on Natural Gas Transportation*, COM (89) 334.
- ¹⁵ See statements from the Commission to this effect in *Energy in Europe: Energy Policies and Trends in the European Community*, no. 14, December 1989, and Jean Claude Guibal, "The 1992 European Internal Energy Market", *Energy Policy*, no. 5, 1989.
- ¹⁶ Op. cit., note 5.
- ¹⁷ See Commission statements in *Energy in Europe*, "Energy in the Internal European Market", March 1989.
- ¹⁸ "Energy Policy: 1992 vs 1995", Francis McGowan, in *A Single European Market in Energy*, joint report, Energy and Environmental Programme etc., and "The Single Energy Market and Energy Policy: Conflicting Agendas?", *Energy Policy*, December 1989, pp. 547–553.
- ¹⁹ Views from the Commission are strong in emphasizing the need for the free movement of gas, as other goods. See, for example, "Analysis: Gas and the EEC Single Market", *Financial Times International Gas Report*, September 30, 1988.
- ²⁰ "EF satser på 100% frit Indre Marked for energi", Interview with energy Commissioner Antonio Cardoso e Cunha, *El og Energi*.
- ²¹ See overview of Commission's role in "Internal Energy Market Provides New Commissioner with Major Role", *EC Energy Monthly*, January 1989, no. 1, pp. 5–6.
- ²² COM (88) 238, May 2, 1988, *The Internal Energy Market*.
- ²³ The EC structural funds have been trebled in connection with the single market development. 320 mill. ECU is earmarked for the energy sector.

- ²⁴ Jonathan Stern provides a discussion of member states' energy profiles, "The EC Proposals and Their Context", in *A Single European Market in Energy*, Royal Institute of International Affairs/ Science Policy Research Unit, London, 1989.
- ²⁵ *Communication to the Council on Natural Gas*, COM (86)518.
- ²⁶ S.A. Andersen and K.A. Eliassen, "The Explosion of European Community Lobbying: The Emergence of A European Political System", Report no. 1990-316-7, Norwegian School of Management.
- ²⁷ "The Commission's Work Programme for 1991", *Bulletin d'Europe*, January 25, 1991.
- ²⁸ S.A. Budd and A. Jones, *The European Community: A Guide to the Maze*, p. 39 (London, 1989).
- ²⁹ "Environment, a Priority for Growth", *EC Energy Monthly*, August 1989, 8, p. 11.
- ³⁰ "ESC Energy Section Approves IEM but Rejects Electricity Transit", *EC Energy Monthly*, December 1989, 12, p. 6.
- ³¹ "EIB Helps the Community develop resources, diversify imports, and rationalize energy use", *EC Energy Monthly*, August 1989, 8, pp. 6-8.
- ³² "Pipelines", *FT International Gas Report*, September 29, 1989, 140, p. 23.
- ³³ *OP. cit.*, pp. 39-42.
- ³⁴ See reports from the Energy Council meeting, "Progress to Single Market in Energy Proves Slower Than Expected", *Financial Times*, October 30, 1989, and "Commissioner Claims Progress as industry and governments change attitude", *EC Energy Monthly*, January 1990, pp. 5-6, where the energy commissioner claims that his proposal was entirely misunderstood as implying more control and bureaucracy. Instead it is intended to facilitate a rational market development for the community as a unit, he says. The strong reactions against this proposal, clearly a minor one in the IEM context, is illustrative of the inherent tension between those who think that a free market results from less rules and procedures, and those who hold that much deregulation is needed to achieve a freer market.
- ³⁵ Andersen and Eliassen, *op. cit.*
- ³⁶ *Ibid.*, p. 21.
- ³⁷ "New Small Hydro Lobby Group", *EC Energy Monthly*, March, 1989, 3, p. 9.
- ³⁸ "BASF Considers an Open Gas Market", *FT International Gas Report*, September 1989, 140, p. 15.
- ³⁹ "VEGIN and KOMGAS on EEC Prices", *FT International Gas report*, February 16, 1990.
- ⁴⁰ "Lobby Groups Prepare for Battle Over Internal Energy Market", *EC Energy Monthly*, September 1989, 9, p. 11.

- ⁴¹ "The European Chemical Industry Puts the Case for Common Carriage", *FT International Gas Report*, September 29, 1989, 140, p. 18, a summary of the proposition paper by CEFIC, "A True Internal Market for Energy", November 1988, Brussels.
- ⁴² "EEC Industrial Lobby Criticizes Tax Plans for Internal Market", *European Energy Report*, November 18, 1988, 277, p. 3.
- ⁴³ *Bulletin d'Europe*, February 26, 1990, "Energy: Industry has Unclear Position".
- ⁴⁴ "France: EC Energy Policies a Window of Opportunity", *EC Energy Monthly*, November 1989.
- ⁴⁵ Common carriage for electricity was adopted on May 21, 1990. The right to contract electricity is only valid between "equal" parties, which means that, for example, a German distribution company cannot buy from a French production company. But two parties can contract electricity although they do not have a common grid. They can demand that their electricity be transported by third parties. "Eltransitforslaget nu reelt vedtaget", *Scan-Energy*, 7, 1990.
- ⁴⁶ "Edf in surprise move to increase nuclear construction in this decade", *European Energy Report*, April 20, 1990, 312, 8.
- ⁴⁷ "Record transfrontier energy sales will offset Edf drought losses", *European Energy Report*, 298, 5.
- ⁴⁸ "France: EC energy policies a window of opportunity", *EC Energy Monthly*, November 1989.
- ⁴⁹ "Few Thrills and Many Doubts over internal energy market papers", *EC Energy Monthly*, October 1989.
- ⁵⁰ "UK fights public procurement draft", *EC Energy Monthly*, July 1989, 7/11.
- ⁵¹ *EC Energy Monthly*, April 1989, 4/3.
- ⁵² "Italy: Caution on IEM prompted by own problems", *EC Energy Monthly*, December 1989, pp. 1-5.
- ⁵³ "SNAM Monopoly Threatened", *FT International Gas Report*, September 30, 1988.
- ⁵⁴ "Gas Dominates Italian Energy Plan", *FT International Gas Report*, 110, July 1988.
- ⁵⁵ "Gas Transport", *International Gas Report*, 147, February 1990.
- ⁵⁶ "Green Italians", *Platt's Week*, August 21, 1989.
- ⁵⁷ "Italian energy industry leaders warn of growing pollution", *European Energy Report*, February 1989, 282/4.
- ⁵⁸ "Italian Industrialists State Their Position", *International Gas Report*, May 13, 1988, 105/3.
- ⁵⁹ "West German Gas Trends", *FTIGR*, May 12, 1989.

- ⁶⁰ "FRG", *Energy in Europe*, March 12, 1989.
- ⁶¹ "West Germans React Strongly against Common Carriage for Gas", *EC Energy Monthly*, July 1989, 7/4, and "Ruhrgas does not like Common carriage", *FT International Gas Report*, September 9, 1988, 113, and "Western Germany's Communal Utilities State Their Case Against IEM Plans", *EC Energy Monthly*, November 1989.
- ⁶² Europe: Agence internationale d'information pour la presse, Documents, June 1st, 1990, Luxembourg.
- ⁶³ "A European Energy Community", proposal by Prime Minister Lubbers at the European Council in Dublin, June 25, 1990.
- ⁶⁴ *European Energy Report*, December 1990.

Selling Norwegian Gas: From Collective Domestic Strategy Towards Individual Downstream Integration?

By Janne Haaland Matlary

The argument

Norway is the largest gas supplier situated within Western Europe, and has a reserve base that will suffice for at least 100 years' production at the current level. In a short time the international technology for gas production and transportation has been adopted and internalized by Norwegian firms, which are now well prepared for further developing and maintaining sophisticated technology in this area by themselves. This development has taken place in the last 15 years.

Increasingly, the continental market has become the main market for Norwegian gas, and the trend is expected to continue in the future. This market can arguably be said to be underdeveloped in the sense that a much larger market share for natural gas can be envisaged. An important factor here is that the emphasis on "clean" energy only has come to the fore politically in the current period. My assessment is therefore that gas stands the chance of gaining a much higher market share than the approx. 20% it enjoys today in the continental market. Not a particularly original conclusion, it nevertheless serves as an interesting premise for my argument in this chapter, viz. that only by downstream integration in this market will Norwegian gas sellers be able to influence the market share for gas.

I will argue that in the current situation in the continental gas market, where it is increasingly becoming possible to integrate, it will be advantageous for Norwegian gas sellers to do so. Integrating or not may mean the difference

between remaining a marginal supplier in the sense that Norway “fills up” a certain share after volumes have been increased by Algeria and/or the U.S.S.R. (usually importers observe a commercial diversification of roughly one third of gas supplies from each supplier, so that Norwegian gas is desired by the market simply because of this) or becoming a more aggressive supplier which influences the market share itself. Today’s continental gas market is in a sense of flux both regarding structure and volume, and it is my contention that downstream integration is essential now because it offers a unique opportunity to capitalize on the environmental factor; to establish lobbies in Brussels, not only in case of EC membership but more importantly, in the opposite case, where integration is the only route to be considered part of the internal market; the possibility of influencing the make-up of the internal gas market by market positioning, etc. In other words, the fundamental changes that are currently starting to take place in the gas market offer market opportunities that are fundamentally new. What will be the strategic response by the Norwegian gas companies?

The setting

By downstream or vertical integration I here offer a wide definition: it includes the ability to directly be in touch with major policy-makers that now restructure the market rules and link environmental concerns to energy use. Market rules, on this view, do not “happen”, they are created in interaction between political and commercial actors. Part of this activity in the gas market naturally still takes place at the national level; however, increasingly the EC “takes over” this function in its attempts to create a full-fledged energy policy for the EC as a whole. The analysis of the market and how to best integrate downstream is thus in this case very intimately tied to the political-economic process in the EC. It is well to remember that major companies in the gas sector from member states are regularly consulted by the Commission in institutionalized settings between themselves and the Energy Directorate, DG XVII.

The changes in the gas market that currently are being implemented can be summarized thus. First, a deregulation of the transportation and pricing structure for gas, thereby opening up for so-called “gas-to-gas” competition (which in essence means competition itself, hitherto largely an unknown in European gas pricing); and second, the direct linking politically of environmental factors to energy use, which means that two energy types compete as the “cleanest” ones: nuclear energy and natural gas. The latter process is speeded up politically by the unravelling of extremely polluting energy use in Eastern Europe.

Thus, the opportunities for gas market share expansion seem better now than ever. The structure of the market itself has previously been, I argue, a tacitly recognized barrier to market expansion within the industry. The production of gas has been radically separated from the marketing of gas, which has focused on the distributor only. A monopsonic situation exists – still – whereby a consortium led and dominated by Ruhrgas buys all Norwegian gas to the continental market (Estrada *et al.*, 1989). There is thus no direct contact between gas seller (Norwegian companies) and the end consumer. Market information is thus secondary for the gas seller.

In the gas market, infrastructure is the key to marketability. Because the former is expensive, the gas market is in many ways a natural monopoly. However, access to pipelines can be had by buying into existing ones instead of erecting new ones. It is therefore a very legitimate question to ask why Norwegian gas sellers have not done this when it is so vital to the distribution of their product.

Part of the answer here is political in its legal sense: it has traditionally been impossible for a foreign company to own part of or all of transmission lines in several European countries (EC Commission report, 1988). This is true also for the Norwegian North Sea transportation systems. Statoil by law owns 50% of Norpipe and Statpipe. On the Continent, rules vary. Whereas foreign companies cannot own domestic pipelines in France, they can do so in Belgium. In the most important part of the European grid, the German system, dominated by Ruhrgas ownership, there is at least the theoretical possibility of buying into Ruhrgas itself.¹ It is here interesting to consider the fact that the entire transportation system for Algerian gas to Italy – from Algeria under the Mediterranean through Italy on to Yugoslavia, is a 50/50 joint venture between the Algerian and Italian gas companies respectively.

Why have not the other two major suppliers to Europe – Norway and the U.S.S.R. – entered into joint ventures in a similar manner? Apart from the legal barriers to such entry, part of the answer has to do with the market power of Ruhrgas, and another part with Norwegian legal-political restrictions on downstream integration for the largest Norwegian gas company, Statoil. Formal political approval has hitherto been a requisite for major investment abroad since Statoil is the “instrument of state policy”.² The potential conflict between this quasi-political role and a normal business role is well-known to the petroleum-political debate.

The restrictions of a politico-legal nature that I have listed with regard to the ability of gas companies to act on market strategic considerations are currently largely disappearing. By this I mean that there is a general recognition that a freer market must prevail in all sectors of the internal EC market, which includes

energy. Despite major industry opposition, the EC has so far adopted open access directives for electricity and gas transportation, and enacted rules for price transparency in these sectors. Although much remains before one can speak of a deregulated market in the American sense, the market signals given by recent EC legislation are strong indeed, and gas market actors are beginning to adopt new rules of behaviour in response to, but also in anticipation, of a more freely functioning gas market. In Norway itself, the new Energy Bill follows the general trend towards “more market and less politics”. This climate of change makes an analysis of gas company strategy towards the continental market extremely interesting and timely, because for the first time in Europe’s gas market history it is possible to apply an essentially strategic analysis which includes real options of choice in how to approach and influence the market. Unlike many other markets, the twenty years of gas in Europe, from 1970 to the present, have been characterized by inertia in the sense that the same handful of companies have dominated decision-making. The industry is reputed to be extremely conservative in the sense of resisting changes, and of course the importance of infrastructure makes rapid changes very difficult.

This analysis is, however, not primarily concerned about why downstream integration has not taken place in the past, but rather with the present and the future.

I proceed to analyse the three Norwegian gas companies and their attitude to downstream integration, the differences of interests between them and the competitive environment they work within, saying which strategic alliances are possible and desirable in going downstream.

Inside the “Strategic Core”: competitive advantages and weaknesses of Norwegian gas company organizations

As a starting point I look at each of the three Norwegian gas companies, using Porter’s “value chain” as the point of departure (Porter, 1980). The three companies under scrutiny are Statoil, Hydro and Saga. These companies are different in terms of scope, political-economic role in Norway, and degree of international implantation. Their common feature is that they are oil and gas producers and sellers, and that they make up the universe of Norwegian gas companies.

Companies whose major preoccupation is petroleum have similar structures, typically consisting of a production division and a marketing department, with the secondary activities of R&D and personnel management ancillary to these

primary activities. The diversified company, here represented by Hydro, often consists of several, separate divisions.

I thus proceed by an initial analysis of the structure of the three gas companies, paying especial attention to changes in their make-up in a possible response to changed gas market conditions. This analysis yields a basis for the further analysis of the branch vis-à-vis its environment, which asks which have been and which are the main strategic alliances. Are they suitable for current changes in market conditions, and if not, which other alliances ought to be considered? Whereas going downstream is argued to be vital, are other directions of alliance-building useful?

Thus starting with an analysis of the "strategic core", the smallest Norwegian gas company, *Saga*, is the company that has shown most publicly voiced interest in discussing strategy versus the market in light of the current changes. In a report published in 1989, the company argues that "Norway as an energy exporter would clearly benefit from full EC membership", chiding Norwegian authorities for having a markedly passive attitude towards discussion of strategy for the marketing of Norwegian gas (Saga, 1989, 1). Furthermore, a gas marketing manager of the company has presented a paper critical of the power of the buyer – the Ruhrgas-led consortium – showing how the distribution link profits remain the same despite volume drops. The author shows that the profits ploughed back to the buyer are rather independent of the volumes transmitted through the pipeline. Only when the volumes drop very significantly is there a slight lowering of transmission profits. The fact that a gas selling company publishes this type of market information about its main buyer is remarkable. While it is "striking that Norwegian companies are not involved in anything downstream of the delivery point (of gas in Emden)", "it gives some food for thought that a country like Kuwait now receives greater revenues from its investments abroad than from its oil production". (Bjørn Saga, 1989: 3, 5). His conclusion is that "structural aspects of gas as an energy tied up with pipelines imply that vertical integration will present permanent advantages". The debate on this that the author hoped for has, however, not ensued. On the contrary, as structural changes have indeed taken place in the context of the EC internal energy market, Norwegian gas sellers have remained seemingly unenthusiastic about the opportunities that may be offered. Also, in a government publication from "Statssekretærutvalget for EF-saker", the conclusion is that changes in the gas market structure are not advantageous for Norwegian interests since they may lead to open competition in the gas sector with a concomitant lowering of gas prices ("Norsk energi", 1989). Norway as a high-cost producer might not be able to compete in such a situation.

Thus, at the outset one can detect differences in strategic interests between Norwegian gas companies, however subtly expressed. What accounts for this?

Saga's gas sales in 1989 were modest indeed (0.237 billion cubic meters (BCM), total sales from the Norwegian shelf approx. 30 BCM) and due to "high transportation costs and low gas prices" this gas was sold at a loss (Annual report, 1989). The transportation cost that is here referred to stems from transport through pipelines on the Norwegian shelf where Statoil is the majority owner. Tariffs are determined on a commercial basis. However, Saga's future position as a gas seller is brighter than at present. Now operating at a profit as a company after some years of financial distress, Saga signals that now "it is possible to evaluate new business opportunities" where "the relationship with other companies and joint venture partners is expected to demand increased attention". "Engagements abroad will also be evaluated" (ibid., 1989).

Norsk Hydro is a truly multinational company, integrated in both upstream and downstream operations throughout the world. Petroleum production is but one of four main activities, the others being the production and sales of fertilizers, aluminium, and magnesium. In the latter sectors the company has a multidomestic profile, with an extensive network of subsidiaries and associates in many countries. In the petroleum sector, the only downstream integration occurs with regard to oil. Hydro owns a cracking facility in Sweden and oil distribution companies in Denmark. However, it is a remarkable feature of company organization that all downstream activities in this sector are confined to Scandinavia while the corresponding integration for other sectors is spread around the globe. In this connection it is interesting to note that the existing downstream network in e.g. fertilizers, also could be utilized with regard to gas, which is both an energy source for this industry as well as a raw material. In fact, Hydro could well use its existing degree of integration in Europe to become a gas customer, i.e. buy gas from its own production. Hydro is thus at a competitive advantage over the pure oil and gas company here: it is, as a diversified industrial company in a position to utilize natural gas for purposes other than heating. Hydro is thus already at the forefront of exploring gas technology options also in Norway, and desires to build a methane plant in mid-Norway. In the upstream gas sector, Hydro is an active participant on the shelves off the Netherlands, Great Britain, Denmark, and Angola. Thus, both Saga and Hydro are engaged in upstream gas integration, but attempts at downstream integration are, I must venture to say, conspicuously absent.

Turning now to Norway's main petroleum company, *Statoil*, the major institutional development of 1989 has been the establishment of a new business division, viz. gas marketing. This is due to the fact that "gas is becoming increasingly more important to Statoil". Downstream integration in the oil

sector is extensive in Denmark and Sweden, where the company owns a chain of petrol stations. Further, petrochemical products are sold through Statoil subsidiaries in France, London, Finland, Western Germany and the U.S. Upstream the company is involved in exploration in the South China Sea and off the Dutch coast.

As regards gas, there are some elements of downstream integration. In 1989 Statoil entered into an "agreement of intent" (*intensjonsavtale*) with the Boston-based gas transmission company Enron. The hope here is that Norwegian LNG (liquefied natural gas) may reach the US market in the 1990s. This kind of agreement represents, however, a very weak type of integration indeed, as it carries no risk or obligation on the part of the integrating company until actual gas sales are closed. Further, and far more interestingly, Statoil has sold a smaller amount of gas directly to an industrial customer in Holland, the chemical company SEP, thus bypassing the national gas monopolist Gasunie. This deal, finally ratified by the Dutch government, was officially explained by the latter as a permissible exception to the rule that Gasunie supply all Dutch customers because it was in this case unable to provide this amount of gas at such a price. However muddy this explanation seems, the significance of this transaction is that it is an indication that new "rules of the game" are emerging for gas in Europe, rules that are not yet formalized but to which market actors are gradually beginning to adjust. Further, the fact that Statoil went by these new rules in this case indicates that the commitment to the "old regime" is weakening. Statoil also bought a 15% share in the national Swedish gas company Swedegas when this market was a likely one for major Norwegian supplies. The Swedes have since relented on their commitment to scaling down nuclear energy facilities, and the shares have been sold.

Finally, and in line with this interpretation, is the marketing cooperation that Statoil and BP have entered into in 1989. Little has been disclosed about the extent of this arrangement, other than the intention to market Norwegian gas in Britain under it. However, it is reasonable to believe that Statoil intends to market gas on the continent as well through this strategy. BP owns a 25.5% share in Ruhrgas (Matlary, 1985: 61).

Of the three gas companies, Hydro is the most diversified. The possibilities for internal linkages between gas and other activities here are very interesting. Since the productive facilities for Hydro in the fertilizing sector are well integrated in the continental market, Hydro could act as a gas seller to itself in this market. This is also generally true for domestic production, where gas could serve as a future energy source. However, the plans for a gas-fired power plant in Norway are currently shelved due to opposition from environmental groups, and there are also serious political doubts about the prospects for a methanol

plant in mid-Norway. However, despite this it remains significant that Hydro actively seeks out alternative possibilities for gas use both at home and abroad. This is a way of diversifying risk by not relying on one market alone, and clearly the impact of environmental factors will enhance the need for commercialization of already existing technologies for gas use in the transport sector.

It may in fact be a massive competitive advantage if Norwegian gas producers could lead in this process. Relying on being a raw material supplier is a safe strategy for a while, but at some point the technological use of the raw material will overtake those that remain suppliers of it only. This time perspective is very important in the evaluation of the need for downstream integration: if Norwegian suppliers remain upstream, they cannot develop gas markets for alternative gas use. As I stated above, the gas market in Europe is not a mature one. Its main growth lies ahead, and so does the more technological utilization of gas in various ways. For Norwegian producers, this initial period has been one of mastering production and exploration, and for developing as oil companies. There are now very clear signs that we are entering into another phase for the gas market: the main, continental market is changing, and Norwegian gas companies are probably ready to venture into this market in an integrative manner. Returning to Porter's value chain, at the outset Hydro seems best prepared to master the complexity of both technological development of alternative uses of gas as well as integrating gas in its own structure of production. However, Statoil may devote a proportionally much larger part of its resources to the task of going downstream. Saga is small in comparison, but may have an advantage in terms of flexibility for this reason.

It is, however, only at the present time that several factors converge to make gas a primary marketing activity of these companies: market changes in Europe make downstream integration more feasible; learning in companies in terms of upstream is completed, political conditions at home favour less government control with e.g. Statoil's commercial activity abroad; and environmental factors speed up need for commercialization of alternative gas use, especially in power generation, where gas has held a low share in Europe, and in the transportation sector. These factors are all related to the time dimension and/or to factors exogenous to the firm, mainly political ones, here the EC and the Norwegian government.

From collective domestic strategy to individual downstream integration: some options

I now turn from the strategic core to the strategic environment in an analysis of current and prospective alliances for the Norwegian gas sellers. These have

established that first, they have hitherto shown a remarkable lack of interest in downstream integration, and second, that their only strategic alliance has been the GFU, the gas sales organization made up by the three Norwegian companies, which has been imposed on them politically. The reasons for the lack of downstream engagement are as stated – the GFU itself, as a cartel, limits individual scope for action, the market structure has offered similar politico-legal limitations on integration; and Norwegian companies may not have been ready for large-scale and large-scope arrangements of this kind until the present time.

The environment of a firm falls in at least four categories: suppliers, competitors, substitutes, and buyers. Outside of this circle are political and economic actors at the transnational level and various economic and political regimes. This comprehensive “umbrella” captures all determinants of strategy outside of the firm itself. I have thus far provided a preliminary analysis of the competitive strengths and weaknesses of the gas seller organization in Norway, arguing that the current strategic alliance, the GFU, does not meet the needs of gas marketing in a changing market. The GFU, while still in operation, is rapidly losing relevance also for other reasons. In the EEC negotiations with the EC such a *de jure* cartel cannot exist. Also, with a waning interest in it on the part of the two largest gas companies, Statoil and Hydro, political support for the arrangement is now rapidly disappearing.³ One may therefore conclude that the GFU is a strategic alliance of the past, or at least a marketing strategy that has to be supplemented by other activities.

What may replace it? I will now look at Revc's four groups of prospective alliance partners in an assessment of likely and/or possible options.

Suppliers. Here there is no need for alliance formation since all three gas companies are self-supplied with gas. But, as the cartel for Norwegian gas sales disappears, the foreign companies on the shelf have a choice as to marketing. The possible alliances upstream will mainly depend on who controls the infrastructure: hitherto Statoil has held the majority share in the major pipelines, and tariffs have been determined in commercial negotiations, much to the dismay of the other companies. Tariffs have sometimes been so high that the gas price from the distributor has not covered the cost of transportation. This is because tariffs are not automatically re-negotiated with a lowering of gas prices, which are usually indexed with the price of oil.

In the EC, the first step towards a common carriage system has been taken with the preliminary adoption of a directive securing open access rights for transmission companies (COM (90) 6341). In an EEC agreement, or in the case of membership, the Norwegian transmission regime will have to be in line with

this. All companies may then enjoy the right of transport under set rules for tariff determination. This opens truly interesting perspectives for strategic alliances between companies upstream. Since several companies share in a gas field, some degree of cooperation is imposed with regard to production.

There will thus probably be more scope for a variety of alliance upstream in the future.

Competitors. The main competitor in the northern European market is the U.S.S.R. Algeria supplies southern Europe, but is also a competitor in the emerging East European markets. There has never been any public cooperation between Norwegian and Soviet gas sellers. But there is a logic to alliances between suppliers in this type of market: together they can form a front against a monopsony on the buyer side. The same logic makes the GFU a marketing strategy: sellers are united when buyers are. Also, the logic of diversification between the few suppliers means that competition will not be a zero-sum game. The question is about margins rather than absolute dominion.

Hitherto this picture has been rather clear-cut: there has been a rough division of market shares based on political and commercial diversification. However, this order of things is changing rapidly. First, with detente in Europe there is no need for political diversification based on a fear that gas will be used as a means of political pressure. Reagan's "evil empire" scenario is now irrelevant. Soviet gas sellers, also because of this stigmatization, have always taken pains to be extremely reliable, technically speaking, as suppliers. The common judgement in gas circles has been that they were the most reliable suppliers of all, whereas Norwegian production might be interrupted by strikes. Now the situation is radically different: Soviet gas production is extremely unreliable from the technical point of view, and along with a dismantling of the old organizational structure this makes for near chaos in the supply picture. The fear of European customers now is not to be pressured politically, but to have no pressure in their gas lines. The gravity of this situation has prompted the EC Commission to suggest a massive undertaking to guarantee Soviet gas production, politically, technically, and financially.⁴

The implication for Norwegian gas strategy is that, first, the old rule of diversification by roughly one third is disappearing. If the EC enters into a large-scale joint venture to save Soviet supplies, the question of import dependence on this source loses relevance. In fact, it will rather be advantageous to encourage much more Soviet gas into Europe in order to thereby help the Soviet economy in general. As long as Norway remains outside of the EC and its discussions on this, the role of Norwegian gas becomes more marginal.

One strategy is to use Norwegian gas know-how in integration in the U.S.S.R., as this may give access to the large, undeveloped markets also in Eastern Europe. Norwegian production technology, now at a sophisticated level, has a competitive advantage compared to other European nations. Towards the EC the obvious strategy is that membership alone can strengthen Norwegian presence and influence in the formulation of a European energy policy where gas is important. The need for a Soviet "rescue operation" can be turned to an advantage in the sense that it may boost gas use in Europe. If Norwegian authorities were party to current EC policy-making here, Norwegian interests would be taken into account. Norwegian gas sellers can therefore use their influence in the Norwegian political setting, pointing to the importance of these factors in the burgeoning debate on EC membership. And the companies themselves must actively look at the opportunities for integration that the disarrayed Soviet system offers at present instead of simply viewing Soviet gas as a competitor.

Another competitor to gas in a market increasingly characterized by concern for the environment is nuclear energy. The EC is now formally tying energy and the environment together⁵, and this means that the competition between these energy forms will be sharpened in the future, as both can claim to be "clean" fuels. Further, this competition will largely take place within EC forms of decision-making. For instance, a present one discusses a carbon tax versus a general energy tax: the former will favour nuclear energy use, the latter not. Today there are no natural proponents of natural gas in the EC, apart from perhaps the Netherlands, but production from this source is declining rapidly. A major element in Norwegian gas strategy is then arguably, first, to gain influence through membership, and second, to form political alliances in the form of trade-offs with powerful nuclear interest, such as, e.g., represented by French interests. It is illusory to think that nuclear energy will disappear in the EC region, therefore, a medium-term strategy should be based on a trade-off alliance rather than competition.

Substitutes. By this I understand not other energy forms, but rather alternative uses of gas to that of heating. The development of industrial and other uses of gas represents possibilities of diversification for the gas seller. This in turn is a bargaining advantage when relying primarily on one market, as is the case here. The Norwegian company that has the competitive advantage here is, as mentioned, Hydro. It possesses the technology and the infrastructure necessary to develop gas as a product. It is interesting that the technology for alternative gas use in e.g. transportation, already exists – the problem is one of logistics:

how to make the product commercially viable. The environmental factor will speed up this development, but the initial investments will be heavy. A company with several interests in the gas sector is thus best suited to undertake this type of strategy.

Buyers. Porter lists a number of potential advantages and drawbacks to downstream integration (Porter, 1980: chapter 14). Among the most salient for our case are, on the positive side: access to infrastructure, better access to market information, improved ability to differentiate the product, and lastly and very importantly, possibility of offsetting a buyer's bargaining power. Porter even states that "if a firm is dealing with customers who wield significant bargaining power ... it pays for the firm to integrate even if there are no savings from integration" (Porter, op. cit., p. 307).

Norwegian gas to the continental market can only pass via the Ruhrgas-owned pipeline network. The planned Zeepipe pipeline to Belgium will reach the Spanish and French markets, but even then, gas to Italy, Germany, Austria and possibly Poland and Hungary will need to enter Ruhrgas's net. Much has been written about how powerful Ruhrgas is in the European market. However, the simple constellation of infrastructure is a sufficiently good argument for integration. This will, however, be difficult to accomplish, but there is no legal reason why Norwegian companies cannot own stock in German pipelines. A smaller German pipeline company, Wintershall, has for example recently entered into a joint venture with the newly formed Soviet gas company Zarubeshgaz.⁶ However, the development in EC energy policy may make ownership of pipelines unnecessary. So far a directive that allows all transmission companies right of transmission has been passed. This may be a forerunner of a common carriage concept whereby gas sellers and buyers can demand access to transportation. Even if Norway were not a member, the buyer of Norwegian gas, probably a member, could then demand transport. My point here is that policy-making in the EC towards this end does not evolve *sui generis*. Thus, Norwegian companies ought to be present as lobbies in Brussels, and the case for common carriage can best be argued with Norway at the EC table. Interestingly, Statoil has repeatedly voiced its opposition to the idea of common carriage. Although the company clearly sees the potential advantages this could result in, it concludes that the potential drawbacks are greater. Among these is the fact that the North Sea pipelines, where Statoil is the majority owner, would be subject to EC rules as well, both in a EEC agreement and if Norway enters the EC. Further, there is the fear that the unknown will bring perhaps a larger market share for gas in Europe, but that this will mean lower gas prices,

especially if this gas is destined for the power generation sector. In this sense one "knows what one has, but not what one gets". Lastly, there is the still very important relationship with Ruhrgas to consider: it is not wise to disagree openly on the extremely sensitive issue of gas transportation regime. In contrast to Statoil's official view is for example Saga's, which is favourable to more competition in the gas market. This difference of views between in essence similar companies reflects the fact that they have different strategic interests.

Along with some kind of common carriage regime comes the added possibility of establishing gas sales units vertically. The gas received by say, Saga in Rome, could be sold as it is, or could be the basis of technical or other utilization. The general point is that once the key factor of access to infrastructure is solved, a wealth of market possibilities open up. This represents the strategic thinking for tomorrow's market, where gas will be used increasingly in new transportation concepts, probably extensively in city public transport, where CO₂ pollution is already a major problem. Norwegian companies are at a competitive advantage in developing these markets since they already produce the raw material.

Conclusions: What is to be done?

As Lenin pointed out, a strategy has at some point to be chosen. Porter argues that all companies must choose between the strategies of differentiation, cost leadership, and focus (Porter, 1980). Norwegian gas sellers have never been cost leaders and gas from this source will continue to be high-cost. In a sense, a strategy of differentiation has been sought, in the emphasis on Norwegian gas as being from a politically reliable source. This possible source of competitive advantage is, in my view, gradually disappearing. Soviet gas may under an EC regime for production be more politically desirable than gas from another non-member, Norway. Soviet gas may thus paradoxically be able to take advantage of political diversification in the future.

What about a strategy focused on new uses of gas? This requires much more sophistication than selling gas alone, and is a strategy where the main competitor, the U.S.S.R., cannot easily follow. The time may now be ripe for creating new gas markets through this strategy, and this is where Norway's comparative advantage probably lies. But access to the markets requires access to infrastructure, therefore the two elements of the strategy are dependent. A dual strategy of EC participation and innovative technological development for gas utilization should be pursued.

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Notes

- ¹ The ownership structure of Ruhrgas is complex, with many energy interests represented. Some of the foreign shares are non-voting. For a discussion of German business organization related to this, see Matlary, "Germany", in *Political Factors in Western European Gas Trade* (1985), Estrada *et al.*, *op. cit.*, and Davies, *Blue Gold. The Political Economy of Natural Gas* (1984).
- ² The dual role of Statoil – as an instrument of policy and as a commercial company – has been a problem for company and politicians alike. As a recent article points out, no-one knows when Statoil must ask permission from the Storting to do something ("Statoils frihet er flytende", *Dagens Næringsliv*, 11.12.90). Increasingly there seems to be a political consensus that Statoil should operate as a commercial company, at least in terms of foreign direct investment. However, a major conflict over which role the company should play as a domestic investor is developing. Statoil itself resists the thought of being used to "save" domestic industries ("Har ikke penger til aksjeinvesteringer", *Dagens Næringsliv*, December 6, 1990).
- ³ Minister for Energy Finn Kristensen has no objections to the dismantling of the GFU (*Dagens Næringsliv*, November 27, 1990).

- ⁴ Jacques Delors suggested an “Energy Charter” for Europe at the signing of the CSCE in Paris. This proposal, supported by the 12, has been discussed with the Soviets and it is very far-reaching. Details in *Europe: Bulletin d'information pour la presse*, November 1990.
- ⁵ The Council of Energy 1990, at the Dublin summit. The European Council agreed on this in June, Ministers has published its working guidelines on how this work will proceed, May 1990. Details in *Europe: Bulletin d'information pour la presse*, June 1, 1990.
- ⁶ *World Gas Intelligence*, October 1990, reports that now both German transmission companies will compete between themselves, as well as Soviet gas selling companies, of which there are at present at least two. This is an entirely new phenomenon in both places.

Norwegian Energy Policy in an International Context: The U.S. Embargo of Soviet Gas in 1982

By Ole Gunnar Austvik

International energy markets are more politicized than most other commodity markets, where governments extensively interfere with taxes, subsidies, regulations and even pure warfare. One important reason is that the oil price and the availability of energy are central factors, directly and indirectly, for the development of all nations' economic and political stability. This is true whether the country is a net exporter or net importer of energy. The conflict in the Persian Gulf after the Iraqi invasion of Kuwait in 1990 has emphasized this fact.

Scarcity of oil and gas will characterize international energy markets, either in an economic, physical or political sense, over shorter or longer time. With a constantly increasing Norwegian petroleum production, the international community will closely observe the development in Norway. Apart from security policy, petroleum issues may become the most central single factor in Norwegian foreign policy, simply because the outside world defines it so.¹

Norwegian oil and gas have already been the focus of international conflict. As late as in the spring of 1990, the Soviet Union halted considerable parts of its gas supplies to Lithuania. Norway was then requested to substitute these in order to alleviate the pressure from the superpower. Similarly, the question of oil supplies to Israel, the relationship to OPEC and various gas negotiations (Troll, Sleipner) have all had elements involving central international political aspects.

As an example of how Norwegian petroleum policy may be influenced from the outside world also in the political sense, I will in this article analyse the case

when Norwegian energy policy first became an explicit element in a larger political game. In order to prevent Western European countries from completing a notable gas contract with the Soviet Union in 1982, the U.S. introduced a ban on all American exports to firms supporting the project. Also European firms supplying equipment were boycotted by the U.S. The Americans claimed that if Western Europe became too dependent on Soviet gas, it might come under pressure in a future political crisis if the Soviets turned off the taps to stop the energy supply. The U.S. urged Norway to increase her gas exports as a substitute for Soviet gas.

Norway, on the other hand, maintained that the gas production could not be increased as quickly as desired. This was due to the long time lags between a field development decision until actual production can take place. The Norwegians also wanted, in case a development should be accelerated, a "price premium" to justify an act that otherwise would have been different.

The U.S. boycott of the equipment was all in all futile. Norwegian total gas production did not increase noteworthy during the 80's and prices have not been higher than those of other exporters either. The expected increase in production in the nineties is a result of the Troll agreements of 1986 which were signed for other reasons than the U.S. wishes.

This article will discuss central issues in this conflict. Was the argument regarding the risk of supply disruption the sole American concern? Was the policy realistic as to what was acceptable to buyers and sellers in the market? Did Norway play her cards right when responding to the American requests or could gains have been achieved by some other strategy? Can anything be learned if Norwegian petroleum again should be linked with international conflict?

Soviet gas export and American interests in 1982

The background of the conflict in the early eighties was that the Soviet Union planned to construct a pipeline with a capacity of 40 billion cubic metres (BCM) per year. The pipeline was to transport gas from the Urengoy field on the Yamal peninsula in Western Siberia to Western Europe. Yamal is about 4000 km from Western Europe, with permafrost and difficult weather conditions. In Western economies the project would probably not have paid off. But since it would bring the Soviet Union considerable revenues in convertible currency, while the expenditures were paid for in rubles, the project was assessed as profitable from a Soviet point of view.

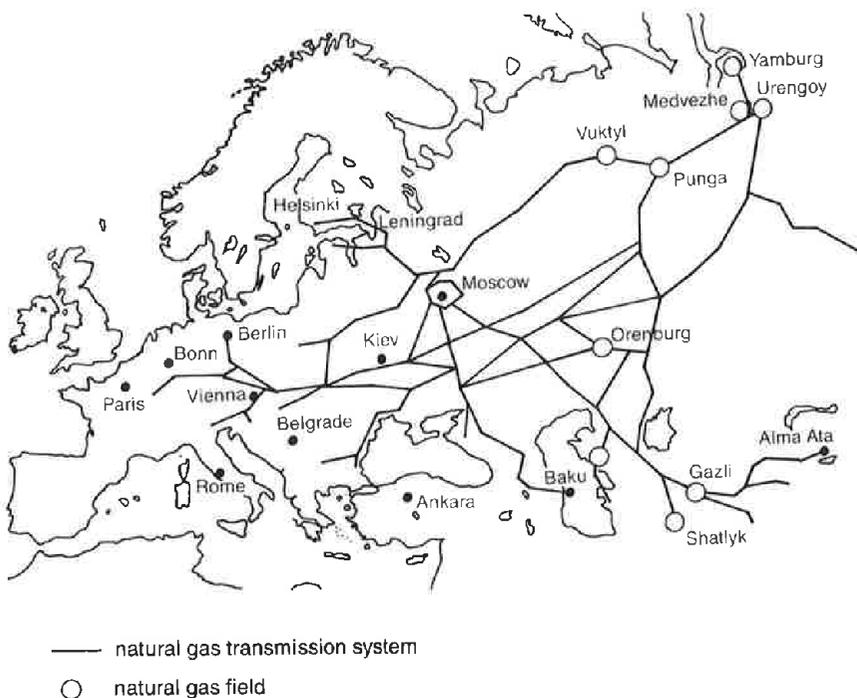


Fig. 1. Soviet pipeline systems for gas to Western Europe.

The purchasing countries were Western Germany, France and Italy. At one stage, the Netherlands and Belgium too were about to buy Soviet gas. While the initial volume was set to 40 BCM, it was later reduced to 25–30 BCM. This represented a Soviet share of 30% of the German and French and 40% of the Italians' gas import.

The Carter administration was sceptical to such a gas agreement already in the late 70's. The view was that Western Europe would become to dependent on energy supplies from the Soviet Union as well. Assistant Secretary of Defense in the Reagan administration, Richard Perle, made the arguments more clear in November 1981 ("Defense", February 1982) as a threat to Western security. First, the exports gave the Soviets vast revenues in hard currency. This enabled them to import technology for military use. It would also release civilian resources which in its turn could be used for military purposes. Secondly, Perle

thought the project would result in the formation of economic bonds between Western Europe and the Soviet Union. This could widen Soviet influence on U.S. allies, and could, over time, contribute to a Soviet-desired division between the U.S. and Western Europe. Thirdly, in a crisis the Soviet Union could disrupt the gas supplies to injure the West. A fourth argument, which was put forward later, implied that parts of the equipment delivered for the construction of the pipeline itself could be used for military purposes. Thus, the fear of a supply disruption was only one of several U.S. arguments to stop the Soviet gas supplies.

The Soviet Union was, and still is, very dependant on energy exports to earn convertible currency. In 1970, the country earned \$ 444 million from its energy exports, which represented 18.3% of its hard currency revenues. In 1980 these revenues amounted to \$ 14.7 billion, or 62.3% of hard currency revenues (Jentleson, 1986). In 1986 the energy share of Soviet hard currency exports had increased to 80% (Austvik, 1987b). There are very few other products of interest to Western Europe. Consequently, for the Soviets, the gas export deal became an important target in improving foreign trade balances.

Thus, if the U.S. should influence the Soviet economic situation, the gas agreement became an attractive target. Besides, the Soviet Union is in great need of Western technology in its energy production. Therefore, the technology transfer through the shipment of equipment for the pipeline construction had a double economic significance. New technology could make the Soviet Union more efficient. This strengthened the Reagan administration's conviction that the pipeline had to be stopped: an economically strong Soviet Union would be more dangerous than a weak one.

The American policy was to a large extent a result of the relationship between the superpowers after the invasion of Afghanistan in 1980. The U.S. assumed that the Soviet Union would face a difficult economic situation, with a deficit in foreign trade and lack of hard currency. This situation could be worsened by not only limiting the access to Western technology and credits, but also by curtailing Soviet trade with the West as such. An autarchic state usually exploits its resources less efficiently than a trading state.

As both an economic and a military superpower it seemed logical for the Americans to link economics with politics in order to promote their interests. This is in particular valid vis-à-vis an opponent which, more or less exclusively, is a military superpower and must be regarded as rather under-developed in economic terms.

Therefore, the Polish state of emergency in 1981 became a convenient reason for the American measures. The Polish situation gave the U.S. a concrete reason for introducing sanctions against the pipeline (Jentleson, 1986). "The

Evil Empire”, as Reagan called the Soviet Union in his first presidential term, had to be punished for the treatment of Poland.

Economic pressure as a foreign policy instrument

The use of economic pressure to change other countries' policies is not unknown. Economic sanctions were undertaken by the United Nations against Rhodesia and South Africa with rather limited success. The U.S. has undertaken grain embargoes against the Soviet Union, also with limited achievements. The first time international economic sanctions were undertaken in an effective manner (with a substantial majority of countries participating) was evidenced with the U.N. sanctions against Iraq after the invasion of Kuwait in 1990. However, in general, sanctions have proved rather ineffective in obtaining political goals.² This has mainly been due to three factors:

- Individuals, businessmen and others who have to endure the burdens of an economic boycott are not willing to do so. This was for example expressed by American farmers who put pressure on president Reagan to cancel the grain embargo imposed on the Soviet Union by the Carter administration in 1978.
- Countries representing alternative sources for the boycotted country have refused to cooperate. This may be due to diverging views as to the purpose of the penalty. Or they find that an undue share of the burden by the sanctions falls on them. During the grain embargo, Argentina did not only allow sales to the Soviet Union, but diverted export to some extent away from her former markets towards the Soviet Union (Mastandano, 1984).
- It has not always been easy to predict the reaction of the country subjected to economic pressure. It may be mild, but can also get harder. Besides, countries depend on trade in varying degree. This puts limits (as well as it creates potentials) as to what may be achieved through a boycott.

Here, I shall distinguish between three ways of using economic pressure to reach political goals: economic warfare, tactical linkage and strategic embargo.

Economic warfare

Economic warfare implies, in short, to weaken another country's military potential by hurting its economy. This presupposes linkages between the country's trade and economic development as well as between its economy and

the military. Improved technology, a better qualified labour force and a more sophisticated civilian sector will strengthen the military beyond the effect of the imported goods as such.

Such a strategy does not necessarily have to be applied to all goods. In principle, it may be selective by picking those indispensable to the penalized country, while of less economic importance to the sanctioning one. Goods must be found where the demand in the target country is very inelastic, where the costs of indigenous production are unreasonably high and where it is (made) impossible to retrieve them from other contractors.

Highly developed technological commodities will very often be such an objective. Apart from being important for the military, technology is also a bottleneck for economic development. Because the gas contracts represent significant Soviet income in hard currency, they will also be a suitable goal under a policy of economic warfare.

Tactical linkage

Tactical linkage is a systematic junction of economic and political/military elements aimed at influencing the *politics* of the target country, rather than weakening its military capability through a weakening of the economy. If trade can impair the opponent's benefit from the military apparatus, even when this is still being built up, the net result regarding one's own security may well be positive. A country's security is not only dependant on the military capability of its opponent, but also on the costs involved for the opponent of using this capability.

In such a strategy the trade policy will be adjusted according to how content one is with the policy of the opponent. The trade may be extended if this policy is seen as positive and reduced if not. The adversary will then actually be inhibited in his actions in the sense that a political action may imply a loss of an important trade agreement. If the contract is sufficiently extensive and important the dominant country may gain political influence in the target country through the economic dependence which has arisen and the personal ties that have been established.³ An economic interdependence has been developed which reduces the interest in waging war against each other.⁴ The influence will, however, in varying degrees go both ways, positively as well as negatively.

The reason why the U.S. embargo of 1982 usually is not regarded as a linkage policy is that it was linked with Soviet policy at large, rather than with any singular aspect of it. And it aimed at *reducing* trade and relations, rather than increasing them.

Strategic embargo

By a strategic embargo the concern of the sanctioning country is not to weaken the opponent economically. It merely wishes to strike goods that can be of direct military use. The prohibition of contraband in wartime is the most typical example of a strategic embargo.

During a strategic embargo, export of goods that reduce economic bottlenecks in the target country is allowed as long it does not affect military ones. Raw materials have historically often been such goods, while technology may be more predominant today. As long as equipment for the gas turbines is of no military relevance, a boycott of the Soviet gas supplies will not be included in such a strategy. Limitation of technology export under the Consultation Group Coordinating Committee (COCOM) rules, however, must be characterized as a part of a strategic embargo.

Why did the U.S. boycott fail?

In 1982, a delegation under the auspices of the U.S. State Department went to induce the Western Europeans not to buy Soviet gas. Western Europe should rather choose alternatives to meet their increasing energy demand. The arguments in favour of such diversion were close to our notion of economic warfare, even though the whole range of arguments was actually used (cf Perle's list): An economically strong Soviet Union is more dangerous than a weak one. The U.S. compensation package contained two main components (Jentleson, 1986, pp. 185-187): American coal and Norwegian gas were presented as alternatives to Soviet gas.

The proposal concerning American coal was somewhat vague as the capacity needed for such an export was not obtainable in the U.S. at the time. Besides, coal entails an environmental problem and may be seen as inferior to gas as a source of energy. Complete solutions as to transportation across the Atlantic were also omitted.

The proposal of Norwegian gas implied problems the Americans obviously had not been aware of. Jentleson (1986) claims that the Americans found that the Norwegian government lacked the will to increase production above existing plans. But for Norway it was technically impossible to increase production as fast and as much as desired.

Apart from putting forward these rather unrealistic alternatives, the U.S. failed to include a proposal of compensation for the loss of export contracts for

equipment to the pipeline. The basic conditions of a “just” burden-sharing when a boycott is introduced were consequently broken in the proposal.

Apart from differing economic interests in the burden-sharing, there was a political divergence between Western Europe and the U.S. on the desirability of an embargo, as well. First, Western Europe had, partly with strong internal opposition, just been deploying Pershing and Cruise missiles. This complicated an acceptance of another Western initiative against the Soviet Union.

Secondly, most countries thought the gas supplies would result in a lesser degree of dependence than maintained by the U.S. Much of the risk of such a dependence could be counteracted by enlarging storage facilities for gas, increasing the flexibility of the national distribution systems and securing the supply of Dutch and Norwegian gas in the *long* term. Even though the Western European countries did not reject the possibility of a Soviet stop in supply in a worst case scenario, they did not see themselves as vulnerable as the Americans did.

A third divergence occurred as the Europeans thought the Americans overestimated the strategic Soviet advantages of the agreement. It was argued that the Soviets would benefit from high technology import, i.e. the importance of a *strategic embargo*. The views, however, differed as to what degree hard currency incomes would increase Soviet military capability. There was, in other words, no consensus on the effect of *economic warfare*.⁵

When the supplies of compressors and other equipment commenced at the end of August 1982, President Reagan banned all American export to those firms that supplied the project. Despite the ban, however, supplies of the European equipment continued. When President Reagan, the same fall, increased U.S. grain exports to the Soviet Union, the European countries became even less willing to break the contracts.

The tension was eased on November 13, 1982, as the U.S. terminated the sanctions. No European return services were agreed upon, but it was settled (Jentleson, 1986) that Western Europe should close no further gas contracts with the Soviet Union until (a) The International Energy Agency (IEA) had completed a study on the danger of becoming (too) dependent on Soviet gas; (b) the OECD had concluded a study on the effects of export credits to the Soviet Union; (c) a COCOM agreement was reached on limitation of high tech export to the Soviet Union and (d) a NATO study of the significance of trade in general between the WP and NATO countries was completed.

The volumes were reduced as compared to the original 40 BCM per year. The U.S. claimed that this was a result of the pressure put on the Western European countries. The countries themselves declared that the market situation had led to this reduction. Decreasing oil prices and a weaker economic growth were the

main reasons, and most central suppliers of gas to the Western European market had to reduce their quantities according to expectations.

Though the joint economic warfare against the Soviet Union failed in 1982, an agreement was reached on revising and updating the COCOM rules; in other words, on a strategic embargo. The U.S. wanted a somewhat longer list of commodities on the COCOM list than her allies, while these accepted a more consistent enforcement of the rules and control with Soviet agents involved in technological espionage in Western countries. Western European and U.S. economic interests diverged to some extent, as more trade with data equipment takes place between Western and Eastern European countries than between the U.S. and Eastern Europe. In June 1984, however, an agreement was signed imposing a strategic embargo on the Soviet Union through the COCOM rules.

Politics shape markets and markets shape politics

Norway expressed, in response to the American initiative, that it would be impossible to accelerate production, for instance from the Troll field, sufficiently to make Norwegian gas a real substitute for Soviet gas in the short and medium run. Even though the U.S. appeared to have difficulties in accepting this, the reaction seems correct enough. It does take a long time to develop a gas field in the North Sea, often as much as 5–10 years.

Furthermore, Norway stated that if production was to be accelerated compared to existing plans in the long term, Norway should get an additional price to justify the increase. There would be no reason for Norway to increase gas production if profit was not increased as compared to existing expectations. By this strategy, Norway put forward wishes for a higher price than her competitors for security policy reasons. This line was pursued until the fall of the Willoch government in 1986, without any gas contracts of significance having been signed. When the Harlem Brundtland government adopted a form of market pricing in 1986, the Troll negotiations were eventually speeded up.⁶

Views may diverge about what should have been the aim of Norwegian strategy in 1982. Even though higher prices in new contracts were chosen, implicitly a volume increase, Norwegian interests would also have been promoted through price guarantees, securing access to the markets and flexibility in the contracts, to mention a few.

Should the goal, however, be limited to desire for more profits by new gas sales compared to previously expected profits, it is vital to have an opinion of how the market functions. An increased price *may* be obtained by being preferred to competing exporters. But is it possible to be preferred to other

exporters in terms of price? If the answer is yes, one has to establish whether this is a result of commercial calculation only or, as in this case, whether it can be made on political grounds as well. Or can higher prices only be achieved when prices in the market in general are increasing? If so, is there anything Norway can do to make this happen? And is it desirable?

If the objective is modified from aiming at higher prices to promoting Norwegian gas interests in general, an increase in volume could also be a goal in and by itself. An increased volume will be important, partly because production and transmission of gas is an industry with obvious elements of economies of scale. A large production usually implies lower costs per unit than a smaller one. But will volumes increase primarily due to a growing total market where all exporters increase their export? If so, is there anything that can be done in order to expand consumption of natural gas in Europe? Or is it so, that Norway had the potential for enlarging her market shares at Soviet expense when parts of the central framework of the market changed in 1982?

A totally different objective could have been to improve Norway's economic and political relations with the outside world in general. As a significant exporter of petroleum in a strongly politicized market, this is, of course, a relevant aspect to be considered in a total strategy. The importance of considering such aspects was clearly demonstrated in connection with the signing of the Troll agreement. In order to accept this commercial agreement the French government required an improvement in a series of fields in the Franco-Norwegian relations. An important aspect of such type of national linkages is that parts of the deal cannot be negotiated on the commercial level only, but directly involves governmental bodies and politicians.

The purpose of the discussion above is to point out that the choice of objective and strategy has to be made according to how prices and volumes are formed endogenously in the market and the exogenous factors influencing the market. This equilibrium is very hard to find. But it is, in one way or another, being created by techno-economic barriers; structures of production, transmission and distribution; diversification wishes on commercial, competitive and security grounds; as well as by overall economic and political assessments. Equilibrium can be changed over time, as capacity is being increased, management capability (political and commercial) enhanced, political and commercial positions changed, demand and overarching political structures develop, new pipelines constructed, etc.

Did the situation in 1982 *per se* alter the functioning of the market, or the strategies of the actors, in such a way that Norway's situation as a gas exporter was significantly improved? Could the situation be used to influence and improve the frameworks or the functioning of the market in the interest of

Norway? Clearly, a "free market" does not exist anywhere. There may be no real long-run development of the market based on pure economics. Politics may well, from time to time, overthrow any of the expectations based on purely economic analyses. Therefore, perhaps Norway should more actively play her own "cards" into the formulation of the outcome?

Why did the demand for higher prices fail?

At the time the U.S. put forward the wish for increased Norwegian gas sales to substitute Soviet gas, oil prices, and consequently gas prices in Western Europe, were high. In the market there were expectations that new large gas contracts would be signed at high prices. The Statfjord contract of 1980/81, which until then represented the highest prices of natural gas in Europe, underlined these expectations. The U.S. pressure on the purchasing countries to buy Norwegian instead of Soviet gas was added to this favourable market situation. In the early 80's the prospects for the Norwegian gas trade seemed bright, both in a commercial as well as in a political perspective.

The Norwegian "price premium" policy has mainly rested on the ground that prices, first, certainly must cover all expenses attached to the development of fields and pipelines. Secondly, gas production was put up against crude oil production. If gas production was less profitable than oil production, there would be no reason for Norway to increase sales, at least not in such a degree that would have been necessary if Soviet gas should be replaced. Consequently, the reason for the Norwegian price demand had its basis in production economic considerations.⁷

In Norway, much attention was paid to the U.S. argument that the Soviets, in a crisis, could turn off the tap. But the disruption scenario was only one of the American arguments for halting the supplies. And, as discussed above, even though Western Europe had considered the risk of a supply disruption, it was only one part of their overall risk assessment. For them, in an overall evaluation, it was desirable and beneficial to pursue the import deal with the Soviets. In a crisis, common Western security and/or American interests would eventually be jeopardized, not only the interests of individual European consuming countries. Thus, the Norwegian price premium policy can not be defended as well from a market point of view as it can be argued from a production point of view.

It was the American, and not primarily Western European governments, that wanted the Soviets to sell as little gas as possible. A price premium on Norwegian gas should, consequently, be invoiced to the U.S. or, for instance,

NATO. Whether it would be possible to make the U.S. pay such a premium is doubtful, when regarding American administrations' previous reluctance to cover the expenses of others when economic sanctions against the Soviet Union are imposed (cf the grain embargo and the reaction of American farmers). It also seems most unlikely that NATO, as an organization, could agree upon such an arrangement, when taking the conflicting interests across the Atlantic into account. The conclusion is that it would be difficult to achieve a price premium, whether paid by the consuming countries, the U.S. and/or NATO.

Of course, security against disruption in energy supplies is vital to all importers. Then again, this attitude, both concerning economic pressure and supply disruption/reduction, whether for technical or political reasons, is the main cause why most countries want to reduce their dependence on oil imports (and, thus, supplies from the volatile Gulf region) and increase the use of alternative energy sources. Such a philosophy of risk aversion is to be found in all international trade and division of labour.⁸ There must be a mutual trust to make the international system work, which is only partially the case.

Each importing country must have an opinion about the costs of maintaining high self-sufficiency (if gas is produced domestically) vs the (short-term) benefits of basing much consumption on (basically cheaper) imports with the risk of supply disruption. Similarly, the (short-term) benefits of relying on few energies and suppliers in the import balance must be gauged against the risk and costs involved in such one-sided reliance if it is possible to (more costly) diversify imports.

This security-of-supply situation is different for Western European countries when assessing the sensitivity to imported gas as opposed to imported oil. The infrastructure in the European gas market makes the rigid *physical* linkages between countries important for security. For oil dependence, the *price* of oil, for most countries, is the variable to be concerned with. Oil can, in a crisis, still be imported from any producing country, but at an unacceptable high price involving unemployment, inflation and possibly recession. Gas, on the other hand, cannot be imported from another country if pipelines or LNG terminals are not built. In the short and medium term, a one-sided dependence on one single exporter makes an importer vulnerable to economic exploitation as well.⁹

The probability of a disruption and the damage it may cause must be large enough to offset the costs in non-disruption periods to diversify more than (short-term) economic considerations dictate. Faced with the disruption scenario as a motive, Western Europe and the U.S. had diverging views on how to define security of supply in 1982. The Soviet Union benefited by the Western European perception of the situation.

In fact, the argument of supply disruption could be turned *against* Norway. In a scenario where one supposes that the Soviets would turn off the tap, in an extreme state of tension between East and West, they will also lose their currency revenues. What if they, instead, could reduce Norwegian supplies? Then they would reduce the supply of energy to Western Europe at the same time as they (most likely) maintained their currency incomes. Western Europe would then be even more dependent on the Soviet supplies. Possibly, the likelihood that the Soviets should turn off their own taps, is such a dramatic scenario that the political climate can make such a pressure on Norway likely, too. This clearly demonstrates that the evaluation of risk as to a supply disruption must be put into a wider context in order to prove meaningful at all.

Could alternative strategies have been implemented more successfully?

To illustrate some alternative strategies to the price premium policy, I will mention some options below which possibly would fit better with the way the market works combined with how the interests were positioned in the conflict.

– With the huge costs of developing Norwegian fields, it would have been important to Norway if she was guaranteed a certain price for a long period of time. Such a price *guarantee* would perhaps have been obtainable in a good market situation, as in 1982–85, simply because it seemed improbable that it would ever be effective. In a weak market with low prices, such a guarantee would function as a price premium. If prices will be low in the nineties, Norway could have profited considerably from such an arrangement (such a contractual arrangement would, however, not have had much effect on active contracts in the eighties).

– It may seem as if the Western European gas *prices*, to a large extent, are being determined by a market equilibrium. Studies have shown that prices for all exporters tend to be quite similar when corrected for varying quality (Austvik, 1987a). Perhaps the encouragement of using Norwegian gas should be used to increase market shares at this common price. Various marginal improvements of normal contracts at that time could (from Norway's point of view) have been implemented as well. Furthermore, signing the Troll contract in this period would, most likely, have resulted in better contractual conditions than in 1986, when it was actually signed.

– The preference for one exporter may be expressed through more favourable take-or-pay or deliver-or-pay clauses than what other exporters get.¹⁰ This can also be done through more favourable *force majeure* conditions or, generally, by giving one seller more security against variations in quantity demanded than other suppliers, or that compensation systems favour particular sellers.

– The transmission companies (the pipelines) for gas are the third actor in the market, in addition to seller (producer) and purchaser (distribution companies, large industrial consumers and electricity plants). In the case of the Austro-Norwegian gas agreement of 1986 Norway witnessed how the pipeline company (Ruhrgas) for a long time was able to impede the fulfilment of the contract.¹¹ Perhaps a more reliable access to the continental pipeline systems, at a reasonable tariff, should have been contemplated as an element of the negotiations in order to improve the conditions of future Norwegian gas sales.

A weak development of the Western European gas market was observed during the eighties. Seeing this in retrospect, the unexpected “support” that Norway received from the U.S. regarding purchase of Norwegian gas, could have been used to improve positions in one or more of the ways mentioned above, rather than pursuing the price premium policy. But then again one should not totally reject the possibility that the weak market development successively became too weak to make this achievable, as well.

In fact, the Western European gas market can be interpreted as if Norway had corresponding interests with the *Soviets* regarding prices. With a group of importing countries organized in a consortium on the European continent and selling countries divided, a market structure that, to some extent, is created by a political situation where East and West is divided, may be characterized as an oligopoly on the selling side and as a monopsony on the purchasing side. Given that a monopsony, more than an oligopoly, has greater possibilities of influencing prices, the political situation may have led to lower gas prices than what otherwise could have been realized. And it is in the interest of the purchasers to maintain this situation. Thus, the real political price premium may favour consumers (or more correctly the importers) at the expense of producers, rather than one producer at the expense of another.

If Norway should intend to take advantage of this possible joint interest with the Soviets by coordinating price policies, its potential profit has to be gauged against the economic and political costs such coordination imposes vs other Western countries.¹² Such an approach to the Soviet Union in the gas market would probably be politically much more problematic to implement than the

Norwegian approach to OPEC in the oil market (Austvik, 1989), even though the security policy aspect of it may be reduced as the Soviet Union may open up to the West. The U.S. wanted (at least previously) Norway to sell her gas at the expense of the Soviet Union. But the Americans have not wanted the Soviets to get higher prices.

Can a similar situation occur again?

The fact that Norway was driven into the discussion of the Siberian gas pipeline illustrates that the content of Norwegian energy policy is important to *both* superpowers. Just as the Americans have been engaged in preventing exorbitant Soviet hard currency incomes, the Soviets are correspondingly eager to get such revenues. To the Soviets, Norway is an economic competitor as a gas seller. At least, in many situations, Norway is limiting Soviet chances of gaining western currencies. Even if the two countries have common interests in terms of prices, they still are competitors as to volume. Consequently, Norwegian gas strategy will be of major economic and strategic significance, also to the Soviet Union, partly independent of the political development between East and West.

A similar community of joint and conflicting interests that Norway faces towards the Soviet Union in the Western European gas market is to be found within OPEC. In the global oil market, all oil producing states share the interest that the public good, the oil price (within certain limits and in varying degree) should be at a higher level than most consuming countries want and that the market should be as large as possible.

OPEC member states have conflicting interests as to who is to pay to keep such high prices if they are not a result of a genuinely tight market, and production reductions are necessary in order to realize these prices. This is demonstrated in the recurring discussions on production and quota sharing within the organization. All OPEC countries wish to urge other producers to reduce output and keep prices up, as that is the least cost approach to maintain their own price goals. The Iraqi invasion of Kuwait is maybe the most extreme expression of an "influence" of one producing country towards another.¹³

Norway is an increasingly more significant oil producer. By this, Norway has an impact on the welfare of other oil producers. Norwegian production contributes in keeping oil prices at a lower level than they otherwise would have been. This has already proved to inhibit the potential for conflict, when Norwegian interplay with OPEC, introduced in 1986, was introduced as a result of pressure. Such type of pressure has the potential to occur again, in line with increasing

Norwegian oil exports, market conditions and international relations. Correspondingly, Norwegian gas exports are politically and economically important to both importers (principally the EC) and exporters (mainly the Soviet Union and Algeria) of gas.

Consequently, Norwegian international petroleum strategy has to be moulded in the awareness that each of the two superpowers, and petroleum exporting and importing countries in general, *are* preoccupied with its content. As an energy exporter, Norway has no overall joint interests with any other country, even though such interests exist within certain singular areas. Therefore, "the policy packages" that Norway will compose in the energy area have to be defined by Norwegian national interests and must be flexible in relation to the status of the market and the political situation.

In a tight energy market and/or tense political situation, the energy importing countries will give preference to supply security and a moderate price development. Norway could be put under pressure to increase Norwegian supplies and to moderate the prices, which *may*, to some extent, be in Norwegian self-interest. In a weak market and/or in a situation of detente, however, Norwegian supply possibilities and the price development for gas may be threatened. A subsequent pressure may occur from other exporters (especially of oil) towards production limitations and coordinated actions to stabilize the prices. In such a situation this too *may* be in Norwegian self-interest. Norwegian interests will, therefore, as an energy-exporting western industrialized country, be found somewhere in between those of the sheer energy importing and sheer energy exporting countries.

Of course, this discussion does not mean that Norway should adapt to all pressure coming from other countries in various situations. It should independently assess any requirement coming from other countries on a national interest basis. But the discussion indicates that Norway's interest partners, in the energy field, may change, depending on the state of the market and political situation.

As to credibility, Norway is, therefore, facing somewhat different problems in her international energy policy than in, for instance, her security policy. In the energy area the conditions change rapidly and some times dramatically, in a closely integrated interaction of economics, politics and even purely military movements. The formulation of Norwegian international petroleum strategy should therefore be rather flexible. On the contrary, her national interests indicate that it is the dynamics and the independence of the policy that may be the decisive factor whether a given policy is to prove successful or not. There is no such thing as an "entirely free market" in international economics or relations, where politics and economics are closely intertwined.

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Notes

- ¹ By the end of 1990, Norwegian oil production amounted to as much as 1.9 million barrels per day (mb/d). This is more than the Kuwaiti production

before the Iraqi invasion. In addition, Norway has produced natural gas at a stable level of around 30 billion cubic metres (BCM) over a decade. Thus, as a combined oil and gas producer, Norway is already significantly larger than Kuwait. Furthermore, the production of both oil and gas is expected to increase in the nineties.

² This sub-chapter is mainly based on Allison & Cornesale (1988).

³ Norway experienced a coupling between trade and politics when the French part of the Troll contract was signed. In order to accept the contract, France required a general agreement with Norway about increased political, scientific, trade, cultural and industrial cooperation. Ref. i.e. Austvik (1990a).

⁴ This is an important reason why another war between France and Germany seems quite unlikely today. Both countries will have more to lose than to gain by destroying the other. Before this economic (and political) interdependence was established, these two countries had fought wars regularly over centuries. Such a linkage philosophy is also a major element in the German "Ost-Politik" from the sixties. Making East and West economically interdependent, the blocks would gradually be worn down.

⁵ The Western European governments acted rather similarly despite different ideological make-up. The EC protested against unacceptable interference in sovereign decisions in member countries. Margaret Thatcher used British economic interests as an argument to pursue with the supplies of the equipment. The Western European joint reactions may have improved their positions at the expense of the U.S.

⁶ However, another important reason for the lack of new contracts was a weak market development in the first half of the eighties. In the second half demand increased again.

⁷ The "price premium policy" contributed to the formulation of an "oil option policy". In short, the latter formulated that if the higher gas prices were not accepted, oil fields would rather be developed and the gas will remain in the ground. This policy has contributed to the doubling of Norwegian oil production in the period 1986–90.

⁸ In Norway, the agricultural policy over the last 20 years has partly been argued for on the basis of an as large as possible self-sufficiency of food.

⁹ This may be the situation for some East European countries and Soviet republics throughout the nineties, being one-sidedly reliant on Soviet gas supplies. Many of these countries are even one-sided physically dependent on Soviet oil supplies, with no access to the sea and costly development of oil pipelines.

¹⁰ "Take-or-pay" clauses involve that the buyer either has to purchase the contracted quantity or pay an economic compensation to the seller. "Deliver-

or-pay” clauses involve that if the seller does not fulfil the contract he will have to pay an economic compensation to the purchaser.

- ¹¹ This problem is an important reason for the EC Commission to consider some sort of “Open Access” system for the transportation of natural gas as introduction of the Single Market approaches in 1993. See Austvik (1990a) and another article in this book reviewing some of the main issues of these ideas.
- ¹² It is important to be aware that the potential for price changes by such actions is much less than OPEC’s potential for changing prices. But even though administered changes of gas prices are taken within more narrow limits than for oil prices, small margins constitute large amounts of money. For example, a 10 per cent change of gas prices will, for Norway, represent some 300 million dollars annually at the volumes now exported (1990).
- ¹³ Austvik (1990b) discussed the oil side of the conflict in the Persian Gulf in 1990.

Prospects for Norwegian Gas to Central and Eastern Europe

By Oeystein Noreng

A different world

The revolutions in Central and Eastern Europe in the autumn of 1989 have in many ways created a different world and prospects are that a united European market of 500 million people is emerging west of the Soviet Union or Russia, whichever will be the most relevant. For all European countries this means new opportunities for specialization, economies of scale and productivity gains, but for Norway, as a leading gas exporter, there is a special significance.

In the new Europe, without an Iron Curtain, but with a less stable Soviet Union, which could also be a less reliable supplier of gas, new perspectives open up for Norwegian gas. Until the fall of the Berlin wall in 1989, the market for Norwegian gas was limited to Western Europe, i.e. to the west of a line from the Baltic to the Adriatic. In this part of Europe there are some pretty distant markets, such as Italy and Spain, whereas to the east of this line there were some potential markets much closer, such as Czechoslovakia, East Germany and Poland, but inaccessible for political and payments reasons.

In yesterday's Europe, the apparent saturation of the market in the north-western part of the continent, as well as in the United Kingdom, meant that gas development on the Norwegian continental shelf could be based on replacing old contracts or finding new outlets in southern Europe, far from Norway, with high transportation costs and consequently a reduced net-back value, and subject to competition from much closer Algeria. This is why smaller deals were

struck with Austria and Spain, and negotiations on a bigger deal were commenced with Italy. In this perspective, the East Coast of the United States was also considered a potential market for Norwegian gas, as liquefied natural gas, LNG.

In the new Europe, with no Berlin wall or Iron Curtain, new markets open up, and they are much closer to Norway, apparently with less competition. In Czechoslovakia, eastern Germany and Poland there is an urgent need to replace pollutant brown coal, with a high sulphur content, with other sources of energy. The markets are in power generation, in cogeneration of steam and electricity and in the residential-commercial sector. This part of Europe today exclusively depends upon Soviet gas, except for some local production in Poland. The new democratic governments of these countries give a high priority to reducing economic dependence upon the Soviet Union. This means diversifying energy supplies, not the least gas supplies. The major problem, except in eastern Germany, is the ability to pay and currency convertibility. This is, however, a reform that is being imposed by the Soviet Union, through the desire of the latter to conduct all trade in hard currency at world market prices. Hence the Soviet constraint opens the markets of central and eastern Europe to Western gas suppliers.

For Norwegian gas policy, the first practical result is that a volume of 5 billion m^3 a year of Troll gas, originally destined for Italy, has been "rerouted" to eastern Germany, with deliveries probably commencing in 1995-1997. Negotiations are currently taking place. Depending upon economic development and environmental issues, eastern Germany could demand 5-7 billion m^3 gas a year by the year 2000, in addition to the volume mentioned above. The western part of Germany could also demand more gas, especially if coal is hit by a tax on CO_2 emissions and if coal subsidies are phased out. Furthermore, by the year 2000 Poland could demand 12 billion m^3 and Czechoslovakia 7 billion m^3 beyond the present level, to the extent that natural gas replaces brown coal in the residential-commercial sector and in cogeneration. Finally, Austria and Hungary need additional contracts in order to both reduce dependence upon Soviet gas and cover the rising needs of the power generation sector. Eventually, these markets could be served from Norway by a new gas pipeline avoiding Germany. This is how central and eastern Europe represents a new market for gas, fairly close to Norway. Already, the sellers seem to be in a strong position in the European gas market. The chaos of the Soviet society, with political instability hitting economic performance, makes the Soviet gas industry appear less trustworthy. Hence competition from Soviet gas could be less serious in the 1990s than in the past two decades. The problem for Norway then seems to be to find more gas, rather than new outlets. Meanwhile, an interesting side-effect is

that potential exports of LNG from offshore northern Norway, previously planned for the U.S. East Coast market, now seem to be "rerouted" to southern Europe, essentially Italy.

The new markets in Central and Eastern Europe

The political change in Central and Eastern Europe has already led to economic reforms, aiming at market economies, currency convertibility and the development of trade with Western Europe. Former East Germany has been absorbed as five new states in Germany, but the process is also quick in Czechoslovakia, Hungary and Poland. The economic change has a particularly strong influence on the energy sector of the countries concerned. Former Eastern Europe is probably the part of the world where energy consumption has been the most wasteful, as measured by energy use in relation to gross domestic product, although the latter is difficult to calculate in these countries. Hence there is a large potential for energy conservation, essentially in industry. In the residential and commercial sectors, however, energy consumption is low by West European standards and is therefore likely to increase as living standards improve. Energy consumption is already dropping in these countries, as a result of declining economic activity.

Economic reforms will also affect energy supplies and the structure of energy use. The output and use of coal is likely to decline, for economic and environmental reasons. The use of oil products, essentially gasoline and fuel oil is likely to increase, as is the use of natural gas. So far, power generation in Czechoslovakia and East Germany has largely been based on pollutant brown coal. For the future, the options seem to be imported hard coal, natural gas and nuclear power. In the longer run, nuclear power probably represents the major alternative to gas in Central and Eastern Europe. The nuclear power plants in former East Germany have been scrapped, but nuclear power stations of Soviet design are still operating in Czechoslovakia and Hungary. In the entire area, new construction of nuclear power plants, with Western technology, is under serious consideration.

The economic and political uncertainties make any assessment of future energy demand in this part of Europe speculative, let alone any judgment of future market structures and terms of competition for the different forms of energy in the various segments of the market. Hence the figures mentioned here are at present provisional estimates. During 1989-1990 the countries of Central and Eastern Europe have gone through a process of rapid political and economic

change without precedent in Europe, at least since 1945–1946. Political systems have collapsed and with them the old systems of command economy. In the new democratic context, market economies are being introduced quickly, but with uncertain results. Hence historical data cannot serve as a guide for analysing the future. Even if the economic mechanisms being introduced are well known in Western Europe, it is uncertain how soon they will affect economic behaviour and to what effect. Hence uncertainty is the only certain feature. Already, these countries have announced their desire to join the EC, meaning that their energy and environmental policies will be increasingly influenced by whatever evolution takes place here.

Introducing Norwegian gas to these new markets is no simple matter. The ability to pay is uncertain, except in former East Germany. In the other countries, the payments problem is likely to be temporary. Czechoslovakia, Hungary and Poland are in the process of introducing currency convertibility. For the three countries, EC membership is an explicit objective. It cannot be excluded that in the second part of the 1990s, the north-east European countries could enter a phase of high economic growth, on the condition that reforms are pursued consistently. The basis is proximity to the west European markets, a high level of education and low wages. For example, Poland could in the 1990s repeat the economic performance of Spain in the 1980s.

Energy policy in Germany in the 1990s will have as a top priority to bring energy efficiency and environmental standards in the eastern parts of the country up to the level of former Western Germany. At the same time, consideration will have to be made for stricter emission standards, eventual environmental restrictions on the use of fossil fuels, as well as EC directives on enhanced competition in the gas and power grids. In former East Germany gas, and to a lesser extent fuel oil, are poised to replace brown coal in the residential and commercial sector. In this respect, the price risk in the oil market seems to appear less serious to Germany than the supply risk concerning Soviet gas. Opposition to nuclear power is strongest in the western parts of the country. A moderate development of nuclear power in the eastern parts of the country appears to be politically acceptable. Here, district heating is fairly well developed. So far, brown coal has been the energy input factor in combined heat and power production. Local authorities, that now seem to become more influential, have a strong preference for natural gas, for obvious environmental reasons in a heavily polluted area. The main problem seems to be to secure rapidly rising supplies of natural gas in the late 1990s.

Germany today imports natural gas from the Netherlands, Norway and the Soviet Union, apart from domestic extraction. Even with rising demand new contracts will not be needed until 1995 or a few years later. With the expected

rise in demand, there could, however, be a serious deficit in the German gas market in the late 1990s.

In Poland the energy problem is acute for both economic and environmental reasons. Pollution is intense in parts of the country, leading to a serious deterioration of health conditions.

In addition, the use of energy is highly uneconomical. Presently coal represents about 80 per cent of the energy used. Hard coal extraction is declining and Polish coal exports could disappear around the turn of the century unless domestic demand is seriously reduced. The consumption of oil products could double between 1988 and 2000, because the number of automobiles could increase from 4 to 8–10 million, in addition to a qualitative change in the car fleet. Potentially there is a large market for natural gas in the residential and commercial sectors. The constraint is supply and ability to pay.

Decisions on the construction of nuclear power plants with Western technology are not expected until after 1995. In case natural gas should be available on conditions that Poland could afford, the embryonic nuclear programme could be shelved. Today, Poland has a fairly precarious supply situation for natural gas, because Soviet gas is only delivered on an annual basis. For both political and commercial reasons it seems desirable to diversify gas supplies. A contract with Norway has a high priority. At the same time, imports from Algeria, as LNG or through Italy and Austria are being considered. The preference of the present government seems to be, however, to spread gas imports evenly on Norway and the Soviet Union. Poland's problem is fairly acute, as the expected rise in gas demand could require new contracts already in the mid-1990s. An accelerated clean-up of Poland's acute environmental mess could lead to a further rise in gas demand.

In Czechoslovakia the extraction and use of coal will have to decline for both economic and environmental reasons. Marginal costs are high in Czechoslovak coal mining and an extensive substitution of brown coal by natural gas is a pronounced objective of the new government. The aim is at least to double natural gas consumption between 1988 and 2000. If gas is available on competitive terms, there may be a considerable growth in the Czechoslovak gas market after 1995, replacing brown coal also in power generation.

Czechoslovakia has a much stronger bargaining position in relation to the Soviet Union than Poland has, because of the transit gas lines. The expected increase in gas consumption will require new contracts either with the Soviet Union or with alternative suppliers. The preference seems to be to diversify gas supplies by new contracts with Norway and eventually Algeria.

Hungary is highly dependent upon imported energy. Here, natural gas already has a large share of the energy market. Further use of gas is an explicit

objective of the energy policy, where environmental concerns carry weight. If supplies can be secured, from the Soviet Union, Algeria or Norway, Hungarian gas demand will rise in the 1990s, eventually substituting coal. Hungary has domestic coal reserves of poor quality, hence the main problem of today's energy policy is to secure incremental gas import contracts.

Like Poland, Hungary has a fairly precarious supply situation for natural gas. Gas negotiations with the Soviet Union have proved difficult, because the latter seems to give a low priority to the Hungarian market. Also like Poland, Hungary now buys Soviet gas on annual contracts. Even with an extension of the Soviet deliveries, Hungary will already need new gas contracts in the late 1990s. Discussions have commenced with Algeria, but there is also interest in buying Norwegian gas. In the European context, the Hungarian gas supply problem is of minor importance.

In the 1990s, the eastern parts of Germany, eventually together with Czechoslovakia and Poland, could become important new markets for Norwegian gas. The demand would be in the residential-commercial sector and to some extent in cogeneration of steam and power. Austria and Hungary could buy smaller volumes of Norwegian gas for households and power generation.

Around the year 2000, the eastern federal states of Germany might demand some additional 12 bcm annually of Norwegian gas, in addition to the already contracted 7–8 bcm from the Soviet Union. This would depend upon natural gas replacing brown coal in the residential-commercial sector as well as manufactured gas. Austria, Czechoslovakia, Hungary and Poland might together demand some 20–25 bcm annually of Norwegian gas, in addition to Soviet supplies at the present level, at least according to estimates made by the Polish Academy of Sciences. Hence market conditions could justify the construction of a new trunkline for gas from Norway to north-west Poland, with an extension to Austria, Czechoslovakia and Hungary. From a Norwegian point of view, the advantage of such a new trunkline would be to bypass Germany and the area presently controlled by Ruhrgas. Today, Poland seems to want an eventual Norwegian gas line to arrive directly from Scandinavia, without passing through Germany. This would, however, require a gas deal between Norway and either Denmark or Sweden, or both.

With the likely improvement in Polish–German relations, the Polish attitude to eventual Norwegian gas deliveries transiting through Germany could become less restrictive. This would facilitate a gradual introduction of Norwegian gas in the Polish market, as requirements and ability to pay develop. In this perspective, it could be possible to start exporting smaller volumes of Norwegian gas to Poland through Germany, and subsequently, after the market has developed, build a new line (e.g. through Sweden across the Baltic). Transporting gas as

LNG from Norway to Baltic destinations seems uneconomical compared to the pipeline option, given the short distances involved.

Norwegian supply issues

The Norwegian ability and willingness to supply gas to these new markets should not be taken for granted. Norwegian gas sellers sometimes assert that Norway has no more gas to sell and that all conceivable development projects at least until the year 2005 have been sold. To some extent, such a statement implies that deliveries of 15 bcm on an annual basis have been reserved for the United Kingdom, to be supplied by the Frigg pipeline system. No contract has, however, been concluded and the waiting could be long. Given that, so far, the Norwegian continental shelf has only been subject to fairly limited exploration and that there is a definite potential of making substantial new gas finds, the statement that "Norway has no more gas to sell", should be qualified by adding "at present prices". Hence the statement could be seen as a way to improve the bargaining position, but also as a reflection of rising marginal costs, at least as concerns gas development offshore central and northern Norway. In the southern part of the Norwegian continental shelf, more gas could also be found that could eventually be extracted and brought to the market at comparatively low cost.

The development of gas fields offshore central Norway could be accelerated, increasing the volume that could be delivered, but the transportation system would be costly. There are, however, good chances of finding more gas offshore southern Norway, in the North Sea, where the infrastructure is in place and costs are low. The wisdom of reserving volumes for an uncertain U.K. market is questionable when new opportunities arise in Central and Eastern Europe.

The present political and economic instability of the Soviet Union makes it hardly attractive for Central and East European buyers to increase their dependence upon Soviet gas. This is a substantial argument in favour of Norwegian gas, but there is no guarantee that this situation will not change to the disadvantage of Norway. Algeria also seems to be on the offensive in the central European gas market. The plan is, during the 1990s, at least to double the capacity of the pipeline to Italy. Hence Algeria could eventually serve Austria, Czechoslovakia, Hungary and Poland, perhaps even Germany.

Another important competitor is French nuclear power. France gives a high priority to maintaining the nuclear industry, by developing nuclear power plants for exporting electricity and by exporting the power plants themselves. The new

democracies of Central and Eastern Europe are an important potential market for French nuclear plants exports.

Against this background, the time seems ripe for Norway to signal a readiness to supply the new gas markets in Central and Eastern Europe. The U.K. market has proved to be tricky and later on it might, with hindsight, appear unwise to have earmarked volumes for a deal that did not materialize, frustrating other, more ready customers on the continent. In this case, by the year 2000, Norway could remain with some missed opportunities.

Historically, the European gas market has not conformed to the characteristics of a free, competitive market. In the "old" world, the West European gas market was dominated by a duopsony, two buyers, i.e. a single buyer, British Gas, in the United Kingdom, and a leading consortium on the continent, made up of West German Ruhrgas, Dutch Gasunie, Belgian Distrigaz and Gaz de France. Here, there were three leading suppliers, Algeria, Norway and the Soviet Union. The East European gas market consisted of one seller, the Soviet Union, and seven buyers (Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania and Yugoslavia), each of whom was fairly insignificant. Hence in both parts of Europe, international gas trade was largely a negotiated business between a small number of parties, based on long-term contracts, within the contexts of market or planned economies.

In the "new" world, several important factors have changed, or are changing. First, a single European gas market is emerging, as the former East European countries adapt to market principles and develop economic ties with the West. Hence a single market of 500 million people west of the Soviet Union is emerging. Second, the efforts of the EC Commission to introduce third party access to the gas and power grids in Europe could have a fundamental impact on the way gas business is conducted. Although the process is likely to take some time, the various companies had better prepare for more open competition and for the participation of more actors in the gas market, especially on the demand side.

On the supply side, however, the oligopolistic structure is unlikely to change much. Europe could contract new supplies of liquefied natural gas, LNG, from new sources, but they would be of marginal importance. In Norway, even EC membership would not alter the basic relations of ownership and control in the oil and gas industry, giving Statoil a predominant position. Hence Norway, as one of three major suppliers of gas to Europe for the foreseeable future, i.e. well into the next century, will have an impact on the European gas market. This is particularly true because of Norway's potential to increase gas exports. There is an interaction between Norwegian decisions and the development of the European gas market, which does not exist in the relationship between Norway

and the international oil market. This presents some delicate dilemmas to Norwegian gas policy.

The first dilemma concerns volume to be offered. Simply put, the problem is that if Norway offers too much gas, prices risk collapse, compromising the economics of the Norwegian gas industry. If, by contrast, Norway offers too little gas, the development of the European gas market could be constrained, compromising the future of the Norwegian gas industry.

The second dilemma is linked to the balance between prices and volumes. As an oligopolist in the European gas market, Norway in principle has a choice between giving the highest priority to prices or to volumes, i.e. between selling large volumes at moderate prices or moderate volumes at high prices. This is based on the hypothesis that, in an imperfect market, the gas buyers (most often local, regional or national monopolies) are willing to pay a certain premium for supply risk diversification. If Norway opts for selling moderate volumes at fairly high prices, there is a risk of being marginalized in the European gas market. This was apparently the case in the early 1980s. If, by contrast, Norway opts for selling large volumes at moderate prices, there is a risk of launching a price war in which all sellers suffer. This could have been the case in the late 1980s.

The third dilemma is linked to the organization of the European gas market. As an oligopolistic supplier, Norway is in the position to influence the structure of the market, or more precisely the number of buyers. Simply put, the choice is between selling exclusively to the regional monopolies or to their would-be competitors. If Norway opts for preserving the monopolies, refusing to sell to their would-be competitors, there is a risk that they take an intermediary profit judged as too high, compromising the development of the market. If, by contrast, Norway opts for a more open and competitive market structure, there is a risk of gas-to-gas competition with declining prices and without buyers being able to secure long-term contracts, even if demand is increasing. This dilemma is most topical, given the present controversy in Germany between the established monopoly Ruhrgas and the would-be competitor Wintershall. To some extent, the problem could be avoided through a portfolio of concurrent contracts.

These dilemmas and risks have marked Norwegian gas policy in the past. The large reserves give Norway an unprecedented freedom of choice in gas policy, and hence the dilemmas. The actual supply of Norwegian gas to the European market does, however, depend on how the risks are perceived and the dilemmas settled.

It should be no surprise that with the emergence of a New Europe, without the Berlin Wall or the Iron Curtain, these dilemmas present themselves once more to Norwegian gas policy. This also indicates that Norway has not yet developed a consistent long-term gas strategy in relation to the European market, but rather

reacts to changing circumstances. The impression is that priorities have not been settled and the aversion to the various risks has not been considered within an overall analytical framework.

In relation to the new market in Central and Eastern Europe, where Norway at least for the immediate future appears as the only source of new major gas contracts, there is a certain indecision. By not making a maximum effort to capture new markets for Norwegian gas, there is a risk of stimulating the nuclear option in this part of Europe. An alternative strategy could have been to use the present situation in order to demonstrate Norwegian flexibility, including a price elasticity of gas supplies, and to take positions in new markets.

As recently as in the late 1980s, Norwegian gas sellers were apparently satisfied with marginal profits on gas contracts to southern Europe. Today, in the New Europe, there is apparently an eagerness to benefit additionally from the replacement of brown coal in Central and Eastern Europe. An alternative strategy could have been to demonstrate the competitiveness of Norwegian gas in relation to nuclear power. Once again, the risk to be marginalized seems to be taken lightly. In the end, however, new discoveries on the Norwegian continental shelf together with the eagerness of the offshore supply industry to develop new projects is likely to lead to a more aggressive gas marketing, where the main target is likely to be Central and Eastern Europe. In the meantime, there is a possibility that the new gas markets in this part of Europe will be taken by German companies, first of all Ruhrgas, reselling Norwegian gas at a profit.

Appendix: European gas trade 1978–89

NOTE: All figures in billion cubic metres (BCM). Figures may not add up due to roundings.

Table 1. Trade of gas to Western Europe 1978-89 by exporting country

Exporter	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Soviet Union	19.7	21.3	23.7	26.3	25.7	24.3	29.2	30.3	36.5	39.9	44.3	50.6
Netherlands	50.0	55.6	56.9	51.7	40.8	42.6	41.0	41.7	34.2	33.4	28.9	33.9
Norway	13.8	20.0	25.8	26.0	25.0	25.0	28.0	25.7	25.9	28.1	28.3	28.7
Algeria	4.1	4.5	4.2	6.1	8.3	14.2	17.4	20.2	20.0	24.8	24.9	26.7
Libya	3.5	3.1	2.0	0.8	0.8	1.1	1.0	0.9	0.9	0.8	1.1	1.5
Denmark	-	-	-	-	-	-	0.2	0.4	0.6	0.8	0.8	1.0
Western Germany	0.3	0.4	1.4	1.4	1.6	1.3	1.0	1.0	1.1	1.2	1.2	1.2
Western European import	91.4	104.9	114.0	112.3	102.2	103.5	112.8	120.2	119.2	129.0	129.5	143.6
Consumption	194.3	208.2	203.3	201.0	194.9	196.5	208.6	215.7	218.1	232.2	227.0	233.0
Import share (%)	47.0	50.4	56.1	55.9	52.4	52.7	54.1	55.7	54.7	55.6	57.0	61.6
Production ¹	79.8	80.1	73.9	74.9	72.8	70.9	75.6	79.0	75.2	88.0	85.2	84.4
Eastern European import	16.7	23.2	31.1	31.3	33.5	34.8	37.0	38.5	41.2	43.6	44.7	51.9
Total European trade	108.1	128.1	145.1	143.6	135.7	138.3	149.8	158.7	160.4	172.6	174.2	195.5

¹ Importing Western European countries excluding the Netherlands and Norway. Data source: Cedigaz.

Table 2.3. Algeria

Importer	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Western Europe	4.1	4.5	4.2	6.1	8.3	14.2	17.4	20.2	20.0	24.8	24.9	26.7
Austria	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	0.3	1.6	1.7	2.4	2.6	2.9	2.9	3.7
Finland	-	-	-	-	-	-	-	-	-	-	-	-
France	3.0	3.1	2.1	4.3	6.6	8.8	8.1	7.9	7.7	9.4	9.0	9.0
Great Britain	0.7	0.7	0.8	0.4	-	-	-	-	-	-	0.1	0.1
Italy	-	-	-	-	-	2.1	6.3	8.2	8.1	10.8	10.5	11.2
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-
Spain	0.4	0.7	1.3	1.4	1.4	1.7	1.3	1.7	1.6	1.7	2.4	2.7
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-	-	-	-
Western Germany	-	-	-	-	-	-	-	-	0.1	0.1	-	-
Eastern Europe	-	-	-	-	-	-	-	-	-	-	-	-
U.S.A.	2.4	7.2	2.4	1.0	1.6	3.7	1.0	0.7	-	-	0.6	1.2
Japan	-	-	-	-	-	0.1	0.5	0.7	0.3	0.9	0.8	1.2
Tunisia	-	-	-	-	-	-	-	-	-	-	-	0.3
Grand total	6.5	11.5	6.7	7.1	9.9	17.9	18.9	21.5	20.4	25.7	26.1	29.3
In pipeline	-	-	-	-	-	2.2	6.7	8.9	8.4	11.7	11.3	12.4
As LNG	6.5	11.5	6.7	7.1	9.9	15.7	12.2	12.6	12.0	14.0	14.8	16.9

Total	33.9	28.7	1.0	100.1	26.6	1.5	1.3	193.0
Western Europe	33.9	28.7	1.0	50.1	26.6	1.5	1.3	143.1
Austria	-	-	-	4.0	-	-	0.2	4.2
Belgium	4.1	2.0	-	-	3.7	-	-	9.8
Finland	-	-	-	2.1	-	-	-	2.1
France	4.3	5.6	-	8.4	9.0	-	-	27.3
Great Britain	-	10.5	-	-	0.1	-	-	10.6
Italy	5.7	-	-	11.4	11.1	0.3	-	28.5
Luxembourg	0.6	-	-	-	-	-	-	0.6
The Netherlands	-	2.3	-	-	-	-	-	2.3
Spain	-	-	-	-	2.7	1.2	-	3.9
Switzerland	0.4	-	-	0.1	-	-	1.2	1.7
Sweden	-	-	0.5	-	-	-	-	0.5
Turkey	-	-	-	3.0	-	-	-	3.0
Western Germany	18.8	8.2	0.5	21.1	-	-	-	48.6
Eastern Europe	-	-	-	50.0	-	-	-	50.0
Bulgaria	-	-	-	6.3	-	-	-	6.3
Czechoslovakia	-	-	-	11.9	-	-	-	11.9
East Germany	-	-	-	7.1	-	-	-	7.1
Hungary	-	-	-	5.9	-	-	-	5.9
Poland	-	-	-	8.0	-	-	-	8.0
Romania	-	-	-	5.5	-	-	-	5.5
Yugoslavia	-	-	-	5.3	-	-	-	5.3

Data source: BP Statistical review of world gas 1990.
Total differ from Table 1 due to revision of figures by two sources.

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Norwegian Gas in the New Europe

How politics shape markets

The process of European integration is accelerating and the EC Community may be expanded by new member states. The economic, political and military situation in what was called the Eastern Bloc is changing dramatically, and the field of energy is being increasingly drawn into this process of change. For Norway, soon to be Europe's largest energy exporter, the framework for and functioning of the European gas market is of fundamental economic and political importance. How politics shape markets, and how markets shape politics, have profound consequences on the forming of Norwegian gas strategies. The authors and the editor of this book have sought to illuminate the issues and critically assess established guidelines and practices for the selling of Norwegian gas.

From the Content:

- European Integration and Energy Policy
- Major Challenges Facing Norway as a Gas Producer
- The Open Access Issue: A Gas Producers's Perspective
- The Process of Shaping the EC Energy Policy
- Individual Downstream Integration for Norwegian Companies?
- The U.S. Embargo of Soviet Gas in 1982: The Role of Norwegian Gas
- Norwegian Gas to Central and Eastern Europe
- European Gas Trade 1978-89