Norwegian Oil and Foreign Policy

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Edited by Ole Gunnar Austvik

Norwegian Institute of International Affairs

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Preface

Norwegian petroleum policy touches on Norwegian foreign policy in three main areas: the oil market and the relationship with the Organization of Petroleum Exporting Countries (OPEC); the Western European gas market and the relationship with importers and other exporters; and the situation in the Barents Sea and the problems of national security which this involves. This book concentrates on Norway's relationship with the oil market and OPEC. Contributions come from public authorities, the main organizations in the oil market (OPEC and the International Energy Agency, IEA), the oil companies and academics. The intention is to give as comprehensive a view of the subject as possible.

Problems which require a balance between qualitatively different factors – economics, politics and psychology – can never really be solved once and for all. Among other things, there are the questions of how energy-policy interests are to be weighed against other foreign-policy interests; what importance (if any) Norway has in the oil market; how the oil market will develop in the future, and so on. This means that these questions will continue to be discussed. We intend, however, that this book will define, discuss and document the situation as it stands today.

The Norwegian Prime Minister, Gro Harlem Brundtland, emphasizes the fact that Norway has a complex range of interests which have to be met in the formulation of her energy policy. She explains the policy formulation, arguing in particular that domestic and foreign-policy issues have to be taken into consideration in petroleum policy formulation, as well as more general, international aspects. She stresses the importance of a dialogue between producer and consumer countries as well as the environmental aspects of energy use.

The Norwegian Foreign Minister, Thorvald Stoltenberg, states that foreign-policy elements are never far below the surface when questions of

production and supply of oil and natural gas are raised. He points out that Norwegian oil policy reflects a large degree of continuity, inter alia, as regards a desire for global interplay in energy policy. This desire was put forward as early as the 1970s, but only now does he think that the time is ripe for this policy to be realized. However, it is possible that Norway will continue for some time to work quietly and gradually towards global energy cooperation.

Stoltenberg also discusses the energy policy situation in the Barents Sea, pointing out that it is important to assert Norwegian sovereignty in the northern regions, as a means of bringing about further development in Norway's relationship with the Soviet Union.

The President of OPEC, Alhaji Rilwanu Lukman, who is also the Nigerian Oil Minister, begins his article by saying that "future historians will regard oil as one of the main foundations of the twentieth-century way of life". On the basis of this economic and political statement, he argues in favour of collaboration between all the parties in the oil market, in order to avert crises and finding a reasonable, common foundation for economic growth. All the major participants in the international oil industry, producers and consumers, members and non-members of OPEC, should take part in such a dialogue.

Mr. Lukman makes no explicit mention of Norway in his article, but he asserts that Great Britain has "compromised the economic welfare of future generations" by refusing to collaborate with OPEC. He makes it clear that the Organization is not interested in going back to the production level of 31 million barrels per day but does not wish to reduce its market share beyond what it has already done.

George Quincey Lumsden, director of the IEA oil-market office, writes in his article about the history of the IEA and its future prospects. He says that it was, and is, the common paramount interest in the *security* of energy supplies which keeps the member countries together. But he also mentions various other initiatives which the IEA has worked to introduce. He expresses a desire for a dialogue between consumers and producers in the oil market but is sceptical about the setting up of formal, international agreements. He believes that such agreements will encounter resistance from one party or the other, and says that the member countries have firmly agreed to oppose the attempts of organizations to set themselves above the market forces. This led to too low prices in the 1960s and at the beginning of the 1970s and to the retention of too high prices in the mid-1980s. The IEA wishes to hold discussions which will bring the parties an exchange of technology and experience. The Agency has started work to achieve this.

Hans Henrik Ramm, Deputy Minister in the Norwegian Ministry of Petroleum and Energy and petropolitical adviser to the Treasury in the conservative government under Kåre Willoch in the period 1981–85, describes "the many strange ways" which Norwegian oil-marketing policy has followed. He examines the various occurrences from the 1970s to the fall of the Willoch government in May 1986. His personal comment on the approach made by the Norwegian Labour Party to OPEC is that it was motivated mainly by foreign-policy considerations and not so much towards the market. He is critical of the fact that Norway looks after her national interests as a petroleum-producing nation by making reductions in output, even though he interprets them as only marginally detrimental to the Norwegian economy. In his opinion, the main problem is that Norway has crossed a political boundary by approaching OPEC in this way and thereby left herself open to future pressure. In conclusion, he advocates a more careful analysis and a professional, economic re-examination of the effects of production control and Norwegian policy towards OPEC.

Nils Morten Udgaard, Norwegian State Secretary at the Prime Minister's Office under Kåre Willoch 1984–86, and a journalist in the newspaper *Aftenposten*, writes that Norwegian oil-pricing policy since the fall in the price of 1986 has been the result of interaction between oil policy, economic policy, foreign policy and domestic policy. However, he thinks that the parallel between Norway's and OPEC's courses of action in 1986–87 was determined by the situation at that time and will not necessarily be repeated in future years.

Oil and natural gas require such long-term decisions and, as far as Norway is concerned, energy should be high on the list of the country's priorities. Udgaard warns us against using oil and natural gas in order to achieve foreign-policy aims. However, Norwegian diplomacy and foreign policy should be set to secure the maximum gain from energy. Oil and natural gas have made it necessary for Norway to pursue her national interests to a greater extent in her foreign policy – and not just Norwegian ideals alone.

Øystein Noreng, professor at the Norwegian School of Business Administration, describes Norway's role in the international oil market as having become a more central one. He gives several reasons for this. First, it has turned out that Norway is continuing to produce oil, even at relatively low prices (cost criterion). Secondly, the production is increasing (resource criterion), and thirdly, even marginal production changes are of importance for the price trend as long as the demand is so rigid (an economic criterion). Furthermore, Norway will possibly become one of the major oil producers in the world in the 1990s .

Noreng describes OPEC as exceptionally successful among cartels of raw-materials exporters. In a tight market situation, however, OPEC may also need help from non-OPEC countries. In these circumstances it is conceivable that Norwegian views on further price trends may carry more weight within OPEC. As regards maintenance of the market freedom in the oil-importing countries, in order to be able to continue the vertical-integration process already started, Norway also has interests in common with OPEC. The same is the case with the much-discussed American import duty on crude oil. Noreng thinks that with these interests in mind and her membership of the IEA and NATO, Norway can play an interesting part as intermediary between different parties in the oil market and in international politics.

Kjell Roland, economist at the Norwegian Center for Economic Analysis (ECON), points out how price forecasts for crude oil have been systematically misleading for a number of years. He warns against relying too strongly on one particular forecast of the oil price and advocates a greater understanding of the uncertainty which characterizes every price forecast.

His scenarios for the oil market extend from a total breakdown of OPEC, as one of two possible extremes, to OPEC becoming capable, to some extent, of managing the international oil price, as the other. Between these solutions, there is a whole range of possibilities, depending on the economic and political occurrences that are of importance to the market. While his possible range for the oil price in the short term runs from USD 15 to USD 20 per barrel, the price in the year 2000 may vary all the way from USD 15 to USD 40 per barrel.

Ole Gunnar Austvik, researcher at the Norwegian Institute of International Affairs (NUPI), writes that there is a series of market factors that Norway must take into account in formulating her oil policy. These factors are parts of the same whole in which efforts should be co-ordinated to produce a desired total effect at as reasonable a cost as possible. This applies to regulations of output, pricing policy, the relationship to the IEA and the formation of a more multinational activity within an interplay between consumer and producer countries. The policy must also be capable of preserving Norwegian freedom of action and flexibility. Desires in one period that the price should be moved upwards may change in other periods to desires that it should be lower or kept constant. Austvik discusses Norway's relationship to OPEC's pricing and the quota system.

Even though Norway's influence on the oil market must certainly be described as marginal, the margins constitute such large amounts that even small price changes represent considerable sums for the Norwegian econ-

omy. This is one of the reasons why the oil policy has established itself as a permanent and important part of Norwegian foreign policy in the technical field of intersection between economics and political science.

Three representatives of major oil companies – a Norwegian, an American and a Frenchman – present their views of Norway's relationship to OPEC. The articles, however, represent the views of the different authors and not necessarily those of their respective companies.

Oddvar Solheim (Norsk Hydro) stresses that collaboration in stabilizing efforts is not an attempt to counteract the market forces but rather an attempt to enlarge the time perspective in the market development. He supports the proposal that Norway should establish effective channels of communication with OPEC, in expressing the opinion that OPEC is a constructive and stabilizing factor in the present market situation.

Øystein Dahle (Esso Norway) maintains that Norway is scarcely well served by the view that she is unimportant in the market and that oil-policy strategies are local matters which have no international effects. On the other hand, he warns against giving Norway a more central role than is necessary. He therefore expresses respect for the initiatives that the Norwegian Government has taken so far but at the same time he is sceptical about political intervention in market questions, which he believes should be governed mainly by commercial decisions. He warns against the consequences and obligations which interaction with OPEC may have in the future.

Pierre Godec and Alexandre Allard (Elf Aquitaine) point out that Norway's relationship with OPEC is somewhat reminiscent of Norway's relationship with the European Community at the beginning of the 1970s. In their opinion, Norway must adjust herself to the economic and political realities, and they see an important role for Norway in the field of international energy policy:

"Since the country has staked out its own road within international oil policy, Norwegian foreign policy has reached a new degree of maturity. Norway's interests, both short-term and long-term, will bring the country into paradoxical and conflicting situations, which will arise as a result of its exceptional position. Through its energy policy, Norway's role internationally may be more important than at any time since 1905. Norway will supply Europe with natural gas for several decades, while playing the role of mediator in oil contexts, in order to stabilize the world's energy markets: what a role, and what a challenge!"

Ole Gunnar Austvik, August 1989

Introduction; Norway's Economic and Political Dilemma

Norwegian international oil policy is formulated in the borderland between national economic considerations, resource basis, cost ratios and domestic- and foreign-policy aspects. In this introduction, we shall identify and quantify a few of these variables.

In the course of the last decade, Norway has become very dependent on the revenues from her oil and natural gas production. In 1985, petroleum production represented 18.7% of the gross national product (GNP). Petroleum exports represented 37.8% of total exports, and of commodity exports about 50%.

In 1986, when oil prices fell from an average of 27.5 to 14.8 U.S. dollars (USD) a barrel, the value of production fell by about Norwegian kroner (NOK) 30 billion [1]. It then amounted to about 11% of the GNP. The share of total exports fell to about 29% of the GNP, and the trade surplus of NOK 41 billion was turned into a deficit of NOK 18 billion[2].

Fig. 1 shows the petroleum sector share in the GNP since the Norwegian oil age began in 1974. It is evident that the oil price, calculated in Norwegian kroner (the price in dollars multiplied by the exchange rate for Norwegian kroner in relation to the dollar), is of great importance for these figures, as well as for the petroleum sector's share of the total exports (shown in Fig. 2). From 1980 to 1985, the oil price was at its peak and Norway experienced a "bonanza" from the North Sea. The price fall in 1986 was a problem, however, considering the great importance that oil had assumed in the Norwegian economy.

This is also reflected in the tax revenues (Table 1). Net cash flow from the

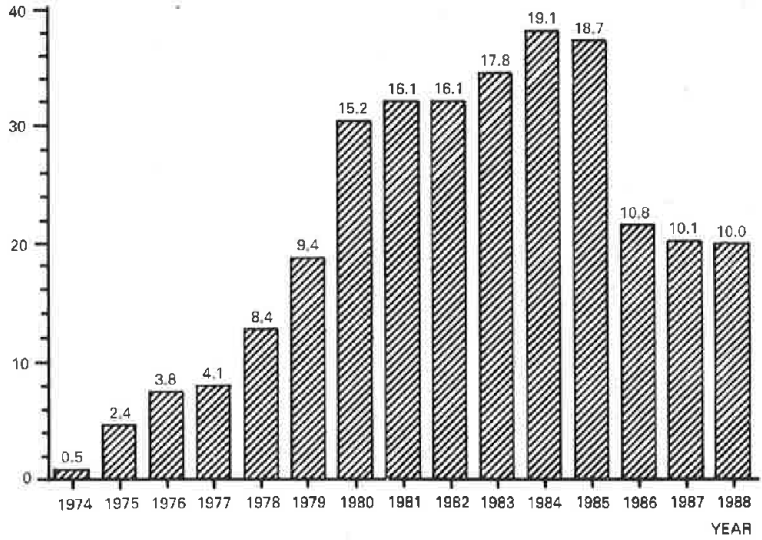


Fig. 1. The petroleum sector's share of the GNP. Source: Fact Sheet 1988.

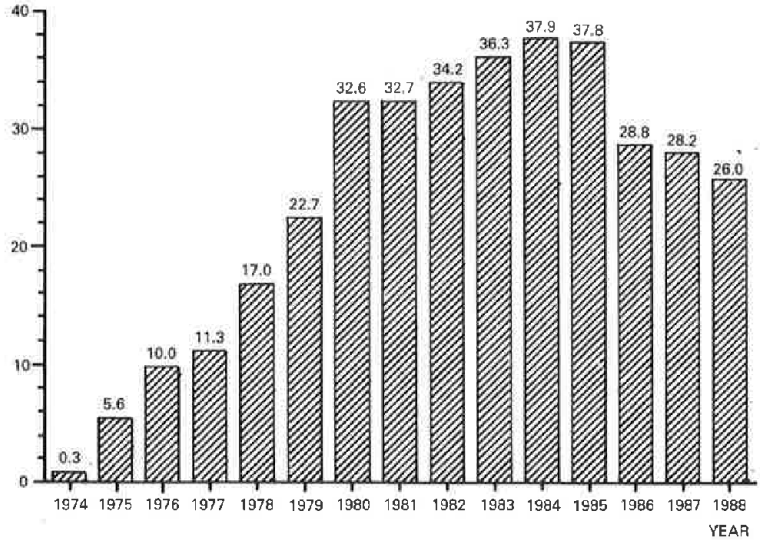


Fig. 2. Oil and gas exports: Share of total exports (services included). Source: Fact Sheet 1988.

Table 1. Net cash flow from the petroleum sector and the State's total tax revenues 1983–89. Billion Norwegian Kroner.

Year	Net cash flow	Total tax	Percent
1983	31	153	20.3
1984	39	170	22.9
1985	39	195	20.0
1986	25	209	12.0
1987	8	216	3.7
1988	3	221	1.4
1989*	10	230	4.3

*Estimate. Net cash flow is the sum of paid taxes and royalties and from 1985 includes net payments from central government direct participation in petroleum activities (SDØ). Total taxes exclude social security and pension premiums but include SDØ. *Source:* National Budgets.

petroleum sector to the government correspond in 1984 to about 23% of total taxes. In 1988 this share had fallen to 1%. The petroleum sector had come close to break-even and the economy was much less dependent on it.

It was now recognized that Norway had to live with a large degree of uncertainty concerning the changes in oil prices. In this book we focus on the foreign political aspects and the possible contribution Norway can make to stabilize the oil market at a "reasonable" price level. Other important policy decisions regarding the uncertainty of, and Norwegian dependence on, oil income are matters of national economic policy.

One "internal" stabilization option is to divorce revenues from the way in which they are disposed. Principally the idea of establishing a buffer-fund as a means of stabilizing the effect of the petro-money on the economy has been discussed and will be of particular importance should prices rise again. Another suggestion has been that a proportion of the oil income should be invested abroad. If this is invested in areas which are counter-cyclical to the oil industry they would have the potential to rise when the oil market was weak and be more moderate when the oil market was strong. The fluctuations in world prices can thus be offset against each other. Kuwait has extensively diversified in this manner, and now earns more than half of her foreign earnings from such investments.

Additionally, Norway faces a severe challenge in defining an economic and industrial policy in which the oil revenues can be utilized to build up

Table 2. Norwegian oil and gas production, 1977–88: Million tons of oil equivalent.

Year	Oil	Gas	Total
1977	13.5	3.1	16.7
1978	17.0	14.9	31.9
1979	18.8	21.6	40.4
1980	24.5	26.0	50.5
1981	23.5	26.2	49.7
1982	24.5	25.5	50.0
1983	30.5	25.8	56.3
1984	34.7	27.4	62.1
1985	38.3	26.7	65.0
1986	42.5	28.1	70.6
1987	49.5	29.9	79.4
1988	56.6	29.8	86.4

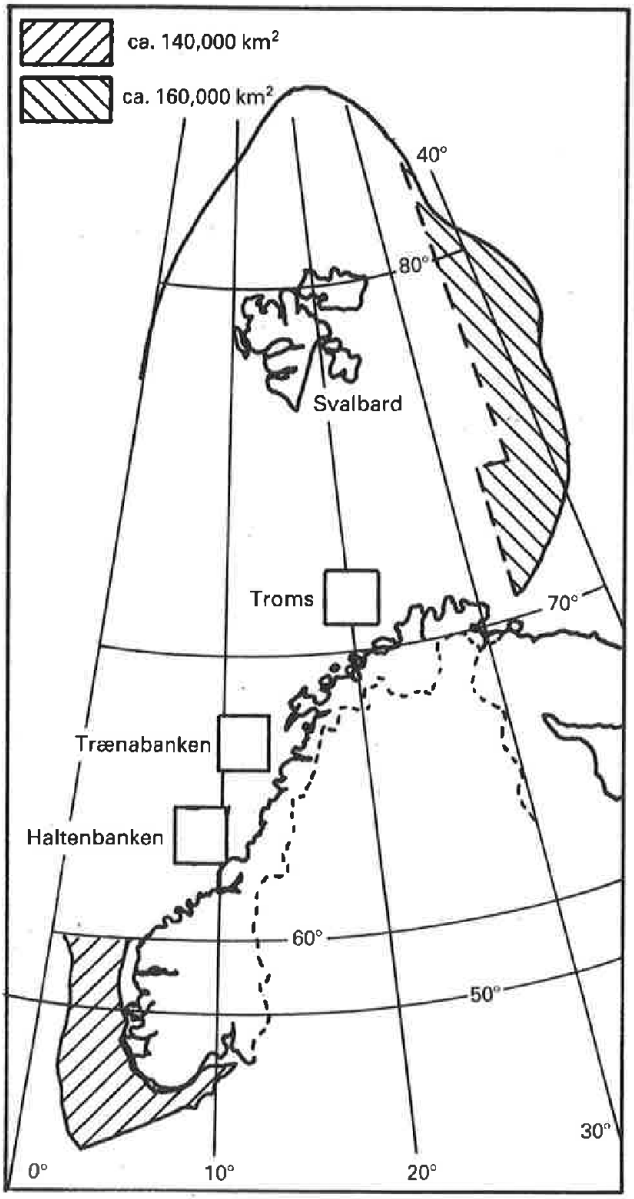
Source: Norwegian Petroleum Directorate, Central Bureau of Statistics.

alternative, competitive industry. That is possibly the most important way the benefits from the oil activity can be reaped and dependence thereon be reduced. In political terms, this may be the greatest difficulty in the years ahead.

Oil fields and production plans

The Norwegian continental shelf covers an area which is several times larger than mainland Norway. Until now, all production has taken place south of the 62° parallel, an area of 140,000 km^2. However, this is only a small part of the shelf. The area disputed with the Soviet Union in the Barents Sea is larger (about 160,000 km^2). When the sea areas are included, Norway is actually one of the largest countries in Western Europe and the most important one as a supplier of energy to other countries.

Proven reserves south of the 62° parallel are about 3700 million tons of oil equivalents; two-thirds are natural gas. Half of the gas reserves are in the Troll field. The largest oilfields are Statfjord, Gullfaks and Oseberg. The distribution between oil and gas reserves, as new areas are charted, is



Map of the Norwegian Sea and the North Sea.

expected to rise in the same ratio as today, which means that Norway increasingly will become a gas nation.

In the 1980s, oil production showed a steady increase, while increase in gas production was more moderate (Table 2). Total production reached a provisional peak of 85 million tons of oil equivalents (mtoe) in 1988. Norway's own consumption of petroleum products is around 8 million tons, and consequently about 90% of Norwegian production of petroleum is exported.

According to existing plans, production of petroleum will increase to around 110 million tons of oil equivalents in 1992. The increased production will come mainly from Gullfaks and Oseberg. After 1992 production will gradually decline towards the year 2000, but in the meantime further development may take place so that production may become even greater before it begins to decline.

The increase in oil production now being experienced is to a certain extent a result of the "oil-option policy" pursued in the first half of the 1980s. This strategy was adopted by Norway during negotiations for new gas contracts. Briefly, the intention was that if high gas prices were not accepted in the

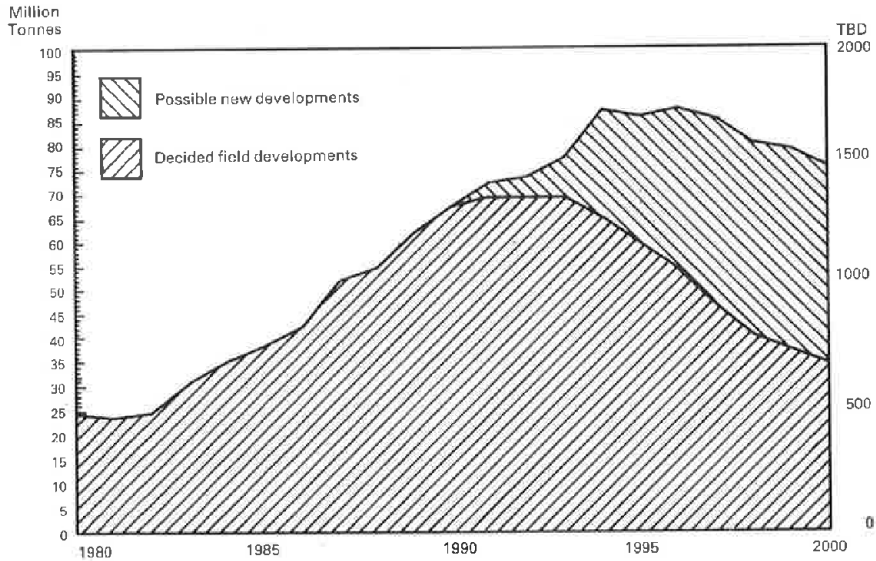
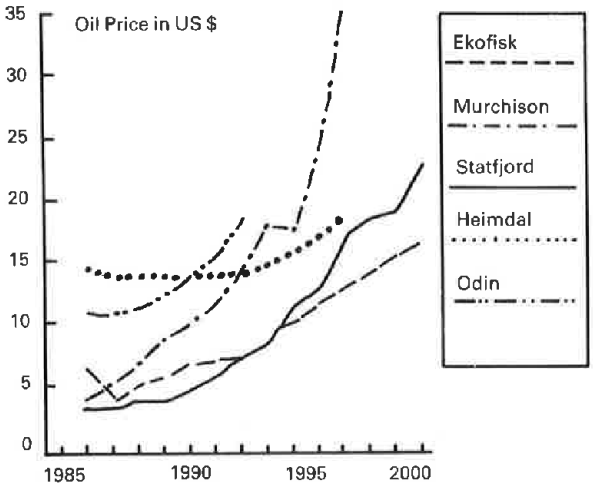


Fig. 3. NCS oil production 1980–2000. Source: The Institute of Industrial Economists.



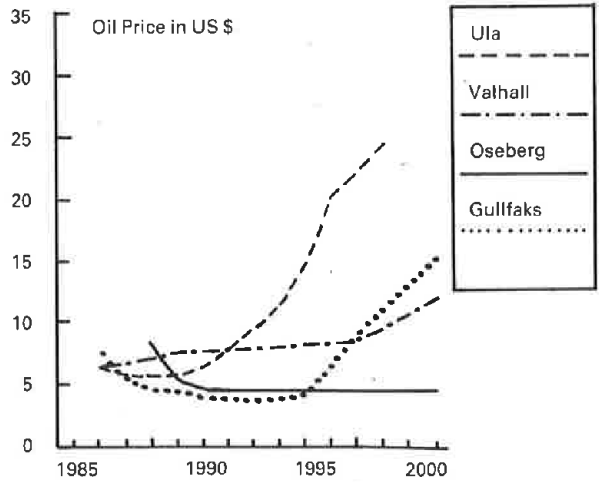


Fig. 4. Possible and decided Norwegian oil production, 1980-2000. Source: Heum (1987).

market, Norway would leave the gas in the reservoirs and expand oilfields instead. Because gas customers did not accept this pricing policy, and because the market became weaker than expected, no gas contracts of importance were signed in this period.

This policy contributed to the making of large investments in oil extraction, leading to increased oil capacity in the period 1987–92. In consequence of these plans, production will rise from the 1986 level of about 1 million barrels per day (about 40 million tons) to around 1.6 million barrels per day (about 60 million tons) in 1990, i.e. an increase of about 50% in 4 years (Fig. 3).

Thus, owing to the problems in the gas market in the first half of the 1980s, market and foreign-policy factors have already influenced Norwegian production policy. Today, the oil market may perhaps represent a more cautious investment. Since the new pricing policy introduced for Norwegian gas with the Troll Agreement in June 1986, there have been opportunities for increased investments in gas production in addition to the Troll developments already undertaken.

Cost conditions

The consequences of *price changes* for petroleum production will be different for fields in which the investment has been made, from those fields in which it has not. So long as investment is already made it will be profitable to produce whilst prices exceed variable costs (mainly operating costs) in the field.

Fig. 4 shows an assumed development in the variable costs for different Norwegian fields in the North Sea. Seven out of nine oil and gas fields in operation or under expansion will be able to cover their costs until 1990 with oil prices of around USD 10 a barrel. The largest fields – Statfjord, Ekofisk, Gullfaks and Oseberg – will be able to cover their costs even with a price of USD 5–6 a barrel. Only the Odin and Heimdal gas fields require oil prices in the magnitude of USD 10–15 per barrel in order to cover the variable expenditures[3].

Fig. 4 also shows that each field becomes steadily more marginal as reservoirs are emptied, implying that the costs *per unit* are rising.

For fields in which the investments have not already been made, however, the price must cover capital costs as well as variable costs and profits. At 1983 prices, the average costs for all North Sea fields were estimated at USD 12.50 a barrel. More than 70% of this was capital costs. According to Lorentsen, Roland & Aaheim (1984), the average costs in the Norwegian

Table 3. Capital and operating costs in 1983 USD. Fields in production or under development.

Fields	Capital costs			Operating costs			Total costs
	Prod.	Transp.	Total	Prod.	Transp.	Total	
Norwegian	5.43	2.04	7.47	2.28	1.76	4.04	11.50
British	7.32	2.41	9.73	1.66	1.92	3.58	13.30
All fields	6.55	2.26	8.81	1.91	1.85	3.76	12.57

Source: Lorentsen, Roland & Aaheim (1984).

sector were about USD 2 lower than in the British sector, mainly on account of lower capital costs (Table 3). The higher capital costs in the British fields are assumed to be due to geological differences and to extraction from a larger number of small fields being more expensive.

These cost figures cannot be regarded as absolute, since they are dependent on factors such as how the depreciation period is defined and on estimates of the sizes of the reservoirs. But they may be used as a rule of thumb to illustrate the level of the two types of cost in the expansion of the North Sea fields. However, it is necessary to realize the large variations which exist between fields.

Foreign-policy considerations

Accordingly, Norway is interested, both from a revenue and from a cost point of view, in having a "reasonably" high price of oil. At the same time, however, Norway is economically, politically, historically and culturally part of the oil-consuming Western world.

The Western world is best served by a high and stable production at "reasonably" low prices. The desire for security of supply is in correspondence with Norwegian interests as an oil exporter, i.e., having reliable purchasers. A desire for low prices, however, is in direct opposition to Norwegian interests.

However, Norway is not well served by prices that are so high that her Western trading partners suffer serious economic decline. This damages Norwegian economy by causing a drop in other Norwegian exports that may be greater than the gain from high oil prices; at any rate, thus making the economy more vulnerable and even more oil-dependent.

It is not just the actual *level* of the oil price that is important, *stability* and *predictability* in the oil market are also elements of considerable interest as regards the Norwegian economy and politics. However, these are considerations which most countries actively engaged in the oil market have in common and therefore do not have quite the same potential for conflict as does price level.

Strengthening OPEC will increase the power of the Arab states in the oil market and thereby their influence in all oil-producing countries. By extending its control over the world's most important energy market a stronger OPEC will also increase Arab influence internationally. Important countries and organizations with which Norway collaborates in relation to energy, security and foreign policy, such as the IEA and NATO, have varying interests which are opposed to the interests of OPEC.

Thus, by interaction with OPEC, Norway may be regarded by other Western countries as lacking in solidarity and may be criticised, both in Europe and in the USA, even though it is understood that the interaction is being engaged in from wholly rational, national, Norwegian economic interests, and is being kept within the framework of other foreign-policy obligations. This creates restrictions on Norway's approach to OPEC, and it is necessary to find a balance between the national and rival interests of other countries and organizations[4].

Pressure on Norway from the IEA and OPEC will probably vary in strength according to how the oil market in particular and the energy markets more generally develop. In a tight market situation, it can be expected that the IEA will place more emphasis on security of supply and moderate prices than it would in a weak market. Correspondingly, OPEC will probably assign greater importance to Norway in a weak market than in a tight one, as shown in 1985. On account of the situation as regards alliances and community of Norway's interests with the other Western countries in the sphere of security policy, a tense situation as regards security, locally or globally, will presumably also make it more difficult to collaborate with OPEC in raising oil prices than in a more relaxed situation.

Opinions concerning how necessary it is to please other Western countries, and OPEC's expectations of Norwegian oil policy will be important parts of the international framework of Norway's freedom of action in the field. As long as Norway maintains her position as an oil producer of a *certain* size, it can be expected that demands, both officially and at a diplomatic level, will continue to be made on her foreign policy in this sphere. Norway must come to terms with the fact that pressure will certainly come from one quarter or another. Because of the relatively frequent

changes in the market, however, the policy should be flexible enough to provide room for manoeuvre when the need arises.

Norwegian international oil policy up to 1989

Up to May 1986, official Norwegian foreign oil policy followed what was called a "purely commercial line". That is, it was not prudent to declare officially that political evaluations were included in its design. Thus, it was long considered that the best market policy was not to have one. As a "free rider" in the market, Norway was then in the best possible position; she could increase her production and at the same time reap the price benefits deriving from other countries' production reductions. Norway could maintain that her petroleum policy was formed on commercial grounds.

In the first half of the 1980s, however, conditions in other countries were already affecting Norwegian production policy. Petroleum policy was politically influenced by the British rejection of the Sleipner Agreement and by the exclusion of natural-gas production and the speeding up of oil production on account of sales problems with natural gas at (too) high prices on the continent (the so-called oil-option policy, mentioned earlier).

It was perceived to be gradually more difficult to declare such a "purely commercial line". This was partly due to the importance which OPEC attributed to Norway and other producer countries outside OPEC. The fact that the OPEC called attention to the important effect individual producer countries had on the market developments probably made such countries more important in the market than their respective market shares alone suggested, and it made these countries' roles as oil exporters even more political. Through Norway's avowed support for OPEC in 1986 and the making of the Troll Agreement with France the same year, it was officially declared that Norwegian petroleum policy was no longer just commercial but was also politically influenced and determined.

As support for OPEC, the Norwegian Government withdrew 80,000 barrels per day from the market in the last two months of 1986. In January 1987, they decided to reduce production by 7.5% *in relation to production capacity*. In 1989 this initiative is still in force. In its present form, Norwegian policy is patently one-sided, does not take the longer view, and satisfies a certain degree of flexibility. Even though Norway's policy has been called unilateral, it is in reality bilateral in its relationship with OPEC; Norwegian interplay is made conditional on a certain policy pursued by OPEC assuming that it is able to stabilize prices at an "acceptable" level.

Notes

1. Time-lag which is implied in the natural-gas contracts meant that the halving of the oil prices entailed only a 10% reduction of the natural-gas prices in 1986 (see Austvik, July 1987). When the fall in oil prices had full effect on gas prices (in 1987), this corresponded to a further annual loss of revenue of about 10 billion kroner.
2. About 50% of the deterioration in the trade balance was due to lower petroleum exports. The rest was due to a poorer balance between the remaining exports and imports, mainly a great increase in imports.
3. Much of this is, however, due to high transport charges.
4. However, it is important to understand that among members of both OPEC and the IEA divergent interests and views of the oil market are to be found.

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Norwegian Petroleum Policy

By Gro Harlem Brundtland

Norway's energy policy is based on a multitude of different considerations. We strive to secure maximum economic and social benefits from our energy resources. This requires that specific goals relating to the energy sector be attuned to overall economic needs of the country, to regional policies and to local as well as global environmental needs.

We must also consider that Norway has established herself as a major supplier of oil and natural gas, and will continue as such in a long-term perspective. Our petroleum reserves are substantial, and they are strategically important in an international context. Indeed, the international aspects of Norwegian petroleum policy have become increasingly evident.

Moreover, as a Western industrialized country and an exporter of petroleum, Norway has a complex range of interests. These interests call for national energy perspectives based on interplay between domestic and foreign policy considerations.

Energy is crucial to global economic development and the fight against poverty. At the same time, the production and consumption of energy is the source of our most serious environmental problems. Acidification of lakes and dying forests, heating of the atmosphere and radiation dangers, are threats both to the environment and to human health. These threats do not recognize national boundaries and they can only be countered by new dimensions of political will and by international cooperation.

The World Commission on Environment and Development recommends that governments adopt energy policies which duly reflect the importance of energy to the environment and to social and economic progress. Developing countries will need much more energy, while the industrialized countries have a special responsibility for stabilizing and reducing energy consumption. Norway is now aiming at a policy of stabilization in energy consumption by the end of this century.

The new era of economic growth must be less energy intensive than the growth of the past. Energy efficiency must become the cutting edge of national strategies for sustainable development. Large-scale research in the development of renewable resources is called for and prices must encourage energy patterns that are dependable, safe and environmentally sound.

Stabilization of oil prices at a higher level is not only in our national interest but also in the long-term interest of the global community. Stabilization would promote energy conservation and the development of more sustainable, alternative energy sources and would encourage necessary investment in exploration and development, thus reducing the risk of new oil crises and dramatic price fluctuations in the future.

The World Commission on Environment and Development has pointed out how important oil prices are to international energy and environmental policy. The Commission recommends that new avenues for promoting dialogue between consumers and producers be explored.

Through bilateral foreign and energy policy contacts and within the International Energy Agency, Norway is advocating global energy policy interrelations. We need to achieve greater contact and deeper mutual understanding between oil-importing and oil-exporting countries.

The situation today is one in which oil-producing countries within and outside OPEC have a production capacity which exceeds the global demand for oil. International cooperation and measures regulating production are necessary if we are to achieve the desired stabilization of oil prices at a reasonably higher level.

Since the 1986 fall in oil prices members of OPEC have shown considerable willingness to restrict their oil exports in order to support the market. These efforts should also be supplemented by parallel measures from other oil-producing countries.

Norway is now regulating production at a level which is 7.5% below existing and increasing production capacity in response to OPEC measures and with a view to stimulating further and continued production restraint in and outside OPEC. This summer, the Government decided to extend our measures to the end of the year.

Let me emphasize that the measures currently being implemented by Norway are unilateral in character, flexible in form and limited in time. We will discontinue these measures at short notice if the OPEC countries fail to implement effective regulatory measures, or if our independent assessment of the market situation, the supply needs of our trading partners or our national interests should so require. Norway would not, however, wish to add to the general uncertainty in the oil market by being the first country to

repeal regulations in a situation where there may be doubts about the cohesion within OPEC.

Due to the fall in oil prices in 1986, our government cash flow from the petroleum sector has fallen sharply by an amount equivalent to 8% of our national income. This occurred during a period in which there were already increasingly severe imbalances in the Norwegian economy. Domestic demand increased by some 25% during a three-year period, which put considerable rising pressure on costs and prices, making worse the competitiveness of industry and our foreign balance. We therefore set out to reorientate our economic policy. Resources had to be shifted into export and import competing industries to compensate for the loss in oil income. Our objective was to rebalance the economy gradually, while at the same time avoiding widespread unemployment.

We can now see that the policy actions taken since the spring of 1986 have produced results. Domestic demand has been significantly reduced and cost and price increases are tapering off. The deficit in our current account has been halved from 1986 to 1988, and we foresee further improvements next year. Despite the sharp fall in oil taxes we, unlike most other countries, still have a surplus in the state fiscal budget.

It will take more time to restore a proper balance. We will, however, design our economic policy to ensure that this objective is achieved. Part of this entails reducing our dependency on volatile oil revenues by further strengthening the rest of our industry, increasing the growth potential of our economy and making Norway an attractive area for new investments.

The oil industry still has an important role to play and changes were made in Norwegian petroleum taxation to improve the conditions for oil companies at a time of difficulty and uncertainty, and to encourage further exploration and development on our continental shelf. Oil companies have responded to lower oil prices by improving the efficiency of operations and reducing costs and we welcome their continued interest in long-term activity on the Norwegian continental shelf. Although the fall in oil prices has reduced the cash flow of oil companies, we nevertheless have several fields ready for development.

This year our oil production will average somewhat more than 1 million barrels per day and the next few years will bring a considerable increase to about 1.6 million barrels per day. Production capacity will decline from this level towards the end of the century unless decisions to develop new fields are made.

In 1988, new blocks in the North Sea were allocated in the first part of our

12th round of concessions. We were quite pleased to note the considerable interest oil companies showed in their applications. The second part of the 12th round will be announced in the very near future. It will involve, among others, key blocks in the Barents Sea. These blocks are nominated by the Norwegian Petroleum Directorate in close cooperation with the petroleum industry. This is a clear indication of the continued interests of oil companies in activity on the northern part of our continental shelf.

Spring 1988, the Storting (the Norwegian Parliament) gave the go-ahead for the Zeepipe pipeline, which will link the Troll and Sleipner fields to Zeebrugge on the Continent. The Troll/Sleipner agreement is indeed an important and long-term contribution to Europe's energy supply. It strengthens both the economic and the political links between Norway and buyer countries within the European Community. Our total exports of natural gas, two-thirds of our oil exports and 70% of our total exports go to EC countries, which in turn are also important suppliers to our offshore industry. Our economies are interwoven in growing interdependence.

Integration efforts within the EC have acquired new momentum through the efforts to establish an internal market. It is my Government's policy that Norway shall cooperate actively with the EC to the fullest extent possible within the framework of our present relationship.

Almost half of Western Europe's proven reserves of natural gas are to be found on the Norwegian continental shelf. Our proven reserves can sustain the present level of production for 100 years and our natural gas exports now satisfy 11% of Western European demand. We have the political desire and the resources necessary to increase market shares abroad and to continue to provide natural gas to customers on a reliable and long-term basis.

There should be scope for additional deliveries to our present customers and we see market opportunities in Scandinavia and Southern Europe as well as prospects for exporting liquified natural gas to the United States. We also have domestic options with regard to introducing natural gas-based electricity generation and it is an exciting prospect that all of Scandinavia may one day constitute an integrated gas market. In fact, we are hopeful that substantial quantities of Norwegian gas will be delivered to Sweden in the 1990s.

Our state oil company, Statoil, was set up to safeguard the State's commercial interests in petroleum activity and for the implementation of petroleum policy. Four years ago, a new political consensus was established and in the autumn of 1988, my Government will present a Report to the Storting discussing the structure of Statoil and the company's important role in Norwegian petroleum activity.

Direct state economic participation in production licences is based on the 1984 compromise between the then non-Socialist government and the Social Democratic opposition in the Storting. Concern that such direct participation represents too great a risk for society has recently prompted interests in the potential sale of state shares. The Storting has now authorized the Government to sell state interests in the Snorre field if we receive a reasonable price.

Due to the level of Norwegian petroleum taxation, selling state interests in licences will not necessarily reduce the risk of the state significantly. It should also be pointed out that the national risk can only be fundamentally reduced by reducing the size of the petroleum industry in relation to the rest of our economy. An important reason for looking into the sale of assets is also the possibility of improving the composition of the state asset. The government is currently studying in-depth issues regarding the possible sale of state interests.

My government recognizes the importance of working for a policy of national consensus in a field of such domestic importance and international consequence as petroleum activity. Over the years there has been little internal political disagreement over the broader lines of Norwegian petroleum policy.

From the very start our depletion policy has had a long-term perspective. An overall political objective is that petroleum activity and revenue shall contribute to a qualitatively better society. A strong, competent national petroleum industry has been built up and will be sustained.

We appreciate the pioneering efforts and cooperation of international companies. Demanding technological challenges have been successfully met on our continental shelf. International oil companies can also expect to be awarded interesting tasks in the future, in close cooperation with Norwegian partners and to our mutual benefit. Petroleum activity in Norway is and will continue to be open to foreign competition with regard to goods and services as well. Indeed, we shall continue to pursue an open and earnest dialogue not only with national and foreign oil companies operating on our shelf, but also with the countries that are affected by our national petroleum policy decisions and that have an interest in Norway as a reliable, long-term producer of petroleum.

Norwegian Energy Policy in a Foreign Policy Perspective

By Thorvald Stoltenberg

Energy is necessary for daily survival. Future development crucially depends on its long-term availability in increasing quantities from sources that are dependable, safe, and environmentally sound.

With these words the World Commission on Environment and Development begins its description of the energy policy challenges facing us. Thus the tone has been set. We are dealing with a commodity that is totally unlike all others. Energy is the basis for all production.

Geological coincidence has provided Norway with the potential to produce considerable quantities of energy in the form of oil and gas. Thereby, we have also been bestowed with a responsibility for ensuring that these resources are managed wisely.

Oil and gas are strategic raw materials. Anyone who might question this need only consider recent developments in the Gulf, or recall the shock waves that reverberated throughout the Western world when OPEC raised the posted price of oil many times over at the beginning of the 1970s.

Thus it is clear that *foreign policy* aspects never lie far from the surface when questions concerning the production and supply of oil and natural gas are raised. Even though energy trade generally speaking is a commercial transaction, it is to a large extent also influenced by foreign policy considerations.

My topic is Norwegian energy policy as seen from a foreign policy perspective, and stress four important issues:

–The relationship between our national interests as an exporter of oil and gas, and our broader international political responsibilities.
– The interdependence of importers and exporters of oil and natural gas.
– The national external economic and trade consequences of Norwegian energy policy.
– Security policy matters related to the extraction of resources in the northern areas.

The first commercial production of oil in Norway started in the Ekofisk Field in 1971, while gas exports commenced in 1977. During the sixteen years since we made our modest debut in the international market as an oil exporter, Norwegian production of oil and gas has assumed considerable proportions. Norwegian deliveries currently constitute a significant portion of the oil and gas supplied to a number of Western European countries. This development has served to heighten the international attention focused on Norway.

This is a state of affairs which will persist for many years. Norway is one of the few Western countries with sufficient resources to maintain a substantial export of oil and gas in the years ahead. Our proven petroleum reserves will make it possible for Norway to maintain the present level of oil production for another thirty or so years, while our gas reserves allow production for in excess of a hundred years. This must in all probability be reassuring for our partners in cooperation in the OECD, since petroleum production for the OECD area as a whole will most likely decline considerably in the coming years. During 1986 the combined oil production of the OECD countries declined for the first time since 1975.

In step with our increasing oil production and exports, Norway has become steadily more susceptible to the changes and fluctuations in the international oil market. Our participation in the oil market has strengthened our relations with traditional cooperation partners. It has, in addition, broadened our range of contacts to include a number of countries with whom we previously have had little contact. Economically as well as politically, Norway is firmly anchored in the community of Western nations, where most of the countries are net importers of oil. Nonetheless, as a producer and net exporter, Norway clearly has interests in common with other oil-exporting countries, regardless of whether they are members of OPEC or not. A brief historical retrospective will illustrate what this entails for Norway.

Principles governing Norwegian offshore development and depletion rates were determined by the Storting (the Norwegian Parliament) in 1974,

taking into account a number of domestic policy considerations, among them the desire to avoid dramatic disturbances in the Norwegian economy. Our decision to pursue a *moderate* depletion policy caused displeasure on the part of some Western countries, who felt that Norway should show her solidarity by allowing rapid, vigorous growth in petroleum production and exports from the Norwegian continental shelf. This was regarded as unacceptable from our point of view. We emphasized that a moderate Norwegian depletion rate was justifiable, not only in terms of Norwegian national interests, but also in view of a sound exploitation of a non-renewable resource, as well as in consideration of our long-term capacity to supply energy resources to our trading partners.

A few years later, this same moderate depletion policy was subject to criticism from certain oil *producers*. This was in 1980, when the situation in, and relations between, Iran and Iraq had resulted in a large production shortfall which could only be compensated for through increased production from other quarters. Some producer countries were at that time of the opinion that Norway should increase her oil production so that they would not have to increase their production to the extent to which they eventually did. Two years later, these same countries indicated that Norway had perhaps produced too large a quantity of oil.

These examples show two things. First, that our oil policy is kept under close scrutiny and that other parties have views as to what policy we should pursue at any given time. Secondly, they show that we cannot allow actions in this area to be determined by shortsighted considerations. Our task is to attend to Norwegian interests in the sphere of energy policy, while at the same time being conscious of our broader international responsibilities. In the long run, there is no real contradiction between our own national interests and those we might call common global interests.

Over the years, it has occasionally proven difficult to achieve understanding for the technical, economic and political considerations involved in the assignment of energy policy priorities. In this connection the Ministry of Foreign Affairs and our embassies and consulates have the task of helping to make our views known abroad. Having said this, however, it should not be taken for granted that international disagreements are exclusively due to a lack of correct and up-to-date information. They may very well be the result of real conflicts of interest. This is something we have to live with. Our oil and gas policy will not always be an exclusively non-conflictual and positive factor in our relations with other countries. Whenever conflicts of interest do arise, we must be prepared to meet them with a wide range of diplomatic means.

In the years to come, Norway's relative importance as an oil exporter will increase as oil production diminishes in the OECD area in general, and in the North Sea region in particular. Our policies may then become even more exposed than they are today to conflicting pressures from foreign interests. This presents increasingly greater demands on our ongoing foreign policy assessment and conduct of these questions.

The international oil market is characterized by rapid change and unpredictability, and this is in itself a source of international conflict. The dramatic rise and fall in oil prices which the world witnessed during the course of the past ten to fifteen years have contributed to the creation of an atmosphere of mistrust in relations between oil-exporting and oil-importing countries. The extensive economic ramifications which accompanied these oil price fluctuations resulted in economic crises in individual countries, while at the same time having a negative impact on international trade.

Because oil plays such a central role in the economies of both oil-exporting and oil-importing countries, sudden price fluctuations also have foreign policy dimensions. There is an inherent potential for conflict in issues related to oil supplies, not the least given the fact that close to 70% of the world's total proven oil reserves are found in one of the areas of greatest political tension, the Middle East. There is every indication that the importance of the Middle East, and in particular the Gulf countries, as a supply source will increase during the 1990s. At the same time, the International Energy Agency (IEA) estimates that the OECD countries' own production will decline, such that their dependence on imports will increase.

Unfortunately, there has long been a tendency in certain quarters to view oil-importing and oil-exporting countries as belonging to two camps in confrontation with one another. This generates a less than constructive atmosphere in a situation where the supply needs of oil- importing countries are inextricably linked to the revenue requirements of oil-exporting countries. Thus, it may be said that there exists a condition of interdependence between these two groups of countries. Transparency in the oil market, with a view to ensuring stability, would help to normalize relations between oil-exporting and oil-importing countries, and would potentially serve to avert conflict. Stability in the oil market would facilitate diversified access to oil, in the present as well as in the future, and would thus reduce the economic and political hazards that might be associated with a possible future supply disruption.

Stable oil prices at a reasonably high level would also provide the conditions necessary for continued investment in exploration and develop-

ment activities in the OECD area and in the Third World. Moreover, it would help to ensure the necessary investments in energy conservation and the development of new and renewable energy sources, thereby promoting a rational utilization of oil as the non-renewable resource it is. The latter is an important point which the World Commission on Environment and Development, headed by Prime Minister Harlem Brundtland, emphasized in its final report.

As a producer of oil, Norway is directly affected by both the short- and the long-term ramifications of an unstable oil market. Norway has a strong self-interest in market stability. Orderly conditions and cooperation in the oil market are also of great importance for international economic and political development. Therefore, this also serves the long-term interests of both oil-exporting and oil-importing countries.

I would like to stress that the Norwegian interest in applying long-term considerations to energy policy decisions, as well as in working toward greater stability and predictability in the oil market, is *not* a recent phenomenon. On the contrary, we have been concerned with these issues for many years, and on the basis of the same rationale as in the present. In 1980, when oil prices skyrocketed due to certain tendencies towards oil supply shortfalls, we emphasized the necessity of arranging for long-term stability in oil supplies and more predictable oil prices. The Prime Minister at that time, Odvar Nordli, emphasized that Norway had to take advantage of every possible opportunity to promote a greater degree of predictability in the oil market, and that this could be done by improving contacts and understanding between oil-exporting and oil-importing countries. However, we were then, as now, aware that we faced a long-term process of political persuasion.

The dramatic fall in oil prices in 1986 created substantial economic problems for Norway. The considerable reduction in revenues that resulted continues to be highly noticeable. It is also obvious that the long-term economic consequences of low oil prices and unstable oil markets will be to our disadvantage.

In its inaugural address in May 1986, the Government stated that it would support the stabilization of oil prices at a reasonably high level, on condition that the OPEC countries adopt realistic and effective measures for achieving this purpose. Even though Norway has a relatively modest independent role in the international oil market, there is reason to believe that our market policy can have significance for the market policies of countries both within and outside OPEC. Apart from the direct effect of reduced oil production,

Norwegian measures have a political and psychological impact on efforts to stabilize the oil market. Norwegian authorities have repeatedly made it clear, both to our partners in the OECD/IEA and to other oil-producing countries, that Norwegian production regulation measures will only be implemented with a view to our own interests and on the basis of an independent assessment of the situation. In this sense these measures are to be considered as being *unilateral*. At the same time, we have emphasized that the Norwegian measures are continually under review in the light of prevailing market conditions and the actions of other oil-producing countries. This is also conveyed when we underscore that our measures are flexible in form and limited in time. If the prerequisite concerning the implementation of effective measures on the part of OPEC and other oil-producing countries is not met, then the Norwegian measures can be immediately revoked. Furthermore, Norwegian authorities have repeatedly pointed out that the Norwegian measures are only designed to limit the growth rate of our oil production. Thus, our contribution to market stability entails that we reduce the production growth rate compared to what it otherwise would have been on the basis of production plans.

Given OPEC's decision in August and October of 1986, to limit production, the Government decided to reduce Norwegian oil exports in November and December 1986 by 10 per cent, or approximately 80,000 barrels per day, by allocating refined royalty oil to emergency stockpiles.

During 1987, 1988 and the first half of 1989, the Government has limited oil production by 7.5% – amounting to between approximately 80,000 and 100,000 barrels per day – in relation to the approved production programmes. These decisions have been made on the basis of prior assessments of the contributions of OPEC and other oil-exporting countries to market stability. Not surprisingly, the Norwegian production restraint measures have met with mixed reactions in the international community. They have been welcomed in OPEC quarters, from which have emanated a series of statements expressing satisfaction with the Norwegian policy measures.

We attach importance to keeping our IEA partners informed of our production measures and the considerations upon which we base our petroleum policy. There is no reason to conceal the fact that our measures have inspired less enthusiasm there than in certain other quarters. However, this does not imply that our decisions are not understood and accepted.

Whether or not Norway prolongs these production measures will depend on the market situation and on the production behaviour of OPEC countries and others. However, if conditions in the oil market should deteriorate,

Norway will not be the first to discontinue her production restraint measures. Consideration for stability requires that we assume a cautious and flexible attitude to any movements in the market.

Contact with other oil-producing countries is an important component of our oil policy. The energy policy challenges that confront us must be resolved in a global context.

If we are to avoid a climate of confrontation in the oil market in the 1990s, it will be necessary for oil-importing and oil-exporting countries to establish a relationship of trust and mutual confidence. Given the significance of oil prices for energy policy in general, the Brundtland Commission calls attention to the need for greater contact and new mechanisms for encouraging dialogue between producer and consumer countries. Increased contact and a deeper mutual understanding between these groups of countries will be conducive to a more predictable and, hopefully, more stable oil market. *Global energy policy interrelations* based on greater contact and deeper mutual understanding between oil-importing and oil-exporting countries will promote the objective of stability and predictability in the market.

The idea of global energy policy interrelations was first introduced in February 1986 in a lecture given by Knut Frydenlund, Foreign Minister at that time. Since then, we have been working both bilaterally and multilaterally to extend and enhance international understanding of this idea.

Other oil-producing countries, both in and outside OPEC, have expressed their support for the idea. Several of these countries have pointed out that the interrelations concept is in keeping with what they themselves have proposed earlier but without having managed to realize. There has also been an encouraging shift in the views held by a number of our partners in the IEA, something which became discernible at the May 1987 IEA ministerial meeting. This process has continued also in 1988.

In a speech given in November 1988 I pointed to the Norwegian view that there is a need for an international oil policy meeting, or workshop, of government leaders to discuss the current and future oil market situation, the resource base, as well as the environmental and climate implications of petroleum production and consumption. At the World Economic Forum in Davos in January 1989, Prime Minister Gro Harlem Brundtland stated that Norway is prepared to host such a meeting. At the present time we are in the process of discussing the possibilities for such a meeting with a number of countries. To date, the idea has received a generally favourable reception.

The International Energy Agency (IEA) was established in order to contribute toward the provision of secure long-term energy supplies to member states. This aim is equally relevant today, and seems among other

things to call for rather more orderly conditions in the oil market.

As regards the IEA's relationship to non-member countries, it is our view that the organization should be able to contribute to mutually beneficial contacts. This was an important consideration for Norway when we took part in the discussions pertaining to the drafting of the IEA agreement and for our subsequent accession to the organization. In the recommendation from the Enlarged Standing Committee on Foreign Affairs and the Constitution, the Norwegian Parliament at the time stressed the importance of ensuring that cooperation between the Western countries of the IEA should not lead to confrontation with oil-producing non-member countries.

In Chapter 8 of the IEA agreement, which deals specifically with the organization's relations with "producer countries and other consumer countries", it is stated among other things that "the Participating Countries will endeavour to promote cooperative relations with oil-producing countries and with other oil-consuming countries, including developing countries. They will keep under review developments in the energy field with a view to identifying opportunities for and promoting a purposeful dialogue, as well as other forms of cooperation, with producer countries and with other consumer countries". The agreement goes on to state that the member countries shall seek "opportunities and means of encouraging stable international trade in oil and of promoting secure oil supplies on reasonable and equitable terms for each Participating Country".

Norwegian oil policy, including the production restraint measures and the initiative for global energy policy interrelations, is in keeping with this objective. We will continue to work actively in the various organs of the IEA to promote these viewpoints.

In connection with this, I wish to point out that we are dealing with an international political *process*. Political results at an international level are not achieved in the space of a few months. In our opinion, the correct approach is to proceed gradually, methodically and probingly, so as to generate an international understanding of the necessity for better contact and information between oil-exporting and oil-importing countries. Thereafter, consensus will have to be reached, both with regard to what *forms* global energy policy interrelations should take, as well as which mechanisms for contact and exchanging information that would be politically and practically expedient. In this regard we must be prepared to let time be our guide.

Some might say that ideas for improving contact between producer and consumer countries have been introduced previously, but to no avail. This is correct. A number of countries, oil-exporters and oil-importers alike,

Norway included, have proposed similar ideas earlier. But the fact that these ideas did not win the support they deserved before is no argument against raising them again today. In this connection it is important to remember that a political idea cannot be realized before the time is ripe. We believe that the time has now come, and we therefore intend to continue our efforts for the realization of global energy policy interrelations. We will readily work quietly behind the scenes, taking one small step at a time, if we feel that this will best serve our cause.

Norway is often presented as an *oil* nation, but it should in addition be acknowledged that we are also very much a *gas* nation. Approximately one-half of Western Europe's gas reserves are to be found on the Norwegian continental shelf, and Norway's gas exports supply about 11% of Western Europe's gas consumption. The constraints on the export of Norwegian gas to Europe today are not due to a shortage of resources, but instead are related to demand and market conditions. Norwegian gas deliveries are stable and reliable, thus contributing to the security of energy supplies to Western Europe.

The economic scope and long-term nature of gas agreements are such that they give rise to a relationship of cooperation and interdependence between buyer and seller. This means that great importance is attached to the political, economic, trade and security aspects of these agreements. Because of their scope and importance, it is not uncommon for the authorities of the respective purchasing countries to show an interest in the terms of sale and delivery, with the ramifications this might have for trade policy.

Thus, it must be said that an element of foreign policy is also present in the gas market. This means that Norwegian authorities must monitor events in connection with commercial negotiations, not the least when the authorities of purchasing countries involve themselves in the sales negotiations.

Several important gas sales agreements were finalized during 1986 in connection with the planned development of the Troll and Sleipner Fields. The contracts add up to 18.25 billion cubic metres per year, with production commencing in 1993 and continuing until 2022. The purchasing countries, West Germany, France, Belgium and the Netherlands, all have options to increase their offtake so that the total volumes may become even greater.

As is known, certain difficulties arose before French authorities, who were dissatisfied with the evolution of the Norwegian–French trade balance, granted their approval for the gas-purchasing plans of Gaz de France. In an exchange of letters, the Prime Ministers of Norway and France both expressed the view that the Troll/Sleipner agreement provided a unique opportunity to extend bilateral cooperation in a number of areas, within the

framework of both countries' international agreements and obligations. This led to an agreement on economic, technological, scientific, cultural and industrial cooperation between Norway and France.

Naturally, Norway is interested in strengthening the economic, political and cultural ties with other Western European countries as well, on a non-discriminatory basis and to the mutual benefit of the countries concerned.

The foreign policy aspects of petroleum activities are most evident in the northern areas closest to our shores. The oil industry shows considerable interest in these politically and climatically demanding regions. In the international oil community, the Barents Sea is regarded as one of the few remaining, and potentially promising, development areas.

One of the main objectives of Norwegian foreign and security policy is that our activities in the northern region should constitute a contribution to the maintenance of peace and stability. This is a demanding task, not least because of the unresolved maritime delimitation issue with the Soviet Union, in addition to certain outstanding questions relating to the continental shelf in the vicinity of Svalbard.

The Government's policy is to encourage oil and gas activities in the north by opening the most promising blocks and areas for exploration and, if finds are made, for production. Oil companies have conducted exploratory drilling in the key blocks allotted during the eleventh concession round, but without any significant discoveries being made. Nevertheless, oil companies show a good deal of interest in continuing with exploratory drilling in large parts of the Barents Sea. The Government has now opened the remaining area of the southern part of the continental shelf in the Barents Sea for exploration activities, thereby hoping to stimulate company exploratory work such that oil discoveries can be facilitated.

A fundamental principle of Norwegian petroleum policy is that the Norwegian continental shelf is indivisible and that the same provisions shall apply to all areas of the Shelf. It is particularly important to take note of this principle as it applies with regard to the northern regions and its relationship to Norway's exercise of sovereign rights and her manifestation of sovereignty. Norwegian and foreign oil companies participate in oil and gas activities in the Norwegian northern regions on the same conditions as elsewhere on our continental shelf. Of the 27 production licences allotted thus far north of 70° north latitude, seven operatorships have been granted to foreign oil companies (Esso (2), Mobil (2), Shell, Elf and Total).

Exploratory drilling has also been conducted on the Soviet side, but so far without much result. However, oil production started in 1987 on Kolguyev Island in the eastern part of the Barents Sea on the basis of finds that were

initially made in 1982. This marks the modest beginning of oil activities in the Barents Sea, even though it is a matter of onshore production in the present phase.

Offshore activities on the Soviet continental shelf in the Barents Sea open up commercial opportunities for Norwegian enterprises. Moreover, in the past few years, the Soviet Union has shown an interest in our offshore technology. This interest has been conveyed directly to the Norwegian offshore industry and in connection with meetings in the Norwegian–Soviet Commission for Technological and Economic Cooperation. Expressions of interest notwithstanding, no specific contracts have as yet been finalized.

The Government looks favourably upon the industry's involvement with a view to prospective deliveries to oil-related activities on the Soviet continental shelf. It is a requirement, however, that any Norwegian commercial involvement should be related solely to undisputed Soviet continental shelf areas. In addition, Norwegian companies must comply with Norway's international obligations, inter alia, regarding transfer of technology (COCOM) and terms of credit (OECD). The authorities are favourably disposed towards providing export credit guarantees in the usual manner, but will not guarantee for venture capital. Nor is it Norwegian policy to encourage counter-trade agreements. Norwegian authorities would not, however, discourage such agreements if Norwegian enterprises should find theme to be of interest. Furthermore, in our opinion, offshore cooperation with the Soviet Union ought to be project-oriented and involve well-established, experienced Norwegian firms. Any offshore base located on Norwegian territory servicing oil activities on the Soviet continental shelf would, of course, be subject to Norwegian laws and regulations.

In his "Murmansk speech" on 1 October 1987, General Secretary Gorbachev broached the idea of "joint efforts" to draw up an "overall concept of rationally developing Northern Areas" and he proposed that agreement should be reached for a "single energy programme for the North of Europe". In this connection, he mentioned joint ventures and projects with a view to extracting oil and gas on the continental shelf in the Barents Sea. In general, the proposal is constructive, although it contains little that is concrete. In due course, concrete proposals for cooperation on these terms will have to be assessed on the basis of the commercial interests of the firms involved and the guidelines drawn up by the Norwegian authorities.

Now, as in the past, the Government attaches great importance to negotiating an agreement with the Soviet Union regarding a definitive maritime delimitation in the Barents Sea. Negotiations concerning a demarcation line began officially in 1974 and have continued ever since. Norway's

view is that the continental shelf should be delimited on the basis of the median line principle, whereas the Soviet position is that a "sector line" should divide the continental shelf. Between the "sector line" and the median line, there is a disputed area of some 155,000 km^2, which is roughly equivalent to Norway's continental shelf in the North Sea.

In the negotiations, Norwegian authorities have indicated their willingness to seek a compromise between the "sector line" and the median line. During fourteen years of negotiations, however, the Soviet Union has not shown a comparable willingness to compromise. Therefore, we have not considered it expedient to specify our conception of what an acceptable compromise might entail.

During his visit to Oslo in January 1988, Prime Minister Ryzhkov indicated that joint exploitation of resources in a limited area of the Barents Sea might be a conceivable interim arrangement as long as the maritime delimitation negotiations have not been concluded. Norway is not in favour of this. We maintain that the objective of the negotiations must be to arrive at an agreement on a definitive line of delimitation.

In my statement to the Norwegian Parliament in June 1987, I emphasized that an agreement on a delimitation line for maritime areas in the Barents Sea would be of significance for the further development of our neighbourly relations with the Soviet Union, and for the situation in the northern region in general. As far as the exploitation of resources in the area is concerned, a mutually accepted, respected and agreed delimitation line would have obvious positive significance.

The next negotiating round will take place in Oslo on a date yet to be agreed upon.

The question of jurisdiction in the maritime areas surrounding Svalbard remains unsettled. It is Norway's view that the Svalbard Treaty does not apply to the continental shelf beyond Svalbard's territorial waters, which extend to four nautical miles. We contend that the continental shelf in the proximity of Svalbard is subject to usual Norwegian continental shelf legislation, and that the specific provisions concerning equal treatment prescribed by the Svalbard Treaty are therefore not applicable. It is common knowledge that some of our allies have reserved their positions on this matter. The Soviet Union and other countries contest our view, contending that Svalbard has its own continental shelf which is covered by the Svalbard Treaty. Finland has endorsed the Norwegian view.

In 1985, an area extending to 74°30′N latitude was opened for seismic surveys. This is a small step into the so-called "Svalbard box", which only defines Svalbard's land area and is not intended to indicate anything about

the possibility of including maritime areas under the terms of the Svalbard Treaty.

Norway is of the view that it would be to the benefit of all parties if activities on the continental shelf in the vicinity of Svalbard were made subject to the same regime as the rest of the Norwegian continental shelf. In addition to being the most practical solution this is indispensible in order to ensure an orderly and rational management of resources. In our view this is a precondition for ensuring order, stability and regulated activity in a highly sensitive area.

The international aspects of Norwegian energy policy touch upon a large number of foreign policy issues and challenges. These range from the global arena and our desire to promote stability and predictability in the oil market by establishing global energy policy interrelations, to our neighbouring areas, where we in turn are concerned with promoting stability through the exploitation of resources in an orderly fashion and through mutually beneficial cooperation. Over this entire spectrum, we seek, on the basis of Norwegian interests, to contribute to confidence-building and conflict-avoidance measures on the international scene. In the internationalized, interdependent and discordant world in which we live there is no alternative. Also the sphere of energy policy should be viewed in this light.

(*Revised version of a speech given in November 1987.*)

Co-operation between OPEC and Non-OPEC Countries is the Key to Oil Market Stability

By Alhaji Rilwanu Lukman

Future historians will view oil as a principal fundamental of the twentieth century way of life, since this indispensable commodity pervades many aspects of our existence. In crude form, it provides a dynamic element to the world economy, linking the fortunes of nations of diverse economic, social and political backgrounds. In refined form, it fuels industrial processes, powers transport to all parts of the globe and provides the source of energy for the lighting, heating and cooking in many of our homes. Without the present high usage of oil, our way of life would be very different.

But, while oil plays this unique consolidating role in the twentieth century, the supply and demand for it have tended to lead to divisiveness. Some countries have it, others don't. Some countries need it in abundance, a few have relatively little use for it, and many others lie somewhere in between. These differences, alas, harbour the seeds of conflict.

Those who need oil in abundance are primarily the dominant and powerful countries, and they understandably strive to pay the minimum price for it so as to reduce the cost of their economic growth. Many of the countries with large supplies of oil, but with underdeveloped economies, recognise it as a fortuitous endowment, providing them with a once-in-a-lifetime opportunity to advance the social and economic well-being of their societies; therefore, their natural inclination is to try to maximize the revenue from it, albeit over varying periods of time.

One must not forget, however, the many countries in which oil has been

neither discovered nor demanded in great quantities, but which are often exposed to the vicissitudes of the international oil market. These countries realize, as I am sure all countries realize when they are honest with themselves, that in the long run, there are no real winners in conflicts within the international oil market. One side may gain the ascendancy at one moment, and the other at the next. But such moments of "success" can be extremely short-lived and illusory.

Looking back over recent history, for example, the price collapse in 1986 was initially welcomed by many industrialized countries as some form of panacea for their policy-induced domestic economic problems. But it was soon regretted by those very same countries. They found the international banking system burdened by the crippling debt affecting many developing countries, as well as the extensive domestic lending to their energy industries; they saw their own indigenous oil sectors threatened, future development plans shelved, and well-advanced alternative energy schemes postponed or cancelled. Similarly, the price rises of the 1970s may have benefited OPEC member countries for short periods, but they likewise brought their longer-term problems as their terms of trade deteriorated, and non-OPEC oil production and the extensive international drive towards conservation and the utilization of other energy sources were encouraged.

It must be noted here, however, that wild swings in crude oil prices not only flout the basic laws of supply and demand; in their wake, they also breed uncertainty, which sends tremors through the world's basic economic structure, such is the central role of oil. This uncertainty leads to hasty, short-sighted decisions on important economic, social and political issues, and the resulting actions are, in many cases, regretted with hindsight.

A wrong decision not only adversely affects the party making it, but will most likely also result in the inefficient use of a commodity. Where this commodity is oil, it will mean that a quantity of this exhaustible raw material is not used to the optimal economic effect – in other words, its full potential may not be realised. When such situations occur on a large scale, they will act against everybody's best interest, and they may indicate that oil is being depleted at a faster rate than necessary. This may not be too serious for us at the present time, but it will certainly affect the economic welfare of our future generations.

Take the case of the United Kingdom, for example. The fact that this country continued pumping oil at its maximum sustainable rate several years ago, when we were imploring its leaders to cooperate with OPEC and moderate its output levels so as to maintain market stability, would have serious repercussions over both the short and the long terms. Over the short

term, the North Sea's marginal importance to the international oil market is so critical that it puts immense pressure on price levels, and this factor contributed to last year's price collapse. Over the long term, the UK has compromised the economic well-being of its future generations by exhausting the limited supplies of the country's oil endowment at a faster rate than necessary, all in the interests of dogma or political expediency.

Many other cases that have occurred over the years serve to illustrate the same point: nobody wins in the long term from conflict in the international oil industry. But what is the long term? Many forecasters have for some time referred to projections into the twenty-first century, but we must not forget that the year 2000 is now not far away. We are actually nearer to the turn of the next century than we are to the series of oil price adjustments of 1973-74! If we wish to choose the turn of the century as the time to put our house in order, and bring long-lasting stability to the international oil market, then we do not have much time left and we must start acting now.

We first have to decide whether we really wish to bring stability to the market. Some countries may still consider they have ulterior aims. They may choose to perpetuate the situation where the heart rules the head, and anarchy and chaos are allowed to reign in the market. After all, as John Maynard Keynes said: "In the long run, we are all dead." So let's make hay while the sun shines, some would say. In my view, and I believe I am speaking for the whole of OPEC, this is a thoroughly irresponsible attitude. But, if certain people – even if they are only in a minority – are not prepared to learn from the lessons of the past, we can do little about it, I am afraid, apart from reminding them of their folly at every possible opportunity and tackling each crisis as it comes.

I believe that the time has come for everyone to acknowledge several hard facts about our industry.

Firstly, the experiences of the past few years, and especially the calamitous events of 1986, have left no one in any doubt that the adjustment of oil prices cannot be left to so-called free market forces. These "free" market forces, in fact, are not so free, in the sense that the laissez faire economist would believe them to be, i.e. governed purely by the dictates of supply and demand. Instead, in addition to economic factors, they are affected by the strategic nature of oil as an exhaustible commodity on the one hand, and the increasingly chaotic and highly speculative nature of the world oil market on the other. A disturbing by-product of these factors is the clamour for the imposition of protectionist measures to shield uneconomic domestic oil activities. The long-term destabilizing effects of such measures is well documented and need not be entered into here. It is interesting to note,

however, what a leading official in another international industry threatened by protectionism said early in September 1987. On opening the Frankfurt Motor Show, Daimler Benz Management Board Chairman Edzard Reuter was quoted as saying: "Protectionism protects not even its advocates, it only generates losers all round."

Secondly, we believe that the experiences of the past few years have shown that the world really needs OPEC, if it seeks order to the international oil market – but that, at the same time, OPEC cannot function efficiently without tangible support from other oil exporters. A group of 13 developing countries, many of whom are burdened by substantial external debt, cannot and should not be expected to continue to assume full responsibility for oil market stability.

And thirdly, producers and consumers should renounce confrontation and seek a rational understanding on ways and means of jointly enhancing the growth prospects of the world economy, with due regard, in particular, to the pressing needs of the developing countries.

In view of these factors, a far more sensible approach than confrontation would be for all the major participants in the international oil industry, whether producers or consumers, OPEC or non-OPEC, to bury the hatchet and cooperate with each other, so as to bring long-lasting stability to this troubled industry. This is what OPEC has been calling for throughout most of the 1980s, but with only limited success.

Long-lasting stability must accommodate the long-term evolution of demand and supply. To permit an effective examination of such factors, the world's oil-producing and consuming nations would need to consider the matter objectively and rationally on the basis of the available data and with a view to ensuring more vigorous and equitable economic growth worldwide. This could result in the preparation of realistic scenarios for oil demand and supply over the next 10, 20 or 30 years, for example. If such an ideal situation occurred, a far more orderly long-term market development would result.

We should like to stress at this point that OPEC is not interested in reverting to the high levels of production of which it is capable (estimated at 31 mb/d), because we acknowledge the obligation to our citizens to ensure that our natural resources are not depleted too rapidly at too low a level of prices. This has always been a primary consideration of our Member Countries. Furthermore, OPEC does not seek to displace coal, nuclear energy or any other basic resource from their legitimate uses in the energy mix. We are naturally anxious, however, to arrest the continuing decline in our share of the oil market, and to do so in an orderly manner. Investment in additional energy supplies should be such that it does not jeopardize the

already reduced status of oil in the world energy balance. OPEC Member Countries are more or less totally dependent on oil revenues for their foreign exchange earnings and consequently for their social, economic and political development, and therefore consider it their duty to defend their interests in this regard.

Since the early 1980s, our member countries have taken many measures in an attempt to stabilize the oil market, often in the form of self-imposed, production-restricting agreements made in the face of dire economic difficulties at home. The most recent series of measures began in mid-1986, after oil prices had collapsed from OPEC's marker price of USD 28/b in 1985 to an artificially low, spot market-induced figure of around USD 10/b. At first, as an emergency measure at a time of great uncertainty and anxiety, we imposed a ceiling of 16 mb/d on OPEC's overall output. This quickly firmed up the market. We consolidated our success at the end of the year, after carefully analysing market trends in the meantime, by returning to a fixed pricing system at a level of USD 18/b for OPEC's reference price, and agreeing to regulate total OPEC production in a manner commensurate with the successful implementation of this pricing policy.

The unselfish action of our member countries, despite the additional hardship it would impose upon their economies already burdened by the effects of declining oil revenues throughout most of this decade, worked surprisingly quickly and its effects remain with us. OPEC has been supported by some other oil producers, but there have nevertheless been a few producers who have stubbornly refused to act for the common good, despite the fact that they have been able to reap the benefit of OPEC's action.

There has since been a sense of relief that a reasonable degree of stability has returned to the international oil market, with its concomitant effect on the state of the global economy. The question remains, however, of the durability of the current situation. Can the present market stability be maintained over the long-term, over five, ten or 20 years? Or is it a short- or medium-term expedient, a remedy for a prevailing set of symptoms, but not a cure for the total illness? These are questions which are uppermost in many people's minds. But until we all sit down together and analyse the situation in an objective, dispassionate manner, we shall not find satisfactory answers.

We in OPEC believe that we have pursued the best courses of action to alleviate serious situations as they arise, as our recent meetings in Vienna will testify. But this has been in the knowledge that further, longer-lasting measures could be taken to the benefit of everyone, if all the parties involved would provide their wholehearted cooperation. Without this cooperation, oil producers everywhere will be obliged to treat each day as it comes, often

at the mercy of such psychologically disruptive factors as speculation and alarmist political exhortations, rather than sound economic judgement based on market fundamentals.

It is our firm conviction in OPEC, therefore, that cooperation between all the major participants in the international oil industry, whether producers or consumers, OPEC or non-OPEC, will stave off further crises, and that it undoubtedly holds the key to long-lasting market stability. We are certain that this will also be the verdict of future historians when they ponder over this troubled era in the international oil industry.

The International Energy Agency – Looking Into the Future

Is the IEA Serving its Purpose as an Instrument for Western Oil Cooperation?

By George Quincy Lumsden, Jr.

The topic is broad, and any effort to articulate a consensus view of the positions of our 21 member governments must be carefully drawn. However, while a spectrum of views indeed does exist among our members' various tactical approaches to energy, the fact remains that there is an overriding self-interest in energy security which has succeeded in keeping them solidly together since the IEA was formed in 1974. That this perception of mutual advantage has persevered to the present time is, as any fledgling diplomat knows, proof that self-interest remains the tie that binds international accords.

But we no longer live in the 1970s, and we must look to the future. Some sorting out appears in order between those principal aspects of IEA policy which are still eminently valid as is, and those which will now bear scrutiny in the light of new ideas and circumstances.

To this end, an examination of what may be the IEA's future will begin with a brief look at its past. I want to note the situation surrounding IEA's formation in the mid-1970s, its stated purpose, and the degree of success it is credited with achieving in fulfilment of this purpose. We ought then to look at the changed energy atmosphere of the late 1980s, in order to see what new demands it is likely to make upon energy planners. While the central role of petroleum will be acknowledged throughout, it must be stressed that the IEA is an agency concerned with *all* forms of energy. Finally, we will treat some politico-economic factors which, I imagine, are of special interest in

Norway. Let it be said at the outset that your country plays a very special role in our club. Norway's critical importance in the IEA scheme of things cannot be underestimated. We will thus conclude our all-too-brief review with a look at several intriguing – and contentious – factors such as the famous "producer/consumer dialogue", the quest for oil market "stability", and the ominous question of preparedness against possible emergency supply shortfalls. As I am not an economist, an econometrician, or an oil man, I must approach these as a simple diplomat who has as his purpose somehow to make both ends of a polemic finally meet in happy compromise.

As for the origins of the Agency, it has been said in humour that the IEA is the creation – perhaps inadvertent, but undeniably there – of the Organization of Petroleum Exporting Countries (OPEC). Although not all that unreasonable, this assertion does corrupt the truth. Utilization of the "oil weapon" – a term which now appears relegated to the dustbins of history – at a critical point during the Arab-Israeli war of 1973 did *not* come about through OPEC action. The oil embargo and the first "oil shock" came about as a result of separate politically and economically inspired decisions by individual governments. While much has since been said and written about the oil producers' "cartel", OPEC remains a group of sovereign states, whose interests coalesce or differ depending upon circumstances. In this respect, it is no different from other international organisations – including my own. The coalescence of these interests in late 1973 and 1974, however, created probably the severest economic crisis in the industrialized world since the Great Depression of the 1930s. A transfer of wealth from one group of nations to another of absolutely unprecedented size took place. The IEA was created in this crisis atmosphere, if you will, as a tourniquet to staunch economic haemorrhaging. Much has changed since then, but energy security and cost concerns remain central to IEA planning.

Twenty-one of the twenty-four member nations of the OECD joined the IEA. They set forth four basic aims in November 1974, and thereafter amplified these with 12 supporting principles. These both summarize the Agency's past and are essential to any analysis of its future orientation.

The basic aims of the IEA were, and still are, to maintain:

– Cooperation amongst member countries to reduce excessive dependence on oil through energy conservation, development of alternative energy sources, and energy research and development;

– An information system on the international oil market, as well as consultation with oil companies;

– Cooperation with oil-producing and other oil-consuming countries with a view to developing a stable international energy trade, as well as rational

management and use of world energy resources in the interests of all countries;

– A plan to prepare member countries against the risk of a major disruption of oil supplies and to share available oil in the event of an emergency.

Given these four cornerstones upon which to build and justify its existence, the IEA then developed the following twelve specific principles upon which member countries have agreed to coordinate their energy policies:

1. Reduce oil imports by conservation, supply expansion and oil substitution.
2. Reduce conflicts between environmental concerns and energy requirements.
3. Allow domestic energy prices sufficient to bring about conservation and supply creation.
4. Slow energy demand growth relative to economic growth by conservation and substitution.
5. Replace oil in electricity generation and industry.
6. Promote international trade in coal.
7. Reserve natural gas to premium users.
8. Steadily expand nuclear generating capacity.
9. Emphasize R&D, increasing international collaborative projects.
10. Establish a favourable investment climate, establish priority for exploration.
11. Plan alternative programmes should conservation and supply goals not be fully attained.
12. Cooperate in evaluating the world energy situation, R&D, and technical requirements of developing countries.

After this quick look at the circumstances surrounding IEA's formation and its stated purposes, I will offer some personal value judgments on the degree of success the Agency has achieved. In the interests of time, I will do this simply in terms of the four basic aims noted.

With respect to the reduction of excessive dependence on oil through conservation, substitution, and the development of indigenous supplies, the results are impressive. In the year 1979, for example, OECD countries consumed an average of 41.6 million barrels of crude oil per day. By 1987, this figure had dropped to 35.3 million barrels per day. Simultaneously, OECD indigenous oil supplies grew from 14.7 million barrels per day in 1979 to what we expect will be slightly under 17 million barrels per day this year. An impressive performance to which Norway's contribution is obviously fundamental. During this same period of time, OPEC's crude production went from 30.7 million barrels per day to what will probably be an average of

around 18 million barrels per day this year. Examples of OECD structural and source adjustments in the energy field abound. I will look at several of the principle sectors concerned in a few moments. I believe, however, that our performance in reducing excessive dependence on oil could be graded "A" by any reasonable professor. The IEA, of course, cannot take full credit itself for these results. It is a fact, however, that the conditions which brought the Agency into being to work upon this problem are the same conditions which have stimulated a more rational attitude toward the consumption of petroleum among the industrialized nations comprising its membership. Between them, these countries consume fully two-thirds of the petroleum reaching world markets.

The IEA's second basic objective has been the establishment of an information system on the international oil market in consultation with industry and others. We think our reporting on the current and short-term future oil market situation is pretty good, and I know that at OPEC headquarters and in the energy and oil ministries of both consuming and producing states, they believe it is pretty good also. The monthly report is the result of extensive contacts with the petroleum industry and our member governments. I will let it speak for itself, but will flatter myself by giving it a grade of "A-plus" in fulfilling this objective of the organization.

The third basic aim of the International Energy Agency at its establishment was cooperation with oil-producing and "*other* oil-consuming countries" in order to develop a "stable" international energy trade. Here, factors are at play which some observers feel have hindered the fullest achievement of this objective. I admit there are sensitivities revolving around varying interpretations of the proper role of international organizations vis-à-vis natural market forces. On balance, and in consideration of the considerable work that has been done in this area, I will award the Agency a gentleman's "C". At the same time, considerably more new activity is planned, as I shall point out.

Prices are a different matter. They have gone from USD 34 per barrel in the early 1980s to below USD 10 per barrel in 1986 and rest currently at what has been called a "political equilibrium" price of around USD 18 per barrel. It is clearly not easy for the buyers and sellers of this critical commodity to make decisions when prices fluctuate to this extent. I will make some further comments upon market stability, which is of such particular interest and importance here in Norway, as I conclude these remarks.

The fourth basic aim of the IEA at its foundation was to prepare Member countries against the risk of a major disruption of oil supplies and to share available oil in the event of an emergency. Such plans do exist. The IEA

Members have undertaken formal obligations to share remaining petroleum supplies in the event of a 7% shortfall of crude oil reaching the market. They have further agreed to an "individual trigger mechanism", whereby any member state losing over 7% of its petroleum supply will be assisted through the receipt of available supplies from elsewhere. Moreover, as a result of the *perceived* shortfall in 1979 known as the second oil shock – and I stress the word perceived, because a significant reduction of supply never actually occurred at the time – a system of "coordinated stock draw" was established which could be instituted to counteract supply disruptions of less than 7%. Fortunately, I am in no position to assign a grade to the performance of the IEA and its member governments in the conduct of emergency sharing systems for the simple reason that these have never needed to be utilized. Nevertheless, they are in place and their potential strengths and weaknesses continue to be vigorously debated in government, industry, and academic circles. I am obliged also to make further comment on this score and will do so as I conclude.

Now, to the future. Do we face a changed atmosphere? Definitely "yes", but to what degree does this new atmosphere require adjustments to portions of IEA's Programme of Work, and does it not also dictate the retention of the Agency's original aims? The answer in this latter case is, I believe, also yes, since the central objective of the IEA continues to be security of energy supply, in both the short and long term. While I have noted the considerable progress made towards reducing dependence on oil and developing a system for responding to oil supply disruptions, these tasks are far from finished, and successful policies which have led to beneficial results so far must be continued.

At the same time, however, the energy situation of IEA countries is now different from that of even a few years ago. This new situation, and in particular the energy resource base, must now be carefully assessed for both its advantages and its risks, in order to draw the correct implications for both the short-term and long-term future. As prime examples I would note the probability that topics such as the position of electricity in final energy demand, and the research, development, and demonstration of new energy technologies will attract much greater interest. The interface of energy and environmental questions is already stimulating intense political interest amongst IEA member countries, as the result of Green House, Chernobyl, and acid rain effects undreamed of in 1974. The energy situation in the world's developing countries is projected to become critically important in the next decade, as new economies in the Third World step up to the industrial starting line.

Thus, any assessment of future IEA priorities and activities must address not just oil, but all sources of energy supply and consumption within the context of our concern for energy security. Also, our vision must not be restricted only to the OECD world. We believe that diversified sources of supply; flexible, resilient, and competitive market and industry structures and functions; and sound government policies based upon accurate and timely energy data are indispensable.

To the year 2000 then, we would expect the principles upon which the IEA was founded to continue in place, but that upon this basis, the Agency and its member countries will need to cope with the following specifics in assessing their energy supply and demand outlook:

– continuing gains in efficiency (but very likely at a slower pace), as competition brings further technological change;

– supply shortages do not exist in any of the main conventional sources of primary energy, but each of them is subject to the well-known risks inherent to each:

oil: concentration of conventional oil resources in the Middle East, and growing use for transportation, particularly in non-IEA countries;

coal: current over-capacity, which is bringing about restructuring in the coal industry even in low-cost producing countries; in the future, possible supply and/or price difficulties if demand were to grow rapidly; adverse environmental consequences, which can however be mitigated by a variety of technological and regulatory approaches; and persistent barriers to trade;

natural gas: large portions of available resources are located in regions far removed from main markets, and in some cases also where economic systems differ sharply from those in IEA countries (the importance of Norway's Troll/Sleipner resources in this regard are obvious);

nuclear: if existing constructions plans, which now point to a levelling off in the rate of growth seen in the past decade or so, continue, an assessment of the impact on oil dependence will be necessary.

– None of these inherent risks has yet been overcome; each must continue to be addressed vigorously, and an overall solution found to the continuing problem of meeting future energy supply requirements.

Also to be foreseen are:

– continued development of market and industry structures in the direction of greater flexibility, resiliency and transparency, and more competition within and among the different sources and forms of energy;

– continued development of new forms of trading energy, extending from oil to other energy sources;

– growing relative importance of technology as a driving force behind energy developments on both the supply and demand side, with energy costs remaining important but with *less* likelihood of major price changes;
– growing relative importance of both consumption and production in non-IEA countries.

This outlook suggests that, while energy problems certainly remain, they *can* be addressed effectively within the IEA context, where the experience of the past demonstrates that with continuing effort it should be possible to fulfil the promise of energy making a positive contribution, rather than acting as a constraint, to economic performance everywhere.

Future energy developments will, as in the past, be strongly affected by general economic developments, including the level and the structure of economic activity in OECD and other countries (including economic growth rates and exchange rates). They will also have a strong influence upon general economic developments, but probably in a different manner from in the past. These factors outside the energy sector will themselves continue to be subject to great unpredictability.

The role and function of the IEA in the months and years ahead will therefore be to:
– carry out activities which consolidate and continue the achievements of the past, and which lay the groundwork for addressing policy issues which can already be foreseen for the future;
– develop and implement the policies necessary to meet changing circumstances as they occur.

At the same time, it seems highly likely that the following considerations will receive increased political attention:
– Energy and the *environment*.
– Energy developments in the *world outside IEA countries*, given their potential for having major effects on the world energy supply/demand balance.
– *Technologies* which increase the supply or reduce demand for energy.

These emerging considerations will apply, in one way or another, to all the IEA's substantive subjects of analysis and policy formulation, they will affect their nature and scope in various ways. They do not replace existing substantive energy subjects, but arise integrally within them and ought to be addressed in that fashion, insofar as their implications for energy policy are concerned, rather than as separate topics.

This completes my very broad rush overview of how we see the IEA's future *raison d'être* as evolving from its achievement of past objectives. That done, I will wind down my presentation with a few words on the Agency's

role as specific instrument for oil cooperation. Although I have belatedly noticed that the title of my remarks to you somehow included the adjective "Western" in modification of the concept of "oil cooperation", I will ask you at this point to strike that word. It is inappropriate first, because as an IEA official I also serve Japanese requirements and, second, the instrument for oil cooperation which we would like to see must involve non-IEA members throughout the world. Now, before you mis-interpret this last statement and go on to anticipate that I am about to propose a "Bretton Woods" type agreement for oil, permit me to explain myself to the contrary. The problem for us is the selection of the proper and most effective tools for cooperation, remembering always that this is a political as well as an economic process, and that politics, after all, is the art of the possible. If I remember correctly, I obliged myself to comment on the IEA's role with respect to the following instrumentalities: the producer/consumer "dialogue", oil market "stability", and emergency preparedness. While both the basic aims and specifically agreed policy principles of the IEA stress cooperation with non-member countries, I nevertheless noted that factors were at play which some feel have hindered the fullest achievement of this objective. All will, I think, agree that further work is imperative.

Much has been said about the producer/consumer dialogue since it first surfaced and was debated without appreciable results at the Paris Conference on International Economic Cooperation in the mid-1970s. Much has been written about the dialogue since that time, but observers who may otherwise disagree upon its merits do seem to have accepted the reality that differing market conditions act as formidable barriers to the coalescence of producer and consumer interests. With high prices and tight markets, some consumers are likely to seek establishment of an international control mechanism through such a "dialogue". Conversely, with low prices and soft markets, it is the producers' turn to seek the dialogue. In both camps, however, there are major countries who remain unlikely under most any market conditions to commit themselves to international agreements which could inhibit their sovereignty over future petroleum policy decisions.

I come to you carrying no brief for any specific government in this regard. I would be very remiss, however, if I did not underline the fact that a strong consensus exists among IEA members which resists efforts by international organisations to override market forces. This consensus maintains that it is in just those efforts that the seeds of market instability can be nurtured. The lesson is drawn from the aftermath of an artificial maintenance of "too low" oil prices during the 1960s and early 1970s, and the maintenance of "too high" prices in the mid-1980s. Major oil market destabilisations have

occurred on three occasions since 1973, and on two of those three occasions – the "first oil shock" and the 1986 price collapse – these destabilizations can be seen as the result of fundamentally political government decisions taken contrary to the much more moderate laws of oil supply and demand at work in the marked place.

In the IEA's consensus – note, I do not say unanimous – view, the pursuit of meaningful dialogue and the benefits of stability that can indeed result therefrom, are unlikely to be found via the creation of internationally negotiated commodity market agreements, under which sovereign governments may subsequently find that the obligations undertaken have become politically or economically onerous. Beyond oil we need only consider the agricultural policies of a number of OECD governments, as well as the recent demise of international commodity agreements for tin.

This said, I repeat that a dialogue between industrialized and developing states is an imperative if we are to avoid miscalculation of the world energy situation as we move toward the year 2000. Once the focus shifts away from what we think has proven to be a futile quest for the fixing of prices and production through international accords between producers and consumers, a whole new field opens. It is through efforts to exchange information, to exchange technology and for the experienced to help the inexperienced that a meaningful dialogue between energy producers and consumers, both developed and developing, can bear fruit. IEA Ministers have charged us to see that this latter type of "dialogue" continues to evolve, and this war has already begun.

A word or two regarding "stability". No market is completely "free" and no market is completely "controlled". Within the context of the varying energy regimes employed among IEA members, however, prices enjoy appropriate freedom to respond to the economic forces behind them. Beyond the IEA, and from a global aspect, the current "USD 18 barrel" appears to be as near to an equilibrium as we have come in a long time. Close examination, I believe, will reveal that it is just as much the perceptions of a myriad buyers and sellers who have brought about this equilibrium as it is the force of government policies "controlling" natural market forces. The apparent success of some of these policies in fact derives from their ability to align themselves with those perceptions.

Finally, a word on the IEA as a tool for emergency preparedness. While I have briefly described our sharing systems in place, I also was constrained to note that they have never actually been used. It is almost ironic to note that, even given the dramatic political, military, and diplomatic factors at play in

the Gulf, the likelihood of their now being invoked remains slim. The IEA's role is to be prepared and alert, but also cognizant of the fact that, in spite of the dynamics of the Iraq/Iran war, oil traders correctly perceive that there are ample worldwide crude flows and stocks available. Despite continuing maritime incidents, there has been no measurable interruption of Gulf oil trade flows, rather an augmentation. Further, in the event there *were* some reductions in those flows, immediate physical shortages of crude oil are unlikely. Several specific factors strengthen this conclusion:

– at any one time, more than one month's worth of Gulf exports are en route to consumers;

– the main Saudi pipeline to the Red Sea, which now carries 1 mbd, could accommodate 3 mbd;

– currently there is an estimated unused capacity outside the Gulf of 2–3 mbd; and

– large amounts of OECD private and government stocks are available, as well as considerable additional storage afloat and on land outside OECD areas.

Under these conditions, the IEA's role is simply to council calmness and ask all to permit international diplomatic efforts currently underway to proceed.

While I can well imagine that not every word I have written meets with the agreement and approval of everyone, I do hope that they have stimulated all to think about the very important role the IEA can play in coordinating energy policies among industrialized nations, and between those nations and the rest of a world in which energy interdependence is a fact. Norway's future as an energy exporter gives it a very important role among IEA countries. Its special views on certain issues receive close attention from those of us who work with your representatives toward the shared goal of secure supply, based upon healthy indigenous energy industries.

Rational Self-Interest – a Credible Policy

By Hans Henrik Ramm

Norway has tried many strange routes in formulating its oil marketing policy. From the beginning we conducted an intense discussion on a 'production ceiling' – in reality a hair-splitting debate, because at that time we never came anywhere near the tonnage figures proposed by different parties. But we managed to create the impression amongst some of our allies that we were aloof and wished to keep the oil for ourselves. This was not such a good idea in a period when it looked as if OPEC had the West in the palm of its hand. Complications also arose for a while because the USA thought we were just as reticent about gas.

The idea of a policy for 'oil and energy co-operation' then popped up. In its early form this was a beautiful euphemism for the belief that the seemingly short supply of oil could secure us extra benefits from the buyer. With the help of bilateral agreements we should come up with 'safe delivery' oil, and so the receiver country should preferably pay cash in the form of 'technological co-operation'. But things did not go so well, and soon the market killed that idea too.

After that the politicians kept away from marketing oil for a while, and let Statoil deal with it. Everything went well until Statoil suddenly found itself being used as a scapegoat: it was the first company which had to capitulate to the declining market and give open discounts. At this juncture the OPEC countries had themselves conducted rather curious operations in secret (with the same end result), but Statoil was universally abused as the weak link in the chain. Through lack of political insight into the oil market a few home commentators also engaged in such criticism, which this time was groundless. Norwegian ambassadors were inundated with telephone calls,

but did not have any answer to give, and the Norwegian Foreign Office had no instructions to give their foreign service abroad. The matter was a demonstrative example that Norway could no longer limit itself to a foreign policy of mere observation and comment, but on the contrary must now take an active role in explaining its position to the rest of the world.

This of course also applies to our marketing policy in general. As an oil producer of some size we must realize there will be interest from foreign countries in what we do. This applies to both importer countries – often represented by the USA – and other producer countries, usually referred to as OPEC. In certain periods the USA and other allies have undoubtedly pressed for an elastic production policy. But the pressure from OPEC to take part in production curtailments of one form or another has been continual and systematic.

It had already begun in a cautious way during the 1970s. In Norway the philosophy sprang up in many circles that Norway as both an industrialized country and an oil producer should play a 'bridge-building' role. Within the machinery of government countless memoranda were produced to try to cement the foundation of this more political desire. The attempt was unsuccessful. The senior government civil servants considered it was no use hiding that Norway had considerable self-interest in the matter and that we were best served by acting honestly on the basis of rational self-interest rather than reciting airy phrases about bridge-building.

From the time the Willoch government took over there was mainly political acceptance for this view. At the same time we gradually saw tendencies towards a weakening of oil prices (estimated in dollars they began to fall long before they fell in Norwegian crowns), and we received more frequent visits from OPEC. We had to formulate proper reasons for entrusting the oil market to Statoil – something hardly anybody actually believed. When Statoil introduced its discounts, observers both in the West and in the Middle East were convinced that the Government was behind the idea, whilst we in our naivety were not even informed. Afterwards the Government did pass a solemn resolution to the effect that it wished to be informed on especially dramatic decisions in advance, and that Statoil should not be price leading. But that step was far from sufficient.

In the Oil Ministry under Minister Hveding, we thus started to form a coherent policy. Norwegian oilfields have no rising reserve capacity, which most of the OPEC countries do and the Norwegian continental shelf is characterized by high investments and low operational costs, whereas the situation is different in the Middle East. It is therefore natural that OPEC producers operate as swing producers. In that way they can optimize their

production by increasing it when the prices are high and reducing it when the prices are low. This also has the effect of stabilizing the market, which Norway understands and appreciates.

Norway's position was different. We could not earn extra on the upward swings, and with expensive installations which we had to pay interest on, it was normally best for Norway to maximize the present value by selling immediately at prices determined by the market. A disparate market strategy where the OPEC countries were swing producers and Norway was willing to accommodate itself to current prices could therefore be regarded as an expression of rational self-interest for both parties.

As a consequence, we maintained that the best contribution Norway made to stability was that our production profile was nearly predetermined by our investments and thereby extremely predictable. This line of argument was presented to the various visiting OPEC ministers and as a rule accepted. The OPEC spokesmen, of course, wished to emphasize that they could not resist arguing for another point of view. They also liked to state that although it could be regarded as an economic optimization for them to be swing producers, it was difficult to avoid the market swings from creating problems, because many OPEC countries did not manage to apportion their consumption evenly.

In this period it was not difficult to gain respect for the way Norway defined its self-interest. Neither, though, were there big problems – the turning on of the oil taps by Saudi Arabia and the big price fall came later.

Kåre Kristiansen was oil minister during this period and even though our conclusions were not changed when he took over, it was natural for a Christian People's Party politician to state the reasons for them a little differently. During the period of Kristensen as oil minister, less emphasis was put on explaining our policy as rational self-interest. We tried to explain it more idealistically by emphasizing our traditional thesis of keeping to a moderate extraction rate and of proceeding cautiously with allotment of concessions, etc. This happened, however, in a period when Norwegian production was increasing and expected to increase even more. Within OPEC this could easily be interpreted as contradictory.

When the OPEC co-operation broke down, there followed a strong lobbying attempt by Saudi Arabia and other OPEC countries to get all the oil-producing countries into a new form of quota system, or something similar. The Norwegian Foreign Service, the Ministry for Foreign Affairs and the Oil Ministry then helped to evaluate whether the position that Norway took would have any significance for the development in the price of oil. The

conclusion reached was that what was happening could be interpreted as a conflict within OPEC: Saudi Arabia had become tired of having to bear the whole responsibility for the prices alone, and wanted large shares of the market for itself at other countries' expense within a new adjustment. We considered the fall in price to be primarily a punitive measure by Saudi Arabia against the other OPEC countries to force through a new and better agreement. It was natural that non-OPEC countries were also under fire and that Saudi Arabia felt that any gains that could be won from outside should also be taken advantage of. In our opinion, however, the crucial question was how long the weaker OPEC countries could withstand the pressure of the Saudis.

Theories also arose that OPEC's aim was to price North Sea oil out of the market, but we knew that they could not achieve this. The oilfields in production in the North Sea would not be closed until the prices fell below operating costs, and that is very low. One could thus inflict great losses on the companies and countries bordering the North Sea without being rid of their production. Information from an internal OPEC report having the same conclusion strengthened us in our belief that this was not their objective.

We were aware of the fact that the Norwegian Petroleum Act included a clause which probably could be used to regulate production if we so wished. But it was also possible to interpret it differently. As long as it was not made use of in such a way, it would be possible for Norway to withstand all kinds of accusations of governmental interference by referring to how the system exists in Norway, namely that the companies – that is to say to a large extent Statoil – have marketing responsibility, and that the state cannot and does not wish to interfere. The first time we were to make use of the clause, an important line of defence would be lost. If you can do something once, it is easier to lay yourself open to the demand to do it again. We wished to avoid crossing this line for as long as possible.

It was clear enough that the West wanted to see Norway resisting OPEC's pressure like Great Britain had done. However, it was not a question of any very strong pressure. Western viewpoints did not therefore have much influence on the attitude of the Willoch government, which based itself on rational self-interest.

It has been maintained that during the late winter–early spring of 1986 a process started up within the Willoch government which would have led to corresponding measures which later were implemented regardless of whether there was to be a change of government. This is rather doubtful. There was no support amongst senior government civil servants for the idea that the state should intervene in the operations of the companies. Statoil

was also strongly against such a policy. It is true that during the worst falls in oil price there was some anxiety at a political level. Certain members of the Government thought that some form of accommodation to the demands of OPEC should be considered after all. The final evaluation of the Government nevertheless quite clearly confirmed that it stood by its previous policy line. Nothing was ruled out for the future, but the process that was under discussion was undoubtedly stopped.

From the outside, it looked as if most of the discussion was about whether what Norway did was of any significance at all, because in spite of everything we were a small producer. It was a relatively simple argument to maintain that we were of little significance, but it was not a particularly strong one. Naturally the counter-argument was that we were just as big as the others who regulated production, and that all must pull their weight to achieve something. However, the point for the Government was not Norway's high or low volumes of production but rather their realization that not much importance would be attached to Norwegian policy because the internal conditions of OPEC could be considered as decisive. OPEC would not unify their policies because of a Norwegian curtailment, and neither would the lack of Norwegian participation be an obstacle for a new OPEC solution if other circumstances spoke in favour.

With the change of government, it came as a great surprise that the new Government, in its inaugural address – which was written before there was any contact with the senior civil service – announced that it would go in for some form of production regulation. Certainly some Labour Party spokesmen had already indicated some move in this direction, but even so one would have thought that experienced politicians would not have made up their minds in advance without giving themselves the chance to have the facts checked thoroughly. Within the senior civil service – especially in the Foreign Office – there was great astonishment over this.

My personal theory is that the Labour Party's decision was strongly motivated by foreign policy considerations. From the debate one got the impression that a very bad relationship had developed between Norway and the other oil-producing countries. No such problem had occurred. Disagreement is not in itself the same as a bad relationship. On the contrary, reports from foreign sources were available which showed there existed a certain respect and understanding for both the Norwegian and British viewpoints within important sections of OPEC, in spite of disagreement and superficial rhetoric. It is difficult to criticize the opposition at that time for believing something else, but it would have been sensible to wait before forming an opinion until one had access to all the assessments and relevant material.

To begin with the impression was that the new policy consisted of establishing a ceiling for Norwegian production lower than the level existing at the time. That was what OPEC demanded. For Norway it would have been hopeless, with new oilfields starting to be built up. It surely could not be expected that Norway should complete the build-up operation for Gullfaks, for example, and then put the whole thing in mothballs? Gradually the new policy was defined more precisely. No ceiling would be established, nor would further production growth be hindered. But one wanted it to take place at a somewhat lower level. The temporary arrangement of purchase by the state for the purpose of strategic stockpiling was considered 'clever', and the Defence Establishment was delighted. This obliged the Government to make further efforts, and thus the result was the approved production regulation which had been under discussion.

It is not easy after the event to say how much significance it had. Most observers are in agreement that the economic significance for the market itself could not have been very great. The question is what kind of psychological effect it had when it was announced that Norway would take action if OPEC managed to arrive at a solution, and then we then we did so. Our initiative could have had some such significance, but it is impossible to measure how much. It is most probable in fact that the events otherwise would not have been very different even without this policy change on the part of Norway.

For the oil companies regulation of production means a new uncertainty. It has therefore a cost over the actual loss of income. In the long run the total amount of burdens we put on the oil industry in the form of taxes, state participation, industrial and research co-operation and different forms for regulation will be constant. However, the cost is not very great as long as the measures are moderate. In addition, the companies will gradually get accustomed to a regulation of the type we have now. It will not be suggested that the companies as a starting point send in deliberately misleading statements, but it is of course easy to let impressions take an upper hand when a production prognosis is to be delivered which one knows will be scaled down.

If, on the other hand, in a discussion about a queue system with due regard to OPEC is brought into operation, a significant risk could arise of long-lasting postponements of oilfield development – and then the cost will be great.

If we disregard this possibility for the time being, the cost for Norway of the regulation of production will in the main be the present value loss of postponed tax revenues. On the other hand prices will go up again, if it is

believed that the Norwegian measures have at any rate a certain psychological significance.

What is then the net effect? The only thing which is certain about the oil price trend ahead is that it is uncertain. Probably there will be several large cyclical variations. If one thinks the Norwegian measures in a given situation can contribute psychologically to making the prices go up, such measures will hardly have any effect on the price level in the long run. If the production regulations stay unchanged, the whole psychological effect will disappear. The next trough will just come earlier than it normally would – marginally earlier in the same way as the rise also came marginally earlier because of the Norwegian measures. And if we do away with the regulations, we will get just as strong a negative psychological effect as earlier it had been positive.

Regulation of production of the Norwegian type will therefore probably only marginally influence the timing of the cycles, hardly the average value of the Norwegian oil produced on a yearly basis and hardly either the amplitude of the price fluctuations. It would have been different if one could decide when we could catch up on production. But we cannot. In practice we are only left with the present value loss and less costs because of the increased uncertainty. It looks therefore as if regulation of production in the long run does not have any good economic justification.

On the contrary, there is another factor which weighs heavily against it in the economic discussion.

We have already geared our internal systems to strengthen the national effects of price variations. This has a connection with the tax system (high tax differentials mean that the state has most loss when the prices begin to fall) and the system of state participation (the state is left with the investments at any rate). In addition we see that the pressure for oil tax cuts rises with low prices. All this increases the amplitude of fluctuations in our national revenues. If in addition we cut down on production every time that prices are low, the amplitude will be even larger. Until we have managed to arrange a buffer fund, it is precisely the variations in revenues which are the greatest threat to the Norwegian economy. These variations will be strengthened, not reduced, by regulation of production.

How about foreign policy, then? Through the steps it has taken, Norway has undoubtedly improved her relationship with the OPEC countries – even though this was not so bad earlier as many people think – without causing greater strain on its relations with the Western countries. This can be said to be a gain, but even so it is of short duration. Without changes the effect will quickly peter out, or get worse again, because there will come demands for

more radical measures which we shall have to say no to. It can also be difficult to move away from the regulatory measures without losing more foreign policy-wise than we won earlier. In the long run our relationship with OPEC will probably be just as well served by taking the offensive in our diplomacy; we should underline that we respect and value OPEC's efforts, and that it is rational for them, but that another policy seems more in keeping with our own rational interest.

The situation at the moment is by and large quite undramatic. I think the regulations of production were unnecessary, but only marginally harmful. The main problem is that we crossed a boundary line – surrendered a line of defence. That increases the risk of new pressure. If there are more radical regulations of production later, or even worse, queue systems which will be built out of consideration for OPEC, the situation will be worse. In that case, all kinds of costs connected to the regulatory measures will increase considerably.

A comprehensive postponement of oil production from the Norwegian continental shelf will also introduce another type of risk – the risk that oil in the end must be produced at constantly very weak prices. The cyclical price trend on the basis of a weak rise on average will not continue through the whole of the next century. Perhaps already in one or two decades we will be able to see the possibility for some completely new fuel which could reduce oil to a normal product which no cartel can control. In such a case the whole creation of values from the continental shelf in a larger connection really could be weakened.

I therefore think it is best for Norway to continue to have a market policy for oil which is based on rational self-interest: maximization of the present value of the oil resources. (There are certain premises for this, for example, establishing a fund system, but that is another story.) Such a policy in the long run will be understood by all parties and represents the safest defence against cross-pressure from different foreign quarters. The present arrangement should therefore be dropped as quietly as possible, and the principle that marketing is primarily a responsibility for the oil companies should be reestablished.

On this, however, there are different opinions. Many believe or consider that regulations have big economic and political significance. Little concrete analysis and expert economic studies have been carried out. The point of departure for the measures was a purely political evaluation. Before we do something more in the same line, it must be an absolute premise that all – also the long-term – consequences should be properly examined by experts.

It is appreciated that the Norwegian Institute of International Affairs is studying this task.

Norway between IEA and OPEC: Oil Prices and Foreign Policy

By Nils Morten Udgaard

After Saudi Arabia changed her price strategy in 1985 and the oil price began to plummet towards the end of the same year, Norway found herself in a new situation as an oil nation. For the first time the Government had to choose an oil policy in a falling market. This happened at a time when Norwegian production had reached about 2% of the non-communist world's oil production – enough to influence the psychological elements, but not enough to have any impact on the physical sizes involved in the international oil price issue. After some cautious zigzagging, Norway's policy has crystallized during 1987 close to a point where considerations of oil policy, economy, foreign policy and domestic policy converge: a reduction of oil production by 7.5% in relation to planned growth in production, on the condition that OPEC keeps to its quota agreements. This is a parallel decision to OPEC's, but is formally independent of it. Norway's policy has not really been put to the test yet, because the oil price has remained very stable since the end of 1986. It will be put to the crucial test if scant demand puts new pressure on OPEC, and to a great extent – but not completely – breaks down OPEC's resolve as regards quotas. How much real freedom would Norway have then in her choice of oil policy? Only the future holds an answer and this answer will largely depend on the insight and enterprise of the politicians who will then have to make the decisions.

Norway's decision in the early months of 1987 to reduce production by 7.5% was in reality based on a number of implicit requirements of a political nature. Norway will defend her national commercial interests in the oil market, in a way which wins de facto understanding in Western industrialized countries. This kind of understanding has sprung into existence in the

course of 1986-87. There is a sector where the price ambitions of producer countries and the needs of consumer countries for energy and for reliable supplies over a period of time overlap. Norwegian decisions are aimed at this sector.

In the past oil production and thus oil prices have been very much influenced by political decisions, and will continue to be. The most important participator on the production side, with genuine influential ability, is OPEC – and dominant within this organization is Saudi Arabia, supported by Kuwait and other Gulf states. Norwegian oil policy decisions must be addressed to these decision makers.

Independent but parallel behaviour in relation to OPEC is the right behaviour, as long as this organization does not seek political or economic confrontation with the Western countries. No such confrontation is being sought today: OPEC is on the defensive. Such confrontation would arise if OPEC were to make use of the "oil weapon" to promote its foreign policy, or if OPEC were to try to force through an unreasonably rapid or unreasonably steep increase in oil prices.

Norway's credibility as a predictable economic and political partner in the Western world (which is where an overwhelming share of Norway's foreign commercial and political transactions take place) has a double significance. Firstly, it has a tangible economic significance, because it makes Norway a more attractive partner as a supplier of energy than countries without this credibility (often countries outside Western Europe). This does not mean that Norway can expect a higher "political" price for her energy, but it will affect volumes and market shares. Secondly, Norway's credibility in the Western world has a superordinate political significance – resulting from the importance for Norway of the Western countries' co-operation on economy and security policy. This significance will, if the question should ever arise, also override oil policy considerations – in spite of the importance oil already has in Norway's economy.

When Norway reached a clarification in 1986/87 of an oil price strategy parallel to OPEC's, this was due not least to the fact that these implicit requirements could be fulfilled. But this means in turn that Norway has relatively little room to operate in. And there are some indications that the attitude of the West will gradually come to play a more important role and OPEC a less important role in Norway's energy policy. Four tendencies that point in this direction should be kept in mind:

I) The trade pattern for oil, the growing market for futures in the energy sector, technological progress on the production side with a large number of

marginal producers, developments in the field of energy technology affording a better exploitation of and broader range of alternative forms of energy, the expansion of the global energy distribution network – these are all helping to turn oil into a more "ordinary" raw material, a commodity, than it used to be. This can contribute towards a long-term market based stabilization of the oil price and it will narrow the margins for what can be achieved by political intervention in the oil price problem. Even if OPEC increases its share of the world's oil production, the organization's chances of influencing prices politically will be limited over time.

II) Exports of natural gas will gradually become more important for Norway than oil exports. The gas market is very different from the oil market and is characterised by very long-term contracts and by costly and inflexible pipeline systems for transport. All this helps to add to the importance of the political aspects of energy exports: Norway's general political relationship with her customers is becoming more important and her customers are to be found almost exclusively among the Western industrialized countries. A confrontation between these countries and OPEC would cost Norway more than previously, if Norway's oil policy is seen by the rest of the world to support OPEC. This consideration must be weighed against the contribution OPEC can make to a higher gas price by keeping the oil price up. The essential thing for Norway will be to be able to influence the energy policy that is being formulated in her most important market – which will continue to be Western Europe. What role should the different forms of energy be given – e.g. gas versus coal and who is to be the supplier?

III) The structure of the oil market is also undergoing a change on the "downstream side". Other oil countries are actively cultivating the markets of Western Europe. Norwegian oil companies have initiated similar campaigns and it is clear that Western Europe is going to be Norway's absolutely dominant market as far as oil is concerned too. As the contest for the export markets grows in importance and the production aspect fades into the background, Norway will also attach more importance to her general political connections with the importing countries. Former head of Statoil, Arve Johnsen, put it this way: "An even closer association with the giant Western European market will be a decided advantage for us, and this will be enhanced as time goes on."

IV) Operations in the Norwegian sector are gradually moving northwards and approaching the areas of the Barents Sea where the common boundary

between the Norwegian and Soviet sectors is at issue. The question of who has jurisdiction over the shelf in the waters around Svalbard is also under dispute. If Norway wants to contribute towards solutions on the Barents shelf – which is said by petroleum geologist to be potentially very promising – her foreign policy and oil policy will have to go hand in hand. Security-wise the area is extremely sensitive. As far as Norway is concerned, her relationship with her Western allies will weigh very heavily when the time comes to develop the Barents Sea. It will be seen as a factor of growing importance when her relationship with OPEC is being considered in the future – and it will increase the cost for Norway of a possible confrontation between the West and OPEC even more.

These four trends emphasize the fact that the parallelism between Norway and OPEC's behaviour in 1986–87 is situational and will not necessarily be intensified in the years to come.

Moreover, the fact that Norway has entered into an informal cooperation with OPEC and is at the same time associated with the IEA and OECD in the West has a certain extra psychological significance for OPEC. This advantage would be weakened if Norway's oil policy were to widen the gap between Norway and these organizations too much.

Norway's reaction to the fall in the oil price

The collapse of the high oil price at the end of 1985 led Norway to initiate a number of consultations, at which the question of possible action to help stabilize the oil price played a major role. Norway's Petroleum and Energy Minister had talks with his colleagues in OPEC countries and in oil-producing countries outside OPEC. Several countries pressured him publicly to make promises on Norway's behalf to support any measures OPEC might implement to keep the oil price up – primarily limitations in oil production. It was clear, however, to the Norwegian authorities that the collapse of the oil price was wanted. Saudi Arabia wished both to achieve a larger share of oil sales for herself by forcing other OPEC countries to accept lower quotas and to reverse the general decline in OPEC's joint share of the market by means of a generally lower price level. It was clear that any early steps taken by Norway would be contrary to Saudi Arabia's policy – they would be meaningless, because they would not help to achieve the desired objective: a higher and stable oil price. Norway could very easily have been drawn into an internal tug of war within OPEC in a way that would have

made it even more difficult to stabilize the oil price. The demand of Norwegian measures was rejected, and the importance of a dialogue with other oil producing countries was emphasized and public criticism of OPEC avoided. It was gradually made clear that Norway "would not work against" any measures OPEC might reach agreement on. This was one of several factors the Government took into account when it debated a proposal early in 1986 to step up the development of the Gullfaks field and finally decided against such a course.

At this stage, Norway directed the weight of her diplomatic efforts at her traditional political and economic partners, in the IEA and OECD. The oil price problem was also brought up at informal talks in NATO quarters, for obvious reasons: As a rule it is the same countries who cooperate on central international issues in all these organizations – and the drastic fall in the oil price was a major international issue at that time. Norway's policy was to warn against the temptation of seeing only the short-term advantages of a low price, emphasising the West's interest on the long term in an oil price which guarantees the continuation of oil exploration and development, guarantees supplies and follows up parts of the energy saving programmes. The general economic advantages of having some degree of long-term price stability which would contribute toward predictability and growth and which, above all, would prevent the oil price plummeting and then soaring were also emphasized. The consumer countries were generally in favour of lower prices and were reluctant about intervening in the market, though to a varying degree and for different reasons. The argument that political decisions have always mattered to the oil market was not rejected.

It was the US government who spoke out most strongly against any political intervention in the market, also to Norway. This was done with great ideological enthusiasm and contrary to the government control that has traditionally been a part of America's energy policy – and contrary to the attitude of the country's own oil industry and of banks who feared that a debts crisis would be triggered off by Mexico, if the oil price was to collapse altogether. At the same time it was clear that top government officials in the USA also understood the value of avoiding a free fall in the oil price – and the major fluctuations this could lead to in the medium term. In March 1986 Norway issued a public warning against the proposed oil import tax in the USA which was intended to protect American producers and would push prices on the world market down another 2–3 dollars. In the IEA Secretariat, too, and in most of Western Europe the predominant wish was to leave the oil price to the market and see how things developed. Few were in favour of taking another look at the "floor" – the so-called "minimum safeguard

price" – which the IEA had discussed in 1975–76 without coming to any agreement. But it is interesting to note that the discussions at that time revolved around a "floor" of 7 dollars a barrel, which was intended to safeguard those who wanted to put their money in new oilfields or alternative energy. In purchasing power, this corresponds to 18–20 dollars today – almost identical to the oil price OPEC has been aiming at and mostly achieved during the past year.

In Western Europe as in the USA appreciation grew during the early months of 1986 of the fact that the Western economy would not benefit from an uncontrolled fall in the oil price and that a reasonable degree of stability and dependability of supplies is desirable. At the time of the change of government in Oslo in April-May 1986, it was clear to the Norwegian authorities that Norway could implement political measures that might help to stabilize the oil price without jeopardising her international relations. Most of the doubt had been removed. An assessment of Norway's own purely economic interests over a period of time – a language which is understood in all capitals – could be vital for Norway. The caution exercised with regard to the oil price problem towards the end of the non-socialist rule was based on reasons of economy, not of foreign policy. Norway had to avoid measures which cost more than they yielded.

In addition to pressure from some of the OPEC countries, consideration for Norway's relationship with the industrialized countries and Norway's economic evaluations, there was a certain domestic pressure to "do something" about the oil price. There was a great deal of uncertainty as to where the oil price would end up. At the same time, faith in Norway's importance as an oil nation grew in the mind of the general public, in step with Norway's role in the oil ministers' "visiting diplomacy". When the State has to tighten up the economy perceptively because of falling oil prices, the need will arise to take steps to bolster the oil price – in the hope of avoiding or moderating the economy measures. The opposition hinted that the Government was too uncompromising in its attitude to OPEC, but it abstained from open criticism. Contact was maintained via the various bodies of the Storting and the opposition was informed of the Government's assessment of the situation and of its deliberations on the question of the oil price.

Norway's attitude after the change of government

The new government took over on 9 May 1986 and when she presented her government's policy four days later, Prime Minister Gro Harlem Brundt-

land declared: "If the OPEC countries reach agreement on measures which can stabilise oil prices at a reasonable level, the Government will contribute towards such a price stabilization, which may in turn guarantee supplies of oil and gas in the future." This was a very strong statement, which was made without a thorough study of the previous government's work on the oil price question, and without prior consultations with the new opposition. In reality, the statement not only announced a new Norwegian policy regarding the oil price question, but also went a long way towards restricting Norway's freedom of action: Norway committed herself both to "contributing" and to contributing to "such a" price stabilization – and some of her freedom of action was transferred to OPEC. It was not long before the new Petroleum and Energy Minister Arne Øien moderated and reinterpreted this declaration. In an article in *Aftenposten* on 5 July he wrote that the Government "announced in its policy declaration on coming into power that also Norway may be prepared to contribute". "Will" had become "may" – a significant amendment – and Mr Øien added that Norwegian measures "can in this case only entail a certain curbing of the strong growth in production we anticipate in the years to come". Since then, the Government has found it important to emphasize that Norway shall retain full freedom of action, by not crossing the boundary line into a formal co-operation with OPEC and by advocating purely Norwegian measures such as "parallel" action intended to encourage others to moderate their production. In Norway, this is believed to have influenced such countries as Nigeria and Algeria to find the will to come to an agreement on production quotas within OPEC. But it will never be possible to determine the real impact of Norwegian statements and measures. The oil market is too complex and the psychology of the few who make most of the decisions in OPEC is too obscure.

Today we can see clear traces of continuity in Norwegian policy from the previous government, although the present opposition believe that Norway's freedom of action should have been handled with more caution. How committed will Norway be in practice if the OPEC cooperation begins to crack but does not break down completely?

In the early summer of 1986, when the oil price was well under 10 dollars a barrel for a time, and throughout the summer, it was debated how the Government's oil price policy should be interpreted and applied. The greatest difference for Norway between the early months of 1986 and the autumn of 1986 was that OPEC managed to push through agreement on lower quotas and on a "fixed" price of 18 dollars a barrel. Norway has not given her support to the latter part of the decision, but has followed up the quota part. First by reducing exports by building up stocks – which was

applauded by everyone at home and abroad – and secondly by deciding in January 1987 to reduce Norwegian oil production by 7.5% in relation to planned growth. The prerequisite for a Norwegian reduction is that OPEC maintains genuine agreement on quotas which contribute towards a stable oil price. If an attempt is made to push the price up noticeably from the present level, Norway will not feel under any obligation to uphold her production restrictions, said Mr Øien in June 1987. The importance the Government attaches to Norway's freedom of action has been emphasized even more clearly: Mr Øien has pointed out that support of OPEC's policy is "situational"; he has said: "Nor have we committed ourselves to promises or agreements" and that Norwegian restrictions "are based on the production capacity we have available at any given time". OPEC has been informed that Norwegian oil production will increase in the years to come.

It may be difficult for the uninitiated to judge how genuine the 7.5% reduction is, just as it is not clear which realities change when other oil-producing countries outside OPEC – such as the Soviet Union and China – announce a 7% reduction in exports and no increase in exports respectively in 1987. What Norway has done through her OPEC policy is, among other things, to obtain political protection for future increases in Norwegian oil production. This is emphasized by the fact that Norway relaxed the tax regulations for the Norwegian shelf in Autumn 1986 – about the same time as the export and production limitations were launched. This will have the opposite effect and will open the way for a more substantial increase in production in the future.

Norway differs from her North Sea neighbour, Britain, in her attitude to OPEC. Britain has kept at least as much contact with OPEC as Norway, but has consistently refused to reduce her production. Britain, with the diplomatic cool-headedness of the experienced imperialist, does nothing that can be seen or heard, but pockets an annual "profit" of about 300 million NOK due to the fact that Norway is cutting down and is in practice leaving a rather larger share of their major joint oil field, Statfjord, to the British. Differences in political temperament and historical ballast make for differences in behaviour in the Norwegian and British sectors. But apart from that, there are genuine differences in the two countries' situations: Britain's production is declining while Norway's is growing; the Norwegian economy clearly loses from a lower price, while the British economy as a whole neither gains nor loses anything.

Early in 1987 Prime Minister Harlem Brundtland advocated "global co-operation on energy policy" consisting of "bilateral contacts" with IEA countries, producer countries in and outside OPEC, with developing

countries and others. Her aim is to call attention to common interests, for example in reliable energy supplies, saving and alternative forms of energy, and is very similar to the political arguments Norway put forward before the change of government. Energy has become an everyday part of Norway's foreign policy, giving her relations with other countries a more tangible content, as in the case of France, for example, where relations had the character of polite etiquette. Even more important than the "global" aspect is the fact that in less than two decades energy has linked Norway even closer, also physically, to North Western Europe. Energy resources have created a strong bond between Norway and the USA, which dominates the Norwegian sector by virtue of the expertise and number of American companies, while the EC countries have advanced to become even more important trade partners for Norway. Norway's major gas contracts have established long-term links with countries such as Britain, West Germany, France, the Netherlands and Belgium – and perhaps others too as time goes by. The EC is becoming an increasingly important market for Norway.

Norway's new energy resources are not a "card" she can play in day-to-day foreign politics. Oil and gas require such long-range decisions that for Norway it is a question of letting energy help to determine where her interests really lie. It has become more a case of utilising the Norwegian diplomatic service and Norway's position in international politics in, for example, the Troll gas negotiations to ensure the greatest possible economic gain from her energy than of using oil and gas to achieve foreign policy objectives. Energy has physical and economic substance and this makes it necessary for Norway, to a greater extent than before, to pursue national interests, not only Norwegian ideals in her foreign policy.

Norway and OPEC: Rivalry or Joint Effort?

By Øystein Noreng

Norway from a marginal to a more central exporter

According to conventional wisdom Norway is a marginal exporter of oil, with high extraction costs and limited volumes, with no significant impacton market balance or price. This image has historically been valid, but today there is reason to question it.

For several years Norway, as a net oil exporter to the world, has had the largest growth in extraction. The outlook is for a further strong volume growth, despite lower and more uncertain prices. The oil industry still shows great interest in the Norwegian continental shelf, in exploring for oil and gas and in developing new fields. Even the decline in 1988, with prices falling to USD 13–14 a barrel, does not seem to have curbed its enthusiasm. The reason is a combination of favourable geology and political stability. Indeed, the oil industry has been so keen to develop new oil fields in Norwegian waters that the government attempted to impose an investment ceiling and a project queue in order to avoid overheating the domestic economy.

The oil price decline of 1985 did not provoke any decline in the output of oil and gas from the Norwegian continental shelf. Indeed, since then output has continued to increase. Extraction from historical fields seems largely immune to price movements, at least within the limits experienced so far. Part of the reason is that variable costs on practically all Norwgian oil and gas fields are well below even the current low oil price. Most of the Norwegian oil and gas fields are fairly large by international standards, and hence with comoaratively low unit costs. For example on Statfjord, Norway's largest oil

field, variable costs are probably around USD 2–3 a barrel. On some of the major fields capital costs had already been depreciated. On other fields, where this was not the case, the capital invested represented literally sunk costs, and it would be economically less advantageous to discontinue extraction than to go on. On some of these fields the government is directly the major investor and consequently has to bear the bulk of the burden. One salient case is the Gullfaks field, with a 73% direct government share, with a break-even of probably USD 18 a barrel and variable costs of about USD 9 a barrel. Since 1986 Gullfaks has been a loss-making operation, but essentially at the expense of the government, partly through the direct participation, partly through the tax concession to transfer costs between fields.

The persistent interest to invest in new oil- and gas-fields remains surprising. One reason may be that oil companies want to be ready for a potential future pick-up of demand and prices. Another reason may be the surprisingly swift ability of the oil industry to cut costs when prices declined. Fields that had been declared marginal at USD 28 a barrel were still marginal at USD 18 a barrel. The price decline forced the oil companies to operate with greater economic efficiency and to cut some profit margins for contractors in markets that are not always perfectly competitive. More than fifteen years of experience in North Sea petroleum development meant that the learning curve was sufficiently advanced to considerably enhance efficiency and reduce costs. Lower marginal taxes for oil companies in 1986 also provided incentives. There is reason to think that already around 1978-1979 the oil industry was ready to move into new methods of field development, such as subsea completion systems and floating installations, but that the 1979–1980 oil price increase made these changes redundant in an industry that is technologically conservative and operating in an environment of high marginal taxation. In any case, from a cost perspective, Norway is no marginal petroleum country.

Marginal petroleum provinces are characterized by prospects for a declining volume of extraction, a limited resource base, quickly rising costs, less prospective geology and high risks in exploration, leading to reduced interest by the oil industry.

By the resource and cost criteria the United States today is the world's most marginal oil procountry. The oil price decline of 1986 led to an immediate reduction in volumes extracted. A limited resource base will lead to a further decline in extraction, high costs and high geological risks mean that exploration activity is unlikely to rise to earlier levels, and as a result the resource base will continue to deteriorate. The proposed import duty on oil in the United States implies a recognition that the country as a whole is

becoming an increasingly marginal oil country, even if there are regional exceptions, with rising costs and a deteriorating resource base.

According to these criteria other marginal oil country is probably the United Kingdom, whose extraction is expected to become steadily more costly and to fall off after 1995. In the longer run, countries such as Brazil, Canada, Egypt, India, Indonesia and Malaysia are also marginal oil countries.

The oil market is characterized by fairly low price elasticities in the short run, so that supply and demand are not immediately influenced by price changes. The counterpart is that fairly small changes in the balance between supply and demand can lead to fairly strong price movements. This was demonstrated by prices rising in 1973–1974 and 1979–1980, and declining in 1986 and 1988.

In this way changes in output levels of fairly minor producers of oil can have a fairly strong impact on the market stability and on price development. The definition of marginal and key factors in the oil market should therefore be different from that of markets with a higher price elasticity of demand. In the oil market, the output level required to be a contributory price maker is fairly small. At the same time the limited number of net oil exporters gives the oil market a decidedly oligopolistic structure, where market forces can be identified as particular decision-makers and where demand for any single major exporter equals total demand in the market minus the output from competitors that can be readily identified.

In this regard, Norway with a rapid build-up of output and net exports and a fairly central participant in the oil market, contributes to price development. It could be argued that the rapid build-up of Norwegian net exports presupposes either a quick rise in oil demand or that other exporters, essentially the OPEC countries, adjust to Norwegian expansion by limiting their export volumes (with revenue losses) in order to stabilize the market. The possibility that the rapid build-up of Norwegian oil exports could contribute to destabilizing the market, because the OPEC countries would refuse to make room for a larger Norwegian market share or even would see the Norwegian build-up as provocative and respond with a price war, has evidently not been given full consideration.

Norway's net oil exports are by 1988 exceeding those of the United Kingdom. Prospects are that the UK net oil exports will decline in the years ahead, whereas Norwegian net exports will increase strongly. Statoil, Norway's national oil company, has already become the largest single seller of North Sea crude. Norway's net oil exports, which in 1988 should be around 1,1 million barrels a day, is already larger than those of some OPEC

countries, such as e.g. Algeria or Abu Dhabi and it could soon surpass Kuwaiti oil exports. In the early 1990s Norway's net oil exports could be around 2 million barrels a day, surpassing those of Indonesia, Nigeria and Venezuela and perhaps even Iranian levels. By that time Norway could be among the four or five leading oil exporters of the world, and the most important one outside OPEC and the Middle East. These prospects raise a number of interesting questions concerning depletion rates of the resource base, impact on markets and prices and trading patterns for the crude.

At present Norway has a ratio between oil reserves and extraction of 35:1, together with Mexico the most favourable depletion profile outside OPEC. Several OPEC countries have more limited oil reserves and a less favourable depletion profile. Salient examples are Algeria and Indonesia. In case all new Norwegian oil fields are developed and exploited the overall depletion profile will rapidly deteriorate, reaching perhaps 12:1 by the turn of the century, unless substantial new discoveries are made. This is the long-term cost of short-term expansion. It is also an open question for how long time the high output levels of 1994–1995 will be sustained. The answer will to some extent depend upon costs and prices. Technological and organisational breakthroughs reducing costs will be important, as will be prices. This is touching upon a fundamental dilemma in Norwegian petroleum policy. The long-term resource base can only be secured by at least moderately high prices and probably also a slow rate of depletion. These two considerations are not necessarily contradictory.

The rapid build-up of oil exports means that Norway is not marginal in the market. The expansion of Norwegian crude exports could become increasingly important for the balance between supply and demand in the oil market and consequently for price development. In this regard there is likely to be a growing difference between the role of Norway and that of the United Kingdom, whose exports will gradually decline. As a result the international repercussions of Norwegian oil policy will be of increasing importance. The same applies to the relationship with the other leading oil exporters, especially the OPEC countries.

OPEC's strength and weakness

Even when taking the problems of the recent years into account, OPEC appears as one of the more successful cartels of raw material exporters. OPEC's strength resides in the fact that member countries have about 70% of the world's proven oil reserves, with an overall ratio between reserves and

extraction of about 120:1. Generally, extraction costs are lower in the OPEC countries than elsewhere. As oil reserves are progressively depleted in countries such as the United States, Canada and the United Kingdom, the OPEC share of reserves will increase. In the long run the OPEC share of total output is also likely to increase markedly.

Large oil reserves and low costs give the leading OPEC countries a far greater freedom of choice in petroleum policy than other exporters. If the objective is to impede competition and expand market share, the OPEC countries can more easily than other oil exporters raise output and lower prices, as in 1986 and 1988, even if the cost is a considerable loss of revenues. If the objective is to raise revenue, the OPEC countries can reduce output and raise prices, as in 1973. Overall OPEC leadership in the oil market depends, however, on an internal agreement on objectives and distribution of quotas and revenues.

In working out an internal agreement and in pursuing objectives in the market, OPEC is faced with at least two serious problems: the uneven distribution of resources and the time-lags involved in changing market trends.

Five of OPEC's thirteen member countries, Saudi Arabia, Kuwait, the United Arab Emirates, Iran and Iraq, possess 80% of the proven oil reserves of the total OPEC area. Between them these five countries represent 57% of the world's total proven reserves. Saudi Arabia, Kuwait and the UAE alone represent more than one half of OPEC's total reserves, or 40% of the world's oil reserves. As a result the interests of these resource-rich countries do not necessarily coincide with those of the rest of OPEC.

It is somewhat simplified, but nevertheless true, that the oil policies of Saudi Arabia and Kuwait in the last instance decide the balance in the market and the price development. The oil policies of these two countries are, however, determined by a complex set of factors, where foreign policy goals are important. Therefore the political situation in the Gulf area and in the Middle East has an impact on the price of oil.

The balancing between these different considerations seems to have presented some problems, especially for Saudi Arabia. Because of the huge revenues from the foreign investment portfolio the Kuwaiti economy is practically sheltered from the variations in the price of oil. By contrast, Saudi Arabia has for several years been running a large budget deficit because of high imports and reduced oil exports in order to stabilize the price of oil in the early 1980s.

In 1985 the Saudi government decided to change oil policy, with the objective of regaining market share. At this time the distribution of output

and revenues in the international oil market had become economically absurd, with relatively high-cost producers such as the United Kingdom and Norway pumping out more oil than the low-cost producers Saudi Arabia and Kuwait. At the OPEC meeting in December of 1985, Saudi Arabia seems to have got an agreement in principle for a policy of regaining market shares for OPEC at the expense of non-OPEC exporters. The plan was evidently to trigger off a moderate price decline, e.g. from USD 28 to USD 18 a barrel by increasing oil supplies marginally. The oil market once more, however, demonstrated the low short-term price elasticity of demand, and the result was oil prices spiralling downwards to USD 10 a barrel or even less in the summer of 1986. The budgetary impact for Saudi Arabia, as for other OPEC countries, was much more serious than anticipated and political forces were set in motion to stabilize the oil price at a higher level. At the same time Iran appeared as a more serious military and political threat to the Gulf states, including Saudi Arabia. In the late summer of 1986 an understanding seems to have been reached between Iran and Saudi Arabia, stabilizing the oil stabilizing the oil price at USD 18 a barrel, discontinuing Iranian propaganda to Saudi Arabia and replacing the Saudi oil minister, Ahmed Zaki Yamani. Saudi oil policy changed once more and Yamani was replaced by Hisham Nazer. By the end of 1986 oil prices were again at USD 18 a barrel.

The understanding between Iran and Saudi Arabia lasted for one year. After the Mecca riots in the summer of 1987 the wisdom of accommodating Iran was again questioned by the Saudi government. In the meantime it seems that Kuwait and the UAE had done their best to undermine the Saudi-Iranian understanding by overproducing oil in relation to OPEC's quotas, in order to force through another price fall. At least for Kuwait this seems to have been conscious policy. The reason could have been that Kuwait and the UAE felt politically threatened by any understanding between Saudi Arabia and Iran, and wanted to hit Iran economically through lower oil prices. Since the summer of 1987 it seems that they have been joined by Saudi Arabia in pursuing this objective. In theory the cease-fire between Iran and Iraq in the summer of 1988 should provide a platform for stabilizing the oil price at a higher level, but so far it seems that all oil exporters of the region are scrambling for market shares in the post-Gulf-war situation. The result is continued downward pressure on oil prices.

It is reasonable for countries such as Kuwait and Saudi Arabia to use their oil policies in order to pursue foreign policy interests, as oil is their main political weapon. The importance of regional and foreign policy considerations for the oil policies of some key countries does represent, however, a major weakness for OPEC. Foreign policy considerations reduce the predic-

tability of Saudi and Kuwaiti oil policy and hence the credibility of any agreement within OPEC and its ability to function as a cartel.

For OPEC as a whole, the time-lags and costs involved in pursuing market strategies represent another weak point. If price elasticities in the oil market are low in the short run, they are much higher in the long run, as new energy projects come on stream and as the consumers gradually replace their capital stock. Consequently, any high-price strategy for OPEC benefits competing energy producers, whether in oil, gas or coal, with strong risks of back-firing after some time, as was demonstrated by OPEC's shrinking market share in the years 1981–1985. Therefore in order to stabilize the member countries' revenues OPEC has to act on both prices and volume.

The current low-price policy is likely to lead to higher market shares for OPEC, but only with a time-lag and at high costs, as investment in competing new energy projects will be scaled down because of lower prices. The impact on energy projects already on stream is likely to be fairly marginal. In this way OPEC is now paying for the high oil prices during the years 1980-1985. The low-price policy also includes the risk of an import duty on oil or other measures in North America in order to protect the domestic oil industry. Furthermore, it seems that in Western Europe some governments consider the price risk related to oil sufficiently high to introduce special measures to halt the growth of oil demand. In this perspective, the low-price strategy may have to be pursued for at least five to six years before giving economic results, and then at considerable political risk.

Recent experience has contributed to more sober attitudes within OPEC in relation to oil prices. Even the traditional defenders of high oil prices, Algeria, Iran and Libya, today seem to moderate their wishes to USD 18–20 a barrel. This level may in the future provide the basis for a compromise in OPEC and perhaps even for an understanding between OPEC and some other important oil exporters. Here Norway has a direct interest.

Other oil exporters of critical importance

Outside OPEC there are a few oil exporters of critical importance in the sense that their resoure base permits a volume and a growth in oil exports sufficient to have an impact on the overall balance between supply and demand and hence on oil price development. Somewhat simplified these countries are (besides Norway), Mexico, the Soviet Union and the United Kingdom. Mexico and Norway have the most favourable reserve-to-

extraction ratio outside OPEC and are able to remain important oil exporters in the long run. They differ from the OPEC countries in the sense that they have more developed and more complex economies and hence more diversified interests in relation to oil. They also have closer economic and political links with the industrialised oil importing countries. Therefore they may experience more of a conflict between foreign policy and oil policy considerations.

For several years it seems that OPEC as an organization and important individual OPEC members have tried to get other important exporters to co-operate in stabilizing the market and the oil price, with the aim of exporting less than they could. With Mexico talks began around 1980, and as early as 1982 Mexico put a voluntary ceiling on oil exports. Subsequently, Mexico's oil exports have been reduced as a contribution to the defence of the oil price. The Mexican effort is remarkable in the sense that it has taken place under particularly difficult financial circumstances. The reason is partly that Mexico, with a strained economy, has much to lose by a price war in the oil market, and partly a political desire to reduce dependence upon oil revenues. In this perspective a reduction of oil exports was part of an overall economic restructuring effort.

For many years there have been informal contacts between OPEC and the Soviet Union. Apparently, the visit to Moscow in January 1987 by the new Saudi oil minister, Hisham Nazer, represented a breakthrough, but Soviet oil exports to Western Europe were most probably not reduced for more than a couple of months, in spite of the Soviet need for high and stable oil prices, given the importance of energy exports for hard currency earnings.

In his attempts to make countries outside OPEC co-operate in withholding supplies in order to stabilize the price of oil, the then Saudi oil minister Yamani focused heavily on the North Sea oil exporters Norway and the United Kingdom. These two countries had particularly benefited from OPEC's efforts to stabilize the oil price at a high level.

The Conservative U.K. government has been categorical in its refusal to co-operate with OPEC in any way. In return the U.K. oil industry has been fairly severely affected by the oil price decline, with exploratory drilling suffering. This again means that oil and gas output from the U.K. continental shelf is likely to decline more steeply in the late 1990s than otherwise would have been the case.

In Norway the oil price decline was a contributory cause in the decomposition and fall of the non-socialist coalition government in the spring of 1986. The new socialist minority government announced a conditional support for

OPEC in its inaugural declaration. Current Norwegian policy is to withhold 7.5% of the oil that could have been extracted, so that the growth of Norwegian oil exports is somewhat less than what is technically possible. In 1987 the Norwegian government declared its intention to impose a queue of projects, in order to slow down the expansion of the petroleum sector. The motivation was essentially to avoid overheating of the domestic economy and to reduce dependence upon oil revenues. In practice it has been difficult to avoid developing new oil-fields where companies are willing to invest so that by 1988 the queue appears to be more of a theoretical concept than practical policy. The result is a persistent build-up of Norwegian oil exports in the coming years with the awkward economics of investing in idle capacity. The support for OPEC seems to be more verbal than real.

Because Mexico's support for OPEC seems unconditional and the Soviet one unreal, there is reason to examine Norwegian-OPEC conditions more closely.

In the beginning, i.e. in 1986 and during the first part of 1987, there is some reason to think that Norway's support for OPEC had a political significance that was not in proportion to the 100,000 barrels a day left in the ground. For the first time OPEC did receive some support from a Western industrial country that was a member of both the IEA and NATO. This was important for Saudi Arabia as it showed that the interest of a stable oil price was shared outside the OPEC countries. In this perspective the Norwegian gesture had a moral and ideological significance. Norwegian support, however limited and conditional, made it easier for OPEC to agree on quotas and ceilings for some time to come.

In the second half of 1987 the situation started to deteriorate. The turn-about in Saudi oil policy after the Mecca incident was decisive, and at the same time it was evident that Norwegian oil exports continued to rise in a weak market, regardless of support expressed for OPEC. Even if the Norwegian volume expansion was the result of investment decisions taken by private companies several years before, this was not always well received by OPEC. A fairly widespread impression was that Norway in relation to the oil market would have its cake and eat it too. This proved counterproductive to OPEC discipline and can even have contributed to the Gulf states opting more decisively for market shares through low prices.

The lesson learned is that it is difficult for OPEC to maintain discipline in persistently adverse market conditions, especially when oil is used for foreign policy purposes by some of the key members. Also that under such circumstances it is even more difficult for outsiders to influence OPEC and

the short-term development of the oil price. Mexico has, with its unconditional support, failed to prevent another oil price decline, so has Norway with its conditional support. It is an open question to what extent any cooperation between outsiders and OPEC could be more fruitful under less adverse economic and political conditions.

Price war or stabilization?

Norway's oil history and the decision to conditionally support OPEC in 1986 show that Norwegian thinking on oil is in many ways closer to OPEC mainstream thinking than is that of the United Kingdom and the United States. Ideologically there is a considerable parallel between Norway and many OPEC countries on key issues such as national control and depletion policy. The difference is that Norway is a Western industrialized country with an open system of government that permits a multitude of pressures on oil policy.

In Norway's interaction with OPEC the initial withholding of output was a political success, as oil prices rose again in the second half of 1986 to USD 18 a barrel. If the Norwegian government subsequently had been willing and able to keep oil exports constant and to defer the development of new fields, the signals to OPEC would have been stronger and more consistent. Failure or unwillingness to act in this way could have underlined the need for the Gulf countries to regain market shares thtough low prices that would really hit competing investment, at least for some time. But it is doubtful whether a more forthcoming Norwegian attitude would have mattered much for the Gulf countries in 1987 and 1988. In this perspective the Norwegian government avoided making stronger political commmitments for an economic gain that was at best uncertain.

On the other hand there is a risk that Norway has been sending confusing signals to OPEC. In 1986 and early 1987 Norway gave the impression that volume expansion and the capture of market shares no longer were the key objectives of oil policy, and that the country was willing to withhold volume in order to stabilize the price. In short, Norway gave the impression of becoming a more loyal supporter of the cartel. This fact was not lost on Nigeria, which extracts a roughly equivalent amount of crude. Subsequently there has been a risk of Norway giving the impression of pretending to play the OPEC game without really trying to. The rapid build-up of export volume together with persistent investment in capacity expansion was at odds with declarations in support of OPEC policy of the withholding of

export volume. It could also reflect a fundamental dilemma. To halt the momentum in Norwegian petroleum development is a large-scale operation involving industrial policy, employment policy and regional policy.

Even if Norway is becoming less of a marginal oil exporter, the oil industry in Norway operates in quite different conditions from the OPEC countries. In any price war Norway would be the losing party, provided it lasts sufficiently long to halt exploration and new investment. Contrary to the OPEC countries, Norway in order to maintain the resource base has to explore for oil in high-cost and high-risk areas. Against this background it is difficult to give incentives to industry to explore for oil and at the same time impose limits on development and extraction.

The 7.5% volume reduction has been accepted by the private concessionaries, and it could be argued that no private oil company has ever left any OPEC country because volume was limited in order to stabilize the oil price. In this perspective oil exporting countries and oil producing companies have some interests in common. Therefore, in theory, there could be potential for further Norwegian volume limitations. In practice, there is a fine balance between incentives and disincentives and the lower the oil price the weaker the Norwegian bargaining position in relation to the international oil market. The solution could rather be found in general tax changes that would make some oil fields less attractive to develop, together with reduced investment in capacity expansion, if a parliamentary majority could be found for such a policy. In this connection the government could trade some of its direct shares in producing fields against new fields that are to be kept undeveloped for some time. Different discount rates between the government and the private companies could justify such a trade. Such a policy would also help stretch out the life-time of Norway's oil reserves and contribute to a tighter oil market. Another salient point is that low prices will stimulate the development of more cost-efficient technology in the Norwegian petroleum industry.

If Norway suddenly should discontinue its conditional support for OPEC, i.e. by pumping out at full capacity, this could in the worst case be seen as a provocation in the Gulf countries, reinforcing the determination to gain market shares through low prices. On the other hand, with oil prices slipping below USD 15 a barrel the unilateral withholding of volume by Norway is not exactly a political success. In the turbulent circumstances of the aftermath of the Iran–Iraq war it is questionable to what extent a more activist Norwegian oil diplomacy would have had much of an impact. In this perspective Norway seems stuck with a unilateral and contradictory oil policy, but the question is whether there is much choice.

At the same time a price war means a common loss. Given the low price elasticity of oil demand the oil exporters would have little to gain from oil prices falling anew to around USD 8–10 a barrel. Even at these low prices it is doubtful whether there would be much additional room for incremental volumes from the low-cost Gulf oil exporters, at least in the short run, meaning a time-lag of three to five years. The result would be another severe loss of revenue for the OPEC countries, as for Mexico, Norway and the Soviet Union. In the long run OPEC oil would replace non-OPEC oil, but the delay would be costly. Low crude prices would most likely also transfer some of the economic rent to downstream operations, benefiting countries such as Kuwait, Saudi Arabia and Venezuela more than the rest of OPEC. Hence such a development has been made more likely by recent investment in refining and marketing by the three countries mentioned. These prospects should make it even more urgent for Norway to investigate outlets for its oil in foreign markets than in volume expansion at home.

The short run and the long run: oil policy and foreign policy

In addition to balancing the various aspects of oil policy Norway also has to balance oil policy and foreign policy considerations. The Norwegian conciliatory attitude toward OPEC contrasts with the negative position of the U.K. government, and there is reason to think that the Reagan administration was not too happy to see an ally co-operate with the oil cartel. By contrast, it seems that in the rest of Europe there was some understanding for the efforts to stabilize the oil price.

In the long run the Norwegian efforts in establishing a more active relationship with OPEC could have a wider significance. Norway remains the only industrial country that has made some gestures toward stabilizing the oil price. This could set a precedent for more multilateral efforts to stabilize the oil market and to avoid sudden price changes that are not in the interest of either exporters or importers. Uncertain energy prices not only affect exploration and development of fields, but also energy conservation and the development of alternative energy sources. Even if consumers gain in the short run by low oil prices, the long-term cost is greater dependence on Middle Eastern oil.

To the extent that a larger number of oil exporters cooperate in stabilizing the price and several countries maintain a spare capacity as part of this effort, the supply and price risk is reduced for the oil importers. This should also be of interest to the United States where oil imports are increasing again.

Downstream investment gives both Norway and the key OPEC countries a greater interest in stable oil prices, at the same time as they enter into closer contacts with the end-users of oil. The new vertical integration, this time based in the oil exporting countries, could enhance the supply security for the consumers, and hence improve price stability. Kuwait, Norway, Saudi Arabia and Venezuela do not invest in refineries and distribution networks abroad in order to lose money. Therefore they have an interest in providing their subsidiaries with secure supplies at stable prices. In this perspective, the new downstream integration could prove more beneficial to consumer interests than multinational political arrangements.

Norway now has important interests in common with the OPEC countries in terms of investment facilities in the oil importing countries and in avoiding a U.S. oil import fee. The question is to what extent Norway is ready to play a more active role in international oil diplomacy, as a member of the IEA and NATO and as a conditional supporter of OPEC. In any case, Norway's relationship to the United States is likely to become increasingly important as a function of the latter's rising oil imports in the coming years. Against this background it is not certain that Norwegian and U.S. oil interests will coincide in the 1990s. In the 1970s various U.S. administrations presided over rising oil imports and two major price rises. In the 1980s the Reagan administration has seen oil imports diminish and a major price collapse. There is a risk that the next U.S. administration will have an experience more similar to the 1970s. In that case Norwegian–U.S. relations could become more tense, but there could also be room for a more independent Norwegian role in international oil politics.

The Driving Forces on the Oil Market in the Short and the Long Term

By Kjell Roland

An unpredictable market?

The oil market differs from most of the other markets for raw materials in several respects. Crude oil is incomparably the most important commodity that is traded internationally. Its importance, both economically and politically, has justified considerable resources to be spent on increasing our understanding of the structure and mode of operation of this market and on forecasting future prices, production and consumption. The investment of resources in the form of research, analysis and consultation can only be compared to that of the resources used to forecast the macro-economic developments. In spite of this investment, it is probably correct to say that the most important characteristic of the oil market is an overwhelming uncertainty, with regard both to the understanding of the current situation and to future developments.

In the last 15 years, producers, consumers and governments have felt a great need for forecasts of price and consumption trends in the oil market for the planning of their own activities. The demand for such forecasts increased particularly in the first few years after the rises in the price of crude oil in 1973–74 and 1979–80. The methods used to make such forecasts have been analyses of a political science character, detailed, process-oriented models constructed by engineers, econometric or system-dynamic models made by economists and more cross-disciplinary approaches of a scenario character. Several large-scale studies have been carried out with the aim of recording the properties of different forecasting methods (see, for example, the Energy Modeling Forum, 1981). In order to get an idea of the forecasting

properties of different approaches, published forecasts have been compared with the actual outcome (see Manne and Schrattenholzer, 1987). Moreover, a good survey of the evolution of the Norwegian authorities' forecasts with respect to the Norwegian oil sector, made at different dates, are to be found in *St.meld.* 32 (1984–85).

With a little simplification, we can probably summarize the state of the art of forecasting oil prices by saying that various models and methods differ to the extent that some are rather inaccurate, while others are more likely to lead one astray than to give guidance. Nobody can today maintain with any particular emphasis that the price rise in 1979-80 was predicted. Furthermore, almost all forecasts appear to have been influenced to a very considerable extent by the price trend in the immediately preceding months. In particular, the price level of today seems to strongly influence forecasts, both in the short and in the long term. The latter is particularly surprising in a market which has to a considerable extent been characterized by large (and surprising) changes in the price level. Fig. 1 shows the trend in the median forecast for the oil price in the years 1990, 2000 and 2010, based on a questionnaire answered by a large number of oil companies, consultants and researchers. The figure shows the median forecast as it appeared, depending

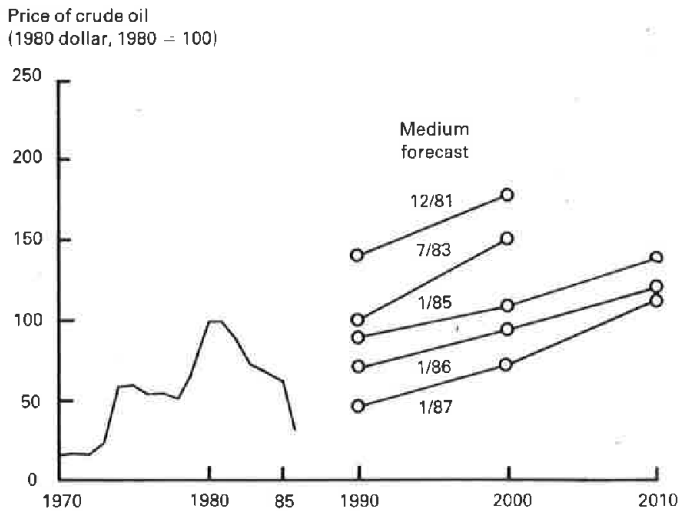

Fig. 1. Comparison of oil-price forecasts made at different dates.
Source: *Manne and Schrattenholzer (1987).*

on the date at which it was prepared. A characteristic feature is that the *level* of the future oil price declines at about the same rate as the real price at the time when the forecast was made. On the other hand, the expected future price trend seems to vary only to a very insignificant extent between the forecasts.

The somewhat discouraging results of earlier forecasts described above should not, however, mislead us into concluding that forecasts are of no value. This is shown by the fact that the demand for and the willingness to pay for such forecasts today is probably greater than at any previous time. A number of decision-makers are faced with decisions which are based on assumptions about future oil prices. However, an important lesson is that one must be careful not to assign too much weight to a particular forecast price trend; this applies particularly to longer term-forecasts. The fundamental uncertainty characterizing the oil market means that one should try to increase one's insight into the character of the uncertainty that we are faced with and attempt to form a picture of what sets the limits to price movements upwards and downwards.

The main cause of the uncertainty and the unpredictability in the oil market is its complex nature. The market is heavily politicized, both on the national and the international level; it takes a long time after a change in the price for the actors on both the supply and the demand sides to change their behaviour; production and consumption are often the objects of extensive regulation and are used as tax objects by the governments in most countries; and exchange rates result in different price trends in different regions. In this article, I shall concentrate attention on the fundamental economic conditions which determine the supply of and the demand for crude oil and place less stress on circumstances of a more political character.

A retrospect of the oil market

Since its feeble start in the middle of the last century, the oil market has lived through a succession of phases, in which its structure has changed a great deal. For a long period there was free competition in the market. As on other raw-material markets the price fluctuated considerably as new (and cheaper) oil sources were found and depending on the growth in demand. In this period, production was heavily concentrated in the U.S.A. At the beginning of the present century, the American market was gradually monopolized by large oil companies, among which Standard Oil was

particularly important. However, the power of the cartel on the supply side did not become effective until the end of the 1920s (see Fig. 2). Control of the market in the US was taken over by public authorities (Texas Railroad Commission) and control of the international market by seven large, multinational corporations (the "seven sisters"). This led to the production being regulated and the prices stabilized. Here it is worth noting that the cartelization which took place on the international market was carried out with the aid of a set of agreements and regulations which was far more sophisticated than what the Organization of Petroleum-Exporting Countries (OPEC) is able to make use of.

For about 1950, the power of the "seven sisters" cartel was gradually undermined, both by the growth of new, independent oil companies in countries outside the control of the "seven sisters" and by the formation of national oil companies in consuming countries (Italy, amongst others). Large, new oil finds were also made in the Middle East. Consequently, the real price of oil fell almost continuously right up to 1973, when Saudi Arabian light crude oil was sold for USD 2.75 a barrel.

There are differing views as to what led to the oil price hike in 1973 and later in 1979. Some observers seem to think that OPEC used its cartel power to increase the price, others stress external political events (the Yom Kippur war in 1973 and the revolution in Iran and the subsequent war between Iran and Iraq in 1979 and 1980). A third explanation is that the oil reserves in the Middle East were nationalized, with the result that governments with longer

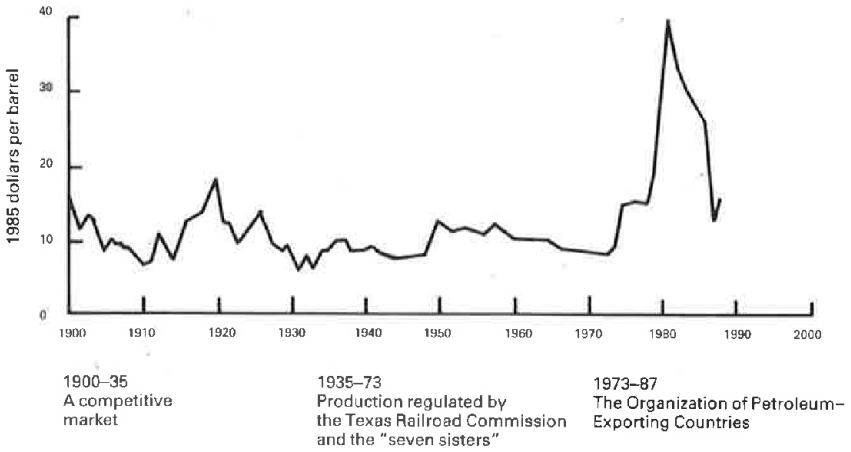

Fig. 2. Crude-oil prices at the well-head in the U.S.A., 1900–86.

planning horizons than the oil companies took control of the production. One consequence of this was that they desired a slower rate of extraction of the oil resources and therefore reduced the production. A combination of the last two factors probably gives the best explanation of the price hikes, while the power of the OPEC cartel explains why the price did not, after a short time (1–2 years), fall back to its former level. Anyway, the price hikes were not a result of resolutions passed and decisions made in OPEC. On the other hand, when the new price level was established the Organization tried in various ways to oppose a fall in the nominal price, partly by fixing binding, official prices and partly by agreeing on production quotas.

The power of the OPEC cartel undermined

In a large number of raw-materials markets, attempts have been made at various times to establish cartels. These attempts did to some extent succeed. However, these cartels have proved almost without exception to be short-lived. The power of cartels is undermined by three things: internal

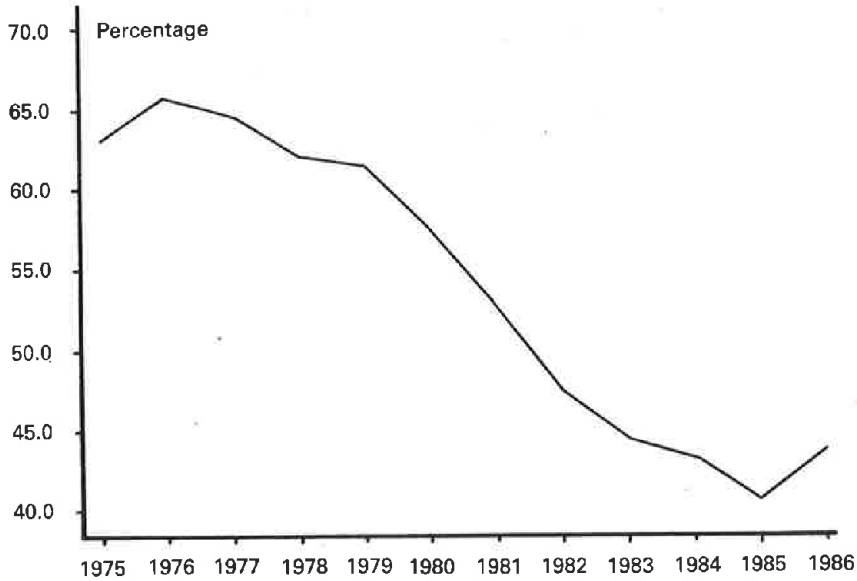

Fig. 3. The market share held by OPEC, 1975-85.
Source: *British Petroleum (1987).*

disputes about the division of the market and the income, high prices stimulate the expansion of the production capacity beyond the cartel's sphere of influence; and because demand reacts strongly by reducing consumption or because there are closely related substitutes for the commodity which conquer a rapidly increasing share of the market. All these factors have also been at work in the oil market and have undermined the power of OPEC.

Internal disputes in OPEC about the distribution of production quotas and the level of official prices for various qualities of crude oil have been very conspicuous in the period for which the Organization has influenced the market to an appreciable extent. In some periods, this has plainly threatened its existence or at least its ability to exercise power in the market. The choice of a new marketing strategy in the autumn of 1985, with the subsequent dramatic fall in price in the spring of 1986, had its background, at least partly, in such circumstances.

The price rise in 1973 led to a dramatic increase in oil-prospecting activities outside the OPEC sphere. These activities led to finds and subsequent production. Fig. 3 shows the OPEC share of total production in countries outside the centrally planned economies. In the 1980s, production increased considerably outside the OPEC sphere, particularly in the North Sea and in Mexico but also in a number of countries in the Third World. This reduced the Organization's power in the market.

The growth in consumption of oil was reduced after the price rise in 1973 and particularly after 1979-80. Between 1979 and 1983, consumption outside the centrally planned economies was reduced by 6 million barrels per day (no less than 11.8%). This was partly the result of more efficient use and partly the fact that oil was replaced by other forms of energy such as coal, nuclear power and natural gas. Fig. 4 sums up the main features in the consumption trend and the distribution of the production between OPEC and other producers.

The power of OPEC in the market was therefore effectively reduced, both in that demand decreased considerably and in that the high prices in the 1970s stimulated oil-prospecting and production in countries outside the Organization's sphere of influence. The high prices which followed the price hikes, particularly the last one, started processes which undermined OPEC's ability to support the price level of the early 1980s. Nevertheless, it is still an open question whether its attempt to regain control of the market after the breakdown in 1986 will succeed. It may seem as if the Organization has now adjusted its ambitions to a more realistic level and will thereby be in a position to stabilize prices at a level that is still above the competitive

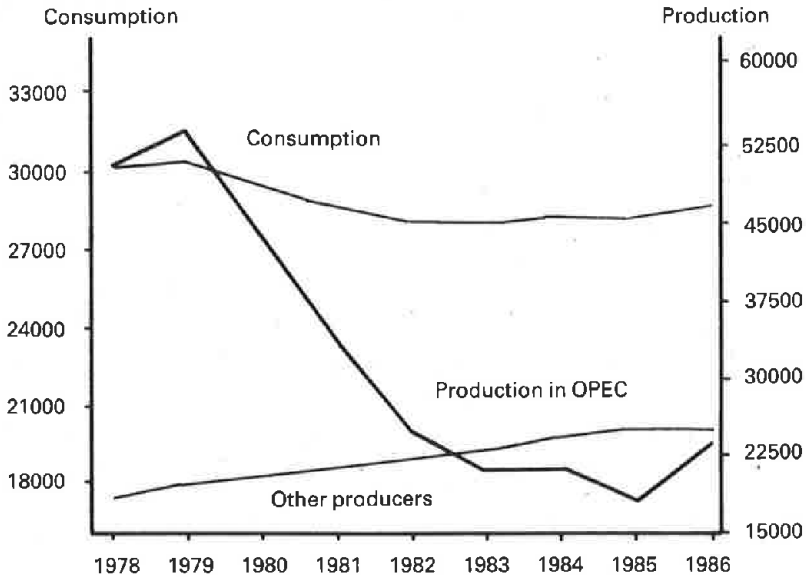

Fig. 4. Consumption and production of crude oil, 1978-86 (in 1000s of barrels per day).
Source: *BP (1987).*

market. It is, however, also possible that we are about to see a more complete undermining of the Organization's power on the market.

Status on the oil market

An oil market with no producer power
If OPEC should break down completely, the price fall will, in the short term, be limited by the level of variable costs in the production of oil. Producers who do not get their variable production costs covered will choose to close down production and leave the market, while producers who get these costs covered will produce with the existing equipment until present oil reserves are depleted. Thereafter the price will have to be raised to allow for the marginal producer to have his capital costs covered, together with a supplement for the risk he takes.

An (uncertain) estimate for the variable costs is shown in Table 1. Taking into consideration the facts that consumption is at present about 46–47

million barrels per day and that the short-term price elasticity in the demand is extremely low, it is possible in the short term to meet demand at prices in the range of USD 8–12 a barrel. In the North Sea, only marginal parts of the production will be shut off. Prices below USD 10 a barrel are hardly conceivable over a long period, i.e. more than 4–8 months.

In a somewhat longer perspective, the costs of bringing new capacity on stream will have to be covered. If we disregard the political and institutional barriers, the decisive factor will be the costs of extracting oil in the Middle East and other important oil-producing regions. There is today great uncertainty as to how large these costs will be and how much scope there will be for saving in relation to the cost level established in the period when oil prices were around USD 30 a barrel. Experiences over the last couple of years indicate that costs are closely positively correlated with the level of the oil price, in such a way that profitability and production are influenced only to a minor extent even by dramatic price changes.

An indication of the costs involved in expanding capacity is given in Table 2. This table has been taken from a paper prepared by M. A. Adelman, who ever since 1973 has argued that we are about to see an early collapse of the

Table 1. Variable costs, production and production capacities in the production of crude oil in different regions.

Costs (U.S. $ per barrel)	Capacity (millions of barrels per day)	Production (millions of barrels per day)	Region
Below $2	15	8	Middle East
$2–4	15	12	Middle East, Africa, Indonesia, Mexico, marginal volume in the North Sea
$4–12	22	22	U.S.A., North Sea, Canada
$12–24	4	3	U.S. "stripper-well oil",Canadian tar sands, offshore and Arctic regions

Source: Texas Eastern Corporation.

Table 2. Average unit costs in development of new production capacity in different countries (1985 $ per barrel).

Country	Year	Costs
British continental shelf	1984	6.8
USA	1984	12.9
Mexico		
Comalcalco	1995	7.1
Gulf of Campeche	1995	3.2
OPEC		
Iraq	1995	0.2
Kuwait	1995	0.3
Qatar	1995	0.4
Saudi Arabia	1995	0.6
Indonesia	1995	0.6
Libya	1995	0.6
Iran	1995	0.7
Algeria	1995	1.5
Abu Dhabi	1995	2.6
Venezuela	1995	4.0
Nigeria	1995	5.0

Source: M.A. Adelman (1986).

power of the OPEC cartel and that the price then will stabilize in the long term at around USD 5–8 per barrel.

It may be appropriate to emphasize that the cost estimates in Table 2 are by no means uncontroversial and that they are subject to great uncertainty. In spite of these reservations, there is reason to believe that these estimates give a correct picture of the differences in costs between regions. If, in addition, we take into account the distribution of extractable reserves by countries (see Fig. 5), it is evident that, particularly in the long term, the countries of the Middle East may come to dominate the oil market entirely. Amongst other things, Adelman estimates that in 1995 it will be possible for OPEC to produce nearly 55 million barrels per day at costs below USD 1 a barrel.

The trend in the oil price in a market without the power of the OPEC cartel is highly dependent on the political reactions in the big consumer

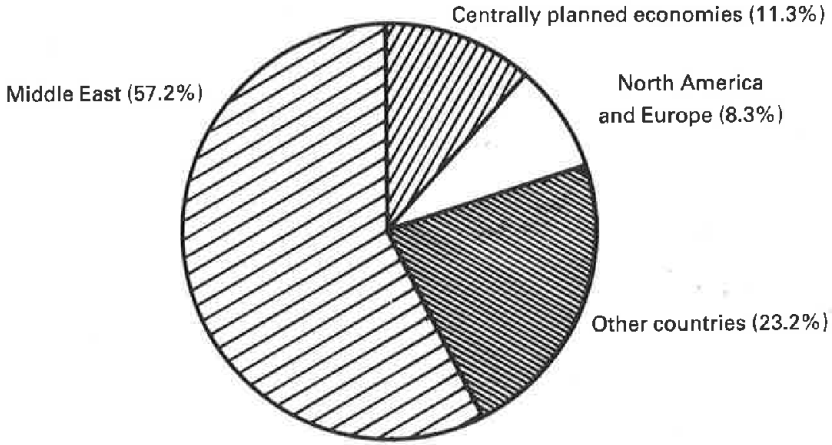

Fig. 5. Geographical distribution of known, crude-oil reserves in 1986.
Source: *BP (1986).*

countries, especially the U.S.A., to a low price for oil. Will it be accepted that exploration for oil and development of new capacity in countries outside OPEC will fall to a fraction of the level that we have experienced over the last decade and furthermore that production will gradually be reduced to be replaced by rapidly increasing imports from OPEC? How strong are those forces that wish to protect domestic energy producers? Let me remind the reader that the U.S.A. has had effective restrictions on import of oil for large parts of the post-war period and that the last oil-market regulations were abolished in 1981. The motive for protecting the domestic market was partly of a strategic nature and partly in order to protect national, high-cost producers.

Before proceeding further in the discussion of the oil market, let me briefly discuss some of the circumstances which seem to characterize other raw-materials markets. A characteristic feature of most industrial raw materials is the large price variation over short periods (see Fig. 6). There are several reasons why the prices fluctuate greatly and they vary from one raw material to another. Most raw materials are included as raw materials in industrial processing, often in sectors which are particularly sensitive to the business cycle. Consumption of these materials therefore oscillates at the same rate as the course of economic affairs in the industrialized countries; the cyclical course is also often reinforced by variation in stocks. On the

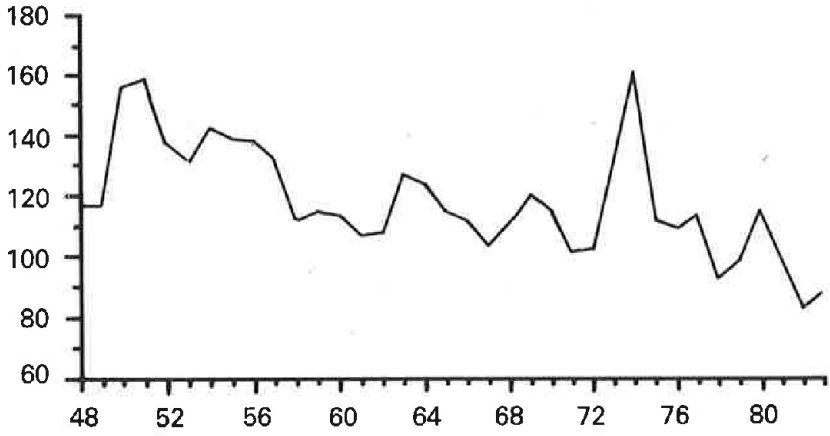

Fig. 6. Index of prices of raw materials, 1948–83. Constant U.S. dollars.
Source: *The World Bank (1984).*

supply side, the production is characterized by large, initial, capital investments and low operating costs relative to total costs. In so far as production is nationalized, it is often the case that the supply does not react even if the variable unit costs are not covered. This means that, in the short term, the supply is extremely insensitive to the price and that the capacity is determined by investment decisions taken long before, often in connection with a (transitory) price peak. These circumstances result in oscillating prices for most raw materials. Prices change considerably over time and do often peak in connection with economic improvements in the industrialized countries.

Because the structure of the oil market is, in this sense, similar to the markets for other raw materials, especially that for the non-ferrous metals, there are reasons to believe that, in an oil market with no form of producer control, the price will oscillate relatively considerably. Thus, we would like to emphasize that a competitive oil market is not necessarily synonymous with a more stable market, as regards the price.

Competition or cartel?

As mentioned earlier, many attempts have been made down the years to establish international cartels. By way of comparison, it is probable that none have been so successful as those which have existed in the oil market.

However, the bases of the powers of the "seven sisters" and later of OPEC were probably different from most other cartels in some respects. As far as OPEC is concerned, compared to the other raw materials that it is of interest to compare oil with, the conditions for cartel power in the oil market are particularly favourable for three reasons:

(1)Outside the largest consumer countries (the U.S.A. and the Soviet Union), the oil reserves are heavily concentrated in a few countries in the Middle East.
(2)These countries have almost complete control over the low-cost reserves.
(3)Furthermore these countries are relatively homogeneous with regard to their economic interests, as they are all developing countries with no independent industrial bases and completely dependent on the export of oil.

Two question remain nevertheless. Are these circumstances sufficient to ensure that OPEC will keep together in the next few years and succeed in stabilizing the price at a level higher than what can be expected to be the result in a competitive market? Or is the difference between the oil market and the markets for other raw materials that OPEC temporarily avoided the price of oil – after it shot up on account of other circumstances – being reduced to its "natural" level, while this has happened much more rapidly for other, "cartelized", raw materials?

In Fig. 7, I have tried to illustrate how the power of the OPEC cartel may

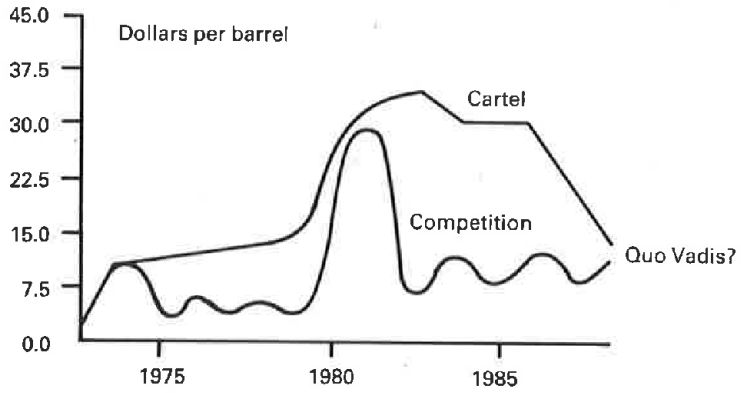

Fig. 7. Competition or cartel ?

have influenced the oil market in the last 10-15 years. With the aid of production quotas and official prices, the Organization has succeeded in avoiding a fall in the price of oil after the circumstances which caused the price rises were no longer operative. This would be the normal course in a raw-materials market in which the producers competed for market shares, so that the long-term price trend was determined by the cost conditions in the production. The underlying price trend would then be such that the price would gradually rise, as cheap oil deposits became exhausted, in order to cover the costs of the marginal deposits which were put into production.

In the following pages, I shall discuss the developments in the oil market with two main scenarios in view:

(1)Continued cartel power in one form or another.
(2)Competition between all important oil producers.

Perspectives on the oil market

Continued agreement in the OPEC

A single adjustment of the price level?
It is difficult to establish with certainty what really lay behind the change in marketing strategy which occurred in OPEC in the autumn of 1985. The least dramatic interpretation is that the Organization or at least a majority of the member countries realized that it was not possible to justify a price of USD 28 a barrel in the long term. In order to avoid the Organization's market power being completely undermined, it was necessary to take a temporary step backwards, by reducing the price sufficiently to ensure control of the market in the long run. Moreover, something similar occurred in 1983, when the Organization agreed for the first time to reduce the price by USD 5 a barrel, from USD 34 to USD 29. On account of internal disunity and political circumstance in individual member countries, it was not possible to reach agreement to do this directly, by reducing the official prices. The means chosen was therefore the introduction of so-called "net-back" pricing. In these contracts, the price of crude oil was fixed by the spot prices of petroleum products in the OECD region. In reality, this meant that the system of official prices was abolished.

There are many indications that Saudi Arabia and other important member countries were aiming at a price around USD 20 a barrel when the net-back prices were introduced. The OPEC countries were therefore extremely concerned in the spring and early summer of 1986, when the price

continued to fall, not only to below USD 20 but right down to less than USD 10 a barrel. No one in OPEC (and few others) had realized beforehand what a tremendous pressure on the oil price the "net back" agreements would create. Furthermore, OPEC probably miscalculated how far the price might fall before other producers would choose to shut down production.

The violent and unexpected fall in the oil price in the spring of 1986 resulted, however, in OPEC choosing to alter its strategy and return to the old system of production quotas (August meeting of OPEC) and later also restoring the system of official prices. This may indicate that the Organization was slowly returning to its pre 1985 policy, with the difference that the price level had been decreased considerably. In that case, the Organization may in the future be expected to function on the same lines as those to which we have been accustomed in the last 10–12 years.

A permanent reduction in the OPEC market power?

An alternative interpretation of the developments in OPEC is that Saudi Arabia is no longer willing to bear the main costs involved in the Organization acting as a swing producer on the world market. A precondition for the Organization having market power is that it can regulate the magnitude of the total production of the member countries, starting from the actual situation in the market. Prior to the summer of 1985, Saudi Arabia in particular was assigned the role of regulating its production upwards and especially downwards, when this was necessary to regulate the market. This resulted in the country producing only about 2.3 million barrels per day in the summer of 1985, while its production capacity is estimated at nearly 8 million barrels. On an annual basis, this meant that the country had a deficit on the balance of payments in the order of $ 13,000 million, in spite of a tough belt tightening of the economy.

A permanent problem in periods in which OPEC has tried to control the oil price has been that individual countries have produced more than the agreed quotas and/or have given discounts in relation to the official prices. These circumstances have been a great irritation to the Saudis, who have felt that their country has borne an unreasonably large part of the costs of keeping OPEC together. In the course of the summer of 1985, the members of the royal house in Saudi Arabia who thought that this state of affairs must be changed, gradually gained ground. The country therefore changed its strategic line in the autumn of 1985 and has since based its relationship to OPEC on the premise that the costs entailed by the Organization acting as a

swing producer must henceforward be divided equally between all the member countries. In that case, the possibilities of reducing the Organization's production in a weak market are limited to how far the country which is the weakest link in the OPEC chain is prepared to go. This will significantly reduce the Organization's market power. In a weak market, OPEC will, to a greater extent than previously, fight for market shares by reducing the price rather than by defending nominal prices.

Collapse of the OPEC market power

If the developments through 1985 and 1986 represent the start of a process resulting in the cohesion of OPEC being weakened so radically that the Organization is no longer capable of making collective and binding agreements about prices and production volumes, we shall probably enter a period in which the oil market will function similar to other raw-materials markets. How rapidly and in what way the production discipline within OPEC disintegrates will be of great significance as regards how far the price will fall in the short term. If this disintegration should take place over a short period of time and the OPEC countries step up their production rapidly from the present 17 million barrels per day to the capacity limit of 27–28 million barrels per day, the market will collapse in the short term. The price may then slide down to USD 5 a barrel in a few months. In a somewhat

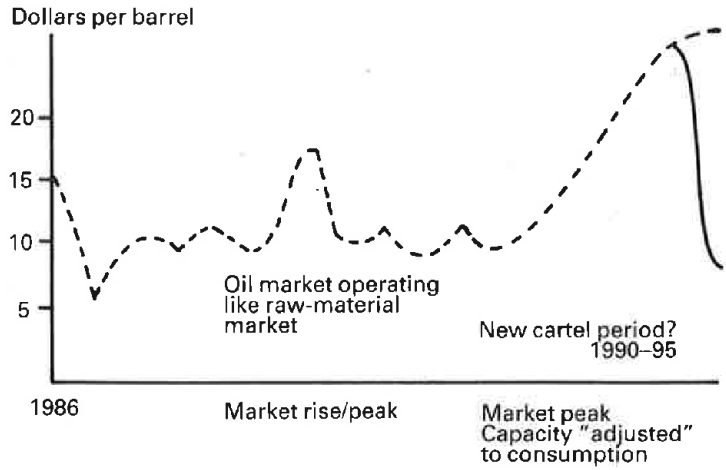

Fig. 8. An oil market operating like a raw-material market?

longer perspective, it seems reasonable to expect the price to increase in the range USD 8–12 a barrel, which is sufficient to cover variable costs at the present level of production. In an oil market operating like a raw-materials market the price will probably show relatively considerable, short-term swings. Seasonal variations in consumption mean that the price will vary throughout the year, in order to make it profitable to store oil. The storage costs alone tell us that we should expect systematic swings in the price of the order of USD 2–4 a barrel.

Correspondingly, the consumption will vary with the state of the economy. In many raw-materials markets, the price rises strongly (50–70%) in connection with the economic peaks. This is explained by the fact that the supply is a little elastic and the demand a little sensitive to the price in the short term. In Fig. 8, I have tried to illustrate how an oil market with no cartel power may conceivably evolve in the next few years. The low oil price will lead to a rapid growth in consumption. At the same time, non-existent, production capacity in high-cost regions, particularly the U.S.A. and the North Sea, will be replaced by the expansion of new oil sources as the present ones are exhausted. Production will therefore to an increasing extent be concentrated in the Middle East. However, new capacity will also have to be expanded in the OPEC countries.

The outlook towards year 2000

The OPEC production capacity is often estimated to be 27–28 million barrels per day in the short term. However, by upgrading older production equipment and carrying out maintenance, this capacity can easily be increased to 34 million barrels per day. Thus OPEC has by now spare production capacity corresponding to roughly 16 million barrels per day, equivalent to 35–40% of consumption on the world market (excluding the centrally planned economies). In the short term, the price trend will therefore be totally dominated by what happens to the supply of oil. Existing production capacity means that practically any growth in consumption can be met.

In a longer perspective, however, the growth in consumption will be of much greater importance. How long it will be before some degree of balance is again established between consumption and production capacity will be determined by the growth in consumption and by the development of the production capacity, especially in countries outside OPEC. The time when such a balance is re-established will probably be after a new change of

climate in the oil market, independently of the Organization's market power in the intervening period.

Consumption of petroleum products

There is great uncertainty as to what changes of a structural character may have taken place in the demand for petroleum products as a consequence of the changes in the price of oil experienced over the last two decades and the fact that many people seem to think that oil is a particularly risky form of energy. In the following pages, we shall discuss briefly some of the arguments which are supposed to be of special significance for judging the growth in consumption in future years.

Econometric studies of the price and income elasticities for petroleum products are of limited value, if the underlying structure differs in the forecast period compared with the period used for estimation. Nevertheless let us start by basing our discussion on elasticities estimated on historical data. The results in Lorentsen and Roland (1985), which are based on data for the period 1973-84, are relatively typical. As Table 3 shows, the income (GDP) elasticities are somewhat less than unity for the industrial countries and about one for the developing countries as a group. The direct price elasticities are in the order of -0.9% for the OECD countries and considerably lower for the developing countries.

Some economists have argued that technological and institutional

Table 3. Price and income elasticities in different regions.[a]

Region	*U.S.A.*	*Rest of the OECD countries*	*Developing countries*
Direct price elasticity[b]	−0.94	−0.91	−0.25
Cross-price elasticity[b]	0.20	0.58	0.39
Income (GDP) elasticity	0.70	0.80	1.00

[a] An elasticity indicates the percentage change in the consumption resulting from a 1% change in the energy price and the Gross National Product (GNP), respectively.

[b] Accumulated effects after 5 years.

Source: Lorentsen and Roland (1985).

changes over the last few years have decoupled growth in oil consumption and economic growth. New and oil-saving technology which was developed in the expectation of extremely high oil prices will gradually over the next 10–20 years replace the existing stock of real capital. Examples of such technology may be the development of more efficient car engines and the increased use of light metals and plastics, which reduce the weight of cars. Another factor which may help to reduce the income or GDP elasticities is shifts in the sectorial composition of production. A gradual transition from production of goods to production of services in the industrialized countries may conceivably result in a lower oil consumption per unit of GDP, because production of services often demands less energy. In developing countries which are in a rapid process of industrialization, this circumstance could work the opposite way around.

The oil consumption will also be affected by institutional conditions. Public authorities in a number of countries have implemented large-scale programmes in order to reduce their countries' dependence on imported oil. In many areas, standards and regulations have been introduced in order to reduce consumption of energy or of oil alone. New rules for the insulation of buildings have reduced the consumption of energy for all future time for all buildings covered by the regulation. Judging from experience of public regulations in general, there is no reason to expect that this type of regulation will be changed, even if we should experience a relatively long period of low energy prices. However, public policy may also conceivably influence the expectations of various decision-makers as to the future. The emphasis on oil as a risky form of energy, in that there is a high possibility the deliveries will be interrupted and a high probability of price increases, may result in systematic attempts being made to select other forms of energy.

The magnitude of the price elasticity may conceivably depend greatly on the level of the oil price, if there are "thresholds" where the competition with other forms of energy is changed considerably. Petroleum products are consumed in various sectors in which the degree of competition and the number of forms of energy vary. Petroleum products compete in the main with coal, natural gas and nuclear power in energy-intensive processes in industry. In a number of uses, only minor changes in relative price induce demand to switch from one form of energy to another. The share of the capital stock (for example, heating boilers) which allows for such changes to be made relatively inexpensively, has increased greatly in the last 10 years.

Another matter which may, in this short and medium term, affect the absolute level of the price elasticities, is the existence of asymmetrical reactions to rising and falling prices. The decision-makers' expectations with

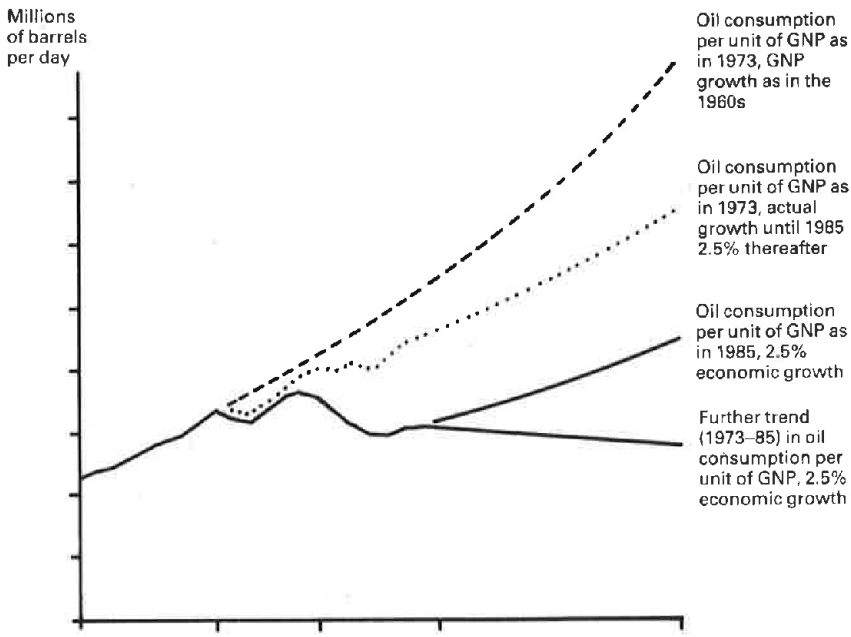

Fig. 9. Consumption of petroleum products in the USA.

respect to the future are often emphasized to explain this phenomenon. Important decision-makers base their investment decisions on expectations of a long-term and considerable rise in the oil price relative to the price change for most other forms of energy. Their choice of technological solution and the amount of stress that is to be laid on the degree of energy efficiency are based on their conception of the long-term developments. In the short term, therefore, even a considerable fall in the prices of oil or energy will only to a small extent lead to a choice of other technological solutions, if expectations for the long term are maintained.

Figure 9 has been included in order to illustrate the importance of structural changes that have taken place in the consumption of petroleum products. This figure shows the trend in consumption of petroleum products in the U.S.A. since 1965 and extrapolations to the year 2000 on various

assumptions. The growth in consumption was stable and high until 1973; however, the price rise reduced the growth for a few years. Nevertheless, the effects of the price rise in 1979–80 were of much greater importance, as the consumption fell considerably for several years.

The top, dashed line shows the growth in consumption on the assumption that the economic growth had continued at the same rate as in the 1960s and that the oil/GDP ratio was constant at the 1973 level. In the next line, the consumption of oil per unit of GDP is unchanged, but account has been taken of the actual economic growth in the period 1973–85. After this period, it has been assumed that the growth was 2.5% per year. In the upper continuous line the calculation starts in 1986 with an oil consumption per GDP unit as in 1985. The growth rate is still assumed to be 2.5% per year to the year 2000. The most pessimistic projection of consumption appears when, in addition, one assumes that the trend in the direction of lower oil consumption per unit of GDP from the period 1973–85 (−3.2% per year) will continue to the turn of the century with undiminished force.

This figure indicates the major reasons for the low growth in oil consumption since 1973. A most significant part of the reduced rate of growth in oil consumption was caused by reduction in economic growth. More important than this, nevertheless, is the reduction caused by higher oil prices and structural changes in consumption. However, it is difficult to distinguish these factors from one another. One plausible hypothesis is that the price effects are in any case the clearly predominant factor. That being so, it is obvious that the bottom curve, in which it is assumed that the trend in oil-saving per unit of GDP will continue until the year 2000 with the same force as in the period 1973-85, gives a quite unrealistically low estimate of the growth in consumption. However, it is reasonable to think that growth in consumption is exaggerated by assuming that the oil consumption per unit of GDP will be frozen at the 1985 level.

However, we would like to emphasize that the reader should not interpret the extrapolations in Fig. 9 as forecasts. If one is to make a forecast, both the supply and the demand sides must be treated simultaneously, so as to make sure that the price effects are taken into account. However, there is reason to believe that if we should experience a long period with prices in the range USD 10–15 a barrel, the growth in consumption will probably be much stronger than is indicated in the figure. Oil prices at this level mean that oil competes effectively with coal and other fuels in many energy-intensive processes in industry.

Balance between supply and demand

The interplay of many uncertain factors will determine when a more balanced relation between supply and demand will again arise in the oil market. If OPEC manages to maintain its market power and uses this power to a considerable extent to keep the prices at a high level, this process will take a long time. On the other hand, a speedy collapse of the Organization's power and a period in which the oil market operates like other raw-materials markets, will result in the necessary adjustments taking a shorter time. Political conditions in the consumer countries will also be of importance. Quota regulation of imports to the U.S.A. will lead to an artificially high price level in there and a domestic production which is greater than otherwise. Correspondingly, taxes on consumption in the rest of the OECD countries will also have a considerable effect on growth in consumption. As far as the developing countries are concerned, the level of economic growth in the years to come will be of decisive importance. It is difficult to imagine that the countries in the Third World can carry through an extensive process of industrialization without consumption of petroleum products growing at least at the same rate as the whole economy.

All long-term projections of consumption and production in the oil

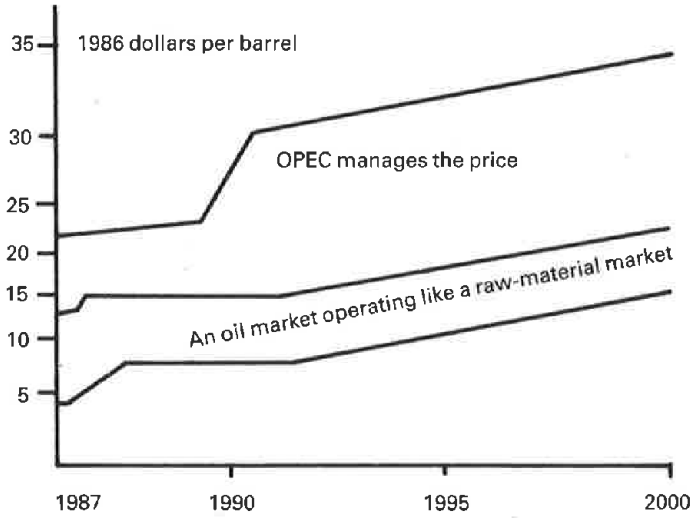

Fig. 10. Illustration of the range of possibilities for the oil price, 1986-2000.

market which seem likely today imply that the market share of the Middle Eastern countries will grow considerably. The market share will start edging upwards as soon as the balance between supply and demand has been re-established. In Fig. 8. we have therefore indicated that at this juncture we shall experience a new change of regime in the oil market. The figure indicates that this will most probably happen in the first part of the 1990s. However, the date is encumbered with great uncertainty. Combinations of uncertain parameters and political conditions may result in the period of low prices extending beyond the year 2000.

Summary

In this examination of the structure and underlying traits in the oil market, we have laid stress on increasing our understanding of how great the uncertainty concerning the future development is. In the next 5–10 years there will be considerable uncertainty with regard to the kind of regime that will dominate the oil market – competition or producer cartel. But even in a situation in which OPEC succeeds in maintaining its cartel power, great uncertainty with respect to the price remains. This uncertainty is mainly due to the fact that we do not know what is OPEC's strategic aim in the market – and it is unclear how effective its means will be. In spite of this fundamental uncertainty, it is nevertheless possible to indicate what limits the price movements, both up and down. Downwards, the limits are set by the cost conditions in the production for different producers. Upwards it is limited by the prices of other forms of energy substitutes for petroleum products in different markets.

In Fig. 10, I have tried to summarize the main conclusions with regard to the oil price which can be realized in different scenarios. For both main scenarios, with and without cartel power, a relatively wide band for the oil price is indicated up to the year 2000.

If OPEC falls apart and the member countries rapidly increase their production to capacity, we may in the short term experience a fall in the oil price to USD 5 a barrel. However, a price like this will induce a number of producers to terminate production because the variable production costs are not covered. This will force the price up to a level at which the variable costs are covered. We indicate this to be in the range of USD 8–12 a barrel for a few years. Here we disregard the seasonal and more occasional changes in the price which will characterize a free oil-market. The figure is meant to illustrate the level and the trend in the oil price.

After an estimated 4–8 years, there may again be a balance between production capacity and demand. The oil price will now have to increase sufficiently to cover total costs of the marginal reserves that are put into production. If we assume that not all production (for political reasons, amongst other things) will be concentrated in the Middle East, this will probably entail an evenly rising, lower limit for the price. A considerable decline in the costs (for example, as a consequence of a cost-saving, technological changes), may, however, modify this trend. In the figure, it is indicated that the oil price in this case should be expected to stay between USD 15 and USD 20 a barrel in the year 2000.

In the other main scenario, I assume that OPEC will manage more or less to maintain its grip on the market. Depending on how effective the Organization's means are and the price strategy that is chosen, I have indicated that in the short term the price will stay between USD 13 and USD 22 a barrel. Prices below the lower limit will probably involve the disintegration of the Organization, because the revenues will then be so low that it will hardly be possible to achieve agreement about production quotas. Prices much higher than USD 20 will obviously not be in Saudi Arabia's longer-term interest, because consumption will not be stimulated sufficiently.

In order to create a stable situation within OPEC in the period before the Organization's production again approach its capacity, it seems reasonable to think that the price should be below USD 20 a barrel. When the consumption has increased sufficiently, however, there will again be possibilities of a new price rise. The conditions for this to happen should not be expected to materialize before the early 1990s, probably a little later. Depending on the shocks that the market is exposed to (for example, new wars in the Middle East) and the Organization's strategy, the possible range for the price will be great after 1990. The figure indicates a price band between USD 20 and USD 35–40 a barrel in the year 2000. Beyond this, the possible range is limited by the fact that prices up to and above USD 30 a barrel will greatly reduce the demand on account of the conversion to alternative sources of energy.

In summary, against this background, it must be wiser to emphasize the great uncertainty in the trend in the price of oil. While the possible range in the short term stretches from USD 5 to USD 20 a barrel, the price in the year 2000 may vary right from USD 15 to USD 40 a barrel, calculated in dollars at their 1986 value.

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Market Considerations in Norwegian Oil Policy

By Ole Gunnar Austvik

The formulation of Norwegian international oil policy will depend, *inter alia*, on what oporunity Norway has of influencing the oil market. Such a possibility may be either *direct* (by altering the quantity of oil exported or by regulating the price) or *indirect* (by influencing the oil policies of other countries and organizations, for example, the International Energy Agency (IEA) and OPEC and/or the countries that are members of these organizations, which can, in their turn, influence prices).

In this article, we shall first discuss the various conflicts and coinciding interests exporters and importers of crude oil have concerning the price of oil. This will provide a basis for evaluating what may be the specifically Norwegian interests in the trend in the price. I shall discuss Norway's influence on the market from its possible economic importance, and its role with regard to the OPEC quota and price systems respectively. This will form the basis of a discussion of Norwegian policy in the oil market. We shall not analyse problems of balance in foreign policy, for example weighing energy-policy interests against other foreign-policy interests explicitly.

Conflicts and common interests between consumer and producer countries

In the following pages we shall disregard political and military situations in which the oil market may be included in major (and perhaps more short-term) objectives. For example, security-policy interests which a country has in situations of military conflict will normally over ride wishes that it may have as an oil-selling or oil-buying country. In this article, oil will only be

regarded as an economic commodity, in which political affairs influence the economic framework and mechanisms of the market and thus the interests and decisions made by the parties involved.

Partially, buyers and sellers are, of course, mutually antagonistic, in that the buyer wants to pay as little as possible and the seller wants to sell for as much as possible per barrel of oil. But it is not only the price which is important. There are also common interests between the parties, especially desires about predictability and stability. An increasing degree of both these factors will facilitate the planning work for all countries and oil companies, whether they are buyers or sellers.

The desire for stability is not a question of breaking away from the market forces. It means that it is desirable that the price rather follow a long-term trend than that it should fluctuate frequently. But is there a long-term, market-determined trend of the crude-oil price, independent of more or less successful attempts to regulate the market in the short and medium term? We shall take a look at the limits which can be set to the interests of oil-exporting and oil-importing countries in the trend in the price of oil, in order to study this more closely.

The lower limit for the price may be fixed by the marginal cost for the development of new oil-fields (hereafter called *the cost limit*). This will be the price which is needed for investments to be made in developing new oil fields. However, the important countries (mainly within the IEA) regard it as economically and politically undesirable to be too dependent on supplies from the Middle East and OPEC countries. They do not want prices which reduce their own domestic production so much that the dependence becomes too great. In this political and economic evaluation of long-term costs, the IEA countries will tend to set the cost limit where a marginal price reduction leads to such large falls in *domestic* production that it is perceived as more negative than the gain through the fall in price. The different evaluations which lie in this balance of considerations mean that, in practice, the limit is unclear. The evaluation will especially be a function of the extent to which the situation in the Persian Gulf is perceived to imbalance the oil market. But the limit will also be influenced by the expectations of the technological development and conditions in the markets for other forms of energy.

The cost limit, which has been discussed above as the lower limit for the price which the IEA countries want, can internally in the region be regulated by the introduction of protectionist initiatives, for example, customs duties. Such an initiative will raise the domestic price and, in addition, yield the importing countries' customs revenues. This expedient, which especially the

USA possesses in order to protect itself from being priced out of the market, is one of the conditions which have the effect that the oil-exporting countries are not normally interested in a price lower than the cost limit as the IEA countries define it. This is in spite of the fact that they may be interested in it for reasons of market strategy in other respects. A not unusual view of the level of this cost limit, given the current political situation and resource basis, is of the order of USD 12–20, to maintain the production in the IEA region at a politically desirable and possible level until the turn of the century.

The upper limit for the long-term trend in the oil price is determined by what the importing countries will "submit" to paying, without experiencing economic drawbacks and large substitution of other forms of energy. This price limit may be called *the substitution limit* and is accordingly a limit which the exporting countries wish, on market considerations, to keep below in the long term. The limit will lie where a marginal price increase leads to such a large decline in demand that the net effect will be a loss of income in the long term.

Accordingly, even if the exporting countries desire in part as high a price as possible, a long-term, revenue-maximizing perspective will suggest that it should not be *too* high. Correspondingly, even if the importing countries desire in part the lowest possible price, they will not want it to be too low on long-term considerations of risk and expenditure minimization. That the oil price is kept within these limits is, in the long term, both in the exporters' and the importers' interest.

However, neither the cost curve nor the substitution curve is easy to position in practice. Different countries will have different evaluations of them, and we have not gone deeply into all types of considerations which will enter into the formulation of the parties' policies. We have restricted ourselves to mentioning the main elements, starting from what seems suitable for the purpose of illustrating the limits as concepts. An accurate determination is also hindered by the fact that it is very difficult to estimate both the long-term price elasticities, growth figures and demand elasticities of oil.

Given the simplifications we have made, we can observe that if the substitution limit falls towards the cost limit, the cost limit will also fall. This is due to the evaluation which is implicit in the fixing of the cost limit concerning the extent to which it is politically acceptable to be dependent on oil imports from the Middle East and the OPEC region. The more acceptable this is, the lower one's own production can be; the more easily one can substitute other forms of energy for oil, the more acceptable it is to have a

high import of crude oil. Thus, low price and great dependence on imports will be less of a problem the lower the substitution limit is.

If dependence on imports is not a problem at all, the cost limit will fall to the economic marginal cost curve for developing new oil-fields. The importing countries will then desire a free-competition market and that the price be fixed at the point where the demand curve intersects the marginal cost-curve. The free-competition market will represent the lowest way of achieving equilibrium in the oil market. The exporting countries will, for their part, desire a price which will derive benefit from a possible monopolization profit.[2] A completely monopolized market will set up the upper limit for equilibrium. The upper limit for the price trend will in its turn be dependent on *the extent* to which an exporting country can manage to monopolize the oil market.

In Fig. 1, the substitution and the cost limits are drawn in straight lines and in a simple fashion for the purposes of illustration. They rise over time, starting from the usual view of oil as a non-renewable resource. It is assumed that this will gradually lead to rising prices, as the oil is extracted. This point is, however, in this context, not important.

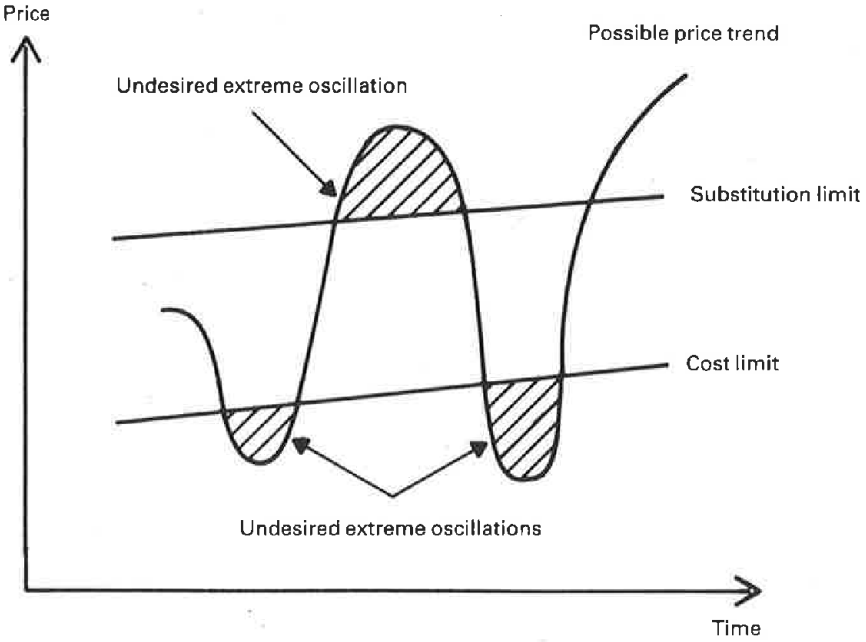

Fig. 1. Possible price trend in the long term

The discussion of the cost and substitution limits may be viewed parallel to the evaluation which different countries will make about the long-term, optimal trend in the oil price that *they* regard as suiting them best. As far as Norway is concerned, the optimal price will probably be higher than for most other Western countries. On the other hand, it will presumably be lower than the optimal price for most OPEC countries, which are, on the whole, more dependent on oil than Norway. The fact that, for example, Saudi Arabia today possibly desires a lower oil price than Norway does not mean that they will necessarily desire a lower level than Norway in the long term, at any rate if one assumes that Saudi Arabia is more dependent on oil in its foreign trade than Norway. On the other hand, it is conceivable that, if Saudi Arabia maximizes its revenue over a longer term than Norway, their optimal price may be lower than Norway's in the whole of the period that Norway maximises its revenue over. Political changes may take place which will have the effect that Saudi Arabia will have a more short-term perspective than purely their resource basis and long-term market position would suggest. This illustrates that it is not easy to evaluate where a single country's optimal price-level lies beyond a proper degree of approximation.

In Fig. 1, a curve with large amplitudes has also been drawn. It represents a price trend which is "wholly fortuitous", i.e. there is no form of mechanism which will check short-term fluctuations around more long-term trends. Where this curve lies above the substitution limit, it comes into conflict with the oil exporters' long-term interest. Where the curve lies below the cost limit, it comes into conflict with the long-term interests of the IEA countries as a whole. Both exporters and importers have an interest in seeing that the prices shall not move across these limits; it is in their common interest to avoid the extreme solutions. However, pure buyers would like the price to be as close to the cost limit as possible, and pure sellers would like it to be as close to the substitution limit as possible.

Given that Norway manages to decide which price trends is in its interest, the question then arises which policies it can implement to take care of them.

As an oil-producing IEA country, it is clear that in principle Norway could argue that the cost limit should be as high as possible. It could maintain a policy in the IEA which argues for increased dependence on oil, less substitution, etc. But I shall disregard this option here, as it lies outside what acts as current policy, taking all circumstances into account. However, I shall look more closely at what kind of economic importance Norway may conceivably have in the oil market and specifically its role with regard to the OPEC quota and price system. This will be the primary basis for a discussion of Norwegian policy in influencing, and adopting to, the oil market.

Norway's economic importance in the market

In 1986, Norway was responsible for 1.5% of the world's oil production of 2933 million tons. It was responsible for a somewhat larger proportion (3.8%) of the IEA countries' imports of crude oil and for 4.8 percent of the EEC countries' imports of crude oil and oil products. Even though it is not a self-evident matter to demonstrate which of these markets really forms the price of oil, there has, on the whole, been agreement that the shares that Norway has are so small that it could not regulate the prices to any particular extent merely by altering its own production within the limits that will normally be under discussion (5–20%). This is in spite of the fact that the respective shares will, in all likelihood, increase in the years to come.
However, economic theory gives support to the statement that one may expect price changes, even with marginal changes in the supply, if only the demand is sufficiently inelastic. Within certain price ranges, it is not improbable that the demand will still be so, especially in the short term. If there is no form of direct price regulation in the market (like OPEC's fixed-price system; see *infra*), relevant Norwegian production changes may hereby lead to observable price reactions. If, however, OPEC keeps a fixed-price system, price changes based on marginal Norwegian production changes do not seem to be particularly likely.

Norway's possibilities of influencing the oil price are therefore assumed by most observers and analysts to possibly lie in the indirect dimension and then mainly through OPEC.

The Organization is, in variable degree, able to regulate the market by the quantity offered or by price regulation, from which Norway will then derive advantage (or disadvantage). This interplay of qualitatively different types of means which are used to operate on qualitatively different objects, which, in their turn are means of fixing a quantity and a price in a market, implies that Norwegian policy in the oil market is an extremely complex problem to deal with in practice.

Norway's limited economic and political international role, suggests that other actors can influence the oil market to a far greater extent than it can. As far as Norway is concerned, it will normally only be a marginal influence that it can expect to have. But since a price change of one dollar corresponds to a gross change in the value of Norway's petroleum production of the order of 4–5000 million kroner (USD 700 mill.) and a change in the tax revenues of about 2000 million kroner (USD 300 mill.) this means that even marginal changes in the oil-price level are of *considerable* economic interest to Norway. If one maximizes over longer periods, such a one-dollar margin

soon constitutes billions of kroner. Therefore, a well thought through policy towards OPEC and the oil market may be of significant importance for Norway.

Norway and OPEC's quota system

OPEC has often been called a cartel. But a technical and economic optimal adjustment for a sales cartel will suggest a production level which yields maximal profit for the whole organization together. The distribution of the production between the individual countries would then be such that the production costs would be the lowest possible. This might imply the closing down of production in individual countries and revenue transfers between these countries. The practical and political difficulties that it would entail to get a transnational cartel to act in this way mean that OPEC's market strategy is much more difficult to establish than what can be arrived at *only* by using economic theory.[3]

One of the main problems is that OPEC is a combination of partly very different countries and groups of countries. A grouping of these countries that is unambiguous at any one time can only be made with difficulty according to one particular type of criteria. The relative importance of the economic, military, domestic or foreign policy factors in weighing the pros and cons in each individual member country's oil policy, may vary over time – like the individual countries' influence in the Organization.

Without going more closely into the individual factors and their significance as a whole, experience[4] indicates that the use of purely profit-maximizing models of the leading countries in the oil market simplifies the reality too strongly. These experiences show that the various experiments which have been made with such models have resulted in market scenarios and price forecasts which largely proved to be misleading. Both different forms of welfare maximization and political and military situations may be added to the desires to maximize revenue in the analysis of the oil-exporting countries' behaviour.

Altogether, one may therefore say that the supply of crude oil is mainly fixed politically. The political evaluation[5] includes, *inter alia*, economic and security-policy evaluations. Amongst other things, the supply policy will be greatly influenced by the optimal price curve that the countries want and by the position of the demand curve. An analysis of the fixing of the supply of crude oil requires, however, an insight into the entire economic and political interplay in which it is determined, where one goes from the general to the partial as soon as one uses mainly political or mainly economic approaches.[6]

Thus, in a price-quantity diagram, the supply curve for OPEC oil may be interpreted as entirely inelastic. It is moved to the right when an increase in production is agreed on and to the left in a decrease in production. The reason the supply curve is moved lies, however, outside a model for the actual price-fixing. (Fig.2)

Norwegian activity in such a market will have to aim at influencing the decisions which lie behind the movement of this politically established supply curve, in which the OPEC cohesion and ability and will to regulate the supply will be decisive in the price trend. In order to achieve this, Norway can, in principle, use a whole range of different means of an economic, political, psychological and rhetorical nature, both as pressure and as motivation. Norwegian reductions in production will then be such a means, which will possibly have a politically and psychologically motivating effect on OPEC, in such a way that the Organization will move the supply curve to the left by reducing its production more than it would otherwise have done. In a situation in which there is, in Norwegian opinion, too high a price level, the influence will have to act in such a direction that they move it to the right. Thus, Norwegian policy must be designed flexibly enough to take advantage of these changing interests by influencing the price in different directions.

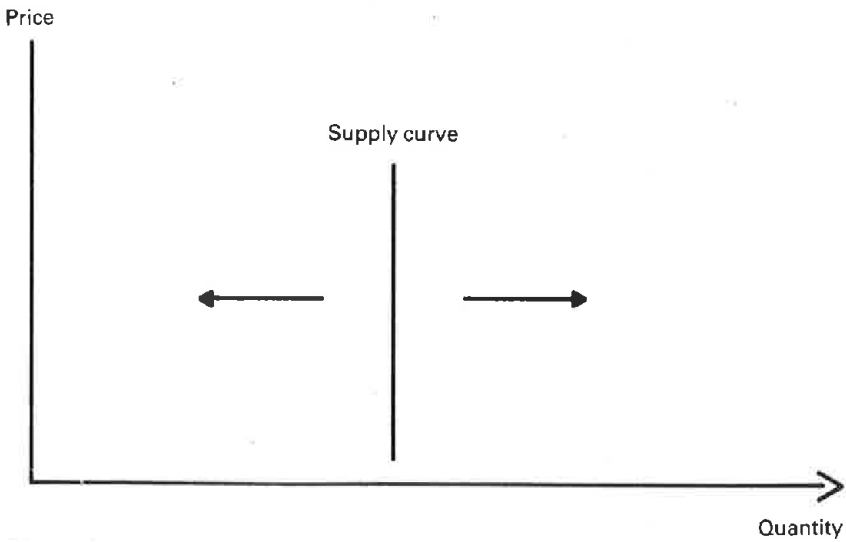

Fig. 2. Supply of crude oil from OPEC

It is understandable that OPEC members which are largely developing countries should not be motivated to reduce their own production, in order that rich, industrialized countries like Norway may earn as much money as possible. They bear alone the cost for this policy. But what they achieve, namely a higher price level, is a common good which all sellers of crude oil benefit from. "Free passengers" are never popular, but it may help somewhat if Norway expresses respect for, and support of, OPEC's efforts.

But a cautious partnership only partially satisfies what OPEC countries would regard as desirable. They would prefer Norway to become a fully paying passenger, defined in one way or another (or not to produce oil at all!). It is thus probable that OPEC countries will demand steadily more of a Norwegian partnership. This demands firm, conscious and active, diplomatic and political behaviour on Norway's part.

Norway and OPEC's pricing system

In the following pages, we shall interpret the market price for crude oil as the price which emerges on the basis of the demand and the mainly politically fixed supply, described above. This is a price which is different from OPEC's official prices determined by their fixed-price system. However, outside certain limits, OPEC's administered price and the market price cannot be separated form each other. The administered price may change by the market forcing it in a certain direction. Technically, the transitional phase then takes place, *inter alia*, by shifting the volume sold at fixed, administered prices to the spot market, where oil is sold on a day-to-day basis. But in fairly inelastic demand ranges (beyond a certain time horizon), it may also be possible to administer the price in a certain direction. In the market, there is then a whole series of equilibrium solutions for an administrator to choose from.

As it would fall outside the scope of the main problems dealt with in this article to go deeply into all the connections between and the variants of price-fixing systems for oil, we shall confine ourselves to the two prices mentioned above. However, it is important to note that what we call the market price is not the same as the price which emerges on the spot market. The spot market price results from the administered price and the market price. The existence of a spot market is conditional upon there being an administered price in the oil market, and the level of the spot price will depend on how far the administered price is fixed from the market price. When most of the quantity on the market is disposed of at administered

prices, the market price itself will not be seen. But it is the price which underlies all the other actual prices observed on the market.

Generally speaking, OPEC has tried to keep to a fixed price system for crude oil (at least officially). However, a problem arises when at the same time the Organization regulates the quantity offered on the market; this implies that the system really becomes over-determined. It requires a change either of the price or of the quantity, as soon as they do not correspond with the demand curve. If the demand changes and the price and/or the quantity are not regulated accordingly, an imbalance arises in the market and is manifested in increased, spot-market sales, cheating with quotas, etc.

As long as OPEC's fixed price corresponds to the equilibrium price in the market, it will be of no consequence whether a seller like Norway conforms to one price or the other. If the demand falls and OPEC does not adjust its price or volume simultaneously, Norway will, however, have to choose between keeping to OPEC's administered prices and thereby risking having sales problems or accepting the price which the market "gives", and offset the quantity produced.

It is usually much more difficult to *observe* such gaps between demand and supply than to illustrate them in a price and quantity diagram used in academic samples. However, the spot market will be used as a barometer showing how close the two prices are to each other. But fluctuations based on inelasticity in the demand and demand-psychological conditions may also arise. Thus a price change in the spot market need not necessarily be due to disproportion between a requested and an offered quantity in the short term and perhaps not in the medium term either. In inelastic demand ranges, OPEC's fixed price system may therefore be of decisive importance for the price development. Without a locking of the prices in the short and medium term, one may have considerably greater fluctuations than one might otherwise encounter.

In 1984, Statoil, the Norwegian state-owned oil company, lowered its prices to a level below OPEC's administered price. The situation in the crude-oil market in 1984 was characterized all along by pressure in the direction of constantly lower prices and/or lower OPEC quantities. One may say that OPEC was forced from ditch to ditch for several years, and when Norway advanced to the next ditch, this created reaction and irritation in OPEC. In its turn, this contributed to the Organization also officially lowering its prices.[7]

Possibly the market situation would nevertheless have compelled the Organization to do this, so that Statoil's action only had an accelerating

effect on the lowering of the prices. (Their real prices were already to a large extent below the official prices.) But this may have been bad enough from their view, and it is conceivable that its reactions were reinforced on account of its generally critical attitude to the Norwegian oil policy at that time and the "free passenger" role at one juncture.

However, concentration only on the trend in the oil price in dollars may be misleading as a market indicator. The strong increase in the rate of exchange for the dollar in the period 1980–85 also helped to force down the oil price in dollars, at the same time as the purchasing power of the oil-exporting countries in the period 1980–84 largely went up.[8] The oil price, calculated in purchasing-power units, accordingly rose in the period for most countries, in spite of the falling price in dollars. OPEC's strategy of keeping the price in dollars fixed was consequently in reality a price increase for most countries and may thus be regarded as relatively aggressive in relation to the market situation. (In the period 1980–84 oil prices calculated in dollars decreased approximately 15%, whilst at the same time they increased by more than 50% in European currencies.)

For Norway, it will presumably be very difficult to participate formally in OPEC's pricing system. It would have far-reaching consequences involving, *inter alia*, a stronger control of private oil companies and presumably a new way of calculating taxes and duties (the current norm price system is the basis for this today). Besides, it would be difficult to adhere to a fixed-price system without having sales problems in a weak market or loss of revenue in a tight market. But in an oil market under psychological and political influence it is conceivable that, through an informal collaboration, we could avoid such situations as we got into in 1984. And it is, of course, actually only in uncertain situations that we may encounter a problem in which the administered price and the market price differ substantially. In the short term, and perhaps also in the medium term, where there is a certain demand-psychological spectrum of variations and fairly inelastic demand, it may seem as if OPEC's fixed-price system is the only one which will stabilize the oil price. In a weak market situation it may not be in Norway's interest to challenge it, if it is possible to avoid doing so.

Norwegian policy in the oil market

Norway's aim in the oil market is a price trend which is as predictable as possible, as stable as possible and at a 'reasonably high' level, in Norwegian opinion. Among the present means of supporting these Norwegian objectives, we have in this article specially considered the relation to OPEC and

its regulation of prices and quantities. This does not mean that Norwegian oil production cannot economically have an influence on the market in the short term, that the IEA policy is not important or that Norwegian policy may not have demand-psychological effects. The choice has been made, starting from what seems to be the variable that today is, on the whole, desirable and possible to influence.

One would perhaps think that the changes since 1986 do not mean anything, as regards the influence that Norway might have in the market (see introduction). However, Norwegian reductions of production can give Norwegian political partnership to OPEC some credibility. The absence of such a symbolic reduction may therefore result in reduced market political influence. The decisive factor is whether the policy will remain credible towards OPEC and consequently constitute psychological and political support for the Organization in regulating the market.

In the situation which we are now experiencing, with a substantial increase in Norwegian production until 1992, Norway may be criticized by OPEC that the support is no longer credible. With this may come more rigorous demands for production reductions. If this happens, Norway must estimate whether the costs will exceed the expected profit (economic and political), before it can agree to reduce the production further in relation to the plans. A threat to repudiate the interplay may then be the best policy, all things considered. Such a threat may also be useful if OPEC does not manage to keep prices at a desired level. On the other hand, 'jumping out' in a weak market may have some effects inside OPEC. It is expected that the price range where OPEC will have a Norwegian particpant lays in the range of USD 15-28, approximately.

It is not at all certain that OPEC will be satisfied with criticizing Norway publicly, unless they are fairly certain to achieve something. Granted that Norway is of some importance in the oil market, the fact that OPEC may criticize Norway in vain may weaken it. The Organization's policy with regard to Norway will not only depend on Norwegian policy and the market conditions but may also be a function of the Organization's internal situation. In a situation that is difficult for the Organization or a member country, non-OPEC producers may be criticized as scapegoats without the Organization having any oil-policy aims but rather internal, political aims in doing so.

As regards the price policy, it is worth noting that OPEC has not put forward, at least not publicly, demands for Norwegian participation in its fixed-price system. This is extraordinary, considering all the time for which we were exposed to strong criticism in 1984. It is possible that OPEC is

pleased that the Norwegian prices are now to some extent kept secret for a period after the selling date, so that it avoids immediate market reactions from possible Norwegian price changes.

Another much-discussed policy is participation in a dialogue or interplay between consumer and producer countries. Such a dialogue would have as its object to increase the stability and the predictability of the market. Norway may be assumed to have special advantages as the initiator of such an interplay on account of its having interests in common with both consumer and producer countries. Such a dialogue will obviously not replace any Norwegian foreign policy in the oil market, but, if its aims coincide with its own energy-policy aims, it is conceivable that it may be a supplement to the OPEC policy. But what can really be achieved by such a dialogue?

It seems important not to take on too much and try to achieve things for which there is no marketing cover. If a policy includes conditions that it is not possible to agree on, *too* extensive objectives will make it difficult to agree on matters that there really is a basis for. The main thing may be that exporters and importers should maintain contact with each other and exchange information and views which may increase the predictability of the market. Predictability may lead to countries introducing measures against forthcoming extreme changes, something which will, in its turn, have a stabilizing effect. The contacts may also have an effect in the direction of increasing the mutual understanding that buyers and sellers of oil are dependent on each other. This may, in its turn, increase the possibility that the parties will optimize their long-term interests at the expense of the more short-term interests, such as avoiding extreme price oscillations.

Another matter is whether Norway, by being active in an interplay between consumers and producers, will be able to smother the criticism that it risks getting in future on account of the production increases. It seems difficult to point to any direct, negative effects of Norwegian activity in such an interplay, apart from the costs on the budget and staff side. This will be much cheaper than production reductions, if they are to any extent alternatives.

All things considered, there is a need for political and diplomatic firmness, control and suppleness in the Norwegian marketing policy for oil. The precise weighing of the pros and cons of the relatively complicated economic and political conditions that Norway is facing in the oil market will thus be a very important task, even if she achieves only comparatively small changes. As mentioned earlier, margins in the oil market quickly turn into billions.

Concluding remarks

In this article, we have discussed different factors which influence evaluations of what is the desired oil-price trend for exporting and importing countries. We have canvassed the ways in which Norway may conceivably influence the price and the possibilities of designing a policy which may be under consideration, starting from this. However, we have not in any systematic way adopted any attitude to the magnitude of the types of influence which Norway may have in the oil market. About this, opinions may vary, from little to relatively great importance.

We point to several circumstances which Norway must take into account in its international oil policy. These circumstances are parts of the same whole. The different initiatives should be co-ordinated, if they are to produce the desired total effect at the lowest possible cost. This applies to both possible production regulations, the price policy, the relationship to the IEA and the design of a more multinational activity within an interplay between consumer and producer countries. The policy must also be such that it preserves Norwegian freedom of action and flexibility. Desires in one period that the price should be raised may alternate with desires in other periods that it should be reduced or kept constant. The fact that the oil market is influenced by such qualitatively different factors as economics, politics and psychology is included to appease supplementary demands on the policy.

As marginal price changes amount to large sums for the Norwegian economy, our possible marginal influence is well worth taking account of and using in the best possible way. It is also useful for managing pressures of different kinds whenever they may come. Thus, energy policy has established itself as a permanent and an important part of Norwegian foreign policy in the professional field of intersection between economics and political science.

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Notes

[1] This has been particularly discussed in the USA.
[2] On the lower and upper limits for the trend in the oil price, starting from purely economic criteria, see, for example, Morrison (1987).
[3] A number of analyses of this have been made, starting from both political and economic evaluations. See, for example, Griffin & Teece (1982).
[4] Experiences with different models and price forecasts have been reported in Austvik (March 1986), pp. 12-16.
[5] Mainly made by OPEC, possibly by OPEC in one form or another for interplay with other actors in the market.
[6] This was also one of the main conclusions at the world conference of the International Association of Energy Economists at Calgary, Canada, in July 1987. See, for example, Heise (1987).
[7] Statoil – and Norway – were strongly criticized for this. Remarkably little attention has since been given to the question of price-fixing in the discussion of Norway's relationship to OPEC. This is in spite of the fact that some observers think that it is perhaps a more important tool for OPEC in the market than the regulating of production. See, for example, *Petroleum Intelligence Weekly* (1987).
[8] See Austvik (September 1986).

The Oil Market, OPEC and Norwegian Foreign Policy Seen from an Oil Company's Point of View

By Oddvar Solheim

For the last few years, the oil market has been so strongly marked by imbalances, fluctuations and political unrest that it is necessary to see its development in a longer historical perspective to be able to identify fundamental characteristics. Historically, the oil industry has been characterized by growth, dynamism, good profitability and an ever stronger position as the central provider of energy for the Western World's industrial development. Since 1973, however, the picture has completely changed – consumption is stagnating, other sources of energy are gaining ever larger shares of the market, profitability in large sectors of the industry is reduced, political unrest dominates the market and the consumers' confidence in oil as a dependable and attractive source of energy in the long term has been considerably weakened.

The above-mentioned factors have led to great uncertainty as regards planning the development of Norwegian oil and gas reserves. In our opinion, lack of stability is the main challenge not only for the oil industry, but also for the oil-producing and oil-consuming countries.

Large fluctuations in price strengthen the impression of the unreliability of the oil industry at the same time as world economy is subjected to great strains.

Co-operation on stabilizing measures is therefore not an attempt to counteract market forces, but rather an attempt to rebuild the consumers' confidence in a somewhat longer time perspective. Increased stability can be achieved by seeking greater influence over the regulatory decisions made

within OPEC through closer cooperation with the countries which carry out the major part of the international oil trade.

In the period 1910–76 oil captured ever larger shares of the market at the expense of solid fuel. From a modest share of 10% in 1910, oil took over the position as the world's most important energy supplier with a market share running at 46% of the total energy requirements in the middle of the 1970s. The share of coal had fallen to 28%. However, competitors against oil have entered the market and have assumed an ever increasing importance, this being the case especially for gas and nuclear power.

The reason why oil gained such a position was its superiority as regards production costs, suitable and cheap forms of transport, and its easy applicability for consumers opposed to coal and coke. The use of oil rendered possible the growth and development of the transport sector. Oil was a stable and dependable source of energy which could be delivered – even to small customers – at a very competitive price. Oil's natural advantage contributed to industrial growth in the post-war period which again resulted in increasing oil consumption. The energy industry's structure and attitudes to a large degree reflect the golden years of satisfactory growth and profitability which oil experienced during this period. Even if there was to some extent strong competition in isolated links on the chain, common economic interests and adequate control over the essential factors led to stability as regards price and availability. From the market aspect, this naturally produced confidence in this energy form. The various regulatory organs which were established, from the Texas Railroad Commission to OPEC, also ensured that more serious threats to this stability were quickly brought under control. Strictly speaking the oil branch has never been without such regulatory organs for any length of time. A comparison with the development of other 'commodity markets' will thus always be unsatisfactory so long as the oil market is not a free market where supply and demand determine the basic level of the oil price.

After the first oil crisis in 1973, however, the situation radically changed. The real control over the oil reserves in the most important producer countries, and thereby control over the level of production and price making, was transferred to the OPEC countries. Some countries within the OPEC group attempted to maximize their short-term earning capacity, while others wanted a moderate price trend. This conflict of interests resulted in internal problems for the organization. Political unrest in the Middle East also contributed to the uncertainty. The result was, as we all know, a severe price hike, first from 3 to 10 dollars per barrel in 1973, then from 13 in 1978 to over 40 dollars per barrel on the spot markets in certain

periods during 1978–80. It is no matter for surprise that the market and the governments of consumer countries began to lose their faith in oil as an energy form. The reactions to this were not long in coming. The price situation made other energy forms more attractive and the uncertainty with regard to future supply and price of oil stood in sharp contrast to the stability and dependability which other energy forms could offer.

The governments of individual countries, because of this uncertainty, got into a difficult situation as regards securing absolutely vital interests for their trade and industry and inhabitants, namely ensuring a supply of energy at competitive prices. To encourage the use of other energy forms and to reduce dependence on the 'unsure' oil supply, the governments introduced new taxes and duties on oil products.

During the period 1973–86 the member countries of IEA reduced the energy consumption needed to produce one unit of GNP by as much as 20%, through improved technology, changed patterns of consumption and the reduction of more energy-intensive industry. In 1986 the 21 member countries of IEA had together saved energy equivalent to 880 million tons of oil, and oil's share of the market sank considerably.

Subsequently neither the governments nor the oil companies have been especially active in the matter of trying to build up the consumers' confidence. On the contrary, most of the discussion has been about the risk of new supply crises and as a result continued violent price fluctuations. From many quarters doubts have been raised about the effectiveness of OPEC as a regulatory mechanism in spite of the fact that the organization is today the only organ which carries out a more or less effective policy to create stability.

Most branches of industry which are afflicted by surplus capacity and a declining share of the market normally go in for a strong market orientation and adapt their products to the needs of the consumers. It must be a major task for the oil industry to restore confidence in price stability at a competitive level and in certainty of supply to the branch which it belongs to.

In this connection OPEC is a central factor. Whether one likes it nor not, OPEC is today the only operative regulatory organ which functions as an influence on the general world market for oil. We have seen the effects of the unity of OPEC breaking down: large falls in prices create problems for alternative types of energy and thereby reduce the consumer countries' opportunities to build up a diversified supply of energy and spread of risk. Increase in consumption provides the basis for strong price hikes later with new instability, etc., such as we have seen earlier. The consequences for Norway, as a Western oil-producing nation, are obvious.

The Western countries and their oil companies cannot be interested in

allowing the OPEC countries to regulate such an important market only from these countries' internal considerations. Nevertheless, the way for oil to win back the market's trust and find its natural place in the world's energy housekeeping must be through co-operating with the organization which today has the greatest influence on stability.

The market will still have to be regulated if one is to avoid a breakdown of the price structure with new dependence on certain of the producer countries as a result. The difference between the regulatory organs of earlier times and OPEC's regulation today lies, broadly speaking, in who has influence on the regulating process. The interests of the Western World and the oil companies can best be secured by having a say in the decisions which are at present taken by the oil producing countries in OPEC.

As part of the work to reach this goal, effective channels of communication should be established with OPEC and suitable areas for co-operation should be found. If in the first round one can agree on the goals, in the next round one can to greater advantage discuss the practical means which should be applied.

The Norwegian government's efforts to develop such contracts should therefore be supported. The oil industry in the Western consumer countries should contribute towards keeping up its competitiveness *vis-à-vis* its own industry by working to meet the market's need for security and stability more efficiently than hitherto.

From many quarters criticism has been raised about the way Norway's co-operation with OPEC has developed so far. Special emphasis has been put on the consequences that limitations in production on the Norwegian continental shelf could have for profitability of certain projects, without such limitations having much effect on OPEC's own policy. There is much truth in the assertion that Norway's self-imposed limitations in production can be *without any effect* in a market where OPEC does not succeed in limiting its production. But the Norwegian policy will even so have the aim of appearing as a declaration of support to the task of stabilizing energy prices in the Western World. Norwegian 'rapprochement' with OPEC has taken place in spite of the rather striking cultural and political differences between Norway and most of the OPEC countries. The considerations relating to the market which lie behind Norway's friendly disposition towards OPEC are, in our opinion, valid regardless of whether OPEC produces 15.8 million or 18 million barrels a day.

Norway's oil production will increase considerably during the next few years. This is bound up with decisions on oil field development which were made long ago. A number of new fields are almost ready for exploitation at

the present time, and new decisions regarding development will be made continuously. This will contribute further to growth and give some permanence to future Norwegian oil production. The Norwegian interest in contributing to an international energy market where oil has both some share of the market and some market value is therefore quite natural.

Norway has chosen to look for the constructive and stabilizing elements in the OPEC of today. These are elements which support the same goal, which in many respects lie behind the co-operation in The International Energy Agency (IEA) and Norwegian participation in it. Criticism of the Norwegian approach to OPEC was heaviest before and at the time of the implementation of the policy. From the viewpoint of the oil companies the Norwegian line seems to have gradually won a certain approval and respect. Thus far the price trend has given this branch of the energy industry better profitability, at the same time as the price level remains moderate. Not least it is the hope of stability within the market which has enabled the Norwegian 'rapprochement' to OPEC to meet with increasing understanding. However, from the Norwegian point of view it is important to stand by the market considerations which lie behind the current policy independently of whether or not one in reality thereby comes closer to an OPEC or a Texas Railroad Commission.

The International Oil Markets and Norway's Role

By Øystein Dahle

The fact that Norway has become an oil-producing country – yes, even an oil-exporting country – has naturally changed our international position and role in many important areas. We can debate how significant we are in the overall international picture, but we can hardly benefit by perceiving ourselves as insignificant or that the strategies of our oil policy are of local concern without international repercussions. On the other hand it is equally unfortunate if we assign ourselves a more central role than is necessary. The balance in Norwegian oil policy is interesting from many viewpoints and from an unpolitical – or perhaps more correctly 'not-political' – angle it is important at the beginning to emphasize that the most important decisions are clearly political. Therefore it is not a question of wrong or right decisions, but to what extent facts and technical-economic assessments fall into place and support or throw doubt on the course one has chosen, especially as regards the approach to OPEC.

The ways of posing the problems in the international oil market can be experienced and handled along many axes. Not least, the time perspective is important; long-term assessments on essential points can be different from those made in the short term. Ideally one should keep to the short-term presentation of the problem so that attitudes concur with opinions and theories about what is right in the long term. That this is not always so easy to achieve is probably an admission that everybody endorses.

In the global picture one of the facts describing today's situation is that there exists a production cartel – OPEC – which has had, and still has, considerable impact on the international price level of the commodity it has undertaken to influence. The cartel has functioned for over 27 years, and

especially in the last half of its existence the behaviour of the cartel has influenced international development to a very considerable extent. As observers we can subsequently comment upon the cartel's decisions and study the obvious consequences of these decisions, since the quite dramatic changes we have been witness to have been open to study more or less like in an economic laboratory. The two key questions which float to the surface in this turbulent picture are first: 'What is a right oil price?' and second 'What is the significance of oil price stability?'

There is unfortunately no straight answer to these questions. But as regards the price of oil, we can ascertain that users and producers in the short-term perspective will have different ideas about what is the right price. For the fixing of prices we can try to imagine a sort of exalted, nearly supernatural information centre which had a total and complete view over access to resources, alternatives, technological potential, international conflict levels, etc. An optimal price trend could thus be established which at the same time stimulated effective use of resources and economic development. Since a high price is the most effective incentive for an efficient use of an achievement factor, and a low price for such an achievement factor in some of the undeveloped countries is one of the few thinkable ways to stimulate highly necessary development, then naturally insoluble dilemmas pile up. Since oil is a resource which can be stored for only a limited period, the dominating line of thought has been that high prices are 'righter' than low. Those having a market-oriented way of thinking could maintain that these superior considerations can be made optimal at any particular time by the market.

The concept of cartel has met with little favour in our local society. Why this method of organizing the market, generally speaking, is not allowed in Norway is primarily because cartel pricing leads to wrong and ineffective use of resources.

In an international context we have some historical examples of cartel activity which have given grounds for the thesis that cartels have a limited working life. The tin cartel with its desperate fight against change is an extremely instructive example in this regard. Many will assert – and rightly so – that oil is an exceptional product in world trade, and that its price therefore deserves special attention. There is little doubt that the price of oil does get special attention, but it is essential in our modern society to realize how a manipulated price can make the whole economic system extremely vulnerable.

I take the liberty of attaching some importance to these general problems by way of introduction because the situation of today and tomorrow can best

be judged according to how the system has functioned historically. It is, for example, quite clear that the strategy of Norwegian oil production became unambiguously and predictably influenced by the price policy which OPEC administered in the 1970s. In 1979 OPEC politicians who set the tone maintained that the high price level was in the world's best interest because with irresistible force it would produce 3 effects:

1. More effective use of energy, that is to say lower energy consumption for the same purpose.
2. Extensive substitution of oil by other sources of energy.
3. More intensive exploration and development of oil resources in areas where the level of costs was higher, for instance the North Sea.

The fact that all these effects combined produced larger results than expected led, as is well known, to the problems of 1985–86 – a problem complex which is classic in the cartel context. Artificially high prices accelerate a development to make the user system independent of the cartel-controlled product, thereby exposing the cartel to dramatic strains as regards efforts to limit production. It seems reasonably clear that the consequences for the market caused by the period of high prices were markedly stronger than the planners calculated. The consequences for the price of oil arising out of the volume strategies in the second half of 1985 and the first 7 months of 1986 were also much more powerful than most of the cartel planners assumed. Today we have at our disposal background data of great value for further assessments of price strategies, and at the same time we have insight into certain factual situations, which undoubtedly will have some bearing on the future development. To what extent OPEC, with the more or less binding fellowship which characterizes this organization, has control over the course of development without expanding its alliances with other oil exporting countries, or whether more or less tangible declarations of solidarity from the surrounding world are 'necessary' for OPEC, are questions to which we have no answer today, nor can we expect to have one. In the meantime, it is obvious that OPEC can be expected to put considerable pressure on countries with concurring policies regarding their basic resources, even for internal reasons alone. One of the factors in this complicated picture which has considerable significance for the future is that a large part of the remaining proven oil reserves are situated inside OPEC controlled territory. Saudi Arabia and Kuwait have together approximately one-third of the proven reserves or over 250 billion barrels of oil. Even more important than the dominating position these countries have with regard to volume is the fact that most of this oil can be produced for less than USD 2 a

barrel. With the assumption of a freely chosen actual price of USD 20 a barrel over the whole production period, these resources represent more than 4500 billion dollars in net income. Economic resources of this magnitude naturally represent a formidable source of power in all international evaluations of the overall picture.

Another important state of affairs, which could surely be characterized as a special factor, is the American oil reserves. The relatively modest proven oil amounts (ca. 25 billion barrels) or the yearly local production (ca. 4 billion barrels) reveal strategic problems as regards resources with perspectives reaching a long way outside the US borders. The U.S.A.'s terrible dilemma is that of quickly increasing dependence on imports accompanied by low prices and a strong deterioration in the trade balance accompanied by high prices: Nevertheless, for the U.S.A., high prices are necessary to extend the horizon of its resources to harvest the enormous potential for greater effectiveness and to get ready for the fluid, synthetic alternatives for which the they have an excellent starting point, technologically and resource-wise.

In a global perspective of high-level politics, there is also an element of oil prices having an influence on the behaviour of the Soviet Union in the international arena. With 60–80% of export earnings generated in the energy sector, it is obvious that the world price level is of strategic significance, because a fall in prices cannot easily be compensated for by increases in volume. The disappearance of export earnings can thus have obvious consequences for political détente.

The international consequences of different price trajectories is, in other words, unclear, divergent and complicated. It will not be possible to establish a 'right price' within the international structures and with the protagonists we have today.

Norway has, then, every reason to be preoccupied with good international relations, both with regard to the organization which controls the oil production and with regard to the equally logical partners in the industrialized part of world society. Hitherto the political process in this country has steered with a great degree of shrewdness and elegance through the minefields which have clearly existed. Our relations with OPEC by all appearances are excellent in spite of the steady and continuous increase in production from the Norwegian continental shelf. Our relations with IEA/OECD etc. are reasonably good because of this very increase in production and not least the exceptionally skilful opening move for co-operation on markets, namely limiting exports with the help of emergency storage. Norway has played the role of a walk-on with great skill and we have

received sufficient attention on the international scene for us to interpret our strategies as successful. And in a political perspective the results so far must probably be judged as successful. However, it is both tempting and necessary to question the necessity of measures to limit production in Norway, and to ask what the price level and relations would have been with an alternative strategy. Because it is not possible to test more than one strategy at a time, an evaluation must be made here, and it is important to emphasize that I am putting forward assessments and not facts. In addition, it is important to emphasize that they are assessments from a local observer familiar with Norwegian and international oil circles, rather than views emanating from an international oil company.

The two most important considerations which suggest that measures to limit production should have been avoided are, firstly, ill-judged political interference in what we could call commercial reality. Although there is definite acceptance and understanding of the boundaries that the political authorities have set with regard to an activity of the format of oil business – this applies in particular to the tax rules which regulate the distribution of the basic revenues from the operations – a new dimension of uncertainty is created when the very high investment costs in Norwegian projects are deliberately and haphazardly underexploited. This means that future investment decisions will be difficult to make, especially if it turns out that limitations on production are of a more permanent nature.

This brings us to the second point relating to the problem of duration. A measure to regulate production is difficult to dismantle. And with a global overproduction capacity far into the 1990s, it is reasonable to assume that high oil prices for a long time ahead will be dependent upon the organized unwillingness to utilize available capacity, in other words, production quotas will be the order of the day. During the late summer of 1987 we have witnessed that the production cartel has exceeded its quotas quite considerably, probably by as much as 2–3 million barrels per day in overproduction. The Norwegian production curtailment of 80 thousand barrels per day will not be easy to justify or to implement.

If we presume – and we are permitted to do so – that the Norwegian production curtailments directionally, and essentially for psychological reasons, contributed 'positively' in 1986–87 to the trend towards higher oil prices, what then would be the consequence of dismantling the system? If dismantling had greater negative effects than the positive effect of the original decision, the total effect is negative. This evaluation is complicated, but tends towards the postponement of dismantlement, in other words towards the establishment of permanent arrangements to avoid the clearly

negative reactions 'normalization' of the Norwegian production level will always be met with.

The situation which can very easily arise – and which in reality has already arisen throughout the late summer of 1987 – is that Norway as a credible and reliable 'partner' is left sitting with an impossible assessment once the grounds for the 'contract' have been abandoned. The basis for the 'contract' was namely that the production cartel should limit its production to a stated level which has now clearly been exceeded by a volume of production which probably has a magnitude of 20–30 times Norway's contribution. In the present situation, Norway can point out that it feels itself absolved from its curtailment obligations since even the psychological effect is drowned in OPEC's overproduction. This message can of course also be conveyed in the form of a threat to the effect that Norway will reverse its decision to curtail production if the cartel does not reduce its level. The latter form of communication, no doubt, overestimates Norway's real influence in the complexities of the case and underestimates likewise the extremely complicated system which ultimately fixes the levels of production of the different countries. One could very well imagine a reverse situation where Norway is criticized by the production cartel for its underlying production increase and that it strongly urges greater curtailments. Such a development would not be totally unexpected, firstly because OPEC could again wish to direct attention away from its own problems, and secondly because Norwegian production demonstrably increases at a steady rate and will continue to do so for a good while yet.

The fact that the short-term increase in production in all essentials is caused by Gullfaks/Oseberg, where the investment decisions were made in a completely different climate is hardly any important extenuating circumstance, though it ought to be so. In a longer perspective production will increase because the investors of today who make investment decisions believe that the fundamental realities of the oil markets will result in adequate prices when production starts up so that there will be a reasonable return on their investments.

The insoluble dilemma of the authorities illustrates in an effective way what a mess they are in, and bears witness to the problems of politicizing a commercial decision-making process.

The Organization of Oil Exporting Countries has been through a difficult period. The Organization's problems are far from over, but seem to be more manageable in a vision of the future when demand for OPEC oil will be on the increase. At the same time one may assume that the Organization's future role will be somewhat simplified with the recruitment of certain new

logical members. This applies to, for example, Egypt, Oman, Angola and perhaps Malaysia. But problems still remain for an organization where its member countries do not have so very much in common apart from exporting oil. The quota principles and control arrangements, price system and the mechanisms of volume balance, price differentials between different crude oils, and not least the problems connected with vertical integration – all these types of problems add to the other internal tensions and make the process of reaching agreement extremely demanding. But the future belongs to OPEC because the oil reserves are so geographically placed that the organization to an increasing degree will dominate the oil market. The fact that Norway will make the most of oil's probably increasing price in the 1990s is in no way sinful, neither should it be accused of free-riding. Norway as an oil producer will never become a member of OPEC for obvious and absolutely logical reasons. Norway will belong to an unorganized pattern of producers outside OPEC which has been deliberately christened non-OPEC. It will have to make up its mind about a number of international obligations in many directions which its basic resources and economic strength justify. However, there will be significant commercial risk elements, especially as regards price swings, and the political and commercial operation fields will need clarification. The aims should be to avoid unnecessary political intervention in commercial decisions.

Although I have another opinion as regards means, this does not mean that I do not have respect and admiration for the way the chosen strategy has been administered up to now. My main point, however, is that we logically belong to another constellation than that of OPEC, where production must be seen in another context and where the roles as regards markets are different. OPEC's common task is to prevent oil prices from falling too low; non-OPEC has the task to prevent the oil prices rising too high. It is in the field of tension between these blocks that reasonable price stability can be secured. Thereby, market forces can be given the opportunity to influence, but not completely dominate the price trend for such an important raw material as oil.

Oil in Norwegian Foreign Policy: A Vital and Unavoidable Component

By P. Godec[1] and A. Allard

The last two years have been a decisive period for most oil-related countries. The stakes involved in the oil game have become more obvious to all the players and especially to Norway. This new degree of consciousness has apparently developed within a relatively short time frame in 1986. But the making of any foreign policy is usually a continuous process, taking into account internal constraints as well as external pressures. This pressure is a mix of ideas, models, power relationships and historical evolutions.

The "oil card" question, like the relationship to EEC in the early 70's, introduces a dilemma into Norwegian affairs, internally for the creation of wealth for the nation, externally for a new positioning in international politics. This dilemma stems from the opposition between traditional thinking related to economy and diplomacy and new economic and international realities, as well as from contradictory political influences, memberships or interest.

The 1986 crisis and the Norwegian response

Following a change in strategy (market share *vs* price defence) initiated by the Gulf Countries and accepted by all members in december 1985, the price of oil went down from 26 to 10 dollars per barrel within a few months. High oil prices had, with some delay, generated counter-trends: rising non-OPEC productions and lower consumption by the industrialized world; but the recognition of the new situation outside OPEC and even for some of its members didn't occur until the deliberate price decrease of 1986.

Norway's attitude had so far been one of a marginal free-rider whose oil production was slowly increasing in line with the rest of non-OPEC producers. Some events linked to Statfjord production and pricing showed a lack of willingness to co-operate with OPEC. Oil-related activities then represented 20% of Gross National Product and 37% of total exports.

The oil crash, together with the Government change led to drastic revisions in Norway's foreign and economic policies. The new Minister for Petroleum and Energy, Arne Øien, introduced a percentage limitation of oil production in clear support of OPEC search of price stability and market control; this unilateral move was then said to be valid for an oil price above USD 10 a barrel and dependent on OPEC's cohesion. At almost the same time the fiscal frame was changed to facilitate long-term gas development (Troll/Sleipner).

This crisis, if judged by Norway's response, must have brought some learnings worth acting on. It had a tremendous effect on State income: the financial threat aimed at high cost newcomers has indeed been effective. It demonstrated active leadership from Saudi Arabia as well as it tested the possibility to replace Iran and Iraq in case of crisis. Finally, it allowed the measurement of price demand elasticities on different markets, for example the OPEC sales gained 10% on the period due to the new strategy.

On the commercial side, Norway will have more and more weight on the European market in the near future, in competition with Libya, Nigeria, the U.K. and Gabon, especially for the high quality crudes. Its net export capacity is likely to grow from 0.8 to 1.3 million barrels a day while during the same 1987–91 period the U.K. will probably see its exports reduced to 0.5 million barrels a day. Norway will be one of the few countries to significantly increase its market share from now on.

Internal constraints affecting foreign policy-making

Traditional foreign policies are usually the expression of long- term internal constraints on which a consensus exists (fisheries or agriculture protection for example). Oil developments have generated new problems for which consensus is far from established. This has led the politicaly-minded into classifying oil-related problems as purely commercial/economic and therefore not to be embodied into foreign policy. This separation may be perceived as abusive by the main participants of energy politics in relation with Norway.

The pace of offshore development has been a recurring example of such

internal/external conflict in foreign policy-making. The proper balance between the oil sector and other industries or between different regions will usually result in an internal compromise; such compromise does not lend itself easily to foreign influence as was the case within IEA at the end of the 70's.

At the same time, the level of oil activity reflects the level of risk Norway as a nation is willing to accept; it is therefore not irrelevant to appreciate the effect of crash price scenarios when such level is to be set.

With corresponding effects the type of relationship between marginal oil revenues and social spending may affect the type of price/production attitude set by the Ministry of Petroleum and Energy.

Internal constraints will be taken into account partially through political processes involving representative and decisional bodies in charge of foreign policy; the determinants of Norwegian foreign policy have, however, in the past been more linked to external influences, powers and political models.

Oil international politics: What role for Norway?

A. The Western Influence

Norwegian foreign policy aspects related to energy aspects have been strongly influenced from 1973 by its traditional links to Western Alliance countries such as the U.S. and Great Britain and organizations where their influence is dominant, like NATO or IEA. Not surprisingly, political advice from these countries has not been always fully consistent with Norway's economic objectives as an oil producer and exporter.

Today the U.S. aims at an oil price between 10 and 20 dollar per barrel (Herrington 1986 visit) while Norway would certainly like to see the second figure attained to avoid hard financial and social arbitrations. The American line is aiming at short- term effects which need not be shared by Norwegian policy-makers (U.S. trade deficit, USSR hard currency weakening, Arabic countries/Israel's relative wealth...).

Another aspect of this influence has been the reference to liberal economic theories wishing to see a "free market" for oil (and corresponding low prices). However, this applies mainly in the American meaning to basic commodities to be imported but not to more elaborated or technological products. Gas is still regulated in the U.S. while refined products cannot be imported freely. Finally Europe, representing 95% of Norwegian oil and gas exports, is a customer less vocal, paradoxically, on free market necessity.

Being aware of such potential contradictions, Norway has sought only an

associate membership within IEA. This organization at the time insisted strongly on a higher pace of Norwegian development; in retrospect Norway should be glad not to have followed such advice: the price downturn would have occurred probably sooner with greater negative impact on the Norwegian economy and society. It would in fact have brought new oil capacity on the market when demand itself was decreasing.

This raises the question of lead time effects in the oil industry, particularly true for offshore developments. Accelerated paces of capacity creation run the risk of offering oil at a time when it is less rewarding. The timing and price risks present in the oil industries have pushed companies and later producing countries to co-operate (joint ventures) to a much greater extent than in other industries. Co-operation, more than hostile short term policies (on both sides), will bring continued growth on a world basis.

B. Relationship With Other Exporting Countries

Looking back at 1981/82 Norway should be happy that economic realism was not represented at OPEC meetings. A market share strategy applied from that date (USD 13 a barrel for example) would have meant 100 billion NOK lost in the 1983–85 period. The sheer size of 1986 lost revenues indicates that cooperation with OPEC is a price Norway can afford to pay. Other countries in similar situations have moved even quicker to support the volume control burden: USSR, Egypt, Mexico, Malaysia, Oman and Angola. To different degrees all these countries are producing at higher cost and are relatively new on the market.

Among the potential countries at the periphery of OPEC, only Great Britain has not followed suit: its economic position is quite different, oil representing only 7% of its exports; in addition, its economy is fairly neutral to price changes and its export surplus will soon decrease. While isolated in front of OPEC, the British Government doesn't seem to be willing to change its position.

Two main reasons explain the recent successes of OPEC in widening their market grasp: the potential retaliation cost and the change toward a purely commercial/financial attitude by comparison with the political excesses of the 70's.

C. A More Active Role For Norway

From what has been said so far one could infer that Norway has only responded to constraints and pressures without taking any initiative.

In the 70's Norway tried to promote global North–South dialogue on energy issues within the United Nations framework. This was possibly premature: the different actors had not experienced the ups and downs of the market price; expectations on both sides are now more realistic. In the line of the Nordli initiative, new contacts could be established.

Norway's uniqueness lies in the fact that it is both a western industrialised country while at the same time having most characteristics of net exporters; while economic compromises have to be found between two groups of countries (industrialized consumers *vs* developing exporters) Norway has to find this balance internally, between its oil-related sector on one hand and its industrial sector on the other. It is therefore well placed to advocate "both sides of the coin". It is probably the best ambassador each group could find to approach the other.

This would certainly be a challenging task, and position Norway as a key player in international oil politics. It will necessitate a balanced credibility towards both sides. One difficulty could arise, and could weaken such credibility *vis-à-vis* OPEC producers: it will soon become obvious that Norway's oil production increases steadily (0.8 to 1.3 million barrels a day export capacity increase up to 1990.) Arguments will have to be found to demonstrate that such increases were unavoidable (lead times) and are less important than could have been expected (queuing decisions).

Norway's role could then be one of a mediator on a Northwest-Middle East axis. The proper setting for such an initiative could be an International Conference on Energy: Norway is well-placed to convince the different participants, especially the U.S., of the opportunity of such an initiative. It would also require a reinforcement of permanent diplomatic activity as an associate member of IEA and as an informal supporter of OPEC.

In defining its own way into international oil politics, Norway's foreign policy has reached a new degree of maturity. Its own interest both in the short and long term will guide it through the paradoxical or contradictory situations that will stem from its unique characteristics. Through energy politics, Norway's role on the world scene could be of greater importance than at any time since 1905: supplying Europe with gas for decades while playing a mediation role on the oil scene in order to stabilize the energy markets in the world: what a role, what a challenge.

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Note

[1] P. GODEC has been President of Elf Aquitaine Norge from 1984 to September 1987; he has formerly been working for the ELF Group in Canada and Nigeria. The views expressed here are the fruit of personal experience and analysis of the authors and do not intend to represent a position set forth by the "Société Nationale Elf Aquitaine".