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#### NORWEGIAN NATURAL GAS POLICY IN AN ENVIRONMENTAL PERSPECTIVE

It is hardly possible to exaggerate the role that energy production and consumption will play in the future. Energy is crucial for the economic life of all states and energy choices are decisive for the global environment.

Energy consumption has grown by a factor of 20 over the past 150 years. Presently the world population is doubling every 40 years. If by the year 2040 10 billion people were to enjoy the same opportunities as our present generation, incomes would have to rise eight-fold, and energy production would have to multiply six-fold.

Whether or not this scenario will materialize depends on how we curb population growth, on wider policy changes and on how we are able to change the existing mix of energy sources as well as the rate of depletion of limited resources.

Our problems will be further aggravated by the increasing need for energy in the South where more than 90 per cent of the population growth will occur. It is crystal clear that we cannot enter this future without a firm commitment to provide sufficient energy for those who need it, and it is equally crystal clear that present energy patterns cannot be multiplied without grave consequences for the environment and the global climate.

The problem is one of over-consumption in some countries and lack of energy in others. Energy policies in many industrialized countries presently drive unsustainable forms of development. They lead to climate change, acid rain, deforestation, flooded valleys, polluted rivers, erosion of our architectural heritage and specific disasters such as Chernobyl and the Exxon Valdez oil spills. Energy prizes and vested special interests support present trends.

37 island states may disappear from the surface of the earth if global warming continues. Coastal areas which contain up to one third of the world population could be devastated within the lifetime of our children and grandchildren.

Faced with these threats, we will have to adopt far more stringent measures with regard to the use of fossil fuels. About 90% of

energy supplies today originate from fossil fuels. Thus environmental improvement in the use and production of fossil fuel will be of utmost importance in the coming decades. Our ability to provide sufficient quantities of environmentally more benign energy will be crucial. We need a radical change towards a more sustainable development.

We need to continue merging economic, energy and environmental considerations. We have come a long way in Norway in reducing SO<sub>2</sub> emissions. Our emissions in 1991 were 70 per cent lower than in 1980, - while in Europe as a whole emissions were reduced by 30 per cent during the same period. Many improvements were made after we implemented the first generation of environmental agreements which were based on equal percentage reductions.

However, such agreements are not capable of achieving optimal results. Clearly, the marginal costs of emissions will differ between sources. Uniform percentage reductions of emissions were therefore not a cost-effective way to achieve environmental goals.

There is increasing support for the need to reach cost-effective solutions to environmental problems and cut emissions first where reductions cost the least. This must be the primary objective of the new generation of environmental agreements. The new protocol on SO<sub>2</sub> emissions which is presently being negotiated is an example of this new generation of agreements. It is based on cost-effective solutions and the "critical loads" concept which takes account of how much acid precipitation the earth can tolerate in various areas.

Implementing this protocol will require use of state-of-the-art technology in existing plants run on coal and oil, or conversion towards the use of the much cleaner natural gas.

Norway played a central role in developing the conceptual framework which now permeates new international environmental agreements. We introduced the concept of cost-effectiveness also in the work on the Climate Convention which was adopted at the Rio Conference last June. The "joint implementation"-concept is another such essential contribution as is the clearing-house concept, and the coordination of measures taken. It means that countries can cooperate in meeting their obligations to reduce emissions. We will continue to advocate cost-effective solutions across sources and sinks, the different greenhouse gases and national borders. Thus, we are advocating the so-called "comprehensive approach".

We are presently engaged in pilot projects in cooperation with the Global Environment Facility, which is the financing mechanism under the Climate Convention. The projects involve Poland and Mexico, respectively, where we are co-financing energy efficiency projects and sharing the credit for the emission reductions achieved.



We are in the process of preparing a national climate policy action plan. The plan will comply with the commitments of the Framework Convention on Climate Change and will form the basis for national strategies in the further development of our climate policies.

Since nearly 100 per cent of Norway's electricity comes from hydro-power, we would have to take a lot of our CO<sub>2</sub> reductions from the transport sector unless other solutions are available. We have no lignite-run plant to close down and we hardly use hard coal at all.

Nevertheless, we have introduced high carbon taxes, equivalent to 20 USD per barrel as for gasoline and the use of natural gas offshore, and 10 USD per barrel for other oil products. In the offshore sector, the tax is intended to contribute to more effective production and encourage technological change aimed at reducing CO<sub>2</sub>-emissions.

Norway is following trends regarding environmental taxation with great interest. Development of new technology will be stimulated when economic instruments are being increasingly applied. That is why we believe that economic instruments should be designed to reflect the environmental costs of economic activity.

The EC proposals on climate gases are of course important. A CO<sub>2</sub> tax rather than a combined CO<sub>2</sub>/energy tax would be the best solution from an environmental point of view. Subsidizing polluting energy, such as coal, is at the opposite end of the scale.

A third generation of environmental policies we foresee would be a taxation system which taxes the different harmful emissions according to the local, regional and global environmental damage caused. Such moves would truly set priorities straight in dealing with the various types of emissions and would integrate environmental damage more fully into the market system itself.

In developing a safe and environmentally benign European energy market, it is also important to deal effectively with the safety and waste issues connected with nuclear power. Also nuclear energy prices should reflect the full environmental and social costs. The environmental consequences of hydro-power are also important, but are in essence entirely local and should thus be dealt with within national borders.

Looking ahead, we are clearly entering a transition period. We do not yet see how a final, sustainable mix of energy sources could be developed, nor how we establish sustainable consumption patterns.

In a period of change, it is encouraging to see that less polluting natural gas is replacing the more polluting fossil fuels in many countries. The collapse of communism unveiled what could have



amounted to virtual ecocide in Central and Eastern Europe. Norwegian gas producers are currently considering the possibility of introducing gas onto new markets in i.a. Eastern and Central Europe, and the energy source projections of the new German Länder are among the more encouraging signs, for all of Europe, and in particular for the people who suffer the most from the mistakes of the past.

### Norway as a reliable supplier of clean energy to Europe.

Let me in this environmental perspective say a few words about Norway as a long-term reliable supplier of clean energy to Europe.

Today we are producing some 2.1 million barrels of oil a day and more than 25 billion cubic metres of gas a year. We are the largest net exporter of oil outside OPEC after Russia. More than 60 per cent of our oil production and all of our gas production are exported to EC countries.

Our current exports of natural gas cover about 10 per cent of the total Western European consumption. Our contract obligations will greatly increase our share in the future. Our present gas sales obligations may amount to the delivery of some 50 billion cubic metres a year at the beginning of the next century.

This is important for Europe and no less important for the Norwegian economy. The petroleum sector contributed 14 per cent of our GDP in 1992, and it comprised 33 per cent of total Norwegian exports in 1992.

These figures illustrate our mutual interests. They also indicate that regardless of Norway's formal ties with Europe, any changes within the EC which will have an effect on the market situation will also have an impact on Norway as a major energy supplier.

The pipelines from the Norwegian Continental Shelf to St. Fergus in the UK, Emden in Germany and Zeebrugge in Belgium are tangible evidence of how closely linked we are to Europe.

With proven gas reserves of some 2800 billion cubic meters on our shelf, or more than half of the combined Western European gas reserves, it is safe to assume that our deliveries and our mutual ties with all of you will remain strong in the future as well.

We believe that substantially more oil and gas will be found. It is our firm intention to provide for long-term security of operations, long-term reliability of deliveries and to engage in the kind of committed partnership and predictability that trade in gas requires.

First and foremost, Norwegian gas producers will have to focus on economy when entering into new gas sales contracts. Since gas



contracts are so complex, so long-term and so important for those involved, the means by which such sales are organized is extremely important.

In this respect resource management is a key issue and a point of departure. Large long-term contracts and the increasing number of smaller fields mean that more than one field is required to supply a major contract. The individual fields which will supply the gas under each contract will be decided by the Ministry of Industry and Energy after the sales contracts have been negotiated between the commercial parties.

This means that sales negotiations take place before the specific gas fields are designated. The growing number of fields and increasing differences between fields call for coordination.

Therefore, coordination is a central element of the Norwegian Government's resource management policy. Coordination is necessary for the optimal use of existing infrastructure and for timing the development of new infrastructure.

Coordination is also necessary for the depletion of smaller fields and to facilitate optimal mix of deliveries from various fields. Our ambition is to provide incentives for low cost developments benefitting all parties, including the individual consumer.

Since 1986, it is the Norwegian Gas Negotiating Committee (GFU) which has organized sales of Norwegian gas. We are pleased with the GFU's achievements. However, the need to make some adjustments has emerged. We need a closer link between resource management and the sales activities. I would like to outline some steps which will be presented to Parliament in order to accommodate a more efficient system for gas disposal from the Norwegian Continental Shelf.

The sellers of Norwegian gas should to a greater extent than today be able to take into account specific supply solutions when they negotiate new sales contracts. We hope to achieve this by identifying the relevant gas fields at an earlier stage than today.

An important aspect of this will be that the Ministry of Industry and Energy will decide which gas fields that will supply the gas under a given contract prior to its conclusion.

The GFU, together with the licensees on the Norwegian Continental Shelf, will be required to provide the Ministry of Industry and Energy with the necessary plans. When the source of delivery has been designated the relevant licensees will be given the opportunity to participate in the sales negotiations together with GFU.

This new system will give the international companies on the Norwegian Continental Shelf greater influence over their own gas



resources. The Government believes that both buyers and suppliers of Norwegian gas will benefit from these adjustments.

### Norway and European energy cooperation.

The next issue I will address is related to the fact that last November, the Norwegian Government applied for membership of the European Community, and negotiations started in April this year.

The EC has been struggling for years to decide whether and to what extent it should develop a common energy policy. It goes without saying that Norway takes a keen interest in all European moves and measures relating to energy. No other country in Europe depends on the EC as an energy market the way we do and no other country can contribute so much to European self-sufficiency with respect to oil and gas.

We know how the Commission last year proposed common rules for the electricity and the natural gas sectors in the Community. However, these proposals have been fiercely opposed by the member states. Efforts are proceeding at a snail's pace and substantial changes are expected. This can hardly be surprising since energy traditionally has been the responsibility of the member states.

Having met such fierce resistance when dealing with downstream activities, the Commission is now venturing into upstream activities as demonstrated by the proposal for a draft directive on petroleum licenses. The Commission apparently seems to find this directive necessary in order to complete the single market.

Norway views this matter in a somewhat different light. Naturally, such a directive would have considerable impact on Norway and little or negligible impact on most EC countries.

Through our system of licensing and state participation we have managed to combine a variety of public and private interests, ensuring profitability, stable deliveries, a high degree of security and strict environmental protection.

Our petroleum policy is designed to attract the participation of international companies. The fact that we have many of the best international oil companies in the world actively participating on the Norwegian Continental Shelf clearly proves that we have reached our policy aims in this respect.

A steadily increasing production level and the high investment level also demonstrate an attractive investment climate for different companies operating on the Norwegian Continental Shelf. Furthermore, the Norwegian petroleum sector represents an open market for competing suppliers of goods and services from many



countries. Approximately half of all goods and services to our petroleum industry are imported.

Our petroleum policy also emphasizes environmental concerns and careful resource management aimed at high, efficient rates of recovery. Our resource management policy has ensured long-term reliable supplies of energy to Europe. It is our objective to continue this policy and its implementation.

It was therefore with considerable surprise that we learnt about the draft directive last year. We do not view the introduction of this proposal as a very positive move shortly before Norway might be joining the Community. The situation reminded us about 1972 when the EC adopted a fisheries policy shortly before Norway was going to make the decision on whether to become a member of the EC. That move in itself had a considerable impact, in my view a decisive impact, on the Norwegian referendum.

It is difficult to see the substantive need for a licensing directive. On the contrary it may make damage to the image of the Community among people in Norway in the run-up to a second referendum.

Through our application for membership, Norway has made its expectations clear that we want to be able to voice our opinion in the formulation of the future energy policy of Europe and that the position of Norway is given considerable weight when regulation of the licensing for exploration and exploitation of petroleum is proposed.

We have the impression that energy-related decisions within the EC today are based on the fact that a majority of the member states are energy importers. To Norway it is vital that the interests of European energy exporters also be given due consideration and sufficient weight. The decision-making process for energy-related matters within EC should therefore ensure that the interests of major European energy exporters are taken into account in a balanced way. The large interest shown in the 14th round of licensing shows that our policy is in good order. Our shelf remains attractive and we intend to keep it that way far into the future.

Finally, let me say a few words about the European Energy Charter.

Ever since the initiative for the Energy Charter was launched, Norway has firmly believed that we need a comprehensive framework for energy cooperation with the Central and Eastern European states. It is indeed an ambitious endeavour to gather the various interests of so many different consumer and producer countries under one umbrella. Norway has supported the idea from the very start and worked to make it a success.



We clearly need incentives for Western companies to engage in energy activities in the new democracies. It is obvious that these countries need to develop their own energy resources and related industries more efficiently in order to provide stable sources of income for themselves, improve their environmental performance, and, especially in the case of Russia and some CIS republics, to supply Europe and the rest of the world with stable energy deliveries.

To these ends we need a stable and predictable framework for investment, technology and management transfers. Without such a framework resources will continue to be wasted, energy production will slow down, and the prospect of reintegrating the new democracies into the world economy will be further weakened to the detriment of growth, the environment and political stability.

Russia is of particular interest in this context. Russian energy resources are important not only in the context of its domestic economy. It is essential, in my view, that present political developments and the process of finalizing important energy legislation in Russia be given due attention and that we need a balanced and viable agreement which will be adhered to in practice.

However, we should be careful in designing an international agreement on energy cooperation which derives too much of its conceptual tools from the world of finance and investment. Most industries can be moved just about anywhere in the world. But access to natural resources contains an immovable element. While the investor needs a large degree of freedom when establishing or abandoning regular industrial activity, petroleum activities and issues of access to resources in the sub-soil are different and complex in their own way.

This means that we need resource management and a policy of sound interaction between private, public and international needs. We cannot deal with the gas industry as we deal with hot-dog stands, or production of washing detergents. In particular the gas industry requires confidence and long-term commitments as well as the larger vision that only private companies and governments acting together can provide.

Due to the dominating size of the petroleum sector in our economy (14 per cent of our GDP), and the fact that the state is by far the largest investor, we have found it necessary to maintain a state company which is an operational tool and which possesses the full range of competence needed to look after the state's investments.

The state thus exercises its sovereign right to its natural resources also by engaging in exploration and exploitation. About 50 per cent of the participation in the licence areas is subject to an open, competitive licensing system. The remainder is kept by the state as owner. All companies competing for licenses, national



and foreign alike, are subject to the same treatment.

Norway applies non-discriminatory treatment in practice for all participation not reserved for the state, and we will be able to work on this basis as long as we retain the right of the state to exercise the right of ownership as I have described it as an integral part of the sovereign rights to resources. There should be room for such a policy in an all-European broad-based multilateral arrangement. If so, Norway for its part would be able to conclude the European Energy Treaty negotiations very soon.

We need a workable all-European Agreement which the Parties will ratify and adhere to. These objectives can be met by an agreement which balances the various upstream and downstream interests, which deals specifically and separately with resource access, investment, trade, transport, etc., and which provides for more secure operations.

To conclude: We believe that our policy is sound, responsible and reliable. We believe that economic considerations, energy considerations and the need to protect the environment calls for responsible people, predictable rules, effective depletion, production and consumption. And we believe that the European gas industry will be doing business with Norway far into the future.