

# The International Energy Situation and the IEA

By Dr. Ulf Lantzke

Reprinted below is the complete text of the Keynote Address by International Energy Agency (IEA) Executive Director Dr. Ulf Lantzke at the International Energy Seminar held in Tokyo on October 18, 1983. The seminar was sponsored by the New Energy Development Organization (NEDO) and the Japan National Oil Corporation to review the national security implications of energy policy.

## Introduction

This seminar is a welcome opportunity to review the international energy situation and to gain a better understanding of the responsibilities governments and individuals have to avoid a repeat of the chaotic energy developments of the past decade. I use the word "responsibility" with care, as I have the impression that many people feel that energy is no longer a major problem and that attention should be focused on more pressing concerns.

Yet we are all aware of the impact political uncertainty can have on the oil market. Lebanon, Chad, the Iran-Iraq conflict, even the Korean airline tragedy, all contribute to political uncertainty. Thus we cannot put the energy problem aside although it is true that we are not facing rapidly escalating prices or politically motivated restrictions on oil supply. Indeed, the present calm in the oil market is to be welcomed by producers and consumers alike. But this does not mean that the energy events of the past decade were just an unpleasant dream. They did happen and we must continue to cope with their consequences in a responsible fashion.

Today I would like to discuss with you the current situation in the oil market and its likely impact on the long-term energy strategies of industrialized countries. I will conclude by looking at the development of new energy sources, which will be the key to energy supply in the next century.

## Current oil market situation

When discussing current oil market developments, one tends to be primarily technical—and perhaps a bit boring to those who do not make their living from changes in the price of oil. This is a reflection of the very large spare capacity which



Dr. Ulf Lantzke, executive director of the International Energy Agency

exists. We have a cushion of some 8 million barrels per day surplus capacity in the world today, in addition to some 3 mbd which I consider "normal" surplus capacity desirable to balance the market seasonally and to cope with technical disruptions in production. Yet we must remember that most of the cushion is in the Persian Gulf.

This situation has had an inevitable effect on the price of internationally traded crude oil. I do not share the views of those who feel that \$29 a barrel is endangering investments in non-OPEC energy sources. Even taking into account inflation, oil

cannot be seen as a cheap energy source. Indeed, to sustain the modest economic recovery which we see in a few of the OECD countries, I would consider it highly desirable that even the nominal price of oil not increase for at least the next two years. However, perceptions of future price developments may be more important than day-to-day developments.

Clearly, those who must purchase dollars to pay for their oil have additional concerns. The more or less steady appreciation of the dollar since the beginning of 1981 has deprived oil consumers outside the United States of the benefit of declin-





Oil tanker Nissei Maru is now used as an oil reserve tank. This is one typical example of Japan's preparation against politically-motivated disruption in oil supplies.

ing dollar prices for crude oil over the same period. If one considers the trend of average crude costs in dollars and in a basket of currencies of six major oil consuming countries excluding the U.S. (France, Germany, Italy, Japan, the Netherlands, Britain), we see that:

- crude costs in the six currencies, as an average, were 6% higher in August 1983 than in April 1981, when the dollar cost peaked. Dollar cost of crude fell by 23% over the same period;

- since May of 1983, crude costs in the six currencies, as an average, have risen 9% while remaining essentially flat in dollars.

Oil is, and will remain for the rest of this century, the key energy source. Any distortion in its market value will have a detrimental impact on the world economy. Clearly, we should not rule out the possibility of politically motivated changes in the price of oil. However, we can minimize their overall impact by achieving a balance among the energy sources we use.

Given the relative calm in the oil market, we have the time to reflect on the basic energy issues confronting all countries. The last ten years saw so much change in domestic and international energy structures that it is natural to examine—with a very critical eye—what has been done, refining policy where appropriate. This is no easy task and I have no

easy answers. I would suggest four areas where gatherings such as this one usefully could concentrate their discussions:

- what new developments are likely to have more than just a temporary impact on energy markets;

- are industrialized countries moving in the right direction as far as energy goals are concerned and how can energy developments in individual countries contribute smoothly to attaining the overall collective objective;

- how can we increase public understanding of what is happening in energy markets, and particularly the oil market, and the possible consequences for economic activity, and;

- what constructive steps would contribute to removing much of the rhetoric which has characterized international energy discussions, enabling persons with differing views to discuss these in a quiet, meaningful way?

## The role of the IEA

I wish now to turn to the role of the IEA. You are all aware of the historical circumstances surrounding the creation of the IEA in 1974, so I will not go over them. However, it is important to remind ourselves of the underlying political objectives which led to setting up the Agency.

The basic lesson which Western political leaders drew from the 1973/74 oil supply disruption was that stable economic growth could not be assured if one energy source continued to play such a dominant role. They concluded that energy security could best be attained by a better balance among energy supplies. To do this we had to get our "energy house" in order. Industrialized countries realized that, given the international dimension of energy flows, and particularly those of oil, it was easier to work together rather than alone.

Since 1974, industrialized countries have been working on two fronts. For the short term, a mechanism has been put in place to cope with a major disruption in the supply of oil. Fortunately, we have never had to use it although we have recently completed an extensive review of the functioning of the allocation system. However, should we have to activate the emergency oil sharing system, I am confident that, through a sharing of available oil supplies and other appropriate measures, we could minimize the overall economic damage of a major supply disruption.

For the long term, efforts have been undertaken to re-structure the way energy is used in our economies. This is a task which will only be completed in the 1990s, assuming we follow through, in a consistent way, on agreed upon energy policies. But one can foresee an energy supply mix



by 2000 where oil and coal are each around 30%, nuclear is at 12%, gas at 17% and hydro and other renewables around 11%.

## Initial progress

It is reasonable to assess the progress we have made and to see if we are headed in the right direction. I say "general direction" because it is too early to know for sure whether the specific policies we are following are correct for the long term. That assessment economic historians will make in the future.

Industrialized countries have made a great deal of progress in using energy more efficiently in the last ten years. I do not know if you would say this was an "opportunity" that the oil price increases gave us or whether it was a necessity they thrust upon us if our economies were to remain competitive. Regardless, I think everyone has gotten the message that oil is a limited and depletable energy resource, which simply cannot meet all incremental energy needs. Indeed, if we look at reactions over the last two years, one might even say that from the perspective of oil exporting countries, not to mention those involved in the oil industry, consumers have taken the message too much to heart.

Nonetheless, in 1983, we are using energy, and particularly oil, much more efficiently than we did ten years ago. The index of the ratio between total primary energy use and gross domestic product (the TPE/GDP ratio) for the OECD countries has fallen from 100 in 1973 to 85

in 1982. If it had remained at the 1973 level, about 14 mbd (million barrels per day of oil equivalent) more energy (of which 7 mbd oil) would have been used in 1982. The index of oil use relative to GDP has fallen even more, from 100 in 1973 to 71 in 1982. In addition, the share of oil in total primary energy use has fallen from just over 50% in 1973 to 45% in 1982.

Not only are we using energy more efficiently, but today more of the energy used in our economies comes from domestic sources than was the case in 1973. Domestic energy production in OECD countries has increased 18% over the last nine years. The most impressive contribution has come from coal (up 152 mtoe), closely followed by nuclear (up 146 mtoe). Altogether, new sources of indigenous energy, totaling about 400 mtoe (million tons of oil equivalent) a year, have been brought into production.

## The tasks ahead

It is fair to say that a lot of progress has been made in achieving a better balance among energy sources, and in using energy, but particularly oil, more efficiently. The Tokyo and Venice Summits in 1979 and 1980 were largely devoted to energy. Looking at their aims, we can fairly say that the industrialized countries have lived up to the challenges identified at the time.

However, the dismal economic performance of the last four years has contributed a lot to reducing energy consumption. We will have to wait until we

have healthy economic growth for several years before we can accurately assess how much of the reduced energy consumption is due to temporary factors. If we wish to avoid unpleasant surprises when energy demand picks up, we must push ahead with realistic alternative energy plans. There are several areas where I feel industrialized countries have yet to take full advantage of the price differential—both current and prospective—between oil and competing fuels.

## Coal

Let me start with coal, an energy source which will play a large role in supplying Japan's energy needs in the decade ahead. I am aware of the very active—and important—role which NEDO plays in promoting the development of coal overseas as well as domestic coal. The long-term orientation of the NEDO program is realistic and necessary if coal is to become a serious competitor of oil. Coal does, however, still face some objective constraints which cannot be resolved in the short term.

I see two major unresolved problems facing the coal industry. First, the conflict between coal utilization and the environment. Coal cannot penetrate further without substantial progress in burning coal in a clean, environmentally acceptable manner. We know that the technology exists and we must find ways to commercialize its use. This is a very important issue as I suspect there is broader public concern about coal use and the environment than on nuclear.

Second, coal producers must convince potential consumers that the price advantage of coal will be maintained in the future. The best way to achieve this would be to develop a competitive, reliable world market in coal, a market in which the price for coal would no longer be influenced so strongly by oil price developments.

A third, related, issue concerns R&D in coal liquefaction and gasification. Two years ago, the High Level Group for Energy Technology Commercialization estimated that synthetic fuels from tar sands, oil shales and coal could reach 1.2 mbd by 1990 if the current government policies were continued. The possible production from these fuels by 2000 was estimated at 3.5 to 8.8 mbd.

These projections look mildly amusing today, but this should not lead us to dismiss the work done by the Group. It is only the time horizon which has shifted by at least a decade. In the latter part of the 1990s there will be an increasing need for synthetic fuels from coal. It would be prudent to continue an active research and demonstration program which would lay the ground for commercialization of coal gasification and liquefaction technologies



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in the 1990s. This will require the building of commercial size demonstration facilities in the next five to ten years so that we will have adequate operating experience when the fuels are needed in large quantities. As you know, these steps are in accord with the recommendations of the IEA's recent technology review on coal liquefaction to which NEDO made a significant contribution. The significant share of NEDO's budget which is devoted to these technologies is very encouraging. Member countries of the IEA will be looking closely at your experience, particularly to the operation of the pilot plant in Australia, and your experiences in developing both traditional and innovative gasification and liquefaction technologies.

## Nuclear

Nuclear energy provides us with one of the best, safest alternatives to imported oil. Yet the exploitation of nuclear energy seems likely to stay well below its technical and economic potential in the 1990s. Broad-based political support for nuclear is weak, particularly in the United States, which has the greatest potential for increasing the share of nuclear in the overall supply mix. Concern centers on the safety of reactor operation, on non-proliferation issues, including that of reprocessing spent fuel, and on the long term disposal of nuclear waste. A failure to put these issues behind us in the next few years will lead to greater dependence on other fuels, particularly oil, and would render overall energy supply less secure.

Japan has made impressive progress in implementing its nuclear program. Between 1973 and 1982, the nuclear share of electricity generated grew from 2% to 17%. Current plans call for this to increase further to about 28% in 1990 and about 36% in 1995. This is a very ambitious program which will contribute in an important way to reducing Japan's dependence on oil and also in lowering the cost of electricity, compared to oil-fired generation.

## Natural gas

Natural gas has been high on the energy agenda the past year. I am not sure that all the public comments aided in achieving a better understanding of the potential role for gas, but fortunately that aspect is behind us now. Most of the natural gas discussion was seen in a European context although issues of security of supply are of equal concern to countries like Japan, which will remain heavily dependent on gas imports. All gas importing countries have an interest in maintaining a balanced, competitive international market

in gas. This will require a realistic assessment of gas needs, and of potential markets. Some of the supply needed for the 1990s will come from projects still on the drawing boards, but much could come from existing sources, if competitive pricing policies are pursued.

## Renewable energy

Let me now turn briefly to renewable energy. Renewable energy has benefited the most, comparatively, from the oil developments of the past decade. Ten years ago the human resources devoted to renewable energy in industrialized countries were scarce, as was our knowledge about their potential. We should not underestimate the impact of the progress that has been made in ten years. True, renewable energy is unlikely to have a large quantitative impact on the energy balances of industrialized countries this century. However, qualitatively, renewable technologies have contributed to furthering our knowledge of energy. Even more importantly, they have helped expand the base of energy technologies which will be needed in the next century.

It is tempting at a time of severe budget constraints to reduce expenditures for renewable energy. This would be a short-sighted decision. I am pleased to see that NEDO continues to devote a considerable portion of its R&D budget to renewable energy. We do not know when the commercial breakthrough will come but we will never find out if the necessary financial backing is withdrawn.

## Conclusion

I would like to conclude by making a few remarks on the current climate in energy policy. There is a natural tendency to use the current oil market situation as a pleasant backrest, to downplay energy issues for a while and turn attention to other problems. In my view, this would be a mistake.

There are two aspects which should not be ignored. The first is that much of the world's oil exports come from a politically sensitive region. There is, for example, always the risk that the Iran-Iraq conflict becomes more than a bilateral affair, which could have a major impact on oil exports from the Gulf area. We cannot take the chance of being unprepared for a possible politically-motivated disruption in oil supplies. Countries which are building emergency oil reserves in addition to company holdings, such as is the case in Japan by the Japan National Oil Corporation, Germany and the United States, are to be commended. The insurance cost of such a policy is minor compared to the

economic dislocation industrialized countries have suffered because they did not have the use of such stocks in 1979/80. While recognizing legitimate competing claims on the public treasury, I would encourage countries which do not have adequate emergency reserves to continue to build them.

Second, we must not forget that the current surplus of oil production results essentially from a decrease in demand, not from any increase in oil production. Oil demand will increase when economic growth picks up on a sustained basis. There are fourteen million more unemployed in the OECD than there were before the 1979/80 oil price increases. Oil demand will pick up when these unemployed return to work.

These two factors argue, in my opinion, for following through on agreed energy policies in a consistent manner. Industrialized countries have put the basic blocks in place since 1974. There is general agreement on the steps needed to give oil a more balanced role in our economies and to accelerate the contribution of coal, nuclear, gas and renewables. Obviously energy policy makers must take into account shifting political priorities. However, we have an obligation to ensure that the key role which energy—and within energy, that of oil—plays in sustaining economic growth is not forgotten.

Japan has recently revised substantially downward the overall energy forecast for the 1990s due to the new demand estimates. But it is encouraging that the basic role of energy, including the importance of developing alternative energies, is well recognized and that Japan is determined to continue its efforts in energy policy.

This is not an easy task in the present climate. It requires a factual presentation which, while minimizing emotional arguments, brings out clearly the political necessity of a balance among energy sources. There are many more people involved in energy decisions today than was the case ten years ago. This may complicate the decision-making process a bit, but in the long run is a good thing. An informed public is necessary in order to carry through rational policy and the energy sector is no exception. I am sure this seminar will contribute to the process. ●

*Dr. Ulf Lantzke is executive director of the International Energy Agency (IEA), a major energy forum for the industrialized countries. He served as the chief of the Energy Department of the Ministry of Economic Affairs of the Federal Republic of Germany before being assigned to his current post in 1974. He graduated from the University of Munster in 1952.*