Energy: Still a Problem for the Health of the World Economy

by Ulf Lantzke, Paris

Introduction

I have chosen the title for my remarks today with care. In 1984 industrialized countries can look at their energy situation with a lot more hope than ten years ago. In 1974, there was widespread feeling that we had lost control over decisions affecting our energy supplies – and particularly oil supplies. There was concern our economies would remain subject to continuing shocks from the energy sector.

We have indeed come through very difficult times in the past decade. Some of the difficulties we could not have prevented; with others we have helped magnify their effects by unwarranted reactions.

As a result of what has happened over the past decade, the public can be excused if it seems a bit confused. Analyses have fluctuated from predicting continuous scarcity to welcoming an endless glut of oil. Neither is true, nor have they ever been correct. To put it quite simply, I think we have come halfway in achieving a balanced energy mix. The easier part has been done; what remains to be done is technically and politically a lot more difficult, especially in the present climate of an easy oil market and a poor investment climate.

This is why I feel energy is still a problem for the world economy. Let me explain why first by describing what has been accomplished and then turning to what remains to be done.
The Role of the IEA

It was at the Washington Energy Conference - just ten years ago - that industrialized countries first got serious about resolving their energy problems. The basic political objective in setting up the IEA went beyond the need for pragmatic measures to deal with major oil disruptions. This was to remove energy as a source of friction among industrialized countries.

It is natural that industrialized countries will have differences of opinion on fundamental issues confronting them. However, the resources needed to cope with the energy problems of the foreseeable future exist within the OECD countries as a group. Therefore energy should not be a source of significant political tension for industrialized countries.

The most important challenge of the IEA is to achieve a better balance among energy sources. The framework of our long-term activities has been the Principles of Energy Policy adopted by IEA Ministers in 1977. The principles implicitly recognize that economic systems differ among industrialized countries. It does not bother me that countries choose different means to achieve a balanced mix in energy supplies. However, I would be worried if all countries were not moving in the same general direction.

Current Situation in the Oil Market

The situation in the oil market today is paradoxical. On the one hand, the key oil exporting region of the world is the focus of severe political tension which could result in the disruption of a large share of the world’s international oil trade. On the other hand, the oil market is characterized by at least 8 mbd of surplus capacity (excluding 3 mbd needed to cope with temporary swings in the market). This glut of oil led OPEC to reduce oil prices a year ago, and I would not exclude further nominal decline unless we have a very strong economic recovery in the OECD.

Latest reports indicate that for the OECD area as a whole the growth in oil consumption – which resumed in the second half of 1983 after a four-year decline – continues at a modest rate. The fourth quarter of 1983 showed a 2.8% year-on-year increase. Current estimates indicate a 2.5% increase for the first quarter 1984 led by the Pacific region. On this basis, and assuming an economic growth rate of 3.5%, consumption in the OECD area is forecast to be 34.5 mbd in 1984 or about 2% higher than in 1983.

There continue to be important differences in regional consumption trends. The OECD consumption growth measured on a year-on-year basis, which resumed in mid-1983, was led by North America. Consumption in the Pacific region also increased albeit at a lower rate, but in Europe it has continued to decrease.
The appreciation of European currencies against the dollar beginning in January 1984 has reversed the trend of rising European crude oil costs, measured in national currencies, which began in April of 1983. As a result of currency appreciation, crude oil costs for five large European oil consuming countries (France, Germany, Italy, Spain, United Kingdom) fell 7% between January and March 1984, while average crude oil costs in dollars remained essentially flat. Over the same period, a 4% drop occurred in Japan.

Progress to Date

One cannot separate the current situation in the oil market from developments over the past decade to re-structure the energy economies of the OECD area. Thus it is worthwhile to spend a few minutes examining the progress that has been made in this area.

In 1984, 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 GDP (the TPE/GDP ratio) for the OECD countries has fallen from 100 in 1973 to 85 in 1983. Had it remained at the 1973 level, about 14 mbdoe more energy (of which 7 mbd oil) would have been used in 1983. The index of oil use relative to GDP has fallen even more, from 100 in 1973 to 71 in 1983. The share of oil in total primary energy use has fallen from just over 50% in 1973 to 44% in 1983.

It is quite informative to look at oil demand in four key sectors. In the industrial sector, oil use fell by 2.1 mbd between 1979 and 1982. Five energy intensive industries accounted for 93% of the total reduction in industrial oil use. The iron/steel and cement industries switched to coal; the paper and pulp industries to both coal and biomass; the naphtha-based petrochemical industry has lost its competitive edge to gas chemicals; finally, the chemical industry has made major energy-saving investments to reduce consumption.

In the transport sector, oil use fell 1.4 mbd between 1979 and 1982. Given the slow pace of technological penetration in transport, it is reasonable to assume that most of the drop was due to higher fuel prices and the recession.

In the electricity sector, oil use has declined 1.5 mbd in the last three years. I suspect that much of this decline is due to decisions made in the early 1970s to switch to coal and nuclear.

Lastly, in the residential/commercial sector, preliminary figures indicate a drop of 1.4 mbd in oil consumption since 1979. Given the millions of individual actors in this sector, it is difficult to pinpoint to reason although efficiency and fuel-switching and behavior changes are the most logical causes for the oil decline.

It is probably still too early to draw definitive conclusions from these numerical results. Some analysts feel confident enough about what has happened to forecast
that much of the oil decline, even up to two-thirds, will not return even with economic recovery. I am less confident. However, because of the significant impact oil trends have on production and prices in the entire energy sector, I place a very high priority in gaining a respectable understanding of what is structural and what is cyclical in the decline in oil demand.

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 17% since 1973. The most impressive contribution has come from coal (up 144 Mtoe), closely followed by nuclear (up 142 Mtoe). Indigenous oil production is up 135 Mt. Altogether, new sources of indigenous energy totaling about 400 million tons of oil equivalent (Mtoe) have been brought into production.

In effect, since 1973 industrialized countries have created twice the energy equivalent of a normal year's oil production in Saudi Arabia. One has come through more efficient use of energy and industrial re-structuring; the other by increasing indigenous energy production. This accomplishment has come about faster than many thought possible or even desirable. It is a direct consequence of the very rapid increase in the value of oil relative to competing fuels.

Unfulfilled Opportunities

Concern has been expressed of late that current oil market conditions are affecting adversely investment in alternative energy sources. There doubtless has been a slowdown in investment, but the energy sector is not unique in this respect. Some of the reassessment probably has led to sensible decisions, such as in the synfuels area where early plans clearly were unrealistic. While on the surface, the oil price increases of 1979/80 should have called for more investment in alternative energy sources, the resulting recession had a dampening effect.

Nevertheless, the energy investment record as I see it is broadly positive. Yet success in one phase calls for higher standards in succeeding phases. There are several areas where I feel industrialized countries have yet to take full advantage of the price differential between oil and competing fuels.

Coal

Because of its resource base in industrialized countries, coal has probably the greatest potential of all energy sources to be a major, reliable contributor to our energy security. It is reasonable to expect that the share of coal in total energy supply
should catch up to that of oil by the end of the century. With nuclear at 12% and gas at 17%, coal and oil could both be in the 30% range. Yet coal will not achieve this share without a change of attitude among coal producers and potential users. If coal is to become a serious competitor to oil, we will need a long-term orientation, sustained effort and a willingness to think and act well beyond the next five years.

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 must maintain its present price advantage compared with oil, or at least a considerable price advantage sufficient to offset other advantages in oil use. 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.

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. It will not be easy to reach or maintain a consensus on these issues. However, failure to put these issues behind us in the next few years will lead to greater dependence on other fuels, particularly oil again, and would render overall energy supply less secure.

Technical solutions can be found to the specific problems which prevent coal and nuclear from achieving their desired role in the energy supply mix. Yet the solutions are unlikely to be accepted without “political” blessing, and elected officials are understandably reluctant to take a position when confronted with confusing, and contradictory, evidence. Energy policymakers, in the private and public sector, would be well advised to present clear-cut alternatives, rather than dwelling on the difficulties to expanding the contribution of coal and nuclear. Further, we have an obligation to stress the factual elements, minimizing emotional arguments. Beliefs obviously play an important role in the process of reaching a decision. But I suspect we would be further along in evaluating technical solutions to problems facing the coal and nuclear industry if factual arguments were given greater prominence.
A related issue which concerns both coal and nuclear is that of electricity. Both these energy sources are best brought to the end-user in the form of electricity. Electricity penetration has slowed down significantly in recent years, for reasons which are not at all clear. We must continue efforts to understand why this is happening if we do not want to risk a serious slowdown in the structural transformation of our energy economies.

Energy as Politics

The last issue I wish to cover does not fit into a neat category and is one on which we have made little progress during the past decade.

In 1973, OPEC put energy high on the political agenda. It has remained there, with positive and negative consequences. On the positive side, we now have closer, more effective working relations among energy decision makers in industrialized countries, within both the private and public sectors. High political attention has stimulated additional energy R&D and led to a better integration of energy and economic planning.

However, politicizing energy has given it a dimension which other factors of economic production do not have. We search for political significance in even the most banal statements of energy officials. Radical changes in analysis, often overnight, have certainly contributed to uncertainty in public thinking. The past is forgotten while the present is always considered a reliable guide to the indefinite future.

Energy will remain a potentially disruptive element in the world economy until we take the politics out of it. This will require sufficient flexibility in the energy supply system that no one source is overwhelmingly predominant.

It also presupposes that producers and consumers have sufficient self-confidence to discuss issues of mutual interest. I would consider it a healthy development if we could arrive at a stage where discussions between oil producers and consumers were so routine as not to attract any media attention. I realize that many in several capitals of the world disagree with this view. However, a calm market provides the opportunity for mutual confidence-building approaches; periods of tension, when we most need established channels of communication, are not the time to build them.

Conclusion

Despite the progress we have made in changing the way we use energy, and oil in particular, energy remains a very crucial factor for the smooth functioning and evolution of the economy. It is in the interest of every country, and of all groups
within our societies, to work to remove energy as a constraint to economic growth. This will require continued investment in a strategy of developing a balanced energy mix and diversifying energy imports.

Energy security cannot be achieved by countries working alone. It will require continued cooperative action by industrialized countries to reduce energy dependence and remove obstacles to the optimal development of their indigenous energy resources.

If policies to remove these bottlenecks and to encourage a secure energy future are developed and continued, we should reach a stage, perhaps in ten to fifteen years'time, when energy has been removed as a constraint to economic growth. Then I hope there will be no need for a talk with the title I have chosen for this one.