

OPENING ADDRESS

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Mr. Chairman, Ladies and Gentlemen,

The invitation to deliver the opening address at your congress here today has caused me great pleasure. The more so as this congress also serves to commemorate the establishment of three Dutch institutions in the field of geology, namely the State Museum for Geology and Mineralogy, the State Geological Survey and the Royal Geological and Mining Society of the Netherlands. I am greatly pleased with this opportunity to congratulate these three institutions on their jubilee. As Director-General for Energy I may be allowed to voice the expectation that the State Geological Survey will continue to perform the function of supporting the Government's policies as excellently as it has done in the past.

Mr. Chairman, I thought it would be useful to devote my speech to this company of geological science practitioners to the energy problem. The subject is relevant, considering the major role played by geology in this field.

The energy problem has been very much in the limelight in recent years. Reading all the publications on this subject in the national and international press would be a full-time job indeed. As a result many people who are interested in energy policies with all the attending possibilities and risks find it difficult to get a clear picture of this comprehensive problem. Therefore I think it will do no harm to dwell on this subject today. I propose to discuss the possibilities in the long run, say the year 2000 and beyond, and to take a look at the nearer future of the Eighties and Nineties.

Starting with the shorter view I would like to stress two points.

First, in short-term considerations the length of the technical and economic lead times for new developments makes it necessary to reckon only with what is known and available at this moment. This means the conventional sources of energy: realistic expectations as to known reserves and non-speculative expectations as to reserves still to be discovered.

Secondly there is the problem of political decision-making which is a time-consuming process.

These two points lead to the conclusion that there is very little flexibility for energy policy on the short term. This period of time must be defined as covering between 10 and 20

years – much longer than is usually meant by a short term.

My starting point for the short-term view is the year 1985. This is close enough to satisfy us all and has the added advantage that many forecasts for that year contain statistical data. I am referring to the many studies carried out by a large number of individuals, institutions, Governments, the EEC, IEA, OECD, etc. They show that the world (and that includes Holland, of course) is going to be confronted with the problem of keeping our society functioning as efficiently as possible within the limits fixed by the available energy. Ninety per cent of this energy is made up of coal which at the moment has far fewer application possibilities than oil or gas. A complicating factor in the availability of the latter two sources of energy are political issues. For this reason high priority should be given to reducing our dependence on oil obtained from politically sensitive regions. Another problem is that a large portion of the known energy resources are found in areas of difficult access and can be extracted only by expensive techniques, many of which still have to be developed.

As a result, production costs per unit of energy will increase rapidly as demand on these marginally productive areas grows. A third factor that is going to play a role in energy production is the weighing of energy output and consumption against interests in other fields which I will collectively call the Environment. Here too we foresee increasing problems, leading to higher production costs and to a delay or a foregoing of the use of certain sources of energy.

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I would now like to comment on the possibility of a concrete confrontation with an oil shortage on the basis of the recent estimates of the Organisation for Economic Cooperation and Development in 'The World Energy Outlook'. The most recent OECD forecast for 1985 contains alarming figures for the oil requirements. When continuing the energy policies pursued in most of the oil-consuming countries since 1973, especially as regards energy conservation and stimulation of supply, the OECD countries will have to import about 1,750 million tons of oil by 1985, which is about 500 million tons more than was imported in 1974.

Assuming that the growth in the oil demand of the non-OECD, non-OPEC countries (that is roughly the developing world) will more or less equal supplies from their domestic sources, the 1985 demand in the OECD countries will amount to 1750 mln. tons of oil, whereas oil consumption by the OPEC countries in that year is estimated at about 200 mln. tons. This means that the OPEC countries have to produce about 2000 mln. tons in 1985.

Technically speaking this can be done, but it would be unrealistic not to mention the many risks involved in the precarious equilibrium thus created between output and demand. Risk factors are:

- (1) The oil-exporting countries may have different views as to the desirable production volume. This could cause grave problems, especially in the case of a revival of economic growth in the Western world.
- (2) Oil requirements in the developing countries could grow faster than estimated by the OECD and thus draw on OPEC production.
- (3) The current policy in the OECD countries to boost supplies from domestic sources and limit the growth of energy demand, could meet with failure.

Such occurrences could play havoc with the previously mentioned calculations, based on the assumption that present-day policies will be continued, implying a large need for capital and a drop in energy demand.

Now are there any ways to improve this gloomy outlook, especially for oil?

The OECD has produced a tentative evaluation of the possibilities.

Bij combined action, consisting of an increase in domestic output and an even sharper decrease in demand, imports of oil could be reduced by about 500 mln. tons to approximately 1220 mln. tons.

This would bring the 1985 level of oil imports back to the level of 1974. I am doubtful, however, whether such a low figure is attainable. In particular I doubt the feasibility of boosting domestic output to such an extent. Developments in the U. S. are significant in this respect. In the first place because the U. S. is the most important energy consumer and a very important energy producer. In the second place because the U. S. experience shows that changes in energy

policy are taking a very long time to decide upon.

This brief international survey warrants the conclusion that the risks of an oil shortage around 1985 have to be taken into account in the national energy policies of individual countries.

I am now coming to the Dutch energy situation.

Gas plays a more important role in Dutch energy supplies than it does in any other European country.

Although new discoveries and foreign imports have made it possible to push back the limits of the Dutch gas supply era, a reallocation policy with regard to certain uses of gas has been in effect for a few years already. Briefly, the aim of this policy is to make our national gas reserve stretch over a long period, that is to say well beyond the year 2000.

When we look at the Dutch energy supply situation the following picture emerges.

In 1975 oil and gas accounted for 95 per cent of the Dutch energy supply, broken down into 40 per cent for oil and 55 per cent for gas. This situation has remained unchanged up to now. If the present policy is continued our dependence on oil and gas will remain at about 95 per cent in 1985. But then the breakdown will be approximately 55 per cent for oil with a corresponding fall in the share of gas to about 35 per cent. This means an increase in the share of oil by 15 per cent and I think I have already made it clear that this is a highly undesirable development. Compared with our neighbouring countries and the U.S.A., Holland will be the most dependent on oil in 1985.

The other countries in our comparison will have to rely on oil for about 45 per cent of their energy needs in 1985, a reliance which will continue to drop instead of mounting. What puts The Netherlands in this special position? There are several reasons, the chief ones being:

- (1) The share of coal in Dutch energy supplies has dwindled to a mere four per cent. An early increase in this percentage is not expected. Coal is used in particular for steam generation and the boilers currently in use by power stations and industry are not as a rule suitable for burning coal. As a result any increase in the share of coal can be effected only gradually as new capacity is installed. However, the present overcapacity in electricity generating plant will not allow a change-over to coal-fuelled power stations before 1985.
- (2) The aforementioned national policy to stretch the available gas resources over the longest possible period of time and to use it only for high-quality purposes such as household consumption and feedstock in industry, as well as in areas which would otherwise suffer too much pollution. This policy also reduces the share of natural gas in the supply of energy.
- (3) The small share of nuclear energy in The Netherlands which, even in absolute figures, will not exceed today's level by 1985.

Altogether, the picture shows that The Netherlands will have a 'two-fuel economy' with a considerable oil share in 1985. Considering the many foreseeable risks of so great a dependence upon oil, this is surely not an enviable position.

What can be done to improve this situation in the few years until 1985 when coal and nuclear energy will not yet offer any solution? The choices open to us are not overwhelming.

- (1) Increasing supplies, especially of gas. Every new find of natural gas resources is welcome. Bij giving priority to the exploitation of smaller gas fields, it will be possible to keep the huge capacity of the Groningen field available for a longer period of time – a useful reserve in emergencies. However, with the present high cost of exploration and production, the smaller fields are less economic. It is recommended that Government policy takes into consideration the possibilities of stimulating exploration and faster exploitation of smaller resources.
- (2) In addition to increasing gas supplies from domestic sources, attention should be given to the possibilities of importing natural gas from abroad, in the form of LNG for example. This too will help us to husband our strategic reserves in the Groningen field.

These two possibilities will not essentially alter the outlook for 1985 since additional quantities of gas obtained in this way will only permit us to make our gas last longer. The effect for 1985 will be, however, that the strategic gas reserve for emergencies is strengthened. This will be a comfort when the need arises.

- (3) In fact the only way to ease our energy situation by 1985 is energy conservation, for which an ambitious programme is now being worked out. The Government will have to make an early decision on policies to save on room heating, industrial energy consumption and central town heating.

It is only after 1990 that a wider range of possibilities to influence the pattern of energy supply will be available. By that time the options will include nuclear energy, provided that the decision-making process starts right now. In The Netherlands especially, the lead time for nuclear energy is an exceedingly long one.

Then it will also be possible to increase the use of coal for steam generation and for industrial purposes as well.

Another option will be the gassification of coal which is a very interesting possibility in The Netherlands as it will enable us to mix high-calory natural gas with the low-calory coalgas to obtain a gas of the Groningen quality.

My conclusion is that from 1990 onwards The Netherlands will be able to switch from a two-fuel to a four-fuel economy

with all the advantages this entails. In addition, alternative energy sources like sun and wind will probably make a modest contribution as well. By mentioning these forms of energy I have come to the longer-term prospects.

I may point out that on the long view enormous quantities of energy will be available. I have in mind the energy accumulated in the conventional sources such as coal, oil, gas and uranium and moreover such renewable sources as sun, wind and water. A lot of discussion is going on nowadays about the last category which may be expected in the long run to play a large, if not a major part in the energy supplies of the future. However, the conventional sources will also remain important in the long run.

You know that coal production in The Netherlands was halted a few years ago, and the remaining European coal industry is in difficult straits. Yet there are still vast reserves of coal: in The Netherlands alone there is a geological reserve of 1500 billion cubic metres. If only a small portion of this reserve could be exploited, the total Dutch demand for energy could, theoretically speaking, be covered for many years. To avoid a misunderstanding I must add right away that these reserves cannot be exploited either today or in the near future. Completely new technologies have to be designed before such a possibility can even be thought of. Such technologies are not available yet and their development will take a long time. This is the catch – the long lead times for technological developments and the huge investments they require are the ultimate determinants of the energy economies which we will have to rely on. The length of these times also stresses the necessity for immediate action if we want to make sure of adequate energy supplies in the long run.

Seeing what efforts are being undertaken in the field of energy research and development all over the world and the intensification of these efforts in the last few years, I must confess that my expectations as to the development of the energy situation in the long run are not pessimistic.

At the beginning of my speech I referred to the supreme importance of accurate information on soil and subsoil for governmental policy-making. Speculative expectations are a feeble basis for a government to act on, which by the way is not only true for energy. Information is indispensable if one is to find the right solutions or decide between what is possible and what is not. For The Netherlands the geological survey of this country is the most essential instrument for gathering such information.

It is my fervent hope that this congress will receive the attention it deserves and will help to spread the insight that the availability of information on soil and subsoil is of crucial importance to decision-making.

I wish you a fruitful congress.