

# Speech Roelf Venhuizen

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## A win-win for the Wadden Sea

To start with, I want to tell you something about mining. The mining sector I represent is based on dead natural systems. We earn our money digging up the remains of past ecosystems. Most of our fossil reserves find their origin in coastal areas where the land continuously subsided. This kept everything anaerobic and well-preserved. Coastal environments bring us together today and still are of imminent importance today. Of course, this applies not only to the fossilised coastal environments but also to the coasts of today.

The environment has always played an intriguing role in the transformation of living tissue into fossil fuel. If our climate had remained constant, the world would not be as blessed with rich underground reserves. Climate change is a very hot topic at the moment, but I can assure you that if you look into the depths, you will see one climate change after another. Climate change is our bread and butter, as it were, because we know better than anyone else under which layer of rock deposits we are looking for, may occur. Without major climate changes, no mining. It is simply a necessity that the residues of dead animals and plants be covered by layers that do not allow the oils and gases to escape. The climate changes of the past were, therefore, needed in order to preserve these deposits.

Ironically, climate changes are also required to produce these deposits today. This time, I am referring to climate changes in human thinking. You may have noticed that public opinion about gas production under the Wadden Sea has been swaying in a different direction for some time now.

With this somewhat jovial tone, I do not want to play down the issue of global climate change in any way. To the contrary: we in NAM and in our parent company Shell take the effect of greenhouse gasses very seriously. We do not take part in "yes it is", "no it isn't" discussions about climate change and its causes. We think that the climate models and events are sufficiently convincing to justify precautionary measures and reduce emissions of greenhouse gases like CO<sub>2</sub>. Particularly if one takes into account the way countries like China and India are growing in an exponential way, in welfare and hence energy consumption. We can not deny their right to reach our levels of prosperity to some degree, but one sometimes wonders whether this planet, our nature, can cope with that enormous growth. I sympathise with the Club of Rome and its vision. There certainly is an unbalance in the fact that we are consuming in the relatively short time of one or two centuries, the amount of fossil fuels that have been formed over tens of millions of years. Natural gas plays an important role with regard to reduce CO<sub>2</sub> emissions. Of course we all want sustainable energy supplies. But the reality is that the worldwide demand for energy will grow explosively during the coming decades. This increase cannot be met by sustainable energy sources alone. All energy scenarios – including Shell's – show that we will continue to use fossil fuels for decades: in the form of oil and natural gas, but also coal. The latter can even be used in a relative clean manner, using gasification techniques such as those developed by Shell. Of all the fossil fuels, natural gas is by far the cleanest. It produces the lowest CO<sub>2</sub> emissions. Natural gas is an excellent transition fuel on our way to sustainable energy supplies.

## Natural gas country

And, in the Netherlands we are blessed with one of the world's largest natural gas fields – Groningen, which you probably know better by its popular name "Slochteren" – as well as around 125 producing small gas fields.

This has led to a broad use of natural gas that is unequalled. In the Netherlands, 98% of the country's roughly 7 million households are connected to the gas grid. Natural gas provides half of our primary energy needs. In this respect, the Netherlands stands out from the rest of the world. Our country is the natural gas country.

This has allowed the Netherlands to move away from coal and domestic fuel oil much earlier than the countries that surround us. This contributed at an early stage to a cleaner environment. And, it enabled us to more or less say a categorical "no" to nuclear energy.

Thanks to the immense Groningen gas field and the broad use of natural gas in our country, the Dutch state is assured of income for years to come: in the form of natural gas revenues. These revenues are now since the early 1960's in the order of 135 billion euros. For those of you who still calculate in guilders, this equals almost 300 billion guilders.

The company I represent, NAM (Nederlandse Aardolie Maatschappij) contributed largely to those government revenues, as it is by far the largest gas producer in The Netherlands. Operating the Groningen field and some 75 small fields onshore and offshore, NAM accounts for some 75% of the annual Dutch gas production. NAM, established in 1947 and equally owned by Shell and ExxonMobil, has 1,800 employees and provide work for thousands of others in contractor and supply companies.

The successful "small field" policy is of great importance for the balanced management of gas reserves in the Netherlands. This government policy was introduced after the first energy crisis in 1974 and provided for small fields being given priority in exploration and production. Some 125 small fields are currently in production, providing over 50% of the annual volume of Dutch gas produced.

The Groningen field was given a balancing function between more-or-less constant production from the smaller fields and variations in demand due to seasons and temperatures. An enormous peak production

capacity is installed at the Groningen field and the connected underground gas storage facilities, to be fully used only a few days per annum. The swing is immense, like in some wader birds, who use up all of their fat reserves in a short period of time to reach the Wadden Sea during migration between Africa and Greenland or Siberia.

Groningen and the smaller fields are closely connected. Without Groningen, the smaller fields would not be profitable, and without the smaller fields Groningen would have been almost empty by now. Luckily during the past decades, smaller fields amounting to almost half of Groningen have been discovered. This means that the Groningen field is still almost half full. If the "small fields policy" is continued, the Groningen field can last for an estimated further 40 years.

The Netherlands is not the only country that places its faith in natural gas from Groningen and the smaller fields. Since 1970, almost half of Dutch natural gas has been exported. Because gas is simultaneously imported, a net quantity of a third of the Netherlands' production flows over the borders.

In Europe, natural gas is the most rapidly growing energy source. It is projected that 27% of Europe's total energy requirements will be met by natural gas in 2020. By 2010, the gas demands by EU countries will have increased to the extent that the EU will become a net importer of natural gas. Already, Russia and Algeria supply a significant part – around a third – of Europe's requirements.

The importance of the Netherlands' own energy requirements, was demonstrated this year by the neighbourly tiff between the Ukraine and Russia. In the whole of Western Europe, supplies of natural gas became uncertain. Due to our unique gas system we could not only easily meet our inland requirements, but Gasunie was even able to offer supplies to other European countries above those that had been contractually agreed upon. In the end, this proved not to be necessary, but it was a reassuring option.

The role of the Netherlands as a gas producer, its existing infrastructure of pipelines and gas storage facilities, substantial knowledge and experience in the area of gas production and distribution, as well as its perfect location at the centre of the European market and the European natural gas network, provide our country with tremendous opportunities to continue playing a leading role in the future of European energy supplies.

#### Wadden Sea gas

How does the production of gas from under the Wadden Sea fit into this story?

The Wadden Sea, for those of you who are not familiar with Dutch topography, is a tidal wetland area in the North of The Netherlands, in fact spreading out along Germany and Denmark. A beautiful and precious nature area, between coast and sea and an essential pit stop for many unique bird species to refuel travelling between their breeding places in the north and wintering in the south.

Under part of the Wadden Sea, there are relatively considerable volumes of natural gas. During the mid-1990's, NAM drilled from onshore locations to six gas fields that are entirely or partially under the Wadden Sea. NAM wants to produce this gas and further explore for gas fields under the Wadden Sea. In view of the fact that production from the current small fields in the Netherlands is expected to decline by half during the next 5 to 10 years, it is essential to develop discovered gas fields – if economically and ecologically feasible. This also applies to producing gas from under the Wadden Sea.

Actually gas has already been produced from under the Wadden Sea for decades. Part of the Groningen field extends under the Wadden area. Near the island of Ameland, NAM has been producing gas since 1986.

Prior to the production of gas from under Ameland, we experienced stormy times. There were initially numerous protests, especially in the 1970's. The province of Frysland, for example, received 25,000 letters of objection during that period.

When a green light was given for the production of the gas – after 12 years of discussions – a period of constructive advancement followed. At the request of the nature conservation organisation It Fryske Gea, an independent commission was set up to monitor subsidence near Ameland, and research could begin. Leading Dutch institutes – including Wageningen affiliates like the environmental research institute Alterra – have been involved and have contributed creative added value. This research project is unique and probably the longest-running interdisciplinary study ever conducted in the Netherlands. The results of the study have been distributed widely and are even available in English and Russian. The 2000 report even received the Alterra Communication Prize for its high quality and openness.

Prize-winning techniques for measuring and monitoring subsidence have been developed and over the years more than 1800 students have spent weekends on Ameland measuring and discussing their findings in the middle of the soil subsidence dish. This includes 75 Wageningen students of 24 different nationalities working in the field of sustainability.

This has given Ameland added value, not only for NAM and Wageningen, but also for our society as a whole.

I am happy that the monitoring study will be continued until gas production ends around 2020.

#### A new social climate

Anyone who thought that the lessons and results from Ameland would have paved the way for new gas production under the Wadden Sea area would be disappointed. Political decision-making since the end of the 90's has proved otherwise.

In 1999, when the Dutch cabinet – after numerous, often emotional, discussions – gave a red light to new gas production, our company was shocked. I think it is no secret that there was a certain amount of bitterness in many parts of NAM.

We thought that we had done our homework well and asked ourselves why all the opponents of gas production wouldn't finally consider the benefits of natural gas production. Had these aspects not been well supported with scientific evidence?

Looking back, I think our company was communicating by megaphone, without listening carefully and showing insufficient understanding for the standpoints of others. We approached the debate too much from our own technical cocoon and paid insufficient attention to the seriousness and nature of the signals from society. Although we had done our technical homework well, this was not enough – many aspects were simply not discussed.

I think that much has changed at NAM under my predecessors. In the sense that the company no longer has its back towards society, but has become more open to the outside world. Discussions have been held with a large variety of parties: government bodies, scientific, nature and environmental organizations, in

general meetings and also in personal contacts.

For a while now, general opinion within NAM but also within society as a whole has been shifting. This was particularly apparent during the Terschelling conference in January 2003, when around 25 participants from a variety of organisations laid the basis for the development of a new future vision for the Wadden Sea. For the first time in years, all the players sat down at one table. Discussions were held in a serious, orderly way – participants respected the viewpoints of others, listened, and kept an open mind. Gas production was not by definition out of the question.

The participants found that – despite a “hands off” policy – the Wadden Sea was not doing well, and that an integral vision was needed. This led to the setting up of a broad advisory committee to develop the vision, the Meijer Commission.

The commission's recommendation was a breakthrough. Meijer and the other members of the commission decided that primary importance had to be attached to features of the ecological values of the Wadden Sea, but also that human use must be possible within strict boundaries, as long as these features are not affected.

The commission came up with the new concept of “environmental space”, whereby scientists define limits for a certain activity before it is implemented to ensure that it will not cause any ecological damage.

An important aspect was that science played a significant role. Relevant scientists, including several of those now affiliated in the new IMARES, were being listened to again. Science was, in fact, kept out of the highly politicised debate in 1999. At that time scientists were mostly consulted to validate existing political points of view, and not to gain actual scientific insight.

Many scientists found that very frustrating at the time. However, with Meijer, science mattered and the discussion could once again be held on the basis of facts, research and scientific knowledge.

For gas production under the Wadden Sea, subsidence is the issue. As a result of subsidence and sea level rise together, the mud flats could drown if critical thresholds are exceeded. This could lead to less surface area and less time to feed. It is therefore of imminent importance that the rate of subsidence – in relation to sea level rise - is not too fast

The “environmental space” in this respect is determined by the sum of sea level rise and subsidence together. Nature may determine sea level rise, but we control subsidence

As far as we are concerned, the choice was simple: we chose the most conservative values on both sides. We also will set up a strict monitoring program for the subsidence to match our prediction and in addition an intensive ecological monitoring will be set up. This builds in a double safety margin – in addition to a precautionary hand on the tap and a supervising commission, like for Ameland.

This approach, as well as extensive consultations in this regard, resulted in broad support. NGOs are able to agree with it and see their concerns, wishes and views reflected in the permits we applied for and the permit conditions we accepted.

Through open dialog, respect of each other's positions and primacy for science, a dossier that had run aground could be reopened. And, the Wadden Sea is the winner: an incredible amount of knowledge came available; a new set of instruments came in place to evaluate activities in the area; the objective sustainable conservancy got meaning and contents and at the same time, large funds have become available for restoration and new research.

#### Win/win situation

Courage was required on the part of all the parties involved, not in the least part the NGOs, to make gas production from under the Wadden Sea a topic that could be discussed. I think this has led to a real win/win situation.

Just as we did on Ameland, we are standing at the beginning of a new road. A supervisory commission is being set up for the new gas extraction, too, which will work closely with a mix of local and national institutes. It offers a new basis for measurements and increasing knowledge.

In addition, the closing of the discussions surrounding gas production has become the starting point for a much larger challenge: the rationalisation of knowledge and the data infrastructure for the Wadden Sea as a whole. NAM wants to play a leading role in this and also sees a leading role for NWO (Netherlands Organisation for Scientific Research).

You may well ask: How are Assen and Wageningen connected? In the first place, the coast and the sea play an important role for both of us. This leads to dependencies where expertise and interests coincide, but it also imparts responsibility.

Ameland can already provide sufficient examples of mutual interest and the added value of interdisciplinary knowledge. Another example of added value I would like to mention is the involvement of the new Wageningen institute IMARES in the monitoring of the Shell / NUON wind park that is now being built offshore Egmond. Here too, use is being made of experiences garnered from the monitoring of offshore drilling and production facilities.

The Wadden Sea debate and the questions that have arisen regarding the future of this beautiful area represent a challenge to all of us.

Preserving the ecological and economic significance of the Wadden Sea will require responsible and efficient management of the available funds, scientific data and unique natural environment. I think is a message to keep in mind as you start a – I trust successful - academic year. Thank you!

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