Dinner speech & conference wrap up

J.A.Oele

First day convener and former Managing Director NAM

Dinner speech

Ladies and gentlemen,

These days we celebrate the 40th anniversary of the discovery of the Groningen gas field, a true world giant. It has been said many times before, that this discovery put the larger North Sea basin on the world map and gave an important push tot the development of the upstream gas and oil industry in the North Western Europe. However, it was not the first time that natural gas was discovered in the province of Groningen. In 1923 (yes, 1923) in the village of Overschild natural gas was discovered. However, it was a modest deposit of marsh gas, quite common in the northern provinces of the Netherlands. Its location on top of the Groningen field appears to be purely co-incidental.

The technical background of the Groningen discovery has been presented in numerous publications and also during this conference further insight will be given on the present knowledge of this field and it's surroundings. I'd like to say a few words concerning the circumstances, that made this discovery possible, confirm or otherwise add a few new tales and possibly a number of rumors around this very important discovery.

A few remarks on the overall situation of the E&P business in the late fifties. Vast amounts of oil had been discovered in the Middle East and as a consequence crude prices had dropped considerably. Exploration budgets were reduced, companies almost stopped hiring and in quite a few companies staff reductions took place. (Haven't we heard this recently?) In spite of this background, the fifties must have been a great time for the explorers in the Netherlands. A few concessions under the Mining law were issued, but the rest of the country was free game for all: an enormous incentive for active exploration. These hectic activities led at times to remarkable exploration strategies. For example, on the island of Ameland three different operators were drilling three exploration wells (That was still possible in those days!). The wells on the western and eastern part of the island clearly went for a structural high at the target level. The well in the middle of the island however, aimed according to some, at the target in a structural low, i.e. synclinal position. In one particular exploration office the theory of heavy gas (i.e. heavier than water) was immediately developed in an effort to explain this peculiar drilling location. It was, needless to say, a dry hole, while the other two wells were discoveries indicating that the old anticlinal theory is not that bad after all.

Let us now return to the Groningen discovery. The discovery of small amounts of sulphurous oil in the Zechstein in the eastern part of the Netherlands extended the search towards the North. As early as 1955 a proposal was formulated and agreed upon in the same year to drill a well at the Slochteren location. As we know, it took another four years before the well was drilled, possibly indicating other priorities of the operator. It is interesting to note, that the proposal did not carry an agreed total depth and those who say, that the discovery comes to the credit of the tool pusher who was drilling the last bit, are clearly wrong. However, the Zechstein prime objective was totally tight and the well TD'ed 50 meters in the gas bearing Rotliegendes, which by the way was found 200 meters deep to prognosis. The maps at the time indicate a welcome but modest gas discovery. However, when in 1960 a well at a distance of some 15 kilometers of the discovery well encountered the Rotliegendes reservoir again gas bearing the first, be it wild, ideas of a very large discovery were being heard in the NAM exploration offices.

The story goes, that the chief geophysicist, Fred Althuis, having looked at the well results and the maps which indicated small separate closures paced up and down the corridors of the office for hours, before he decided to go to his boss. He then discussed the possibility of a very, very large structural closure and you will appreciate the enormous excitement this brought about. The NAM offices then became a very popular spot for many visitors both from the western part of the country and even from abroad.

It has also been said that the real driving force in the exploration in the North Netherlands was the director of the Geological Survey, Dr. Thiadens, who was particularly interested in the northern extension/confirmation of the Carboniferous coal bed sequences. However, the exploration well Haren had in 1954 clearly proven the pres-

ence of Upper Carboniferous sequences below a thick porous, water bearing Rotliegendes section. Further, nearby penetration points would not really add to a better understanding of the distribution of these Carboniferous rocks. We should also realize, ladies and gentlemen, that in the fifties the relationship between the Carboniferous coals and the occurrence of natural gas in overlying reservoirs was not yet properly recognized. It would take quite a number of years before the Carboniferous source of the Groningen gas was generally accepted. It is not ironical, ladies and gentlemen, particularly in view of Belgian/Dutch folklore, that the first public indications of a giant gas discovery came from a Belgian senator, who had a couple of drinks with the local president of a well known international oil company. The Groningen reserves then started to grow rapidly from 150 billion m^3 in 1962 to 1500 billion m^3 in 1965 and now stand at 2800 billion m^3. Coming back to the early sixties we must certainly give great credit to those, who were prepared to commit to risky investments in a time, when a concession was only granted after a discovery and the penetration of natural gas into the European energy market was virtually non existent. Both Steeman and Bongaerts, the NAM directors in the period showed great vision.

Ladies and gentlemen, some weeks ago it was reported that an oil field in the Gulf of Mexico, Eugene Island 300, was constantly being replenished from an unknown source. The same rumors appeared some years ago in the Dutch press concerning the Groningen field. Alas, was it only true. When it comes tot the distribution of the gas in the reservoir it is true to say that it took quite a while, too long according to some, before the distribution was known, particularly in regard to international borders. But unfortunately no natural replenishment of the field takes place. But if no natural replenishment takes place maybe we can do something about that. Quite a few years ago a letter was received in Assen addressed to the *Nederlandse Aardolie Maatschappij*, in which it was suggested to dump all excess Dutch pig shit into the partly depleted reservoir. Not only would this solve the national pig shit surplus but also at reservoir conditions, additional gas would be generated according to the author of this letter. After a lengthy in-depth study, as is customary in that company, it was decided not to accept this proposal.

I believe, that on its own the Groningen gas field will remain over the next forty years, that is, well into the next century, an important supplier of gas, not only in volume, but particularly in the increasing capacity market.

This brings me to my concluding remarks: Not one particular person can be identified as the discoverer of this great natural gas field. The right ingredients, however, were there: A group of people with inquisitive, curious minds, willing to defend at times wild proposals and even more importantly translate these into success. Some say it is only luck, nothing but luck. To those I quote a statement of a very successful golfer: 'since I started to practice six hours a day, I have become a lot luckier. In other words: if you don't search, you don't find, and if you don't search you rapidly loose the art of searching.

Conference Wrap Up

The organizers have put together a program covering the whole field of the natural gas industry from the subsurface to the end users.

The first day provided an excellent overview of the history of the Groningen gas field and its effect on the energy scene in Europe. The still half-full Groningen field has clearly become the balancing field for the gas consumers in the Netherlands and a number of neighboring countries. To ensure security of supply in the future, both in volume and capacity, a large investment program has started to ensure a healthy life well into the next century: the field has had a beautiful youth and its midlife looks very encouraging indeed. The now mature European gas industry undergoes a rapid transformation towards liberalization under the guidance of the European gas directive. The pace of change in the various member states differs considerably with the UK clearly being the front-runner. The effect of this liberalization and consequently increased competition is not clear at all. According to some, e.g. the Minister of Economic Affairs, lower gas prices will result, a view contested by the Managing Director of Gasunie, who indicated, that the opening up of the markets may well lead to price increases. The decoupling of gas and oil prices and increased gas-to-gas competition may indeed lead to surprises in the market as the temporary reversal of the gas flow in the pipeline between the UK and the Continent has shown. The banker's view indeed indicates a trend away from a pure commodity product towards a premium market, a view supported already a long time by the Dutch Government.

Mr. Lubbers brought the government-take discussions, the relationship with the former Soviet Union in the context of the Energy Charter and the current climate-change debate together in a finale of an excellent first-day program. The technical presentations of the second day and the poster sessions were very well attended and provided a high quality overview of the past, present, and future of the gas industry.

In session 1, Exploration and Field Development, changing approaches were highlighted. In hydrocarbon ex-

ploration, the old axiom of luck and perseverance has and is being replaced by technology, modeling, experience and intuition. The exploration potential of the Netherlands still seems promising, but the activities are increasingly restricted by access limitations, based on more and more stringent environmental directives and laws.

In session 2, Production and Production Facilities, the trend is towards further integration of all aspects of field development with the concept of 'total cost of ownership' being the main driving force. Great progress is being made on the technology side, especially reservoir monitoring and simulation with down-hole monitoring becoming an important tool.

The session on Transport and Marketing highlighted the effects of the liberalization of the European gas industry with an increasing role for the transport segment. New applications of gas in the domestic market were discussed and the increasing balancing role of the Groningen field indicated its importance in the next millennium.

The legal framework of the upstream gas industry and the societal implications of subsidence and the earth tremors related to gas field production were presented in session 4, Society and Energy Supply. The notion of a sustainable gas supply with natural gas providing a bridge between the hydrocarbon-based energy world and energy obtained from truly sustainable sources was extensively discussed in the plenary panel discussion. It is interesting to note, that a number of speakers and posters indicated the increasing importance of new technology in providing new and exciting opportunities in the gas industry as a whole. The organizing committee and session conveners can look back at a well attended, stimulating conference, a fitting birthday present for the remarkable Groningen gas field.