GEOLOGY OF THE NETHERLANDS

Geology of the Netherlands

EDITED BY
THEO E. WONG
DICK A.J. BATJES
JAN DE JAGER

ROYAL NETHERLANDS ACADEMY OF ARTS AND SCIENCES, 2007

INFORMATION AND ORDERS
Edita-KNAW
PO Box 19121, 1000 GC Amsterdam, Netherlands
T + 31 20 551 07 00
F + 31 20 620 49 41
edita@bureau.knaw.nl
www.knaw.nl/edita

Available as pdf at www.knaw.nl/edita

ISBN 978-90-6984-481-7
The paper in this publication meets the requirements of ∞ iso-norm 9706 (1994) for permanence.

DESIGN AND TYPOGRAPHY
Ellen Bouma, Edita-KNAW

TYPOGRAPHY COVER
Françoise Berserik

FIGURES
Department of Geomedia of the Faculty of Geosciences of Utrecht University (many chapters)

INDEX
Bozena van Trigt

TYPESETTING
VTEX, Akademijos 4, LT-08412 Vilnius, Lithuania, vtex@vtex.lt

PRINTED BY
n.v. Peeters s.a., Herent, Belgium

FINANCIAL SUPPORT
Nederlandse Aardolie Maatschappij BV

COVER PHOTOGRAPH
Aerial view of 'Het Verdronken Land van Saeftinghe' (the drowned land of Saeftinghe), presently a tidal area situated along the Westerschelde estuary in the province of Zeeland. The area measures ca. 30 km^2 and was inhabited until the end of the 16^{th} century.
Courtesy of the Ministry of Transport and Public Works (Ministerie van Verkeer en Waterstaat).

Contents

NAM and geology: a long-standing and deep relationship

During the 1930s many people thought that the Netherlands had few underground resources. There were only coal mines in the southern Dutch province of Limburg and rock salt (halite) mines in Boekelo, Twente. Starting in 1943, this picture changed dramatically. The riches lying beneath the Netherlands were discovered.

In that year, the Shell subsidiary Exploratie Nederland discovered an oil field near Schoonebeek in the eastern Netherlands. After this discovery, Shell and Esso decided to jointly invest capital in a new company that would search for and extract oil: the *Nederlandse Aardolie Maatschappij* (Dutch Oil Company), or NAM. NAM was founded on 19 September 1947.

In 1948, NAM made its first discovery of natural gas in Coevorden. A little more than ten years later (1959), NAM uncovered further secrets of the Earth's crust. Near Slochteren in the northern Netherlands, the company drilled into the famous Groningen gas field. This field is one of the world's largest natural gas fields. It originally held 2.7 trillion (2.7×10^{12}) cubic metres of extractable natural gas. This find opened the door to the exploration for and production of natural gas under the North Sea. In 1961, NAM was the first Western European company to drill for gas in the North Sea.

Today, NAM is the Netherlands' largest producer of natural gas. Per year, NAM produces around 50 billion cubic metres of gas. A little more than half of this gas comes from the Groningen gas field and the rest comes from various smaller fields elsewhere on land or in the North Sea. NAM produces around 75% of the total Dutch gas production. Oil is also still being extracted by NAM, although in much smaller quantities than the gas produced. NAM is responsible for around 25% of the Netherlands' oil production.

By using the Earth's crust for storing natural gas, NAM is anticipating future needs. Examples are the underground gas storage facilities in Langelo and Grijpskerk (both in the northern Netherlands), which allow NAM to continue to meet the demand for gas during periods of extreme cold. These gas storage facilities are in empty gas fields. Additionally, NAM is still searching for new gas fields under the Netherlands and the North Sea. On the basis of the gas reserves that have been verified already, NAM estimates that the Netherlands has sufficient gas reserves for another 25 years, depending, of course, on the demand for natural gas during the coming years.

Right from the beginning, NAM has always had an intensive relationship with geologists. This is no different today. NAM still wants to uncover the secrets of the Earth's crust. NAM and geology – a long and deep relationship.