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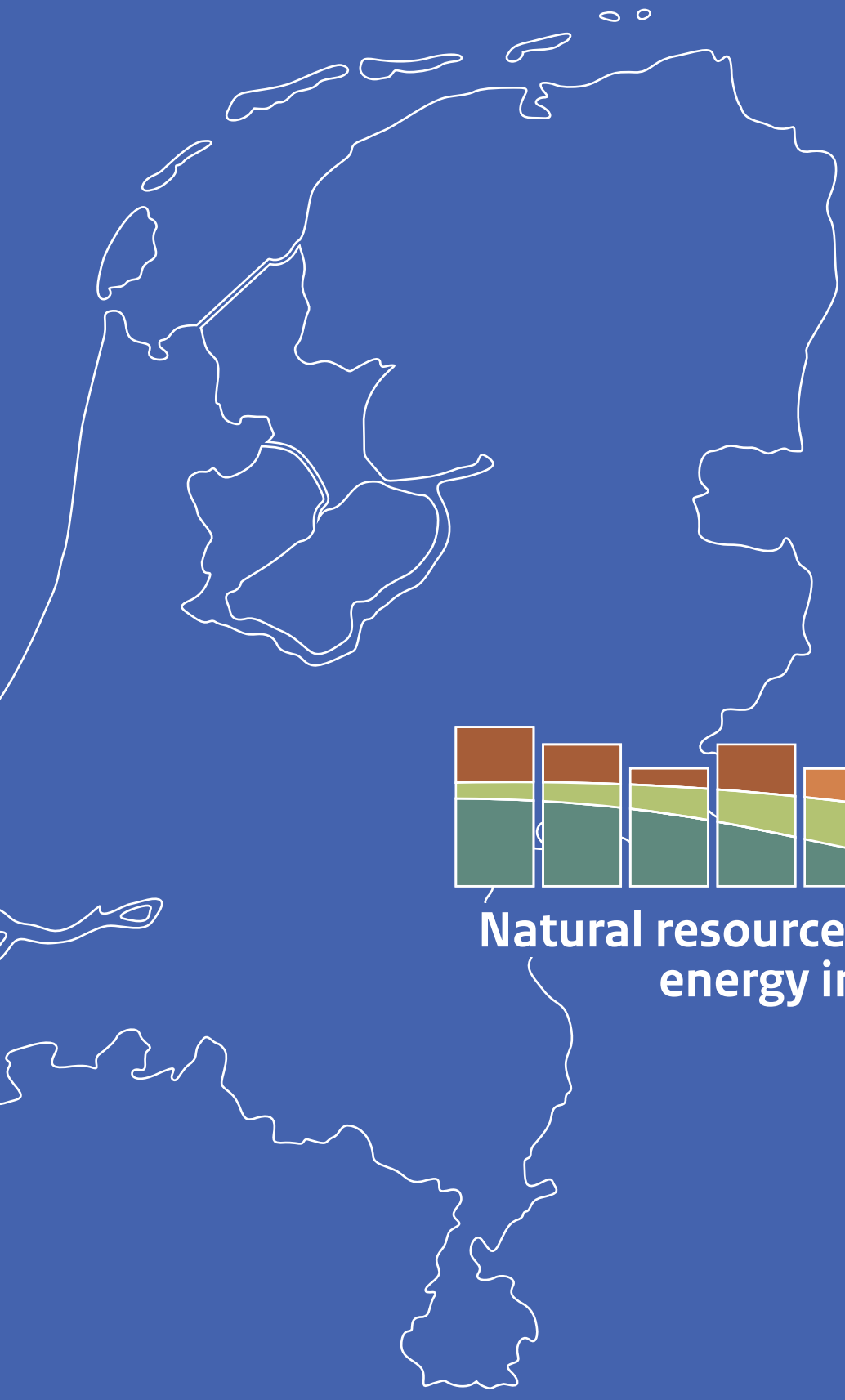

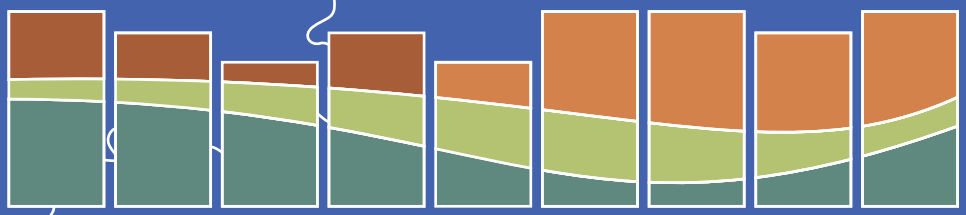

Natural resources and geothermal energy in the Netherlands

Annual review 2025

NATURAL RESOURCES AND GEOTHERMAL ENERGY IN THE NETHERLANDS

Annual review 2025

An overview of exploration, production and subsurface storage.

Den Haag, September 2026
Version 1.0

Preface

You are reading the 51st edition of the annual report "Natural Resources and Geothermal Energy in the Netherlands". The first report was published in 1976, and since then, a new edition has been released every year. In the early years, the focus was mainly on the exploration and extraction of hydrocarbons. While the annual report was traditionally viewed primarily as a factual review of the past year, it has since evolved into an essential reference document covering all mining activities.

Societal and political attention to the Dutch subsurface has increased significantly in recent years. Ongoing geopolitical tensions and disruptions in international energy markets have once again made clear that security of energy supply cannot be taken for granted. In this context, the annual report has become not only more relevant, but also more visible.

Demand for information about the Dutch subsurface remains high, particularly regarding how it can be used for the energy transition, such as the development of geothermal energy, energy storage using hydrogen, and emission compensation through CO_2 storage[1]. Recent motions and policy explicitly focus on encouraging and further investigating the sustainable use of the subsurface, such as geothermal energy, CO2 storage, and energy storage. This calls for reliable and accessible information about potential, activities, and progress. This is precisely where the annual report is essential: it brings this information together. This illustrates the importance of this annual report and of the public information provision supplied by the Ministry of Economic Affairs and Climate.

The Annual Report offers a comprehensive overview of activities and results in the field of exploration and extraction of natural resources in the Netherlands. It also addresses the status and future of underground storage of substances for temporary storage (natural gas, crude oil, and nitrogen) and permanent storage (salt water and CO_2). Thus, all exploration, production, and storage activities in the Netherlands - on land and in the Dutch part of the sea - falling under the Mining Act are reported together.

This year the annual review only contains the developments of the year 2025. Compared to previous years, the overviews will be published as a 'standalone' Excel file on NLOG.nl/jaarverslag. The overviews provide the status as of the 1st January 2026 and the historic developments of the past decades.

The report was compiled by TNO-AGE on behalf of the Directorate-General for Realization of Green Growth of the Ministry of Economic Affairs and Climate (EZK). The annual report includes, among other things, the data that the Minister of KGG must provide to the Dutch Parliament in accordance with Article 125 of the Mining Act. The digital version is available at www.nlog.nl.

This annual report is based on data received from the holders of licences under the Mining Act. Oil and gas volumes are expressed in Normal cubic meters for gases and Standard cubic meters for liquids, in accordance with Article 11.3.1 of the Mining Regulation. Figures in this report are presented in rounded form, which may result in rounding differences in totals. Reproduction of data from this report is permitted with full source citation. No rights can be derived from this report.

[1] The EU's 2030 carbon storage target - European Commission

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Note:

In this annual report, the natural gas volumes are given in normal cubic metres (Nm^3).
'Normal' relates to the reference conditions 0 °C and 101.325 kPa. 1 Nm^3 = 0.9457 Sm^3.

In a few instances, the volumes of natural gas are given in Groningen gas equivalents (m^3 Geq) of 35.17 megajoules gross calorific value per m^3 at 0 °C and 101.325 kPa.
This is explicitly indicated in the text.
Volumes of oil and condensate are given in standard cubic metres (Sm^3). 'Standard' relates to the reference conditions 15 °C and 101.325 kPa.

Key figures

Natural gas and oil reserves and resources

As of 1 January 2026, the estimated total proven natural gas reserves were 65.3 billion Nm^3. Of this, 27.7 billion Nm^3 are reserves and contingent resources in small onshore gas fields, and 37.7 billion Nm^3 in small gas fields at sea. See Chapter 1 for details.

Compared with 1 January 2025, the natural gas reserves have decreased by 5.6 billion Nm^3, due to gas production (-8.1 billion Nm^3) and the re-evaluation of a few fields (+2.5 billion Nm^3).

The total oil resources as of 1 January 2026 were 13.8 million Sm^3, of which 9.0 million Sm^3 are reserves and contingent resources in oil fields on land and 4.8 million Sm^3 reserves and contingent resources in oil fields at sea. See Chapter 2 for details.

Natural gas production

In 2025, natural gas production from Dutch gas fields totaled 8.1 billion Nm^3. Small gas fields on land accounted for 2.2 billion Nm^3. Fields at sea produced 5.9 billion Nm^3. Total gas production in 2025 was 4.8% lower than in 2024. See Chapter 3 for details.

Crude oil production

In 2025, a total of 0.365 million Sm^3 of crude oil was produced, 4.5 % less than in 2024. Oil fields on land produced 0.101 million Sm^3, a decrease of 17.2 % compared with 2024. Production at sea was 0.264 million Sm^3, an increase of 1.5 %. See Chapter 3 for details.

Condensate production

In 2025, a total of 0.09 million Sm^3 of condensate was produced, 14.2 % less than in 2024. The field on land produced 0.05 million Sm^3, a decrease of 10.0 % compared to 2024. Production at sea was 0.04 million Sm^3, a decrease of 18.4 %. See Chapter 3 for details.

Subsurface storage

On 1st of January 2026, ten storage licences in effect. In 2025, one storage licence for hydrogen on land was granted. At sea, one exploration licence for storage of CO2 was applied for and two storage licences for CO2 were applied for. See Chapter 4 for details.

Geothermal energy production

In 2025, cumulative reported geothermal energy production was 7.737 PJ, an increase of 0.246 PJ compared with 2024. Since 2008, a total of 62.613 PJ of geothermal energy has been produced. The total number of geothermal production installations (excluding Mijnwater Energy Plant Heerlen) is now 33, of which 25 were operational. See Chapter 5 for details.

Salt production

As of 1 January 2026, there were 16 active production licences and no exploration licences. One application for a production licence from a previous year is still pending. Rock salt production in 2025 amounted to 5.315 million tonnes. See Chapter 6 for details.

Coal

In 2025, there were no developments regarding coal mining. The number of active coal production licences remains at five. See Chapter 7 for details.

Hydrocarbon licences

In 2025, three exploration licence applications on land were under review but no applications for a production licence. Four exploration licences were revoked or relinquished. The extension of three exploration licences was refused, and for one application of an extension legal proceedings are ongoing. One production licence on land was granted. See Chapter 8 for details.

In 2025, two production licence applications at sea were under review but no exploration licence were applied for. In 2025 one exploration licence was granted at sea. Three licences were extended, including one exploration and two production licences. Seven production and one exploration licences were reduced in scope. Finally, three exploration licences and one production licences were revoked or relinquished. See Chapter 9 for details.

Geothermal licences

In 2025, two applications for a licence for scientific research and centralised policy were under review. Two such licences were granted, and three were withdrawn.

During 2025, two geothermal search area allocations were granted and eight were extended. For six geothermal search area allocations extension only the remaining area was extended. Furthermore, 9 geothermal search area allocations were revoked or withdrawn. Eight start-up licences for geothermal energy were extended in 2025. In total as of 1 January 2026 8 start-up licences for geothermal energy are applied for and 17 are in force.

In 2025, 6 follow-up licences for geothermal energy were applied for and 20 follow-up licences are in force. See Chapter 8 for details.

Seismics

In 2025, no 2D or 3D seismic data were acquired at sea. On land, one 3D seismic survey and fourteen 2D seismic lines were acquired. See Chapter 10 for details.

Drilling activities

In 2025, twelve hydrocarbon wells were drilled, of which 4 on land and 8 at sea. Ten of the twelve wells encountered gas, one exploration well encountered oil and one development well was dry. Additionally, 9 geothermal wells were drilled in 2025, of which: five exploration wells and four evaluation wells. This is one fewer than in 2024. Four salt development wells were drilled in 2025. See Chapter 11 for details.

1.
Natural gas resources and future domestic production

1.1 Introduction

This chapter reports on the natural gas resources in the Netherlands and in the Dutch part of the North Sea. It first addresses the estimates of the natural gas resources as of 1 January 2026, and the changes compared with last year. It then discusses the expected annual natural gas production in the Netherlands for the next 25 years.

Data

In accordance with Article 113 of the Mining Decree, the operator provides an annual overview of the remaining resources and the expected annual production for each accumulation. These data form the basis for determining the natural gas resources and the forecast of domestic supply. The data on natural gas resources are submitted in accordance with the international Petroleum Resource Management System (PRMS), version 2018, enabling a uniform and consistent classification of the resources (see Appendix 7 for further explanation).

Along the vertical axis of the PRMS, gas resources are divided into three main classes: reserves, contingent resources, and prospective resources (see Figure 1.1). Each of the main classes is further subdivided into subclasses. In this annual report, reserves are reported only at the level of the main classes. For contingent resources, only the subclass 'Development Pending' is included. The remaining three subclasses — 'Development on Hold', 'Unclarified' and 'Not Viable' — are not described further because of the high uncertainty regarding their maturity. For prospective resources, only the subclass 'prospect' (undiscovered accumulations) is reported.

Since the oil and gas resources are physically located at great depths underground, the estimates are based on the evaluation of subsurface data that must demonstrate their presence. Resources estimates are therefore always subject to a certain degree of uncertainty. The PRMS resource classification explicitly takes this uncertainty into account, as shown along the horizontal axis (see Figure 1.1). In this report, the main class reserves and the subclasses 'Development Pending' and 'Prospect' are estimated with their median values, respectively 2P, 2C, and 2U.

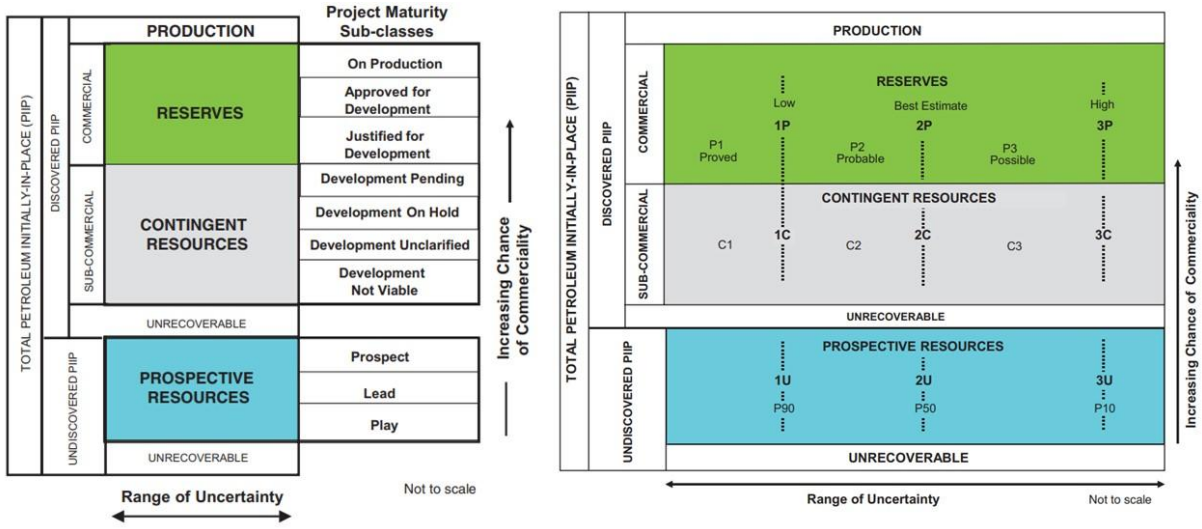


Figure 1.1 Schematic representation of the PRMS classification (see also Appendix 7).

1.2 Natural gas accumulations

As of 1 January 2026, the Netherlands has 510 discovered natural gas accumulations (see Table 1.1). Of these, 190 accumulations are currently in production, which is 11 fewer than last year. Additionally, four gas fields are operational as gas storage facilities (plus one other gas storage in a cavern cluster). A total of 116 accumulations are undeveloped. It is expected that 28 of these will be brought into production within five years, while it is uncertain whether the remaining 88 accumulations will be developed. For 199 accumulations, natural gas has been produced in the past, but production has been (temporarily) discontinued. A complete list of all accumulations, grouped by status and including the operator and licence, is provided in Excel overview sheet A.

Table 1.1 Proven natural gas accumulations, as of 1 January 2026, classified according to their status.

Status of gas accumulation	On land	At sea	Total
I. Developed			
a. In production	78	112	190
b. Natural gas underground storage*	5	-	5
II. Undeveloped			
a. Production expected within five years	4	24	28
b. Production not expected within five years	39	49	88
III. Production ceased			
a. Temporarily ceased	12	3	15
b. Ceased	75	109	184
Total	213	297	510

* Including gas storage in one cavern cluster.

1.3 Resource estimate

Discovered gas resources

As of 1 January 2026, the total discovered gas resources in both developed and undeveloped accumulations together amount to 65.3 billion Nm^3 (Table 1.2).

Reserves and contingent resources

The reserves of 46.8 billion Nm^3 are now found exclusively in the small fields; additionally, 10.4 billion Nm^3 is present in underground gas storage (UGS). Of the reserves in the small fields, 76% are located at sea, corresponding to 35.5 billion Nm^3. Since 1 January 2024, no reserves have been reported for the Groningen field.

The contingent resources, pending commercial development, amount to 6.0 billion Nm^3 in the small fields and 2.2 billion Nm^3 in UGS. Within the small fields, 3.8 billion Nm^3 is located on land and 2.2 billion Nm^3 at sea. In contrast to the reserves, 63% of the contingent resources are located on land (Table 1.2 and Figure 1.2).

Table 1.2 Netherlands natural gas resources as of 1 January 2026, in billion Nm^3.

Area	Reserves		Contingent resources (Development pending)		Total
	Other fields	UGS	Other fields	UGS	
On land	11.3	10.4	3.8	2.2	27.7
At sea	35.5	-	2.2	-	37.7
Total	46.8	10.4	6.0	2.2	65.3

* Due to rounding of the monthly production figures, small differences may occur compared with the total volume.

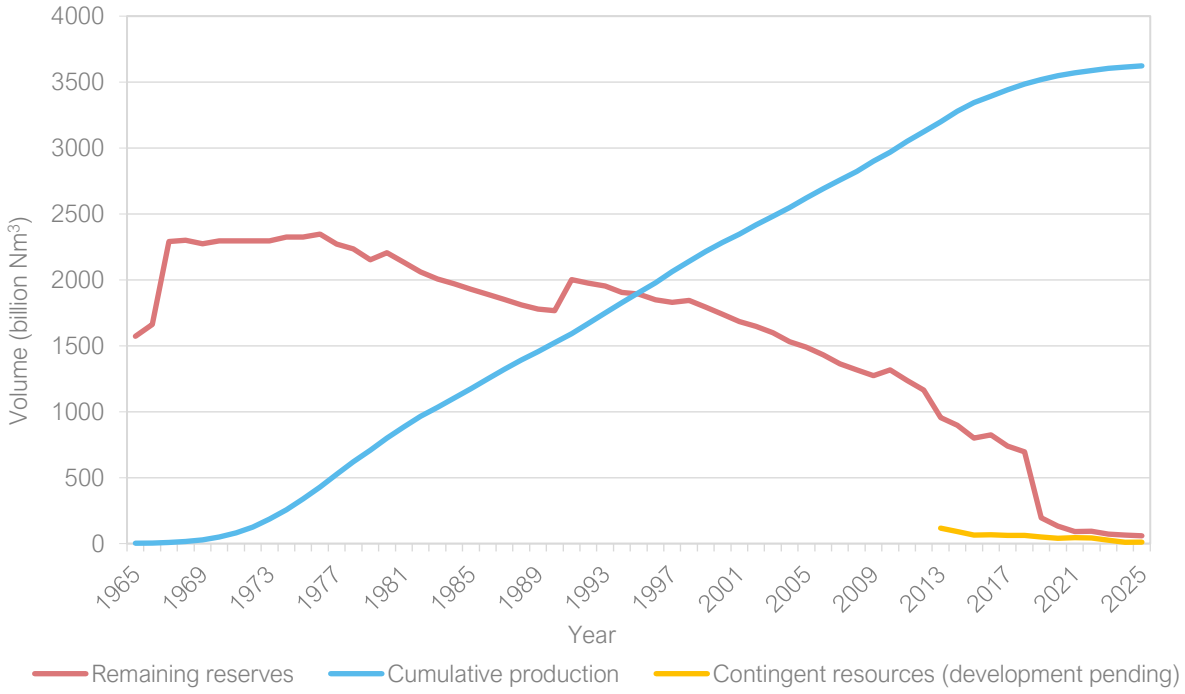


Figure 1.2 Natural gas resources and cumulative production (1 January 2026).

In order to calculate and sum volumes of natural gas volumes of different qualities, the volumes are converted based on the basis of calorific value to a volume expressed in Groningen natural gas equivalents (Geq) (Table 1.3). The Groningen natural gas equivalent is calculated relative to the original calorific value of Groningen gas (35.17 MJ/Nm^3).

Table 1.3 Netherlands natural gas resources as of 1 January 2026, in billion m^3 Geq.

Area	Reserves		Contingent resources (Development pending)		Total
	Other fields	UGS	Other fields	UGS	
On land	12.2	10.5	4.0	2.5	29.2
At sea	40.7	-	2.5	-	43.2
Total	52.9	10.5	6.5	2.5	72.4

Revision of the natural gas resources compared with 1 January 2025

Table 1.4 shows the total adjustment in Dutch natural gas resources due to:

- Re-evaluation of previously proven accumulations and new accumulations.
- Production during the previous year.

The net result is a decrease in resources by 5.6 billion Nm^3 compared with 1 January 2025. Production in 2025 (8.1 billion Nm^3) is further explained in Chapter 3.

Periodically, gas fields are re-evaluated by operators on a technical and economic basis. New developments or insights can lead to adjustments in resource estimates. The adjustment of gas resources is based on factors such as commercial considerations, production performance, and the implementation of technical modifications. These adjustments include drilling new wells and applying techniques to extend the production duration. Through the re-evaluation of both producing and non-producing gas fields, resource estimates were adjusted by 2.5 billion Nm^3 in 2025; the adjustment concerns only gas fields at sea. An overview of the adjustment in natural gas resources is shown in Table 1.4. In 2025, three new natural gas accumulations were discovered (Table 1.5).

Table 1.4 Revision in natural gas resources (total of reserves and contingent resources) compared with 1 January 2025, in billion Nm^3.

Area	Resources At 1 January 2025	New discoveries and re-evaluation	Production	Revision*	Resources At 1 January 2026
On land	30.2	-0.3	-2.2	-2.5	27.7
At sea	40.7	2.8	-5.9	-3.1	37.7
Total	70.9	2.5	-8.1	-5.6	65.3

* The sum of new discoveries, the re-evaluation and production is the revision.

Table 1.5 Natural gas accumulations discovered in 2025.

Accumulation	Discovery well	Licence [Type]	Operator
F06 Genesis East	F06-10	F03c [pl], F06e [pl]	Dana Petroleum Netherlands B.V.
A18-SE	A18-03	Open*	Petrogas E&P Netherlands B.V.
Maasdiep	MSD-01	Botlek-Breeddiep [pl]	ONE-Dyas B.V.

* The exploration licence A18b was relinquished at 16-12-2025, in the period following completion of the A18-03 drilling.

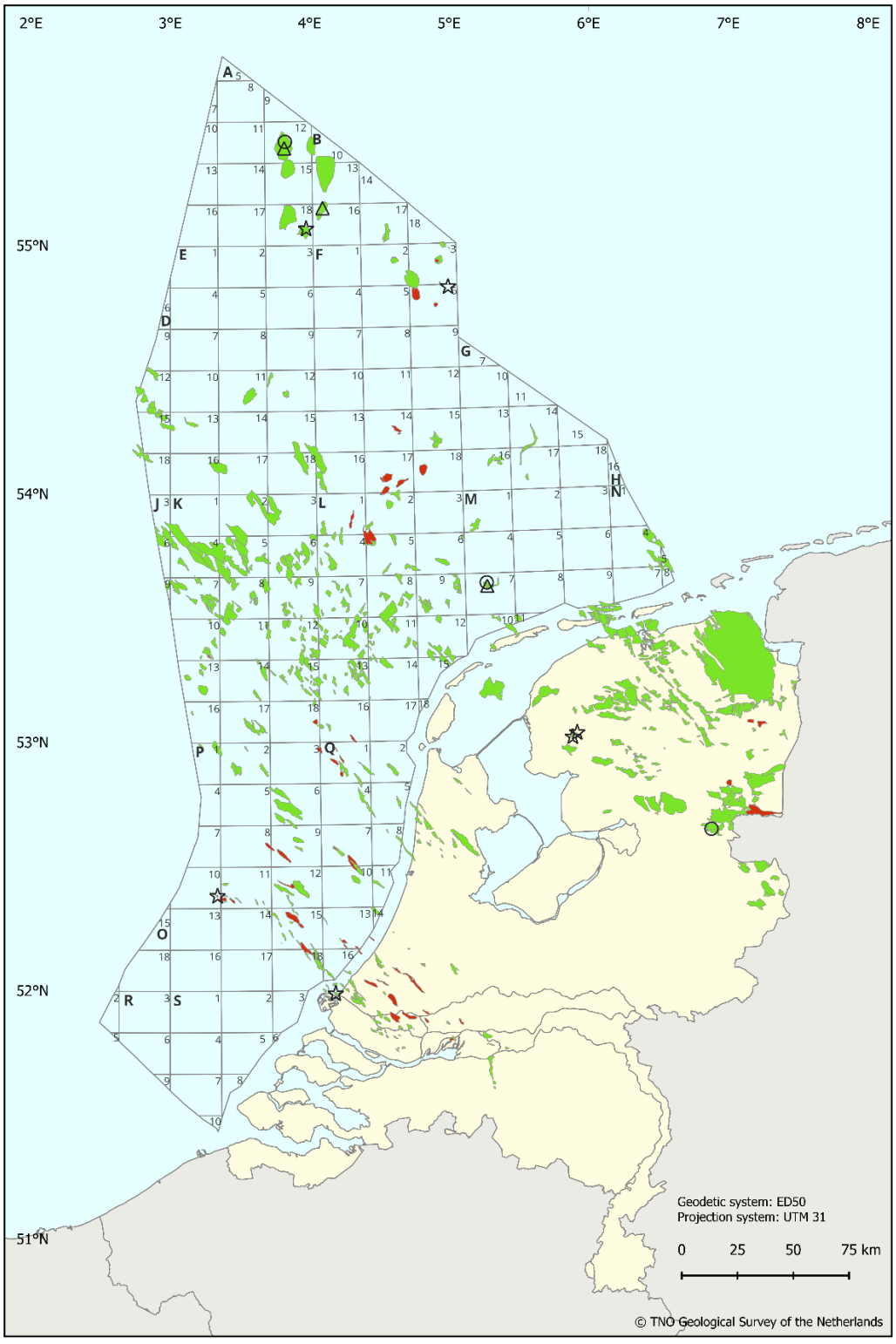


Figure 1.3 Map showing the oil and gas accumulation in the Netherlands as of 1 January 2026. All hydrocarbon wells drilled in 2025.

1.4 Expected production of natural gas

Policy

Domestic gas production has declined in recent years. Dutch government policy is primarily focused on slowing the decline in gas production from small fields. Gas from the Netherlands contributes to greater energy independence by reducing imports from abroad. Additionally, it has a lower carbon footprint than imported gas. North Sea gas has less impact on society compared with gas production on land. Nevertheless, other interests also play a role at sea and must be taken into account. The time pressure caused by the decommissioning or repurposing of infrastructure also needs to be considered. As production from an increasing number of gas fields ceases, existing infrastructure is gradually being abandoned and dismantled or potentially reused for CO_2 transport to underground storage in depleted gas fields. Future developments may include hydrogen production at wind farms (using electrolysers), its transport and its large-scale underground storage. The absence of gas infrastructure could make connecting new gas projects more difficult and potentially much less economically attractive, as infrastructure costs would be shared among fewer fields.

To make the investment climate for gas development in the North Sea more financially attractive, the tax deduction for investment was increased to 40% in 2020. This applies to all investments in gas exploration and production activities. The sector agreement on gas production in the energy transition was signed. In 2025 and supplemented with the chapter[2] on gas production on land in 2026. This further emphasized the necessity of gas production in the Netherlands and aimed to promote closer cooperation to reduce costs and risks. The aim of the agreement is to optimize gas production at sea and to work towards a gradual phase-out for gas production on land towards 2050. This should provide all parties involved with greater clarity about gas production in the energy transition. At the same time, a temporary increase in the tax on (excess) profits from gas production was introduced in 2022 due to the very high gas prices at the time and to fund mitigating measures for small consumers. In the long term, the licence duration will consider the phase-out towards the climate-neutral goal of 2050.

In addition to national policy, regulations from the European Commission also have a strong influence on gas and oil production in the Netherlands. In particular, the monitoring requirements for abandoned wells arising from the Methane Emissions Act[3] place a heavy cost burden on operators. Finally, the Net Zero Industry Act imposes an obligation on hydrocarbon producers to create carbon dioxide storage capacity. The impact of this on the investment climate is still uncertain but appears unfavourable for the further development of new oil and gas fields.

The following sections address gas production from the Groningen gas field and from the small gas fields, divided into land and sea. This division stems from the specific dynamics characterising these areas. Finally, the expected developments in the supply of Dutch natural gas (domestic production) for the next 25 years (2026 – 2050) are described. The report on small fields is largely compiled from data provided by gas producers. The reference date for the report is 1 January 2026.

[2] Sectorakkoord in de energietransitie: https://www.rijksoverheid.nl/documenten/rapporten/2025/04/23/sectorakkoord-gaswinning-in-de-energietransitie

[3] https://eur-lex.europa.eu/legal-content/NL/TXT/?uri=OJ%3AL_202401787

Groningen field

On April 19, 2024, the bill to end gas production from the Groningen field came into effect, and the Groningen gas field was permanently closed. Approximately 500 billion Nm^3 of recoverable gas remains in the Groningen gas field[4].

The small fields

All Dutch gas fields, except the Groningen field, are classified as small fields. The Groningen field is approximately 40 times larger than the second largest gas field in the Netherlands.

Resources in the Gas Storage Facilities

The gas resources in the storage facilities are not included in the production profile of the small gas fields, but they are included in the reserves and contingent resources (Tables 1.2 & 1.3). The so-called 'cushion gas', which is necessary to maintain pressure in the storage, can technically still be extracted once the storage activities cease.

Technical and economic subdivision

In accordance with Article 113 of the Mining Decree, TNO collects both the expected gas production and the quantity of proven recoverable natural resources provided by the operators. The reporting of proven recoverable natural resources is carried out in accordance with the Petroleum Resource Management System (PRMS). The PRMS distinguishes three main categories: reserves, contingent resources, and prospective resources. The sum of these three main categories is considered the total resources. The numbers mentioned are based on the expected technical median values:

a. Reserves: The part of which production is ongoing or where the (investment) decision to start production has been taken.
b. Contingent resources (subclass Development Pending): The less certain portion of the resources in proven accumulations. This requires greater certainty regarding the technical, economic, and/or legal (licensing) conditions before investment in gas production can proceed. Contingent resources in subclasses where development is still uncertain, on hold, or currently considered unviable according to PRMS are not included in the profiling. This is due to the great uncertainty as to whether they will ever be put into production. For this class, it is assumed that part of these resources will not be developed.
c. Prospective resources: Resources that have not yet been proven, but which are expected to be present and to be considered economically recoverable based on technical data. Actual production can only be started once an exploration well confirms the presence of gas and it is determined that technical and economic extraction is feasible. Based on the total prospective gas resources provided,
TNO generates various exploitation scenarios (see Table 1.6).

[4] Annual report Natural resources and geothermal energy 2018; Table 1.4 (www.nlog.nl)

Gas production scenarios for the next 25 years

Dutch gas production from small fields has been in decline since 2005 due to the depletion of existing fields (as natural pressure in the reservoir decreases, the remaining gas flows more slowly) and limited replenishment with new discoveries. Since production from the Groningen field was phased out and stopped, and the decrease in imports of Russian gas in 2022, the importance of gas production from the small fields has increased. In order to stimulate production in the North Sea, a sector agreement[5] with several proposed policies and cooperation opportunities was signed in April 2025. On 16 January 2026, an additional sector agreement was concluded for gas production on land.

The impact of objection procedures and the large differences in operators' willingness to invest make the forecast for domestic gas production highly uncertain. Therefore, TNO has generated three possible scenarios for the production forecasts: a high scenario, a mid scenario and a low scenario (Figure 1.4). The high scenario assumes a high willingness to invest and a high number of exploration wells. In the low scenario, virtually no investment is made in new projects. Gas production forecasts have been developed based on these scenarios. The figures present the results of the Mid scenario.

Low scenario

This scenario assumes one exploration well every four years for land. At sea the scenario assumes one exploration well every year. From 2035 onwards, no exploration wells will be drilled on land or at sea. In this scenario, no contingent resources are developed. This effectively means producing the reserves with limited additions from exploration.

Mid scenario

The Mid scenario assumes a short period with a limited revival of investments in gas production. Additionally, the contingent resources class "Development Pending" is included, which has a reasonable chance of actually coming into production. For the prospective resources, it is assumed this is representative to the drilling activity of the past 10 years. This results in 1 exploration well per two years on land through 2035. At sea, the expectation is that 3 wells per year will be drilled, declining to 0 wells by 2035.

High scenario

The High scenario assumes a strong stimulating effect of new policy measures and/or more attractive conditions for operators to develop gas projects. This means that in addition to projects with reasonable certainty, high risk projects are also carried out. For the prospective resources, there is a revival in the number of exploration wells to drill for these new gas fields in the North Sea, averaging four wells per year until 2036. On land, TNO assumes the attractive conditions will lead to a revival of exploration wells, with one well per year until 2036.

Scenario probabilities

In recent years, there has been a structural decline in production, the number of (planned) wells and resources. The sector agreement expresses an ambition to increase exploration efforts at sea. A strong revival is therefore included in the high scenario. For 2026, investments have increased slightly compared with the previous year; however, the actual results of the sector agreement will remain highly uncertain.

TNO currently considers the Mid scenario, with a limited investment level, to be the most likely.

[5] Sectorakkoord gaswinning in de energietransitie (https://open.overheid.nl/documenten/23b81a85-beb3-4fe8-9626-b8c8232dbdba/file)

Table 1.6 Description of the scenarios used, see Figure 1.4 for the graph.

Scenario	*Reserves*	*Contingent resources*	*Prospective resources*
LOW	Production of entire reserve category of known fields, as delivered by gas production companies.	No new projects considered	1 exploration well at sea, 1 exploration well on land every 4 years, Wells on land and at sea at 0 in 2035
MID		Production of Contingent Resources, subcategory "Development Pending".	3 exploration wells at sea (average 2 wells) 1 exploration well on land every 2 years Wells on land and at sea at 0 in 2035
HIGH		Production of Contingent Resources, subcategory "Development Pending" This includes some of the projects currently considered less attractive by mining companies. It pertains only to contingent resources in the subcategories "Development on Hold" and "Development Unclarified." The forecasts also take into account a lead time before production can actually commence.	Average of 4 exploration wells at sea (max 7 in 2028 and 2029) 1 exploration wells on land Wells on land and at sea at 0 in 2036

Because different scenarios are used, the calculated production profiles from reserves and contingent resources in this chapter do not fully correspond to the figures in Table 1.3 (Chapter 1.3). In determining the production forecasts, the "Probability of Maturation" is also taken into account: a factor that corrects for the possibility that a project may not enter production. Under the current methodology, this factor is 1 for supply from reserves. Supply from contingent resources has a correction factor of 0.9.

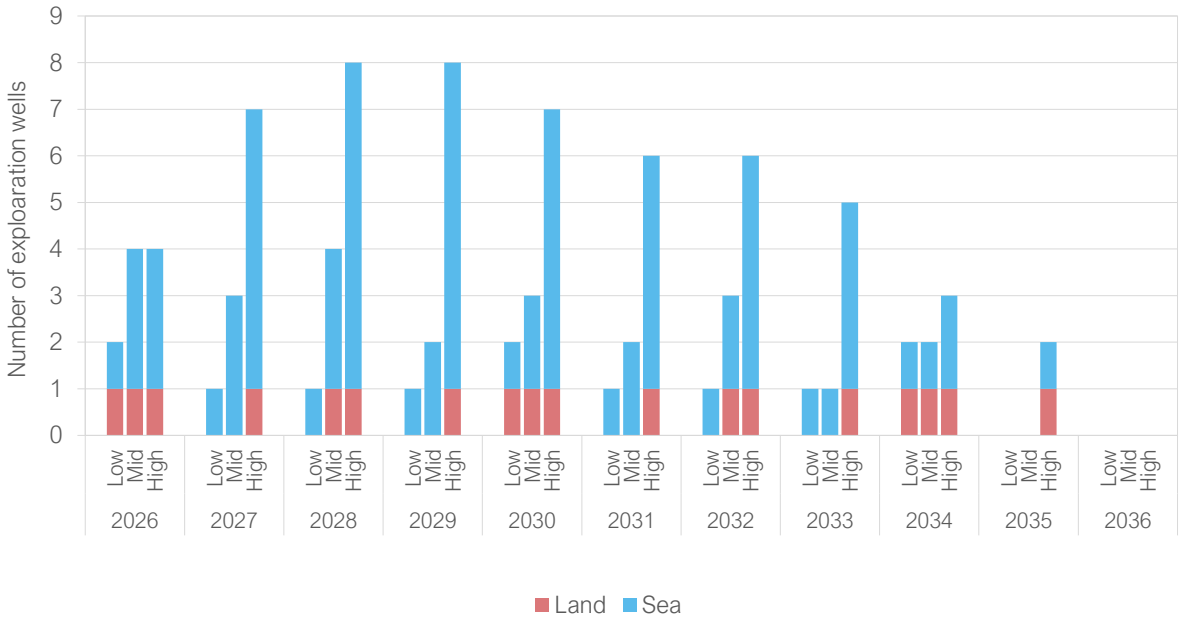


Figure 1.4 Graph accompanying Table 1.6: exploration drilling effort per scenario from 2026 onwards.

Expected gas production from small fields on land

In 2026, expected production from the reserves in small fields on land (green in Figure 1.5) is 2.4 billion m^3 Geq. Expected production from the current reserves in small fields on land, 12.2 billion m^3 Geq, will have ended by 2036.

Over time, using the Mid scenario in Table 1.6, the current contingent resources are also expected to come into production. Temporarily compensating for the decline in production from the reserves. The overall profile (supply from reserves and contingent resources) initially shows a revival, with production just above 2 billion m^3 Geq per year. After an initial increase in the contribution from contingent resources, this also declines from 2032 onwards, causing total production to gradually decrease to around 0.75 billion m^3 Geq in 2035. Ultimately, an additional 3.6 billion m^3 Geq is expected to be produced from contingent resources.

Given the uncertainty regarding several influencing factors, discussed later in this chapter, it is particularly uncertain whether the prospective resources on land will actually be exploited. Based on the Mid scenario estimate (see Table 1.6), it is expected that on average one exploration well will be drilled every two years until 2036. Based on the Mid scenario, a total production of 2.7 billion m^3 Geq can still be realized from undiscovered accumulations. This is cumulatively considerably lower than the estimate in previous forecasts and can be explained by a reduction in the expected drilling effort. However, annual production remains comparable. In the longer term, expectations for the undiscovered accumulations are highly uncertain; based on this scenario, an estimated 42 billion m^3 Geq of exploration potential remains unused.

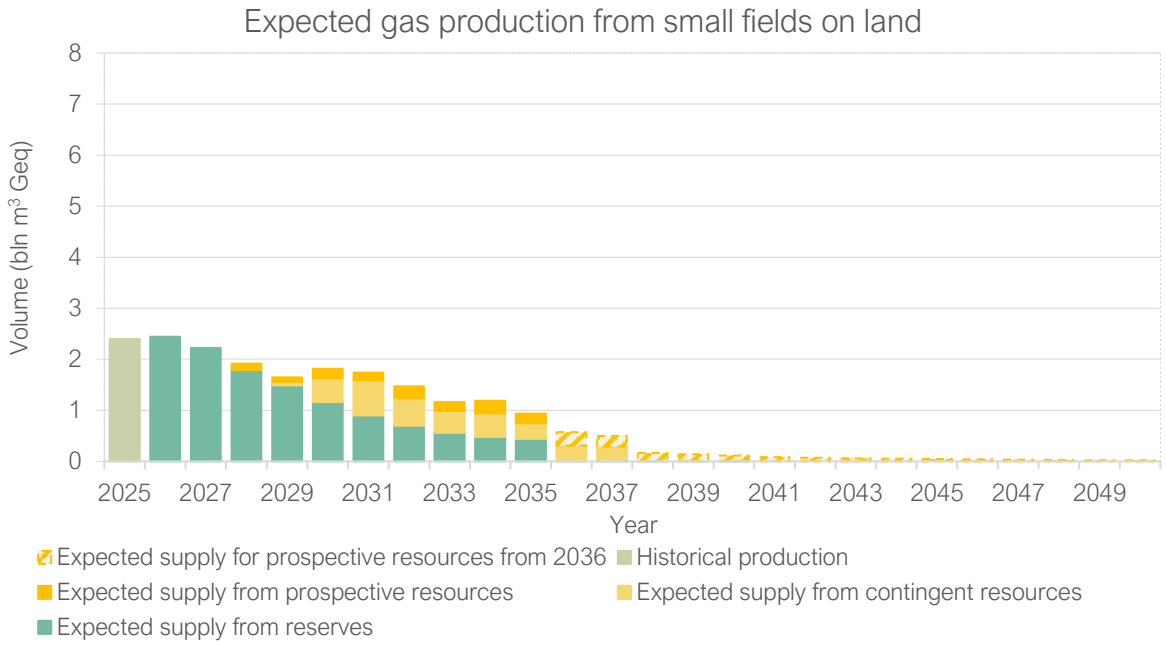


Figure 1.5 Realised (2025) and expected (2026 – 2050) production of natural gas from small fields on land. The values underlying this profile are given in Excel overview sheets B, C and F. Note that this graph only shows the Mid scenario.

Expected gas production from small fields at sea

Gas production from the reserves of the producing small fields at sea (green in Figure 1.5) is estimated at 5.9 billion m^3 Geq for 2026, after which it gradually decreases to around 1 billion m^3 Geq in 2036. In total, 40.7 billion m^3 Geq in reserves is expected to remain. Despite limited stabilization through 2027, production from contingent resources provides limited compensation for the decline in total production from reserves. In total, contingent resources amount to 2.2 billion m^3 Geq.

Figure 1.6 shows that from 2034, more than half of the gas production at sea will come from gas fields that have not yet been proven. In total, the as-yet unproven accumulations contain a potential volume of resources that would be economically attractive of 105 billion m^3 Geq. Based on the Mid scenario, a total production of 29.3 billion m^3 Geq could be realized from this potential over the next 25 years. Compared with last year, this represents an increase in absolute terms. With the expectation that the industry will conduct more exploration in the coming years, it appears that the total recoverable volumes may even increase. For the long term, the expectations for the unproven accumulations are very uncertain as the conditions may change significantly. Based on the Mid scenario, an estimated 72 billion m^3 Geq of exploration potential remains untapped.

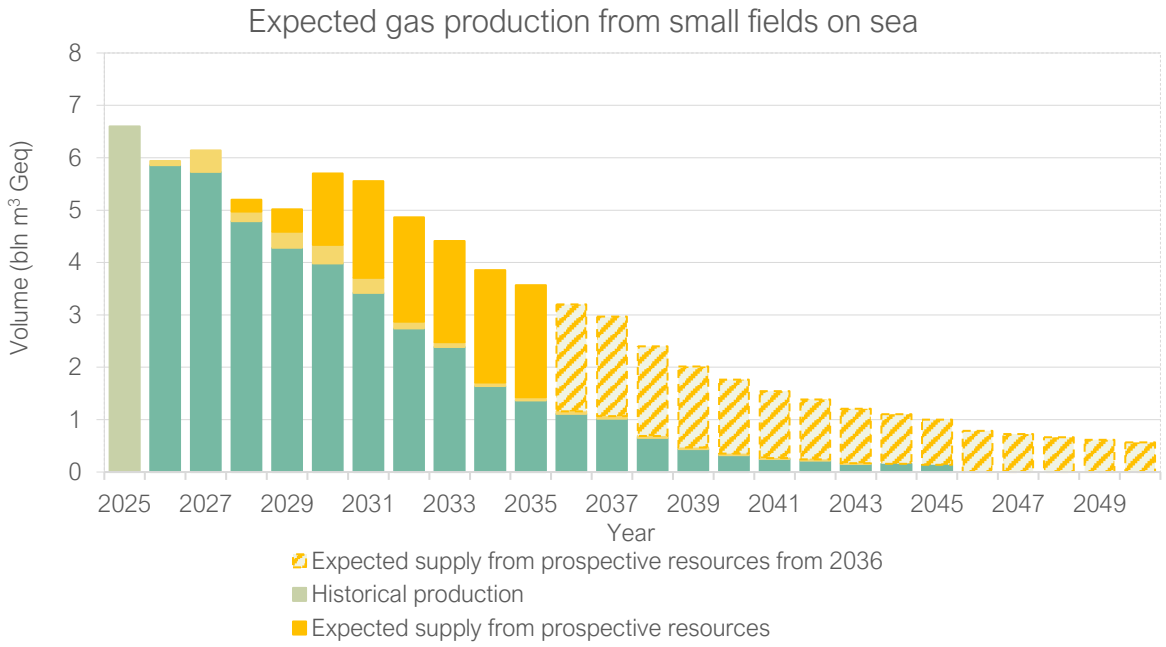


Figure 1.6 Realised (2025) and expected (2026 – 2050) production of natural gas from small fields at sea. The values underlying this profile are given in Excel overview sheets B, C and F. In the longer term, expectations for the as-yet undiscovered accumulations are highly uncertain, as conditions may change. Note that this graph only shows the Mid scenario.

Expected total gas production from the small fields

Figure 1.7 shows the cumulative forecast gas production from small fields on land and at sea combined for the Mid scenario, broken down by resource class. Additionally, the forecast for the expected supply of the High scenario is also indicated.

Achieving the High scenario requires a very substantial (investment/drilling) effort. The sector agreement aims to stimulate this. This should bring the number of exploration drilling sites at sea back to the level of ~10–15 years ago.

Additionally, part of the yet-to-be-developed projects (including previously proven gas fields or additional wells in existing fields) are included in the High scenario.

This is done on the basis of the historical probability that resources within a given classification will actually be brought into production. This has a major effect on the outcome, as a large part of the most promising volumes have been downgraded in recent years.

Influencing factors for gas production

Several developments are currently expected to influence long-term gas production in the Netherlands:

a. The sector agreement on Gas Production in the Energy Transition was signed in April 2025[6], but its concrete implementation has yet to take effect and is expected to become visible in gas volumes only after several years. The first regional discussions have been initiated by EBN and are now being further developed. The chapter on Gas Production on Land was signed this year. The actual impact of the agreement is currently being evaluated.
b. Tenaz has taken over NAM's licences at sea. NAM invested little in recent years, while Tenaz has begun to develop more activities.
c. The embargo on new exploration licences on land and the proposed embargo on extraction under the Wadden Sea limit the resources.
d. Embargoes on investments in the fossil industry may lead to a limitation of the investment space for operators.
e. Operators perceive the practical lead time for licencing gas projects as unpredictable. Given the substantial upfront investment costs required for gas projects, this strongly affects economic attractiveness.
f. The depletion of existing gas fields results in very low production rates, making the operational costs of the existing infrastructure relatively high. As a result, it is likely that a large part of the infrastructure will soon become uneconomical and will be dismantled, making a larger part of the gas potential no longer recoverable.
g. Within the North Sea Agreement, the sector has agreed that production within the Netherlands will always remain below gas demand. If this affects policy, for example by limiting the licence duration, it could lead to a lack of long-term investments, as it is unclear whether these can also lead to production.
h. Multiple spatial use; currently, there are many above-ground activities such as wind farms and military training areas, but also underground activities such as CO_2 storage planned in the North Sea. These activities can hinder accessibility for new gas projects.

Interpretation of long-term forecasts

The decrease in gas production (see Chapter 3) and natural gas resources (Table 1.4) is flattening out. Production has slowed, and the gas production at sea and gas resources on both land and sea are decreasing more slowly compared to the past 10 years. The current scenarios offer the perspective that the decline in gas production will decrease to such an extent that a trend towards stabilisation can be seen in the short term. In the longer term, production depends on the development and implementation of the sector agreement and, consequently, on new investments.

The Mid scenario should be seen as a forecast where the conditions remain reasonably stable, but the number of exploration wells drilled, and the development of conditional projects is higher than seen in the past 5 years (see also Excel overview sheet F). The High scenario is considered optimistic, with a structurally higher level of investment compared with the past 10 years.

[6] Sectorakkoord Gaswinning in de Energietransitie | Rapport | Rijksoverheid.nl

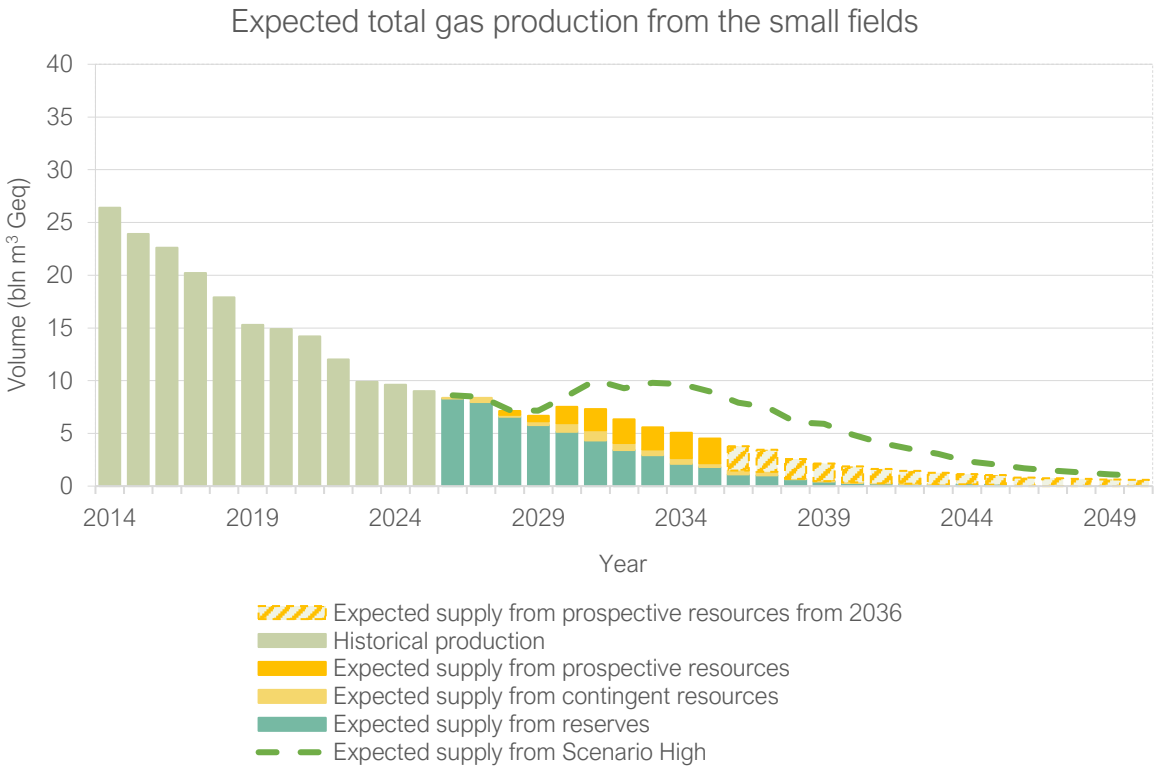


Figure 1.7 Total gas production from small fields. Realised (2015-2025) and expected (2026-2050) production of natural gas from the small fields on land and at sea. The resources are presented in accordance with the Mid scenario. Cushion gas from gas storage facilities is excluded from the graph. The cumulative forecast for the High scenario is shown as a green dotted line. The values underlying this profile are provided in Excel overviews sheets B, C and F.

1.5 Evaluation of gas demand and supply

Background

In a letter to the House of Representatives (Tweede Kamer) dated 16 June 2023[7], the then State Secretary for Mining committed to conducting an annual assessment. This assessment should give insight into the extent to which the development of the expected demand, and the forecast of oil and gas production in the Netherlands, align with climate ambitions. This is to enable the cabinet to monitor whether the phase-out of oil and gas production fits within the climate ambition. This paragraph follows up on this by presenting the forecasts of Dutch gas consumption and gas production for the next 25 years. Dutch oil production (see Chapter 2) currently accounts for approximately 1 % of domestic demand[8]. As the likelihood of oil production exceeding the national demand is negligible, this forecast is not further elaborated and is implicitly assumed.

Gas production forecast

The gas production forecast, as discussed in paragraph 1.4, and recent developments in the Dutch gas sector, seem to indicate a significant production decline until 2050. However, a very ambitious scenario (High scenario) leads to an initial revival of production. None of the scenarios account for the possibility that

[7] Gaswinning | Tweede Kamer der Staten-Generaal
[8] Aardoliegrondstoffen- en aardolieproductenbalans; aanbod en verbruik | CBS

infrastructure at sea may become unprofitable in the very short term, due to high costs and declining production. This could lead to an even steeper decline in gas production.

Additionally, a minimal scenario is based on the currently known reserves. Recent years have shown that these have not always been successfully extracted, so if the current reserves are written off by the operators, this will again negatively affect the gas forecasts.

Gas demand development

Since there are no explicit policy objectives set for gas demand, it is estimated based on (announced) policy and energy system analyses. The upper limit for gas demand is based on the estimate from the Climate and Energy Outlook[9] (KEV) of the PBL from 2024, based on established and proposed policies. The KEV currently focuses mainly on the year 2030, in line with the 2030 climate goal. Gradually, this will shift, with the PBL also looking at the period after 2030 and beyond.

Since the KEV2024 estimates do not lead to the net-zero goal in 2050, an additional energy system scenario has been included in the analysis. This is the TRANSFORM scenario taken from the TNO scenario studies[10] from 2024, in which gas demand declines the fastest. In other scenarios of this study, gas demand also declines but remains higher. The TRANSFORM scenario can therefore be considered as a (extreme) lower bound for gas demand development.

The gas demand development excludes biogas. Biogas is modelled as a separate energy carrier. Although biogas can, in principle, be mixed into the current natural gas system, this has thus been accounted for in the model used.

Based on the estimates of greenhouse gas emissions, the Netherlands did not meet the set goals in 2022. Any alternative policies in the future could also influence the expected gas demand. To address this, the TNO TRANSFORM scenario is included as a (extreme) lower bound for gas demand development in the comparison below.

Comparison and uncertainties regarding climate ambition and gas production

Figure 1.8 shows three scenarios of gas production and gas demand from 2026 to 2050. Based on the current comparison, it is virtually excluded that the amount of gas produced in the Netherlands will exceed demand during that period. With changes in policy and/or circumstances, gas demand could obviously be lower, but it is expected that it will not fall below gas production.

Additionally, there is the question of how much a low gas production in the Netherlands contributes to the climate ambition. With low gas production, LNG imports will have to fill the gap between demand and production. LNG has much higher CO_2 (equivalent) emissions as a whole, than domestically produced natural gas. This means that greater import dependencies, will lead to higher CO_2 equivalent emissions on a global scale. Within the Netherlands, greenhouse gas emissions will also increase compared with domestic natural gas, but the effect will be limited to the energy input required to convert LNG into gas.

[9] Klimaat- en Energieverkenning (KEV) | Planbureau voor de Leefomgeving | pbl.nl
[10] https://energyscenarios.tno.nl

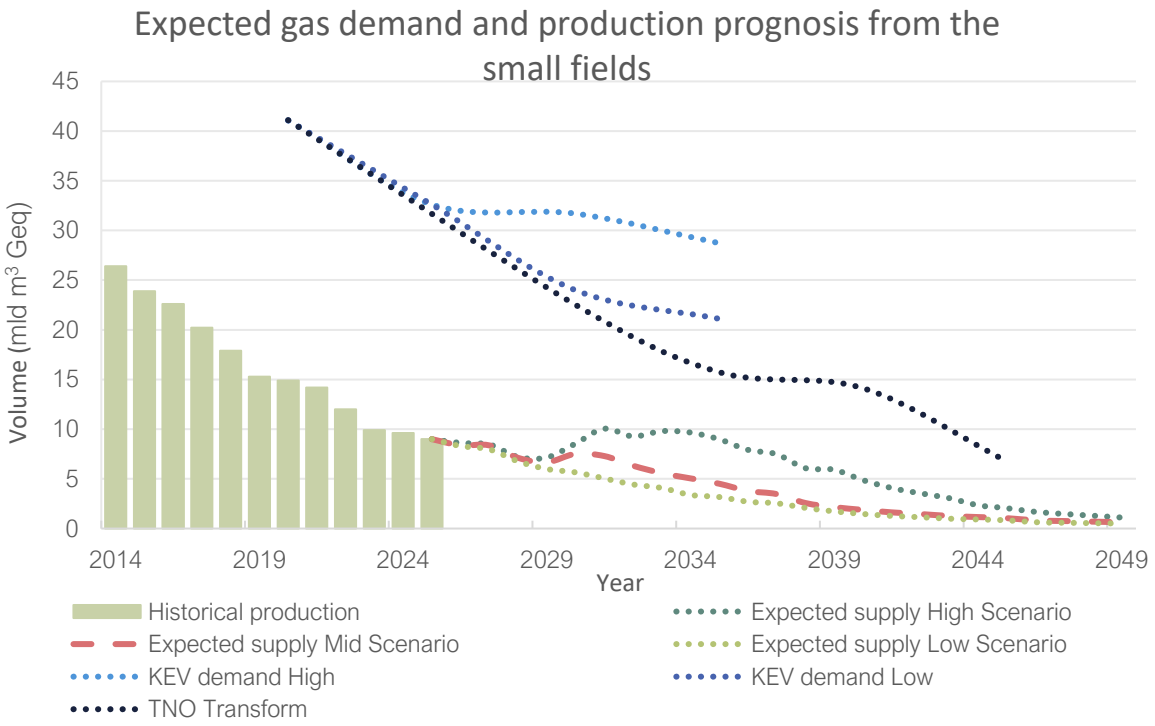


Figure 1.8 Dutch gas demand development and gas production forecasts for the next 25 years. The gas demand development is formulated according to the policy choices (KEV 2024). The KEV High Demand represents the high-end estimate based solely on established and proposed policies, while the KEV Low Demand represents the low-end of the same estimate range. The TNO TRANSFORM scenario is included as an addition because it meets the greenhouse gas neutrality goal for 2050. For the conversion from volume to energy unit, 1 billion m^3 Geq is approximately equal to 10 TWh or 35 PJ. In this scenario, gas demand declines the fastest, even compared with scenarios that achieve the same goal.

Evaluation of gas demand and supply within licences

The Ministry of Economic Affairs and Climate Policy has requested an evaluation of the existing licences for oil and gas extraction and to what extent these fit within the intended phase-out of fossil fuel demand. This allows for adaptive intervention via the licences for oil and gas production if, for example, gas demand decreases further.

It is expected that the share of produced gas will mainly come from production licences that have already been granted. This applies to all scenarios, although this share will be lower with higher gas production, as exploration in exploration licences and open areas will also be necessary. Based on earlier forecast, new licences are currently being granted until 2045.

Based on the comparison of gas production and gas demand (Figure 1.8), all current forecasts of gas production from licenced activities, including exploration activities, fit well within the range of gas demand. As previously mentioned, oil production is so limited, it can reasonably be assumed that oil production fits within the oil demand.

2.
Oil resources

As of 1 January 2026, there are 54 proven oil accumulations in the Netherlands (Table 2.1). Six of them are in production and 2 fields are expected to be put into production within the next five years. A complete overview of all oil accumulations is included in Excel overview sheet A, including the corresponding status, most recent operator, and licence.

Table 2.1 Number of proven oil accumulations, classified according to their status as of 1 January 2026.

Status of oil accumulations	Land	Sea	Total
I. Developed			
In production	1	5	6
II. Undeveloped			
a. Production expected within five years	0	2	2
b. Production not expected within five years	10	19	29
III. Production ceased			
a. Temporarily ceased	2	0	2
b. Ceased	7	8	15
Total	20	34	54

Oil resources as of 1 January 2026

The resource estimates are based on data and information reported by the operators, following the Petroleum Resource Management System (see Annex 7 for further details), in accordance with by the Mining Act. Table 2.2 shows the reserves and contingent resources. Reserves are defined as part of the resources that can be produced commercially and are also qualified as such by the operator. Contingent resources are quantities of resources for which one or more conditions necessary for commercial viability have not yet been satisfied. The part of the contingent resources with the least uncertainty belongs to the subclass "development pending".

Within the contingent resources, only the subclass "development pending" is reported. The other subclasses, "on hold", "unclarified" and "not viable", are not included in the table because their eventual realization is subject to greater uncertainty. As resource classification is based on the project-based development of an accumulation, and multiple projects may exist within the development of a single accumulation, an accumulation may contain both reserves and contingent resources.

The total Dutch oil resources amount to 13.8 million Sm^3, consisting of 4.9 million Sm^3 of oil reserves and 8.9 million Sm^3 of contingent resources.

Table 2.2 Oil resources as of 1 January 2026 in million Sm^3.

Area	Reserves	Contingent resources (Development pending)	Total
Land	3.5	5.5	9.0
Sea	1.5	3.4	4.8
Total	4.9	8.9	13.8

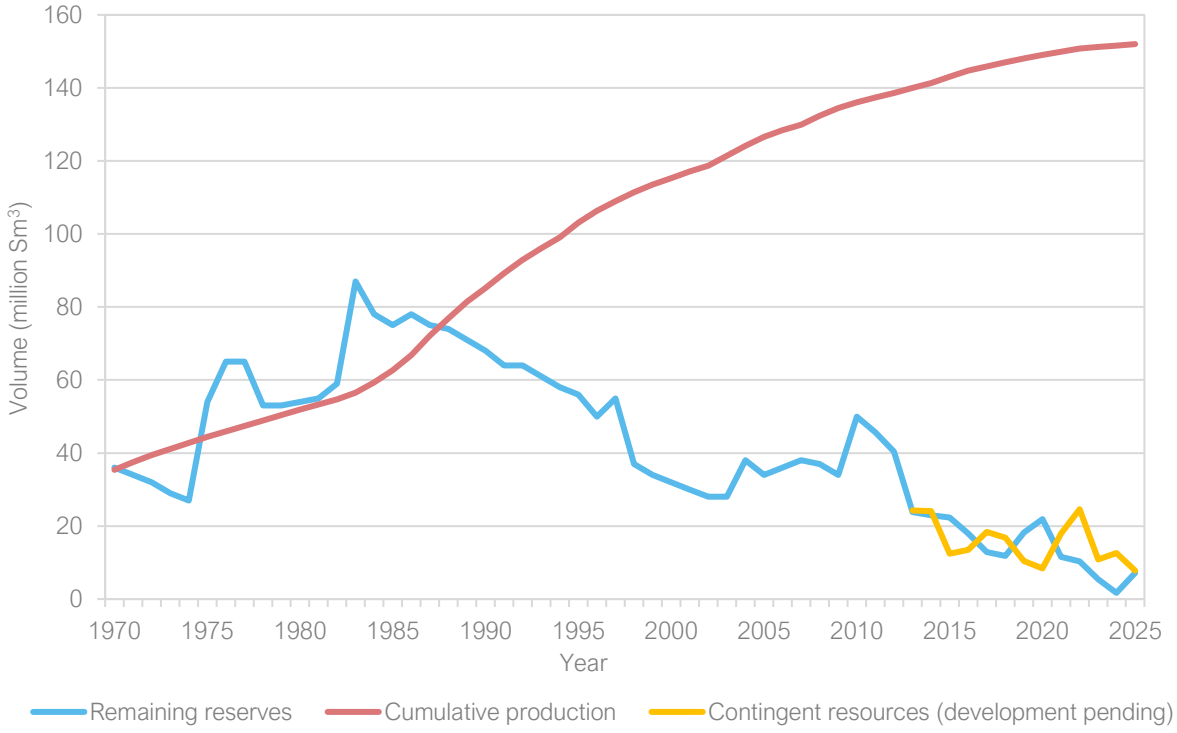


Figure 2.1 Oil resources and cumulative production (1 January 2026).

Revision of oil resources compared with 1 January 2025

Table 2.3 shows the total revision of Dutch oil resources as a result of:

- Production during the previous year.
- Re-evaluation of proven accumulations.
- New discoveries in newly discovered accumulations.

The total revision results in a decrease of 1.3 million Sm^3 (Table 1.4). This decrease in oil resources to 13.8 million Sm^3 is mainly the result of re-evaluation by the operator, particularly of the oil fields on land.

Table 2.3 Revision of oil resources (total of the reserves and contingent resources) compared with 1 January 2025, in million Sm^3.

Area	Oil resources At 1 January 2025	New discoveries and re-evaluation	Production	Revision*	Oil resources At 1 January 2026
Land	10.0	-0.9	-0.1	-1.0	9.0
Sea	5.1	-0.0	-0.3	-0.3	4.8
Total	15.1	-0.9	-0.4	-1.3	13.8

* The revision is the sum of newfound accumulations, re-evaluation and production.

Figure 2.2 shows the historical oil production since 2015 and the expected production forecast for the next fifteen years (Excel Sheet overviews D and F contain the numerical basis for the figure, including the breakdown by production on land and at sea). The expected production is based on the annual reports submitted by the operators as of 1 January 2026. Compared with the expected production as of 1 January 2025 for that same year (0.39 million Sm^3), the actual production in 2025 (0.37 million Sm^3) was slightly lower (-5%). This is mainly attributable to lower-than-expected production from, in particular, the P15 Rijn oil field, but also from the P11b De Ruyter, Rotterdam and F02a Hanze oil fields.

The expected production as of 1 January 2026 assumes lower oil resources (reserves and contingent resources) than the expectations from one year earlier. This is mainly related to the downgrading of the Schoonebeek oil field, which is currently in the restart phase following the decision by the Minister of Climate and Green Growth in 2024 to resume oil production.

According to current insights, production from reserves shows a gradually declining trend, from 0.5 million Sm^3 in 2026 to 0.2 million Sm^3 in 2040. From 2028 onwards, additional production may potentially take place from resources that are currently classified as contingent.

Because of the limited number of oil projects and the substantial influence of a few large projects on the forecast, the estimates are subject to considerable uncertainty. From 2041 onwards, the number of oil fields with production forecasts is too limited to support a reliable production forecast. The forecast is therefore limited up to and including 2040.

In 2025, one new oil accumulation was discovered (see Table 2.4).

Table 2.4 Oil accumulation discovered in 2025.

Accumulation	Appraisal well	Licence area [Type]	Operator
Johan de Liefde	P11-13	P10a [pl], P10b [pl]	Dana Petroleum Netherlands B.V.

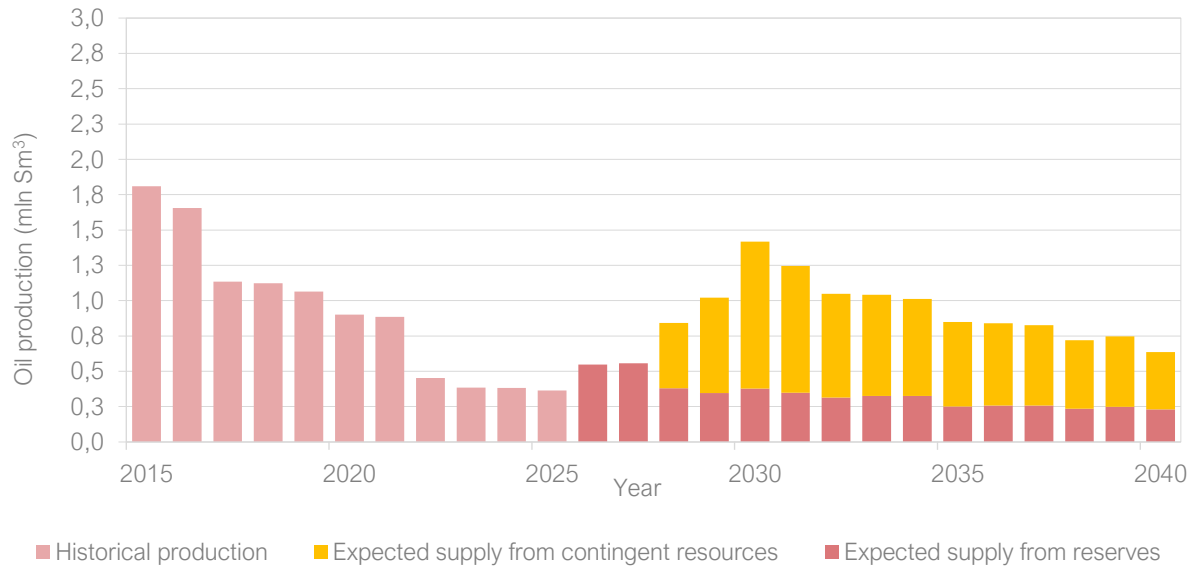


Figure 2.2 Historical (2015-2025) and expected (2026-2040) oil production (in million Sm^3). The expected production profiles are based on the profiles as supplied by the operators.

3.
Production of natural gas, oil and condensate

During the year 2025, two fields were brought into production and 18 fields were taken out of production (see Table 3.1 and 3.2).

Table 3.1 Fields brought into production in 2025.

Field name	In production	Discovery year	Natural resource
Johan de Liefde	March	2025	Gas & Oil
N05-A	March	2017	Gas

Table 3.2 Fields taken out of production in 2025.

Field name	Out of production	Discovery year	Natural resource
Blesdijke-East	June	2021	Gas
Harkema	January*	2008	Gas
Loon op Zand-Zuid	January*	2005	Gas
Monster	February	1982	Gas
Spijkenisse-Intra	January*	2020	Gas
Weststellingwerf	January*	1983	Gas
D12-D	January*	2020	Gas
K07-FE	January*	2000	Gas
L05-C	July	2003	Gas
L06-B	July	2009	Gas
L08-A-West	July	1998	Gas
L08-P	July	1992	Gas
M07-A	July	1996	Gas
P10a De Ruyter Western Extension	February	2013	Gas
P18-2	May	1989	Gas
P18-4	May	1991	Gas
P18-6	May	2003	Gas
Q16-FA	May	1989	Gas

*The production stop of significant volumes was already reported during 2024.

Overview of production in 2025 and changes compared with 2024

The tables below show the aggregated production figures for natural gas, oil and condensate in 2025. Condensate is considered a by-product of oil or gas production. The changes compared with 2024 are shown both in absolute terms and as percentages. The tables are based on figures supplied by the operators and published on NLOG.

The total decrease in natural gas production in 2025 compared with 2024 is 4.8%. This is lower than the 17.0% decline between 2023 and 2024. At that time, however, the decline was largely caused by the cessation of production from the Groningen gas field. In 2025, the decline is the result of a stronger decrease in production from the small fields on land (18.9%), which was not offset by the limited increase in production at sea (2.2%) (Table 3.3).

Table 3.3 Natural gas production* in 2025 and changes compared with 2024 (in billion Nm^3)

Field location	Production 2024	Production 2025	Changes compared with 2024	
			Absolute	%
Groningen	0.01	0.00	-0.01	-100.0
Land (other fields)	2.7	2.2	-0.5	-18.9
On land (subtotal)	2.8	2.2	-0.5	-19.2
At sea	5.7	5.9	0.1	2.2
Total	8.5	8.1	-0.4	-4.8

* Excluding co-produced natural gas from geothermal energy production licences.

The total decrease in oil production compared with 2024 is 4.5% and is caused by a decrease in production from the only producing field on land, Rotterdam (Table 3.4). Oil production at sea, by contrast, increased by 1.5%, mainly as a result of the development and start-up of the Johan de Liefde field.

Table 3.4 Oil production in 2025 and changes compared with 2024 (in 1000 Sm^3)

Field location	Production 2024	Production 2025	Changes compared with 2024	
			Absolute	%
On land	122.4	101.3	-21.1	-17.2
At sea	259.9	263.8	3.9	1.5
Total	382.3	365.1	-17.2	-4.5
Production per day *	1.047	1.000	-0.047	

* Total annual oil production divided by 365 days.

Table 3.5 Condensate production* in 2025 and changes compared with 2024 (in 1000 Sm^3)

Field location	Production 2024	Production 2025	Changes compared with 2024	
			Absolute	%
On land **	50.6	45.6	-5.1	-10.0
At sea	51.0	41.6	-9.4	-18.4
Total	101.6	87.2	-14.4	-14.2

* Condensate is also referred to as natural gasoline or natural gas liquids (NGL).
** Excluding co-produced condensate from geothermal energy production licences and excluding condensate produced from the Alkmaar, Bergermeer, Grijpskerk and Norg storage fields (see Chapter 4).

3.1 Natural gas production on land in 2025

The table below shows the monthly production figures per production licence on land. The production per licence is the sum of the field production, divided in proportion to the field surface area in the licence. Due to rounding of the production per month, small differences with the totals per year may occur.

A long-term overview of annual natural gas production from 1960 through 2025 is provided in Excel overview sheet B and Figure 3.5.

Table 3.6 Natural gas production on land per licence in 2025 (in million Nm^3)

Licence	Operator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Akkrum	Vermilion	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.6
Andel Va	Vermilion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Beijerland	NAM	1.0	1.9	1.6	0.5	1.2	1.3	1.5	1.3	1.1	0.6	1.9	1.7	15.5
Bergen II	TAQA Off	2.4	2.1	2.3	2.4	2.3	2.2	2.3	2.1	1.4	2.1	2.3	2.2	26.0
Botlek IV	NAM	5.8	6.1	8.2	9.2	7.1	6.1	6.4	6.7	5.1	4.6	5.3	4.7	75.3
De Marne	NAM	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.7
Drenthe IIIa	Vermilion	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0
Drenthe IIa	Vermilion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drenthe IIb	NAM	3.7	3.3	0.7	0.0	0.0	0.5	3.3	3.1	5.7	5.8	5.4	3.7	35.2
Drenthe IV	Vermilion	0.1	0.1	0.1	0.0	0.0	0.1	0.4	0.1	0.1	0.1	0.1	0.0	1.4
Drenthe V	Vermilion	0.7	0.6	0.7	1.3	0.5	1.1	1.0	1.4	1.1	0.9	0.7	0.6	10.6
Drenthe VI	Vermilion	10.9	9.7	10.5	9.6	9.6	9.1	8.7	8.4	7.4	7.7	6.7	6.4	104.7
Gorredijk	Vermilion	2.5	2.4	2.3	2.0	1.9	2.2	1.9	3.0	3.2	2.6	2.2	2.3	28.6
Groningen	NAM	27.0	22.8	21.9	20.6	21.8	14.5	20.4	24.7	23.4	17.3	24.6	24.4	263.5
Hardenberg	NAM	1.5	1.3	1.4	1.1	0.8	1.4	1.5	1.4	1.3	1.2	1.4	1.4	15.7
Leeuwarden	Vermilion	2.3	2.1	2.5	2.4	1.9	2.5	2.5	2.3	2.1	1.8	1.5	1.5	25.3
Middelie	NAM	19.5	18.0	20.0	18.9	18.2	17.5	18.2	17.0	11.3	13.5	14.2	13.6	199.9
Noord-Friesland	NAM	77.2	63.0	81.6	76.9	67.7	74.0	73.7	61.6	39.3	63.8	59.3	60.4	798.4
Oosterend	Vermilion	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.7
Rijswijk	NAM	7.3	6.3	15.0	14.6	16.0	16.2	16.4	18.5	16.8	16.8	14.4	10.3	168.6
Schoonebeek	NAM	21.0	19.5	25.1	24.2	12.4	24.3	22.8	24.3	21.7	22.6	23.1	24.3	265.4
Slootdorp	Vermilion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Steenwijk	Vermilion	2.2	1.5	1.6	1.4	1.2	1.1	1.0	0.9	0.8	0.8	0.7	0.5	13.8
Tietjerksteradeel II	Vermilion	6.1	5.5	5.9	5.9	5.7	5.1	4.6	4.5	4.3	4.5	4.3	4.0	60.4
Tietjerksteradeel III	NAM	4.1	3.1	3.6	3.4	3.6	2.4	3.3	3.9	3.1	2.8	3.4	4.3	41.0
Waalwijk	Vermilion	0.1	1.0	0.9	0.7	0.7	0.7	0.8	0.7	0.6	0.4	0.7	0.9	8.2
Zuid-Friesland III	Vermilion	2.1	1.8	1.9	1.9	1.9	1.7	1.5	1.5	1.3	7.2	13.8	14.7	51.4
Zuidwal	Vermilion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		198.1	172.6	208.4	197.5	175.1	184.7	192.7	188.3	151.7	177.7	186.7	182.4	2215.7

*[1] Excluding co-produced gas from geothermal energy production licences.
*[2] The Groningen licence contains multiple gas fields.

Production on land by stratigraphic reservoir

Figures 3.1 and 3.2 show the contribution to the total natural gas production from the small fields on land per stratigraphic reservoir level. Production from fields with multiple reservoirs are shown in hatched colours. The Groningen field production, not included here, is produced from a Rotliegend reservoir.

Figure 3.1 shows that the largest contribution to gas production from the small fields comes from the Rotliegend and Triassic reservoirs. The steep declining trend in total production of 1 to 3 billion Nm^3 per year during the period 2003–2006 was interrupted in 2007, mainly due to the start of gas extraction beneath the Wadden Sea. From 2008 onward, the downward trend continued at a rate of 0.4 to 0.9 billion Nm^3 per year. In 2013, this trend was again interrupted by a slight increase in production. After 2013, the downward trend resumed, with a somewhat stronger decline than before (0.5 to 1.1 billion Nm^3 per year). In 2020, the trend was broken once more, followed by a less pronounced decline (0.1 to 0.5 billion Nm^3 per year). Between 2023 and 2024, there was hardly any decline in production (0.1 billion Nm^3), while production in 2025 decreased by approximately 0.5 billion Nm^3.

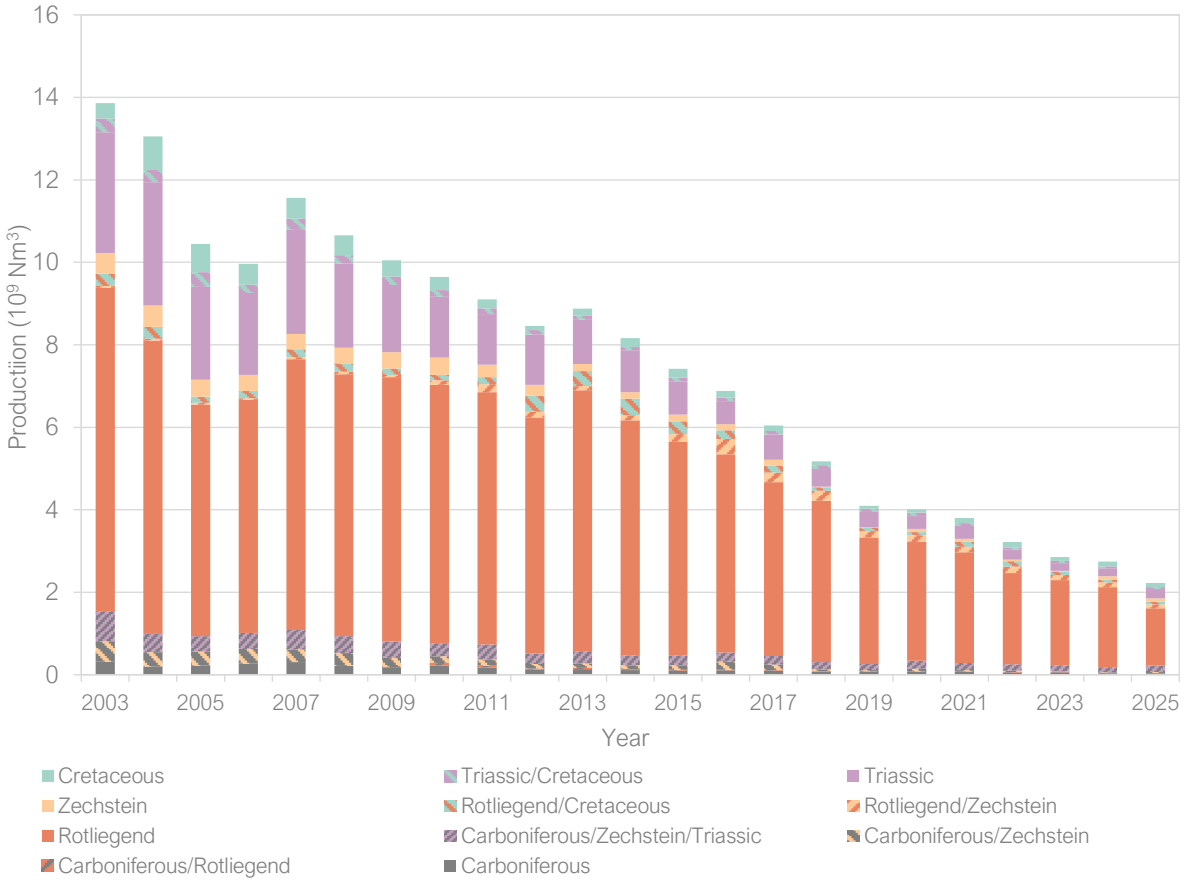


Figure 3.1 Natural gas production on land per reservoir (excluding the Groningen gas field).

In Figure 3.2, the contributions from the Rotliegend and Triassic reservoirs are not included. As a result, the contributions of gas production from the Cretaceous, Zechstein, and Carboniferous reservoirs are more clearly visible. It should also be noted that there is no production from Jurassic reservoirs on land. Production from this group of reservoirs generally shows a declining trend, although between 2012 and 2016 production remained relatively stable. This is mainly due to increased output from the Rotliegend/Cretaceous reservoir of the Vinkega field, while production from the Cretaceous and Zechstein reservoirs declined during that period.

The increase in production from the Rotliegend/Zechstein reservoirs in 2016 was caused by a rise in output from Middelie, from 29 to 161 million Nm^3, and the reclassification of Slootdorp following the start of production from a Rotliegend reservoir, whereas production previously took place exclusively from the Zechstein. From 2017 onward, gas production again shows a clear and sharp downward trend due to pressure depletion. The increase in production from the Zechstein, Carboniferous/Zechstein, and Carboniferous/Zechstein/Triassic reservoirs in 2020 temporarily interrupted the declining trend. Since then, production appears to be relatively stable, with only a sudden drop due to significant production losses in several fields, as was the case in 2023.

Figure 3.2 Natural gas production on land per reservoir (excluding gas field Groningen, Rotliegend and Triassic reservoirs).

3.2 Natural gas production at sea in 2025

The table below shows the monthly production figures of natural gas at sea and per production licence. The production per licence is the field production, divided in proportion to the surface area of the field within the licence. Due to rounding of the production per month, small differences with the totals per year may occur.

A long-term overview of annual natural gas production from 1960 through 2025 is provided in Excel overview sheet B and Figure 3.5.

Table 3.7 Natural gas production at sea in 2025 (in million Nm^3)

Licence	Operator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
A12a	Petrogas E&P Netherlands B.V.	13.9	16.0	16.2	15.1	18.7	16.3	16.3	15.9	2.5	10.0	10.9	17.5	169.3
A12b & B10a	Petrogas E&P Netherlands B.V.	19.7	24.1	25.3	20.5	24.3	25.8	26.8	26.3	3.7	22.0	18.6	16.4	253.7
A12d	Petrogas E&P Netherlands B.V.	3.4	3.9	4.0	3.6	4.5	4.1	4.0	3.9	0.6	3.0	3.3	4.1	42.5
A15a	Petrogas E&P Netherlands B.V.	21.3	25.1	26.4	21.6	27.1	26.4	26.1	25.3	4.1	24.9	27.4	24.8	280.6
A18a	Petrogas E&P Netherlands B.V.	6.0	7.5	8.6	7.0	8.7	8.5	9.8	9.0	0.2	0.3	0	7.4	72.8
A18c	Petrogas E&P Netherlands B.V.	3.1	3.9	4.4	3.6	4.5	4.4	5.0	4.6	0.1	0.1	0	3.8	37.5
B10c & B13a	Petrogas E&P Netherlands B.V.	3.9	4.6	4.7	3.8	5.5	4.6	5.4	4.6	0.8	0.5	0	6.0	44.2
D12a	Wintershall Noordzee B.V.	10.9	8.7	5.4	9.5	8.3	7.7	8.9	7.9	7.4	6.6	5.4	5.8	92.3
D12b & D12c	Wintershall Noordzee B.V.	18.9	15.2	9.3	16.5	14.4	13.4	15.5	13.7	12.9	11.4	9.5	10.0	160.7
D15a	Eni Energy Netherlands B.V.	0	0	0	0	0	0	0	0	0	0	0	0	0
E16a	Eni Energy Netherlands B.V.	0	0	0	0	0	0	0	0	0	0	0	0	0
E17a & E17b	Eni Energy Netherlands B.V.	0	0	0	0	0	0	0	0	0	0	0	0	0
F02a	Dana Petroleum Netherlands B.V.	3.8	2.3	3.2	3.8	2.8	3.1	3.9	3.9	2.6	3.9	4.4	5.3	43.0
F03b	Eni Energy Netherlands B.V.	6.9	3.5	5.1	6.7	4.1	4.8	7.0	7.0	6.3	6.9	8.6	10.5	77.3
F06a	ONE-Dyas B.V.	1.2	0.6	0.9	1.2	0.7	0.8	1.2	1.2	1.1	1.2	1.5	1.8	13.6
F15a	TotalEnergies EP Nederland B.V.	4.2	3.4	4.2	4.0	3.9	3.6	3.6	2.9	3.8	3.5	2.8	4.2	44.1
F17c	Tenaz Energy Netherlands B.V.	2.7	2.5	2.6	2.8	2.6	2.3	2.8	2.5	1.6	2.4	2.4	2.8	30.0
G14a & G17b	Eni Energy Netherlands B.V.	22.8	17.8	22.6	19.9	12.6	14.5	14.8	14.6	9.0	18.4	15.5	18.7	201.2
G16a	Eni Energy Netherlands B.V.	11.5	10.3	11.2	11.1	11.0	11.6	10.5	10.4	6.2	9.3	9.2	8.1	120.2
G17a	Eni Energy Netherlands B.V.	0.01	0.01	0.01	0.01	0.01	0.7	3.2	3.3	1.9	3.3	3.0	3.1	18.5
G17d	Eni Energy Netherlands B.V.	0	0	0	0	0	0	0.7	3.0	1.9	3.2	3.0	3.1	15.0
J03a	TotalEnergies EP Nederland B.V.	2.5	2.5	2.6	2.4	1.1	1.7	2.0	0.2	0.00	0.2	0.3	0.3	15.7
J03b & J06a	Spirit Energy Nederland B.V.	0.8	0.8	0.9	0.8	0.4	0.5	0.6	0	0	0	0	0	4.7
K01a	TotalEnergies EP Nederland B.V.	6.2	5.4	5.6	5.2	2.2	4.5	4.7	1.3	0	1.9	2.5	2.5	42.0
K02b	Eni Energy Netherlands B.V.	1.8	1.7	2.5	2.4	2.2	2.3	2.2	2.4	2.2	2.2	2.0	2.3	26.3
K02c	TotalEnergies EP Nederland B.V.	2.3	1.6	2.4	2.3	1.2	1.5	2.3	1.9	1.9	2.2	1.9	1.9	23.4
K03a	Eni Energy Netherlands B.V.	4.4	4.1	6.1	6.0	5.3	5.7	5.5	6.0	5.5	5.5	5.0	5.7	64.7
K03b	TotalEnergies EP Nederland B.V.	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	1.7
K03c	Eni Energy Netherlands B.V.	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7
K04a	TotalEnergies EP Nederland B.V.	18.7	17.0	18.8	18.3	15.6	17.5	22.1	13.0	10.5	11.6	14.6	15.3	193.0
K04b & K05a	TotalEnergies EP Nederland B.V.	36.5	32.0	36.5	36.8	17.7	21.5	32.0	27.0	29.9	32.0	31.4	32.2	365.5
K05b	TotalEnergies EP Nederland B.V.	7.6	6.0	7.5	7.8	4.0	4.4	7.6	6.0	6.3	7.4	7.3	7.9	79.8
K06a, K06b, L07a & L07b	TotalEnergies EP Nederland B.V.	13.1	10.3	11.3	9.1	12.3	14.4	14.7	13.1	11.4	13.3	13.2	11.1	147.4
K07	Tenaz Energy Netherlands B.V.	2.9	3.0	2.5	2.4	1.0	1.0	1.7	2.0	1.3	0.6	2.5	2.4	23.2

Licence	Operator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
K08 & K11a	Tenaz Energy Netherlands B.V.	22.3	19.1	18.5	16.6	5.7	10.9	15.7	14.7	6.9	8.4	15.9	16.2	171.0
K09a & K09b	Eni Energy Netherlands B.V.	0.5	0.8	0.01	0.04	0.00	0.2	3.5	3.6	1.9	3.1	3.4	3.3	20.3
K09c & K09d	Eni Energy Netherlands B.V.	0.7	0.5	0.6	0.4	0.6	0.7	0.7	0.5	0.5	0.6	0.5	0.2	6.5
K12a	Eni Energy Netherlands B.V.	16.4	15.5	18.8	15.5	11.1	15.1	15.1	16.8	16.7	15.4	15.1	13.2	184.6
K14a	Tenaz Energy Netherlands B.V.	1.0	0.9	0.9	0.7	0.3	0.6	2.1	1.2	0.4	0.4	0.8	0.8	9.9
K15	Tenaz Energy Netherlands B.V.	29.3	21.4	28.0	23.3	15.4	17.1	23.7	24.5	20.7	23.7	22.7	28.3	278.0
K17a	Tenaz Energy Netherlands B.V.	5.2	4.3	4.5	3.9	1.1	1.5	2.3	2.5	2.5	2.5	3.1	3.2	36.6
K18b	Wintershall Noordzee B.V.	9.2	8.0	8.8	8.5	4.2	8.1	6.3	6.1	7.2	11.1	10.2	10.2	98.0
L01a	TotalEnergies EP Nederland B.V.	1.6	1.4	1.7	1.1	1.4	1.6	1.6	1.6	1.4	1.6	1.5	1.6	18.1
L01d	TotalEnergies EP Nederland B.V.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.5
L01e	TotalEnergies EP Nederland B.V.	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.02	2.1
L01f	TotalEnergies EP Nederland B.V.	0.8	0.7	0.9	0.6	0.8	0.9	0.8	0.8	0.7	0.8	0.7	0.8	9.4
L02	Tenaz Energy Netherlands B.V.	15.2	13.6	14.2	15.1	14.2	12.0	13.9	15.1	9.1	12.8	12.5	14.8	162.7
L04a & L04b	TotalEnergies EP Nederland B.V.	7.9	6.9	8.7	5.2	7.7	8.5	8.4	8.0	6.9	4.4	6.5	8.2	87.3
L04c	Eni Energy Netherlands B.V.	0.4	0.4	0.4	0.4	0.5	0.3	0.0	0.4	0.5	0.4	0.4	0.5	4.4
L05a	Eni Energy Netherlands B.V.	24.7	22.0	23.0	21.7	22.5	17.9	0.0	21.9	19.7	21.0	18.7	22.0	235.1
L05b	Wintershall Noordzee B.V.	0.9	0.8	0.9	0.9	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	4.9
L05c	Wintershall Noordzee B.V.	0.3	0.3	0.3	0.3	0.2	0.3	0.0						1.6
L06a-Diep	Wintershall Noordzee B.V.	1.6	1.4	1.5	1.4	1.2	0.7	0.0						7.7
L06b	Wintershall Noordzee B.V.	0.8	0.7	0.8	0.8	0.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	4.5
L08a & L08c	Wintershall Noordzee B.V.	4.6	2.6	4.2	3.6	1.7	3.4	2.5	4.0	1.2	3.3	3.3	3.6	38.1
L08b, L08d & L08e	Wintershall Noordzee B.V.	3.7	2.8	3.5	3.2	2.5	3.1	0.7	1.2	0.3	1.0	1.0	1.0	24.0
L09	Tenaz Energy Netherlands B.V.	11.3	9.4	10.8	12.2	9.8	10.3	7.6	10.6	10.3	10.6	10.3	9.9	123.0
L10a, L10b & L11a	Eni Energy Netherlands B.V.	17.3	16.4	18.9	14.7	11.3	20.8	18.6	19.3	20.8	20.8	18.9	16.0	213.9
L11b	ONE-Dyas B.V.	2.5	1.4	2.0	2.7	1.4	1.9	1.9	2.5	1.0	1.8	2.4	2.1	23.4
L11c	ONE-Dyas B.V.	1.4	1.6	1.2	1.4	1.0	1.6	2.1	0.9	1.6	0.5	2.3	1.6	17.2
L12a	Eni Energy Netherlands B.V.	2.9	2.7	2.9	2.7	2.8	2.5	2.5	1.7	1.7	1.1	2.0	2.2	27.7
L12b & L15b	Eni Energy Netherlands B.V.	8.2	7.6	8.2	7.8	7.6	7.6	11.0	8.5	6.6	10.2	10.0	9.6	103.0
L13	Tenaz Energy Netherlands B.V.	19.1	20.3	22.6	22.5	12.3	17.8	21.5	21.0	19.9	20.5	19.4	15.5	232.5
L15c	Eni Energy Netherlands B.V.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	2.2
M07a	ONE-Dyas B.V.	7.5	4.7	7.5	7.1	6.5	2.0	0.8	2.7	3.2	3.6	3.3	2.9	51.6
N04, N05 & N08	ONE-Dyas B.V.			46.6	55.7	54.3	59.8	60.9	62.0	60.5	54.9	45.5	41.0	541.2
N07a	Nederlandse Aardolie Maatschappij B.V.	1.0	0.8	1.0	1.0	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	11.2
P10a	Dana Petroleum Netherlands B.V.	0.01	0.01	0.01	0.04	0.02	0.1	0.1	0.1	0.1	0.05	0.5	0.5	1.5
P10b	Dana Petroleum Netherlands B.V.			0.0	0.6	0.5	0.4	0.3	0.6	0.4	0.2	1.3	1.2	5.3
P11b	Dana Petroleum Netherlands B.V.	6.2	6.4	5.6	2.4	0.0	0.4	3.7	7.2	6.2	6.4	6.6	4.7	55.9
P15a, P15d, P15e & P15f	TAQA Offshore B.V.	3.2	3.0	2.7	1.2	0.0	0.0	1.7	2.2	2.3	3.8	3.5	3.2	27.0
P15c, P15g, P15h & P15i	TAQA Offshore B.V.	0.1	0.5	0.1	0.01	0.0	0.0	0.01	0.04	0.04	0.05	0.05	0.03	1.0
P18a	TAQA Offshore B.V.	4.9	3.9	2.0	0.0									10.7
P18c	TAQA Offshore B.V.	0.3	0.2	0.1	0.0									0.7
Q01c-diep	Wintershall Noordzee B.V.	14.1	15.4	17.0	16.4	14.4	15.9	16.2	15.1	3.8	16.8	7.3	15.9	168.3
Q04a	Wintershall Noordzee B.V.	1.8	1.7	1.8	1.8	1.6	1.7	1.8	1.7	0.4	1.7	0.7	1.6	18.3
Q07a & Q10a	Kistos NL2 B.V.	14.4	12.4	10.6	3.9	0.0	0.0	8.8	14.8	12.3	11.3	10.6	9.5	108.5

Licence	Operator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Q13a	Eni Energy Netherlands B.V.	0.4	0.3	0.4	0.1	0.0	0.0	0.2	0.4	0.3	0.4	0.4	0.3	3.2
Q16a	ONE-Dyas B.V.	1.6	1.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Total		516.7	468.6	554.6	521.7	433.7	476.4	520.0	528.6	385.4	484.8	469.0	502.7	5862.1

Production at sea by stratigraphic reservoir

Figures 3.3 and 3.4 show the contribution per stratigraphic reservoir to the total natural gas production from the small fields at sea. Production from fields with multiple reservoirs is shown using hatched colours.

Figure 3.3 shows all producing reservoir groups. This shows that, as on land, the contribution from the Rotliegend and Triassic reservoirs is dominant. From 2003 to 2007, production still increased slightly, but from 2008 to 2019 it declined steadily (0.7 to 2.2 billion Nm^3 per year). The sharp declining trend in production was slowed in 2020, mainly due to the start of gas production from the D12-B gas field in the Carboniferous. After that, lower-than-expected production from the Rotliegend, Zechstein and Carboniferous gas fields resulted in a similar decline to that already visible in the preceding period. In 2024 and 2025, this decline was offset by an increase in production from the Tertiary and the Rotliegend, respectively.

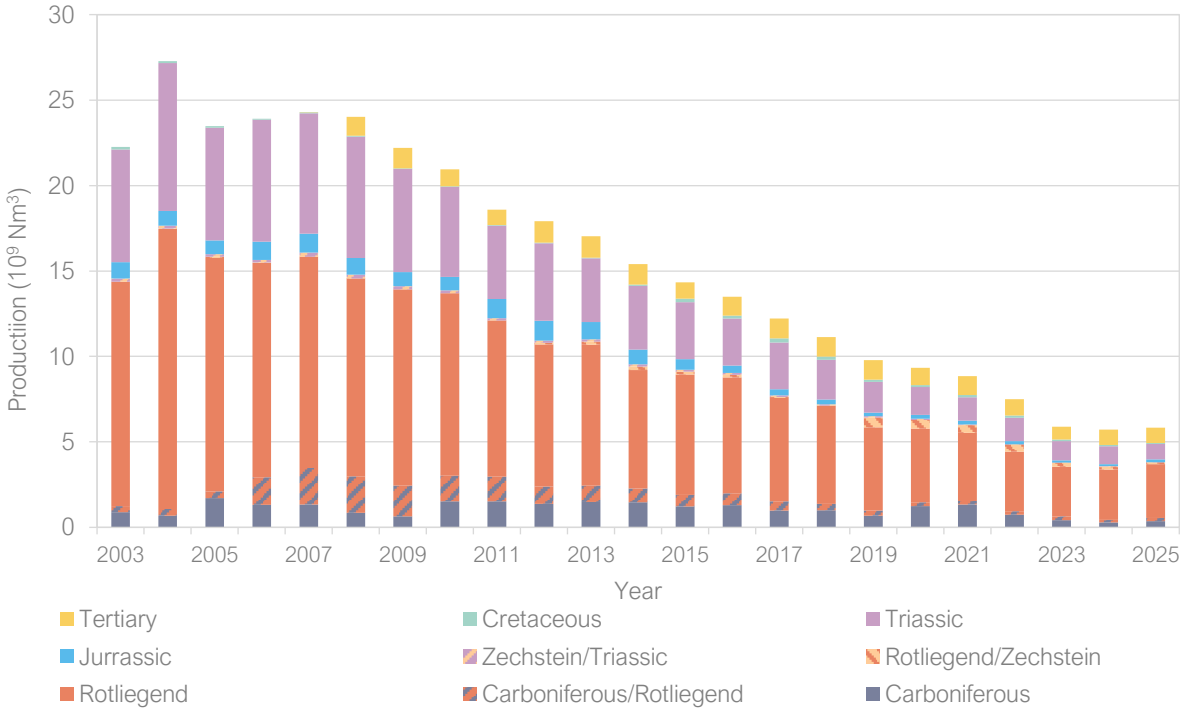


Figure 3.3 Natural gas production at sea per reservoir.

In Figure 3.4, the contributions from the Rotliegend and Triassic reservoirs are not included, making the contributions from other reservoirs to gas production more clearly visible. Between 2005 and 2007, the contribution from fields with a combined Carboniferous–Rotliegend reservoir nearly tripled. Since 2008, production from this combined reservoir has gradually declined again. Notable is the contribution to natural gas production from the so-called shallow gas reservoirs (Tertiary) in the northern offshore area in 2008. Production from the Tertiary has remained relatively stable due to the commissioning of the B13-FA field in 2015. The start of production from Q10-A (Rotliegend/Zechstein) in 2019 and D12-B (Carboniferous) in 2020 reversed the declining trend observed between 2016 and 2018. In 2021, production increased again

compared with the previous year, mainly due to high output from A12-FA, D12-B, and D12-D. This trend did not continue from 2022 onward due to the rapid decline in production from the previously mentioned gas fields D12-B and D12-D. Due to the increase in production from the Tertiary in 2024, as a result of the start of production from B10-FA, total production stabilised despite the decline from other reservoirs.

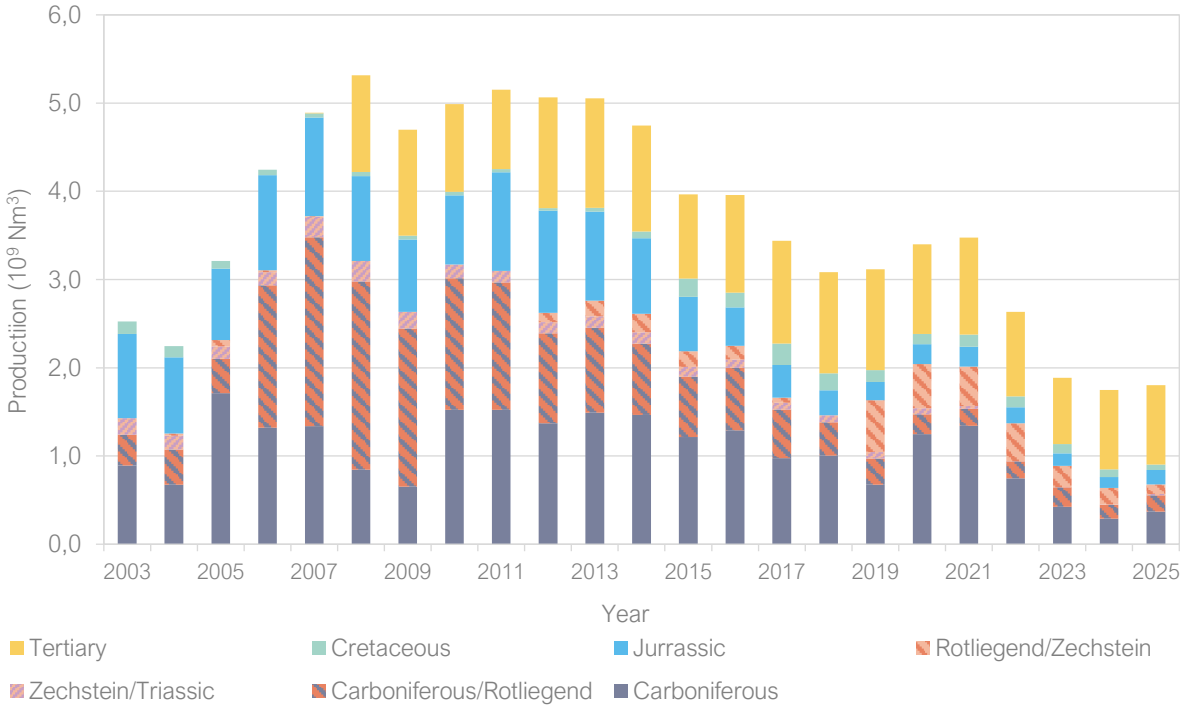


Figure 3.4 Natural gas production at sea per reservoir (excluding Rotliegend and Triassic reservoirs).

3.3 Historic natural gas production since 1960

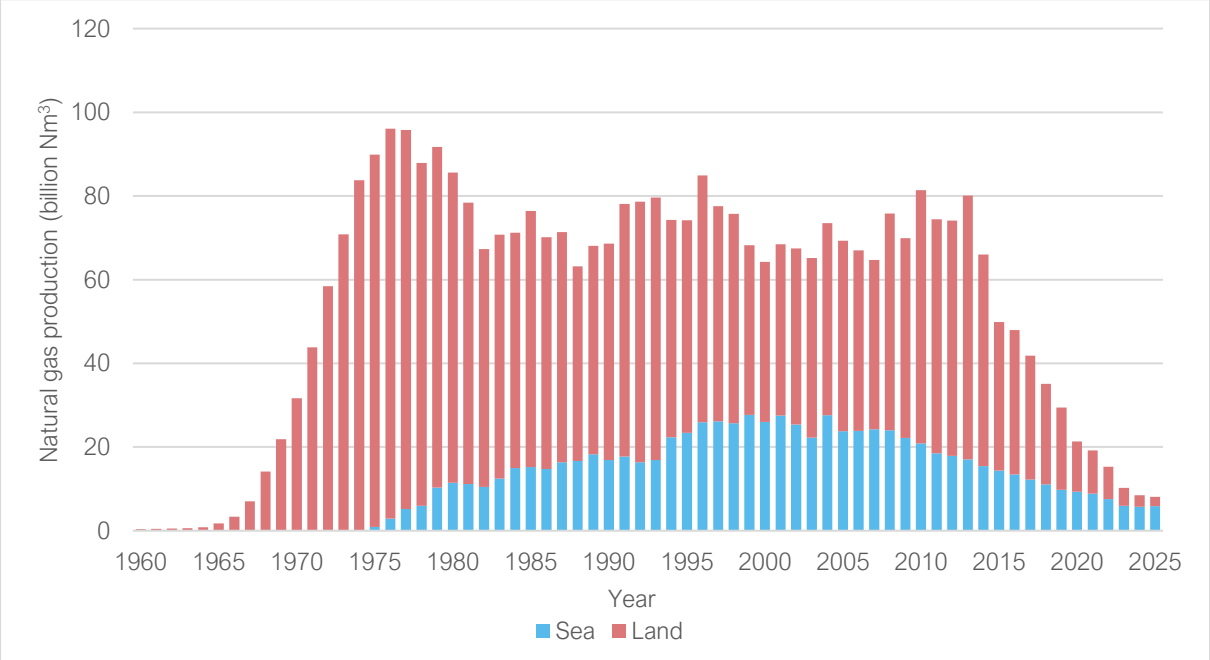


Figure 3.5 Historic natural gas production 1960-2025. The underlying data can be found in Excel overview sheet B. Note: In this figure, natural gas production is shown for both gas fields on land and at sea. These values may differ slightly from those presented in Sections 3.1 and 3.2, where production is reported per license.

3.4 Oil and condensate production in 2025

The tables below show the monthly production figures of crude oil and condensate per production licence. The production per licence is a sum of the field production, divided in proportion to the surface area of the field within the licence. Due to rounding of the production per month, small differences with the totals per year may occur.

A long-term overview of annual oil production is provided in Excel overview sheet D.

Tabel 3.8 Oil production in 2025 per licence (in 1000 Sm^3)

Licence *	Operator	Jan	Feb	Mar	Apr	Mei	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
F02a	Dana Petroleum Netherlands B.V.	9.3	7.3	8.8	9.0	8.7	8.4	7.2	8.9	1.3	10.0	9.6	10.4	98.9
F03b	Eni Energy Netherlands B.V.	1.4	1.1	0.9	1.6	1.0	0.8	0.9	1.7	1.5	1.6	2.3	4.3	19.0
F06a	ONE-Dyas B.V.	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.3	0.3	0.3	0.4	0.8	3.3
P10a	Dana Petroleum Netherlands B.V.	0.1	0.3	0.3	0.4	0.3	0.5	0.6	0.7	0.6	0.4	1.3	1.2	6.7
P10b	Dana Petroleum Netherlands B.V.			0.1	7.5	7.0	4.3	1.8	2.8	1.8	0.8	9.9	4.2	40.4
P11b	Dana Petroleum Netherlands B.V.	1.0	1.6	1.7	0.7	0.0	2.0	3.0	3.4	3.2	2.2	4.9	5.5	29.3
P15a, P15d, P15e & P15f	TAQA Offshore B.V.	2.4	2.8	2.9	1.0	0.0	0.0	0.6	3.2	3.1	3.5	3.4	2.5	25.5
P15c, P15g, P15h & P15i	TAQA Offshore B.V.	0.3	0.3	0.4	0.1	0.0	0.0	0.1	0.4	0.4	0.4	0.4	0.3	3.2
Q13a	Eni Energy Netherlands B.V.	5.1	5.1	4.2	1.4	0.0	0.0	1.8	4.1	3.9	4.6	4.3	3.1	37.6
Rijswijk	Nederlandse Aardolie Maatschappij B.V.	10.0	9.3	7.0	8.7	9.1	8.3	7.3	8.0	8.4	8.8	9.2	7.1	101.3
Schoonebeek	Nederlandse Aardolie Maatschappij B.V.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		30.1	27.9	26.4	30.8	26.2	24.5	23.4	33.4	24.4	32.6	45.8	39.4	365.1

* Excluding co-produced oil from production licences for geothermal energy.

Tabel 3.9 Condensate* production in 2025 (in 1000 Sm^3)

Licence	Jan	Feb	Mar	Apr	Mei	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
On land **	2.9	3.2	3.9	3.4	4.1	4.0	4.3	5.0	3.3	3.5	4.4	3.7	45.6
At sea	4.4	4.1	3.9	5.2	2.7	2.7	3.2	2.8	2.5	3.1	3.3	3.4	41.6
Total	7.3	7.3	7.8	8.6	6.8	6.7	7.5	7.8	5.9	6.6	7.7	7.1	87.2

* Condensate is also referred to as natural gasoline or natural gas liquids (NGL).

** Excluding co-produced condensate from geothermal energy production licences and the Alkmaar, Bergermeer, Grijpskerk and Norg storage fields (see Chapter 4).

3.5 Historic oil production since 1960

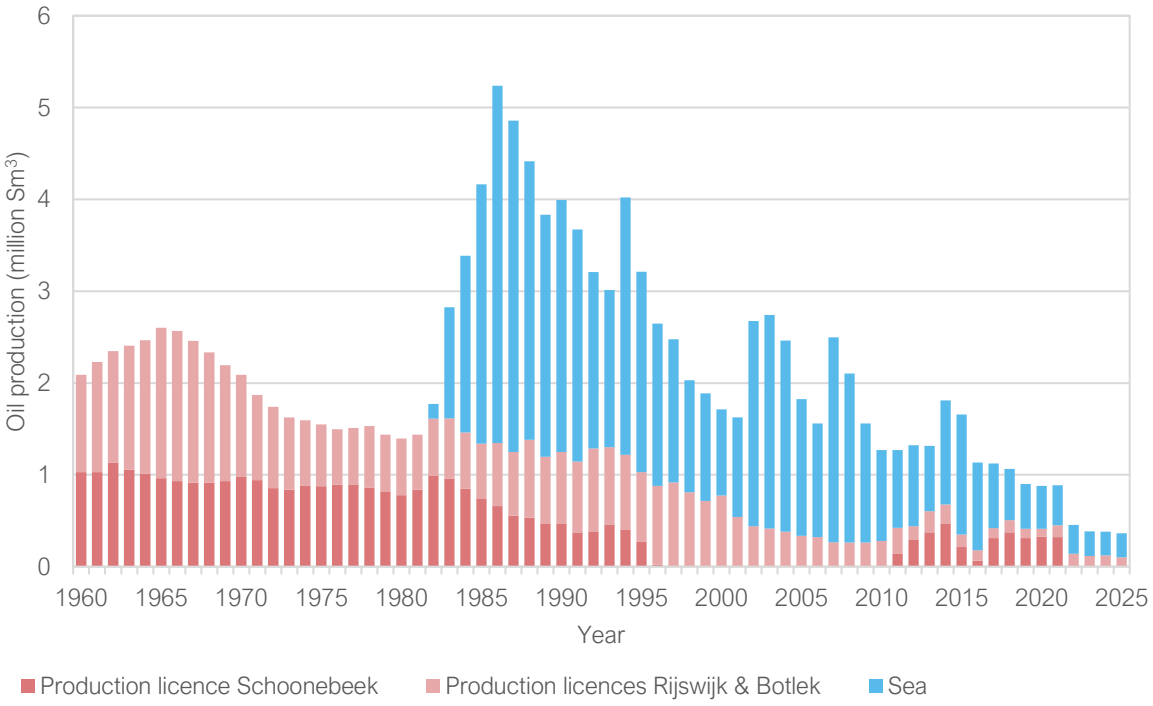


Figure 3.6 Historic oil production 1960 – 2025. The underlying data can be found in the Excel overview sheet D. Note: In this figure, oil production is shown for both fields on land and at sea. These values may differ slightly from those presented in Sections 3.3 and 3.4, where production is reported per license.

4.
Subsurface storage

This chapter reports on developments related to the underground storage of gases and liquids in the This chapter report the development surrounding storage of gasses and fluids in the Dutch subsurface during 2025. The first part of the chapter describes the different kinds of storage en reports the monthly volumes of natural gas and nitrogen stored and discharged from the storage locations. The last part of the chapter gives an overview of all storage licences in effect in 2025.

4.1 The different kinds of subsurface storage in the Netherlands

Subsurface storage is an exceptionally space-effective method for storing very large quantities of substances. Various forms of storage are possible in the Dutch subsurface. For example, storage in porous layers, such as the space between sand grains in depleted gas fields or in aquifers, or in constructed cavities, such as caverns in rock salt or mining galleries in former coal seams. These storage systems can be used as a temporary stock or buffer (such as for natural gas, nitrogen gas and potentially hydrogen and energy) with charge and discharge times varying from hours to a few months (of for example natural gas, nitrogen, hydrogen or other energy carriers). With permanent storage of CO_2 and salt water, (by-)products of industrial processes are removed from the system to minimise the impact on the environment and climate.

According to the Mining Act[11], the storage of substances in the subsurface (at depths of more than 100 m) requires a storage licence and the licence holder must have an approved storage plan. The storage plans provide information about the geological setting and the process of storage. In certain cases, the injection of substances does not legally fall under the storage of substances as referred to in the Mining Act: for example, the injection of nitrogen to prevent subsidence (De Wijk gas field) is part of the production plan and re-injection of formation/process water as an unavoidable co-produced substance falls under environmental legislation.

The Netherlands has subsurface storage for natural gas (in empty gas fields and salt caverns), nitrogen and natural oil (in salt caverns) and salt water (in deep aquifers). In addition to the existing storage sites, the Dutch subsurface provides enough geological and technical potential for the storage of various new forms of sustainable energy carriers. Future energy scenarios foresee an increasing demand for large-scale subsurface storage to buffer energy in order to match supply and demand. The most concrete developments are in hydrogen storage, compressed air storage (CAES) and high temperature heat storage (HT-ATES). In 2025, the first hydrogen storage licence has been granted to temporarily store hydrogen in the subsurface. Furthermore, there are currently multiple project in progress to store CO_2 from industrial processes in abandoned natural gas field in the North Sea.

[11] Dutch Mining Act, Chapter 3, https://wetten.overheid.nl/BWBR0014168/2025-03-29#Hoofdstuk3

4.2 Developments in temporary storage

Gas storage

The seasonal variation in natural gas demand (winter/summer) has long been balanced by varying the production from the Groningen gas field. An important reason for this was that in doing so the small fields could be produced without being disturbed (as part of the small fields policy). As production from the Groningen field progressed, the pressure and thus the flexibility in the production rate of the Groningen field declined accordingly. In order to maintain sufficient flexibility to meet fluctuations in gas demand to guarantee the security of gas supply, four underground gas storage facilities have been put into operation since 1997. These are: Norg, Grijpskerk, Alkmaar en Bergermeer. As of 2011, another gas storage facility was added which stored the natural gas in salt cavern in Zuidwending.

Gas storage facilities at Norg (low-calorific gas/pseudo-Groningen gas) and Grijpskerk (high-calorific gas until 2022, after that low-calorific gas) have served as a buffer to cope with seasonal fluctuations in gas demand. The storage facilities in Alkmaar and in Zuidwending (low-calorific gas) are primarily used to accommodate peak demands of one or more days. In case of Zuidwending this is also done for commercial reasons to sell the gas when demand is high (spot market). Lastly, the Bergermeer (high-calorific gas) storage facility is primarily aimed at international gas trading and operates on the gas market.

Error! Reference source not found.1 and Error! Reference source not found.2 respectively show the volume of natural gas stored and withdrawn from the five natural gas storage facilities in the last 20 years. From 2015 onwards, the capacity used by the storage facility in Norg has risen sharply, by increasing the workingvolume of 3 to 7 billion Nm^3 (raised from 6 billion Nm^3 in 2019).

In 2022, the war in Ukraine and volatile gas prices lead the EU to implement legislation for subsurface gas storage. The new legislation states targets for the minimum fill grade of the gas storages at multiple times throughout the year. This is done to guarantee a continuous gas supply for the EU. Figure 4.3 shows the fill grade of the combined gas stores of the Netherlands from 2022 till 2025. The gas supply from all five stores separately is shown for 2025 in figure 4.4. On November 1st 2025 the total gas supply was 73%. This is one percent below the EU target of 74%[12]. At the EU-level this fill grade is within the 10%-margin of the fill grade target between the 1st of October and the 1ste of December. This margin is allowed to be applied due to unforeseen difficult circumstances. Besides the EU fill targets, the Netherlands also has a national target of 80% as of 1ste of November which was not met by 7%.

Increased gas demand on, for instance, very cold winter days, can to a certain extent also be solved via international pipelines and LNG terminals. On the Maasvlakte, there is a terminal where liquefied natural gas (LNG) is stored in tanks at surface (this is considerably smaller than underground storage). In 2025, the building of an additional LNG storage tank has begun which will increase the capacity for LNG in the future. The Eemshaven has a temporary LNG terminal. In 2025, it was announced that discussions are ongoing on keeping this terminal for a longer time than the stated end date of 2027[13].

[12] Voorzienings- en leveringszekerheid energie | Tweede Kamer der Staten-Generaal

[13] Projectupdates EemsEnergyTerminal, 3-2-2025, (https://www.gasunie.nl/projecten/eemsenergyterminal).

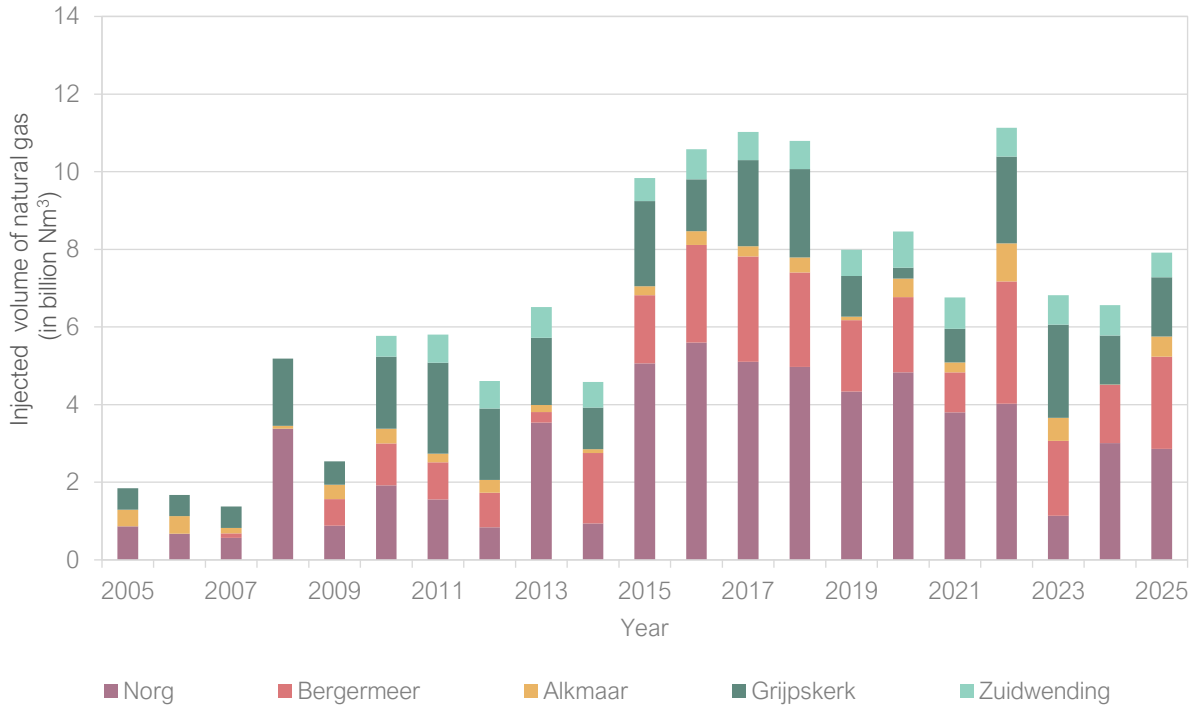


Figure 4.1 Injected volume of natural gas per UGS from 2005-2025.

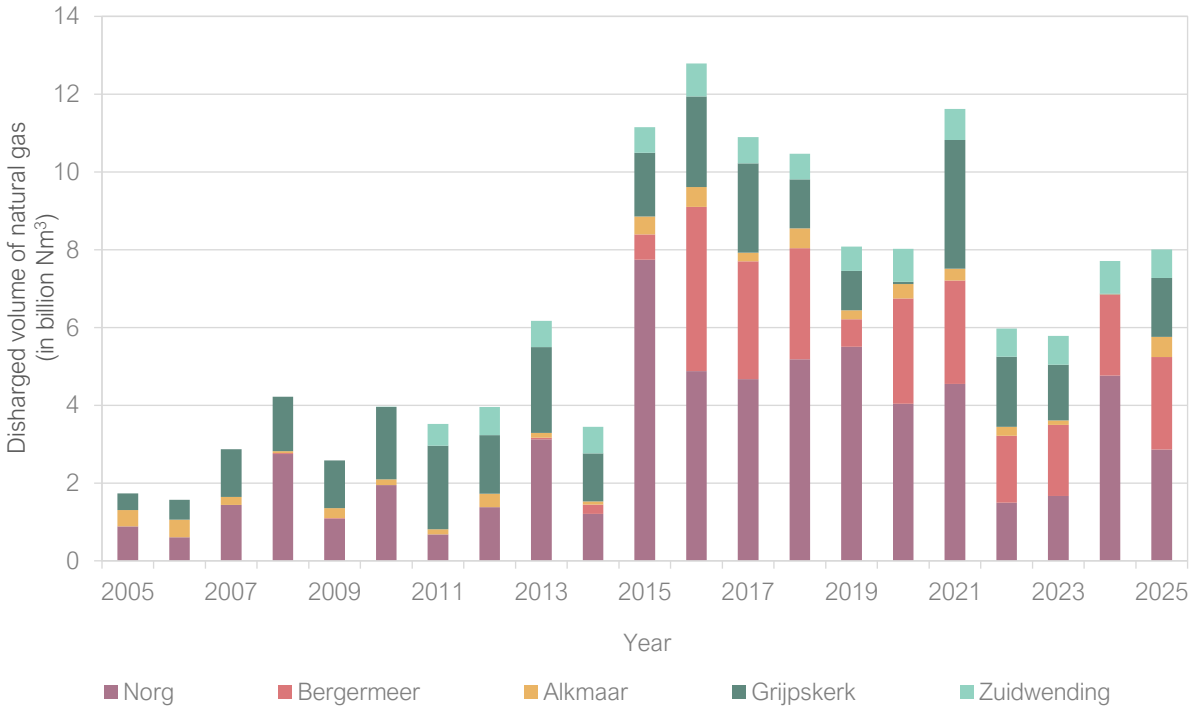


Figure 4.2 Discharged volume of natural gas per UGS from 2005-2025.

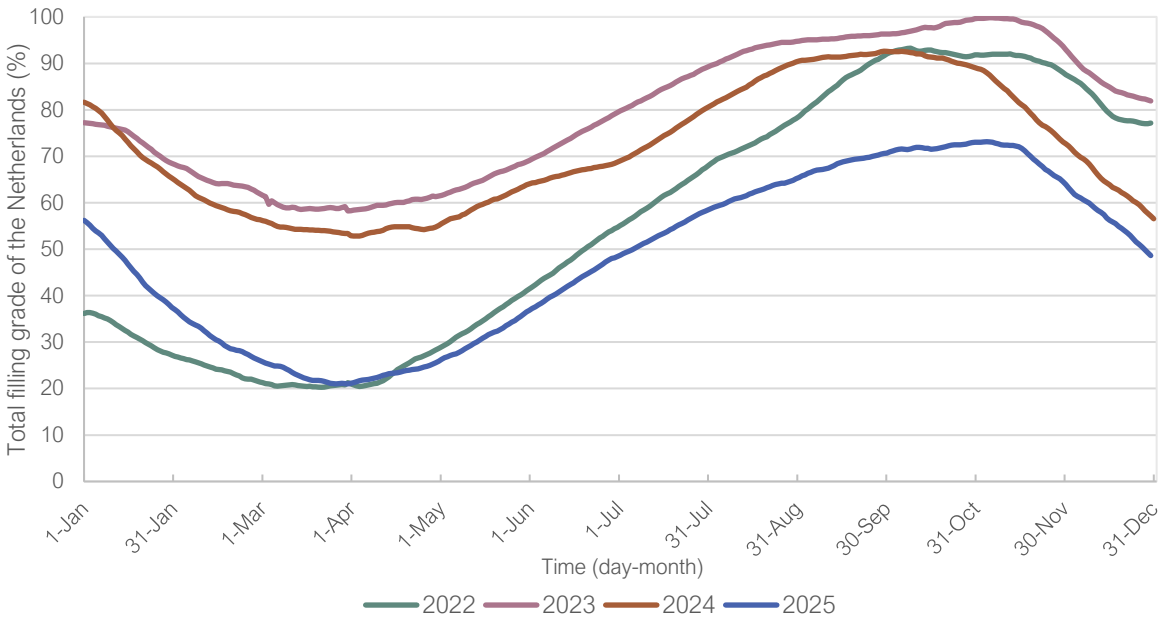


Figure 4.3 Historic filling grade (in %) of all subsurface gas storage locations in the Netherlands from 2022-2025. Data source: Gas Infrastructure Europe (GIE)- AGSI+ (Aggregated Gas Storage Inventory)[14] for daily reports on underground gas storage levels in the EU27 and surrounding countries.

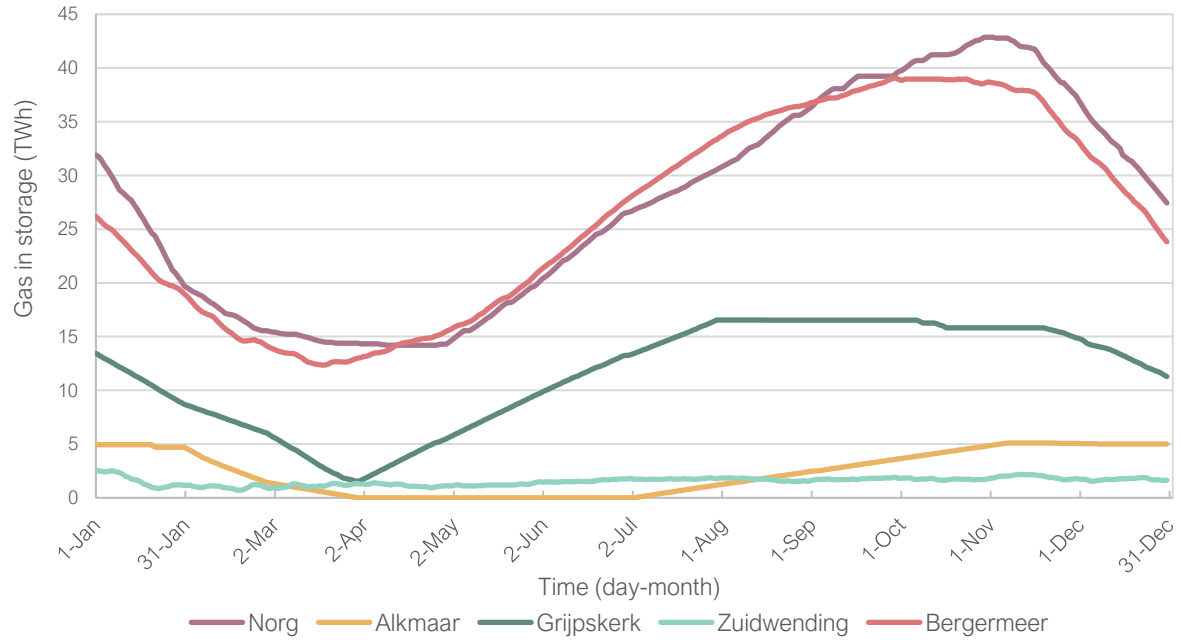


Figure 4.4 Gas in storage (TWh) in 2025 per subsurface gas location in the Netherlands. Data source: Gas Infrastructure Europe (GIE): AGSI+ (Aggregated Gas Storage Inventory)[3] for daily reports on underground gas storage levels in the EU27 and surrounding countries.

[14] https://agsi.gie.eu/

Hydrogen Storage

Work is currently underway to develop underground storage of gaseous hydrogen in salt caverns. In support of this the first project procedure for a hydrogen store is ongoing for the Hystock project in Veendam. In 2025, the first storage licence for hydrogen storage, designated Zuidwending (see Table 4.5), was granted. This hydrogen storage cavern is located adjacent to the natural gas storage caverns covered by the Zuidwending natural gas storage licence. According to the current planning, the hydrogen store is expected to become operational in 2031. Before this can take place, a storage plan must still be approved. In addition, there are plans to develop three further hydrogen storage caverns at Zuidwending.

Storage of nitrogen and oil

Besides gas and hydrogen storage, two more substances are currently being stored in the Dutch subsurface. Firstly, in Twente (Twenthe-Rijn de Marssteden storage licence) a strategic oil supply is stored in one of the salt caverns. Secondly, in Winschoten (Heiligerlee) a salt cavern is used to store nitrogen for the conversion of high-calorific gas into low-calorific quality gas to replace the decreased pseudo-Groningen gas production. Secondly, the Windshoten lincence is divided into two areas. The smaller area (Windshoten II, licence holder Gasunie) is surrounds the salt storage caverns for nitrogen. While the larger area (Windshoten III, licence holder Nobian) is available as a potential development area where additional caverns can be developed for storage purposes.

4.3 Development in permanent storage

CO_2 storage

The Dutch part of the North Sea has a great potential for the development of CO_2 storage potential for both depleted fields[15] and aquifers[16]. There are advanced plans to use depleted natural gas fields at sea to provide significant capacity for the permanent storage of CO_2 in the coming years. There are currently four large scale CO_2 storage projects on the way: Porthos, Aramis, Abeona and Kompas.

The Porthos project, located just off the coast of South Holland plans to store in the two abandoned natural gas (see figure 4.1). By 2041, a maximum of 8 Mtonnes of CO_2 will be stored in the the empty natural gas fields of P18-4 and 32 Mtonne of CO_2 in the adjacent gas field P18-2 field by 2041. A storage licence for this purpose was granted back in 2013 for the depleted P18-4 gas field and this licence was amended to include the P18-2 field in 2022. These storage licences are awarded, but do not take effect until all related plans have been approved. These plans, consisting of risk management, corrective measures, monitoring and closure plans, will be submitted later (at minimum half a year before injection) in the licence application process. Porthos expects to be operational and start injecting by 2027.

In case of the Aramis-project, multiple storage licences were applied for in the period of 2022-2025. The Aramis-project plans transport CO_2 to the abandoned natural gas fields K14-FA, L04-A, L09-FF and L10-ALBE (see figure 4.5), where the CO_2 will then be stored. The licences are still in procedure. The Abeona project is a CO_2 transport and storage project developed by the Petrogas Group, aimed at repurposing existing infrastructure for the transport of CO_2 to the depleted Helm and Helder oil fields. The Kompas

[15] https://www.nlog.nl/kennisbank - CO2 storage capacity in depleted gas fields offshore the Netherlands. Porfolio study.
[16] https://www.nlog.nl/kennisbank - A map-based analysis of the theoretical CO_2 storage capacity in the Rotliegend aquifer of the Dutch offshore

project is a CO_2 storage project developed by ONE-Dyas, which plans to store CO_2 in the depleted Q16-FA gas field using a ship-based offloading terminal. For this latter project, a new storage licence application for Q16-FA was submitted in 2025.

In 2025 two competing exploration licences for storage of CO_2 in the Q-blocks was applied for. These exploration activities are aimed at researching the possibility of storing CO_2 in aquifers and/or depleted natural gas fields offshore.

To encourage the development of CO_2 storage projects, Dutch companies who wish to supply CO_2 to these storage projects are also eligible for the "Stimulation of sustainable energy production and climate transition" (SDE++). This programme provides subsidies to companies and non-profit organisations that generate renewable energy or reduce CO_2 emissions on a large scale. A total budget of 8 billion euros was available in 2025, which was partly used for the application for CO_2 storage projects[17].

Storage of saline water

The Andijk storage licence is intended for the permanent storage of the filter residue formed during the purification of saline water from the Ijsselmeer to produce drinking water. The concentrated saltwater produced during purification is injected into a groundwater package at a depth of 100 to 500 metres. Because this aquifer is deeper than 100 meters, this activity requires a storage licence under the Mining Act. In addition to this in the Netherlands production water, which is by product of natural gas and oil production, is often reinjected into the formation from which the water originates. For this procedure a storage licence is not required as if falls within the bounds of the production licence for the gas or oil field.

[17] Kamerbrief SDE++ openstelling 2024 | Kamerstuk | Rijksoverheid.nl

4.4 Subsurface storage in 2025

The monthly quantities of natural gas and nitrogen that were stored and discharged in the subsurface in 2025, are listed per licence in Table 4.2 to 4.4. The information has been provided by the licence holders.

Table 4.1 Stored natural gas (in million Nm^3).

Licence	Operator	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Alkmaar	TAQA	521	0	12	0	3	0	0	115	124	117	123	28	0
Bergermeer	TAQA	2,378	0	0	65	220	474	583	494	285	213	40	4	0
Grijpskerk	NAM	1,519	0	0	0	403	416	370	331	0	0	0	0	0
Norg	NAM	2,859	0	0	0	11	527	665	408	568	338	343	0	0
Zuidwending	Energy stock	634	49	76	102	42	56	42	34	20	68	39	57	48
	Total	7,911	49	88	167	678	1,473	1,659	1,381	997	736	545	89	48

Table 4.2 Discharged natural gas (in million Nm^3).

Licence	Operator	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Alkmaar	TAQA	217	23	43	142	0	0	0	0	0	0	0	4	5
Bergermeer	TAQA	2,507	644	326	167	2	0	0	0	0	2	72	460	835
Grijpskerk	NAM	1,712	483	261	440	0	0	0	0	0	0	72	93	364
Norg	NAM	3,374	1,256	422	116	19	0	0	0	0	0	0	576	985
Zuidwending	Energy stock	729	191	100	65	60	18	30	29	35	31	53	55	63
	Total	8,541	2,596	1,152	930	81	18	30	29	35	33	196	1,188	2,252

Table 4.3 Stored nitrogen (in million Nm^3).

Licence	Operator	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Winschoten II	Gasunie	55.5	0.6	10.5	3.7	2.3	1.9	1.2	10.4	0.0	12.1	3.8	4.3	4.8

Table 4.4 Discharged nitrogen (in million Nm^3).

Licence	Operator	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Winschoten II	Gasunie	56.5	6.9	4.9	3.2	5.7	4.7	3.8	5.7	6.4	4.2	7.1	0.9	3.0

4.5 Overview licences

In 2025, one storage licence was awarded on land for hydrogen storage within the licence boundaries of the current licence of Zuidwending (see Chapter 8.3).

At sea, one exploration licences for the exploration for storage of CO_2 was applied for in the Q-blocks and two storage licences for CO_2 were applied for in Q16-FA and L09-FF. From previous years three storage licences for CO_2 are pending (K14-FA, L04-A, L10-ALBE) (see chapter 8.3).

As of 1 January 2025 ten storage licences were in force. The CO_2 storage licences P18-2 and P18-4 have been granted but are not in force yet. An overview of all storage licences can be found in 5 and Excel Overview G. Figure 4.5 shows their locations on the map.

Table 4.5 Storage licences, on land and at sea in the Netherlands.

Licence	Awarded	Operator	Product	Status
Alkmaar	01-04-2003	TAQA	Gas	Effective
Bergermeer	08-01-2007	TAQA	Gas	Effective
Grijpskerk	01-04-2003	NAM	Gas	Effective
Norg	01-04-2003	NAM	Gas	Effective
Zuidwending	11-04-2006	EnergyStock	Gas	Effective
Twenthe-Rijn de Marssteden	02-10-2010	Nobian Salt B.V.	Oil	Effective
Winschoten II	15-11-2010	Gasunie (GTS)	Nitrogen	Effective
Winschoten III	15-11-2010	Nobian Salt B.V.	Nitrogen	Effective
Andijk	12-12-2019	PWN	Saline water	Effective
P18-4	20-07-2013	TAQA	Carbon dioxide	Awarded
P18-2	13-07-2022	TAQA	Carbon dioxide	Awarded
Zuidwending	24-6-2025	EnergyStock	Hydrogen	Effective

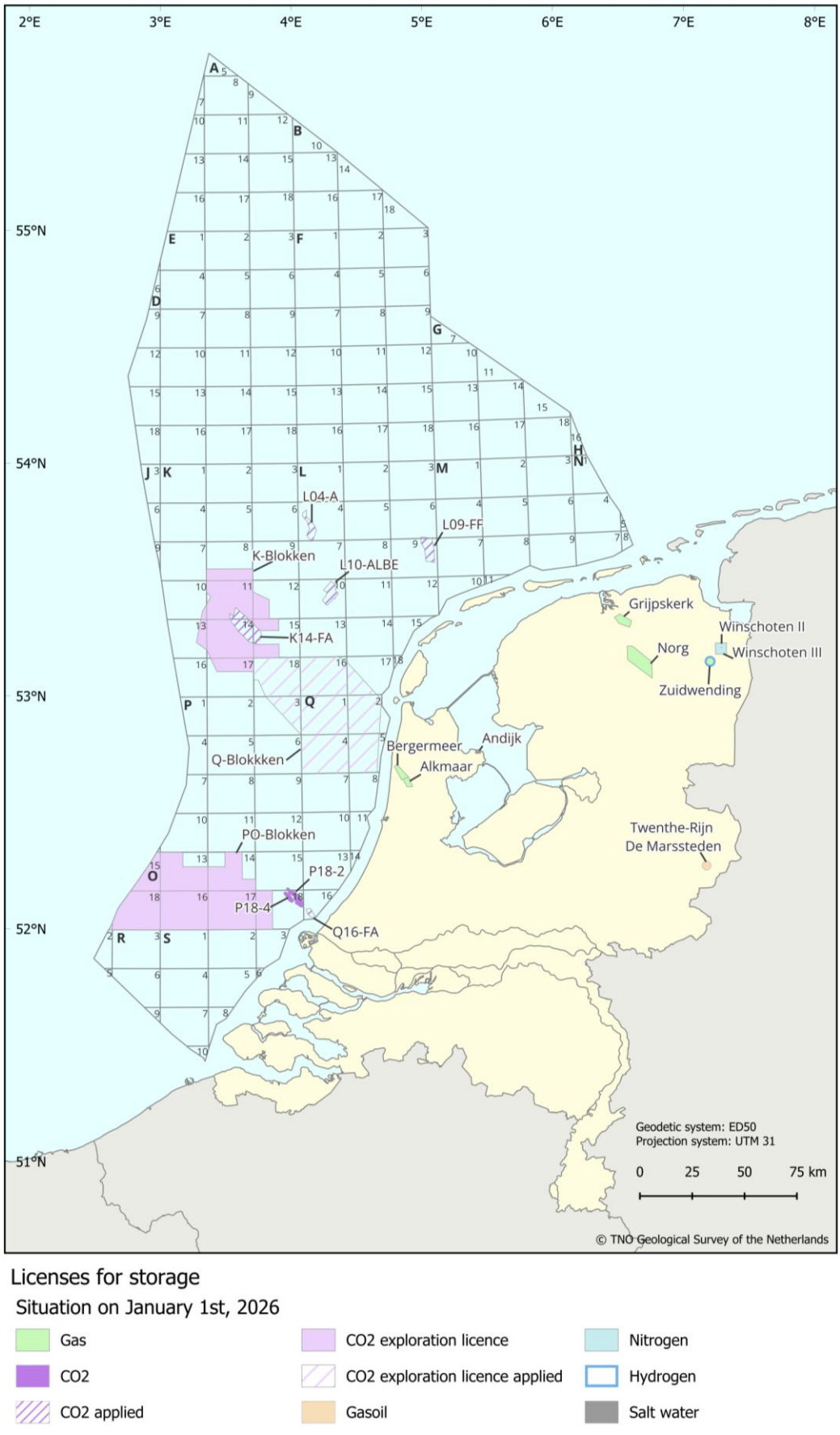


Figure 4.5 (Applied for) Storage and exploration for storage licences as of 1 January 2026.

5. Geothermal energy

This chapter reports on developments related to the exploration and production of geothermal energy in the Netherlands over the past year. It provides an overview of geothermal energy production in 2025 and the realised geothermal production installations. Additionally, it briefly covers the geothermal drilling activities that were completed in 2025. The final part of this chapter gives a concise overview of geothermal licences in 2025.

5.1 Geothermal Energy production in 2025

De cumulative reported geothermal energy production[18] in 2025 amounts to 7.737 PJ[19] (Figure 5.1). This is 0.246 PJ higher than in 2024. The total cumulative geothermal heat production from 2008 through 2025 amounts to 62.613 PJ.

Figure 5.2 provides an overview of monthly geothermal energy production. The same chart also shows the number of production installations that contributed to the monthly output.

During geothermal energy production, small quantities of natural gas, and occasionally crude oil, are co-produced. Natural gas is dissolved in the formation water and is released when the pressure of the produced water in the production-installation falls below the "bubble point". From 2018 through 2024, only natural gas was co-produced. Prior to 2018 and again in 2025, a small amount of oil was also co-produced (see Table 5.1)

[18] The heat produced by the Mijnwater Heerlen energy plant is not included in the reported geothermal energy production. This installation was commissioned in 2006 and, due to well depth, partly falls under the Mining Act, but is technically an aquifer thermal energy storage (ATES) system. Therefore, this installation is not discussed or listed separately in this chapter.
[19] 1 Petajoule (PJ) = 1015 Joule

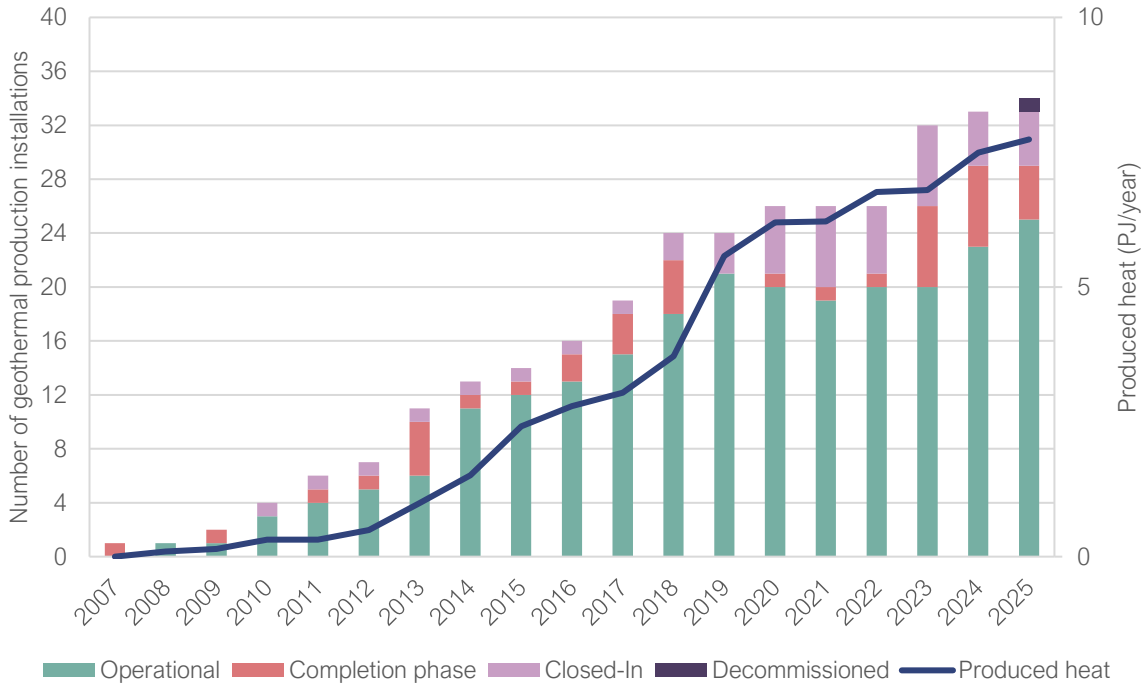


Figure 5.1 The annual geothermal energy production (PJ/year) from 2007 through 2025, shown together with the number of geothermal production installations, subdivided by operational status: operational, closed-in, start-up phase and decommissioned. Up to and including 2013, the annual production data are sourced from: Hernieuwbare energie in Nederland 2013. Centraal Bureau voor de Statistiek, Den Haag/Heerlen, 2014. ISBN: 978-90-357-1857-9.

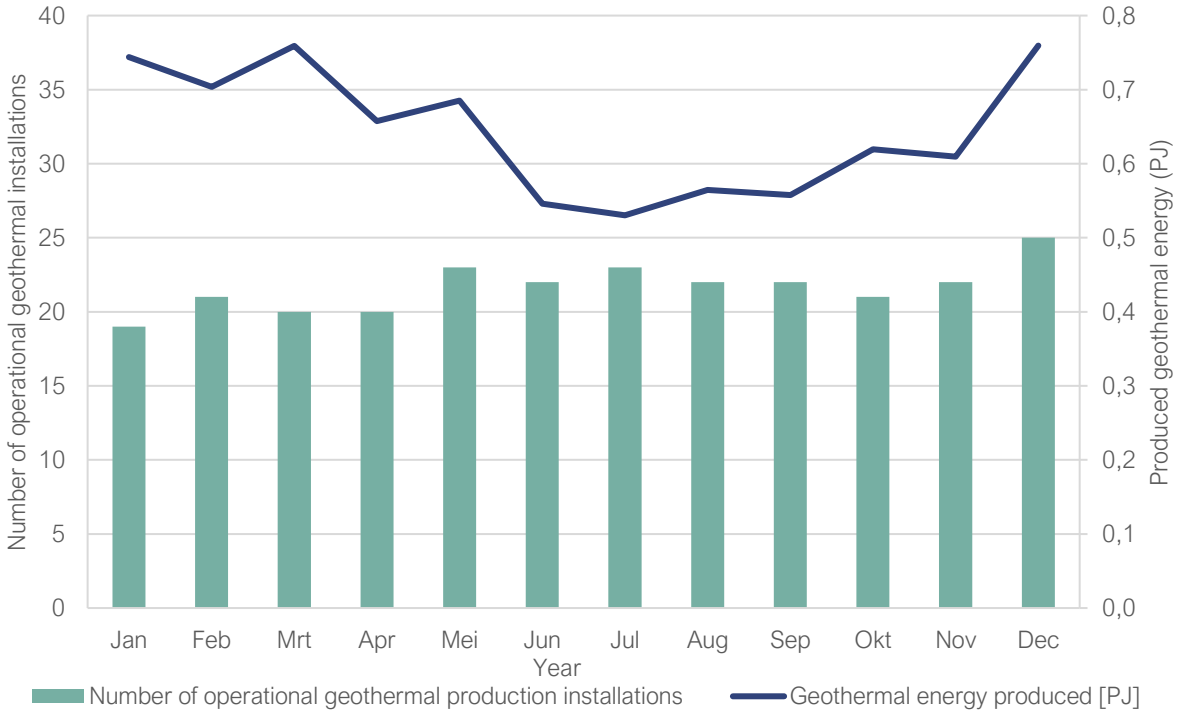


Figure 5.2 Monthly geothermal energy production in 2025 and the number of geothermal production systems that contributed to the reported production each month. Note: not all installations were operational throughout the entire year.

Table 5.1 Overview of produced geothermal energy, co-produced gas and co-produced oil.

Year	Produced geothermal energy (TJ)	Co-produced gas (x1000 Nm^3)	Co-produced oil (Sm^3)
2008	*[1] 0.096	-	-
2009	*[1] 0.142	-	-
2010	*[1] 0.318	-	-
2011	*[1] 0.316	-	-
2012	*[1] 0.495	-	-
2013	*[1] 0.993	-	-
2014	1.509	3.267	429
2015	2.417	4.378	186
2016	2.792	7.670	130
2017	3.042	8.100	31
2018	3.714	12.367	0
2019	5.578	19.914	0
2020	6.199	22.617	0
2021	6.216	22.394	0
2022	6.762	24.596	0
2023	6.796	22.970	0
2024	7.491	27.363	0
2025	7.737	29.650	7

*[1] Derived from: *Hernieuwbare energie in Nederland 2013*. Centraal Bureau voor de Statistiek, Den Haag/Heerlen, 2014. ISBN: 978-90-357-1857-9.
- Not (fully) reported

5.2 Geothermal production installations in 2025

The current portfolio of geothermal production installations consists of open geothermal systems[20].
The total number of geothermal production installations currently in use[21] is 33 (Figure 5.1 & Table 5.2). Of these, 25 installations were operational of partially operational[22] in 2025. Of the remaining eight installations, four are closed-in[23] and four are in the start-up phase[24].
In 2025, one installation was decommissioned[25]; the wells were plugged with cement and abandoned. The cumulative number of geothermal production installations developed since 2007 amounts to 34.

[20] An open geothermal system consists of at least one production well and one injection well. Hot water is pumped from the geothermal reservoir, after which heat is extracted at the surface via a heat exchanger. The cooled water is subsequently re-injected into the same geothermal reservoir. Subsurface, the geothermal water flows through the reservoir from the injection well to the production well, making use of the natural permeability of the reservoir rock.
[21] Under the Mining Act, the statuses 'operational', 'closed-in' and 'start-up phase' are all classified as 'in use'.
[22] An installation is assigned the status 'operational' when geothermal energy production is reported for the relevant year in accordance with Articles 111 and 119 of the Mining Decree.
[23] An installation is assigned the status 'closed-in' if, for that year, only zero production is reported in accordance with Articles 111 and 119 of the Mining Decree, while in previous years production greater than zero was reported.
[24] An installation is assigned the status 'start-up phase' once the realization of the wells has been completed and, from that point onward, no production data is reported in accordance with Articles 111 & 119 of the Mining Decree.
[25] An installation is assigned the status 'decommissioned' when all wells have been abandoned in accordance with Article 8.5.2.1 of the Mining Regulation.

Table 5.2 Geothermal production installations in 2025, including the wells associated with each installation, the licence under which the installation operates, the status of the installation and the (intended/historical) use of geothermal energy.

	Geothermal production installation	Wells	Geothermal energy licence	Status	Use
1	Bleiswijk Geothermie 1	VDB-GT-101 & 2	Bleiswijk II	Operational	Greenhouse heating
2	Bleiswijk Geothermie 2	VDB-GT-5 & 6	Bleiswijk 1b	Start-up phase	Greenhouse heating
3	Pijnacker-Nootdorp Geothermie	PNA-GT-5 & 6	Pijnacker-Nootdorp 4	Operational	Hybride
4	Den Haag Geothermie	HAG-GT-1 & 2	Den Haag	Operational	Built environment
5	Pijnacker-Nootdorp Zuid Geothermie	PNA-GT-3 & 4	Pijnacker-Nootdorp 5	Operational	Greenhouse heating
6	Koekoekspolder Geothermie	KKP-GT-1, 2 & 3	Kampen	Operational	Greenhouse heating
7	Honselersdijk Geothermie	HON-GT-1 & 2	Honselersdijk	Closed-in	Greenhouse heating
8	Californië Geothermie	CAL-GT-1, 2 & 3	Californië IV	Closed-in	Greenhouse heating
9	Middenmeer Geothermie 1	MDM-GT-6 & 1	Middenmeer I	Closed-in	Greenhouse heating
10	Middenmeer Geothermie 3	MDM-GT-2 & 5	Middenmeer I	Operational	Greenhouse heating
11	Heemskerk Geothermie	HEK-GT-1 & 2	Heemskerk	Operational	Greenhouse heating
12	Middenmeer Geothermie 2	MDM-GT-7 & 11	Middenmeer II	Operational	Greenhouse heating
13	De Lier Geothermie	LIR-GT-1 & 2	De Lier	Operational	Greenhouse heating
14	Vierpolders Geothermie	BRI-GT-1 & 2	Vierpolders	Operational	Greenhouse heating
15	Californië Geothermie 2	CAL-GT-4 & 5	Californië V	Closed-in	Greenhouse heating
16	Poeldijk Geothermie	PLD-GT-1 & 2	Poeldijk	Operational	Greenhouse heating
17	Kwintsheul Geothermie	KHL-GT-1 & 2	Kwintsheul	Operational	Greenhouse heating
18	Maasland Geothermie	MLD-GT-1 & 2	Maasland	Operational	Greenhouse heating
19	Lansingerland Geothermie	LSL-GT-1 & 2	Lansingerland	Operational	Greenhouse heating
20	Andijk Geothermie 1	ADK-GT-1 & 2	Andijk	Operational	Greenhouse heating
21	Andijk Geothermie 2	ADK-GT-3 & 4	Andijk	Operational	Greenhouse heating
22	Naaldwijk Geothermie	NLW-GT-1, 2, 3 & 4	Naaldwijk & Naaldwijk II	Operational	Hybrid
23	Luttelgeest Geothermie 1	LTG-GT-1, 2, 3, 7, 8, 9, 10 & 11	Luttelgeest & Luttelgeest III	Operational	Greenhouse heating
24	Tinte Geothermie	TNT-GT-1 & 2	Oostvoorne	Operational	Greenhouse heating
25	Luttelgeest Geothermie 2	LTG-GT-4, 5 & 6	Luttelgeest II	Operational	Greenhouse heating
26	Maasdijk Geothermie 2	MSD-GT-3 & 4	Maasdijk I	Operational	Hybrid
27	Maasdijk Geothermie 1	MSD-GT-1 & 2	Maasdijk I	Operational	Hybrid
28	Maasdijk Geothermie 3	MSD-GT-5 & 6	Maasdijk I	Start-up phase	Hybrid
29	Middenmeer Geothermie 4	MDM-GT-8 & 9	Middenmeer III	Operational	Greenhouse heating
30	Monster Geothermie	MON-GT-1 & 2	Monster I	Operational	Hybrid
31	-	DEL-GT-1 & 2	Delft I	Start-up phase	Built environment
32	-	VDB-GT-7 & 8	Zoetermeer I	Start-up phase	Greenhouse heating
33	Poeldijk Geothermie 2	PLD-GT-3 & 4	Poeldijk & Poeldijk II	Operational	Hybrid
Z1	Zevenbergen Geothermie	ZVB-GT-1 & 2	Zevenbergen	Decommissioned	Greenhouse heating

Table 5.2 en Figure 5.3 provide an overview of the (intended or historical) use of geothermal energy from geothermal installations. The produced heat is currently, and will in the future be, primarily used by 24 installations for greenhouse heating in the horticultural sector. One installation, which has since been decommissioned, also supplied heat to the greenhouse sector. In addition, seven project supply (or will in the future supply) heat to both the built environment and the greenhouse sector (hybrid supply). Finally, two projects supply, or are intended to supply, heat exclusively to the built environment.

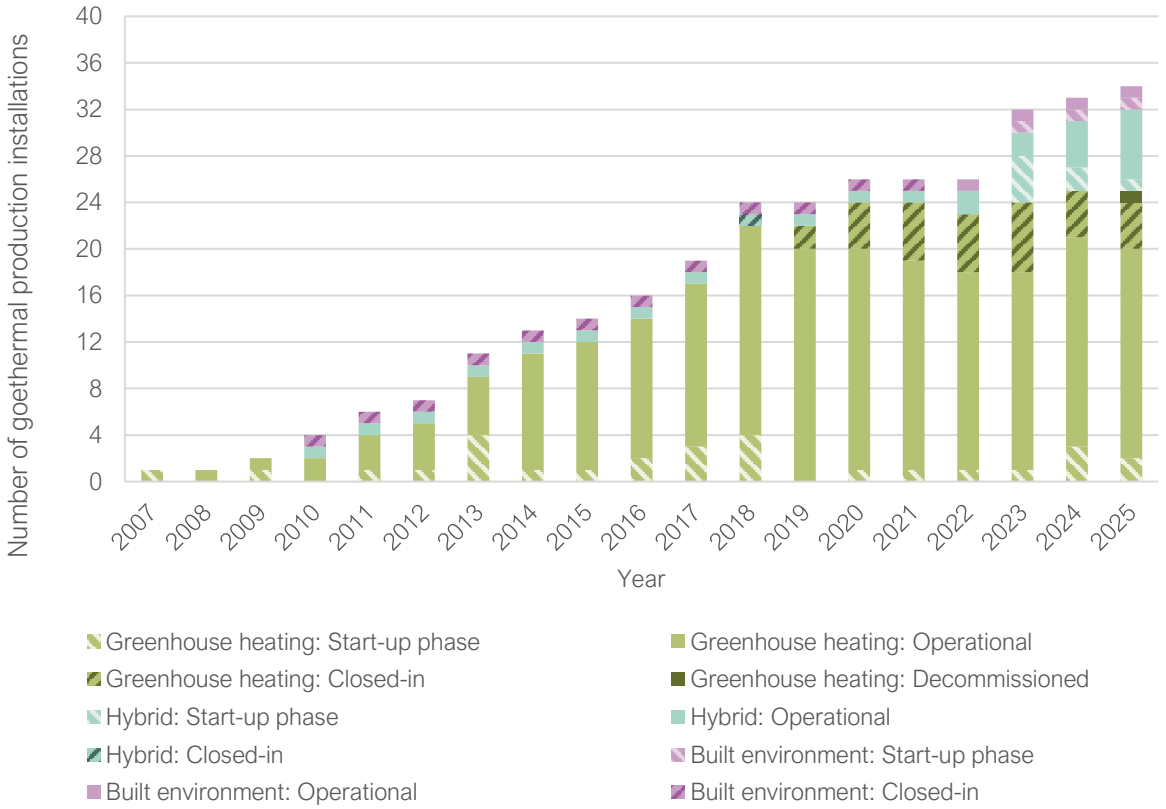


Figure 5.3 Number of geothermal production installations, subdivided by (intended or historical) use of heat and status (Operational, Start-Up Phase, Closed-In or Decommissioned)

The geothermal production installations realized to date have (intended or historical) productive intervals (reservoirs) of different geological ages at depths ranging from 700 to 2,800 meters below N.A.P. (Figure 5.4).

For the majority of geothermal production installations (19 installations), the productive interval consists of rocks of Upper Jurassic to Lower Cretaceous age. This applies to nearly all installations in South-Holland, with the exception of two installations that exploit a Triassic reservoir ("Buntsandstein"). The ten installations in North-Holland, Overijssel, and Flevoland produce from rocks of Permian age ("Slochteren Sandstone"). For the two installations in northern Limburg, rocks of Lower Carboniferous to Devonian age form the productive interval. In North-Brabant, one installation has been developed that has produced heat from rocks of Cenozoic age ("Brussels Sandstone").

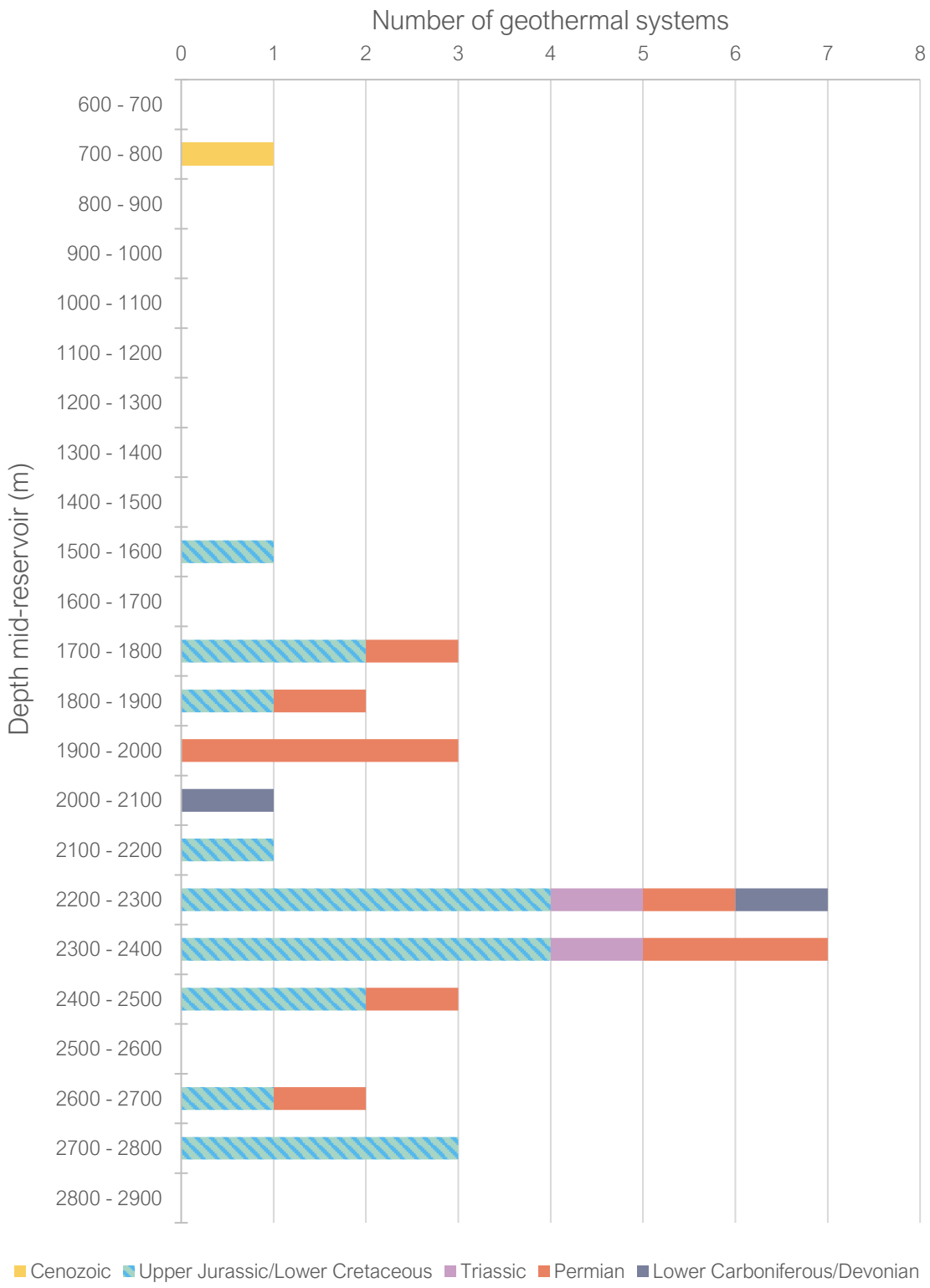


Figure 5.4 Age and mid-reservoir depth of the productive interval of the geothermal production installations developed to date.

5.3 Geothermal wells in 2025

In 2025, nine geothermal wells were completed (Chapter 12 & Figure 5.5). Five of these wells were drilled to obtain data for purely scientific research or for governmental policy purposes and will not be used in any geothermal production installation. Two wells were successfully drilled as replacements for previously failed wells. The remaining two wells are a continuation of a drilling campaign that technically failed in 2024 but was restarted and successfully completed in 2025. This resulted in the development of a new geothermal production installation within the Poeldijk II licence area.

Since 2007, a total of 102 geothermal wells have been drilled. Of these, 94 were drilled as part of geothermal production installations. In 2025, 29 of these were production wells and 31 were injection wells in operation. The remaining 34 wells are part of installations that have been shut down, are in the start-up phase, or where wells have been partially replaced by new drillings.

Figure 5.5 Number of successfully completed geothermal wells per calendar year since 2007. The wells are categorized as: standalone exploration[26], exploration[27], development[28] and development for replacement purposes[29].

[26] Standalone exploration: a borehole aimed at investigating the presence and quality of potential reservoirs for geothermal energy production, where the borehole is abandoned immediately after the drilling and testing phase.

[27] Exploration: a borehole aimed at investigating the presence and quality of potential reservoirs for geothermal energy production, where, if successful, the borehole is reused as a geothermal production or injection well.

[28] Development: a borehole targeting a proven reservoir for geothermal energy extraction at that location. The borehole will serve as a well and be part of a geothermal production facility.

[29] Development for replacement purposes: A borehole targeting a prove reservoir for geothermal energy extraction, intended to replace a failed well from a previously established geothermal production facility or a previously unsuccessful drilled borehole. This can be done through an entire new borehole or a sidetrack of an existing borehole.

5.4 Geothermal licenses

There are three types of geothermal licenses: "search area allocation", start licence and follow-up license. The status of these licenses can be "applied for" or "effective". Table 5.3 provides an overview of the number of licenses and their status as of 1 January 2026.
Changes during 2025 are discussed in Sections 8.5, 8.6 and 8.7 of Chapter 8. A complete overview of all valid geothermal licenses is included in Excel Overview G, which can be downloaded from NLOG.nl.

Table 5.3 Geothermal licenses (applied for) per 01-01-2026.

Number	Description
66	Search area allocations effective
4	Search area allocations in the process of application
17	Start licenses for geothermal energy effective
8	Start licenses for geothermal energy in the process of application
20	Follow-up licenses for geothermal energy effective
6	Follow-up licenses for geothermal energy in the process of application

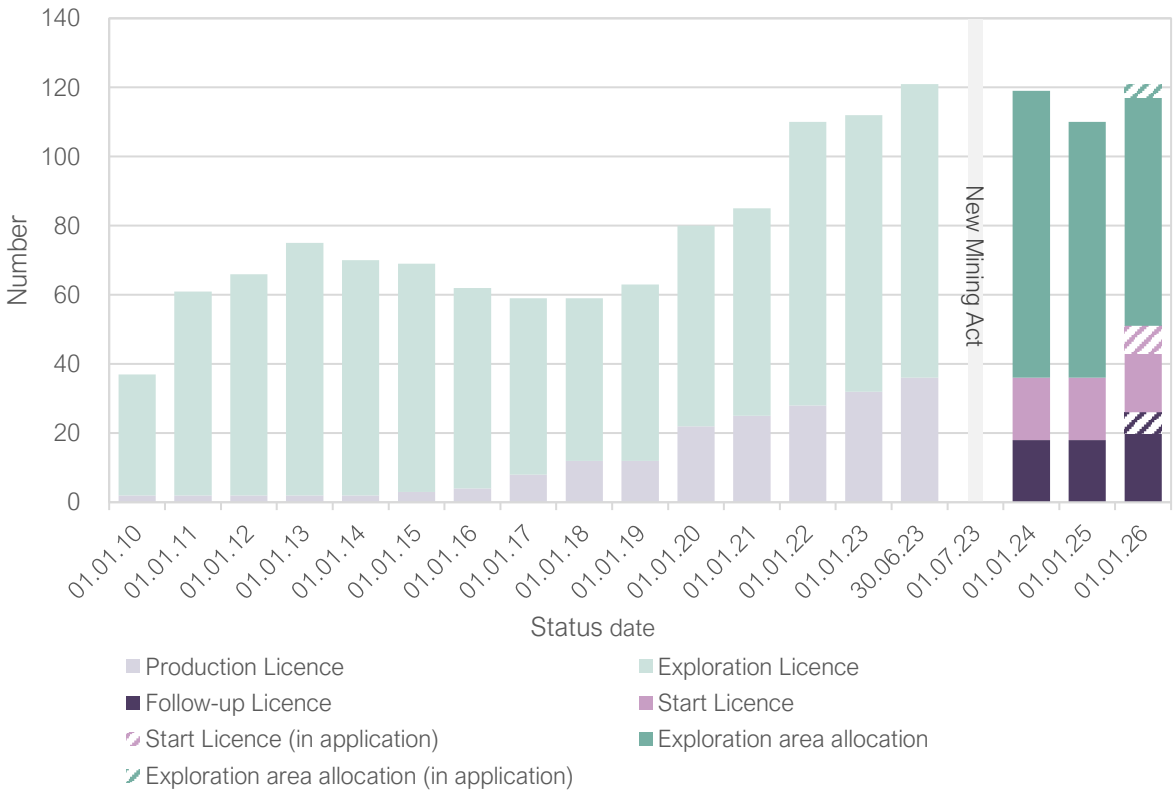


Figure 5.6 Number of geothermal licenses in effect per year. For the reference date of June 30, 2023 (prior to the amendment of the Mining Act), the number of active exploration and production licenses is also shown. Additionally, only for the status date of 1 January 2026, the number of applied for licenses is provided.

6. Salt

The salt chapter reports on developments related to the exploration and extraction of salt from the Dutch subsurface. An overview is provided of salt production in 2025. Additionally, an overview is presented of the applied for and active salt licences in 2025. Finally, there is a brief discussion of the development and use of salt caverns (storage caverns) for gas storage.

6.1 Salt production in 2025

Table 6.1 shows the production data of salt per licence during 2025; the production data is based on information supplied by the operators and published on NLOG. Monthly production during 2025 varied between 369 and 523 thousand tonnes. Rock salt (also called halite) is produced from almost all salt production licences, only from the Veendam production licence is another type of salt extracted, namely magnesium salt.

Table 6.1 Salt production in 2025 (in 1000 tons)

Licence	Operator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Havenmond	Frisia	104	101	14	88	106	104	108	103	97	96	76	96	1.094
Twenthe-Rijn	Nobian	94	104	101	69	73	66	72	42	53	64	62	63	862
Tw.-Rijn Helmerzijde	Nobian	12	10	11	6	2	5	7	7	2	0	4	0	64
Tw.-Rijn Oude Maten	Nobian	11	10	15	11	13	1	21	27	25	15	15	17	181
Uitbr. Twenthe-Rijn	Nobian	25	31	33	25	29	26	18	15	21	21	9	12	267
Adolf Van Nassau III	Nobian	110	80	97	83	83	50	78	72	57	53	47	0	808
Uitbr. Adolf van Nassau III	Nobian	152	141	86	118	168	155	176	182	180	156	161	189	1.865
Veendam	Nedmag	17	18	12	12	13	13	12	13	20	19	12	15	174
	Total	523	494	369	411	488	420	492	461	456	423	386	392	5.315

Figure 6.1 shows the production of rock salt from 2007 to 2025. During this period, the salt production is fairly constant, between approximately 5 and 7 million tonnes per year. In 2025 the total salt production was 5.3 million tonnes. Only in 2023 total salt production was on the low side, caused by lower demand for chlorine.

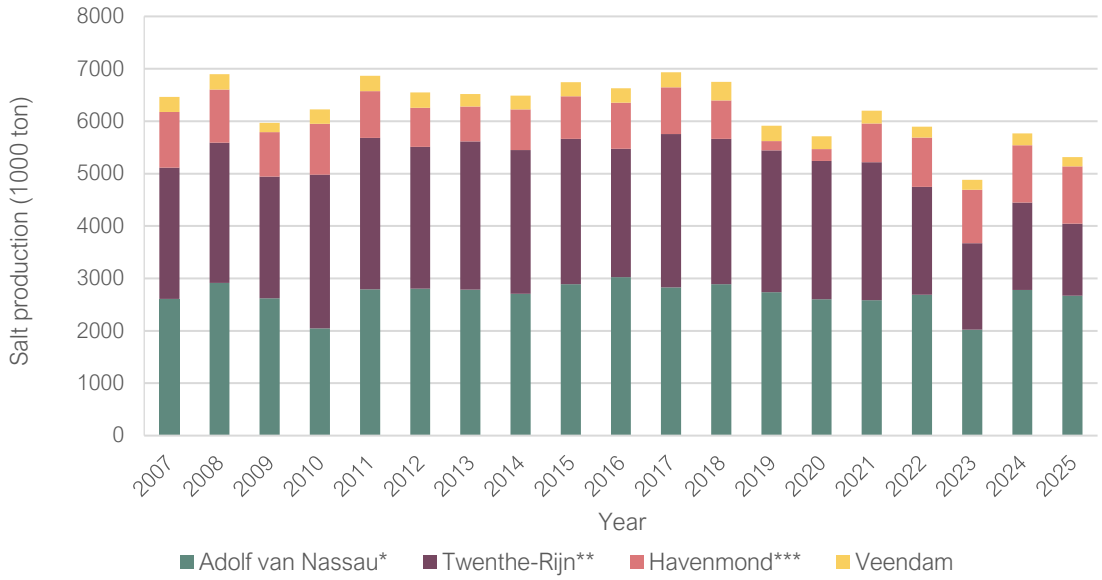


Figure 6.1 Salt production 2007 – 2025 (in 1000 ton), the production data is based on information supplied by the operators.
*Including Uitbreiding Adolf van Nassau III.
**Including Uitbreiding Twenthe-Rijn, Twenthe-Rijn Helmerzijde en Twenthe-Rijn Oude Maten.
***Including Barradeel I (last production in 2020), Barradeel II (last production in 2021), and Havenmond (start production 2021).

6.2 Storage in salt caverns

Storage caverns 'Aardgasbuffer Zuidwending'

At the Zuidwending drilling site, in the municipality of Veendam, Nobian has been working since 2007 on the leaching of storage caverns for the purpose of the "Aardgasbuffer Zuidwending". Currently six salt caverns are in operation for the storage of natural gas.

In addition, Nobian completed leaching a seventh cavern in 2023. EnergyStock intends to store hydrogen in this cavern and three to four newly constructed caverns in the Zuidwending area. In 2025, EnergyStock and Nobian were granted a storage licence for this purpose.

For more information about storage see Chapter 4.

6.3 Licences for salt

On 1 January 2026 sixteen production and no exploration licences were in force. In 2025, no new licence applications were submitted. An application from 2024 for a production licence Twenthe-Rijn Boekelerveld was still pending (see Figure 6.2). A complete list of all production licences can be found in Annex F. For an overview of the drilling activities carried out, please refer to Chapter 11.

The licence areas for rock salt are all located in the north and east of the country because in this area salts from the Zechstein and Triassic ages are present in the underground.

Table 6.2 Names of rock salt production licences as indicated on the map in Figure 6.2.

Production licence for rock salt			
P1	Adolf van Nassau II	P9	Isidorushoeve
P2	Uitbreiding Adolf van Nassau II	P10	Twenthe-Rijn
P3	Adolf van Nassau III	P11	Uitbreiding Twenthe-Rijn
P4	Uitbreiding Adolf van Nassau III	P12	Twenthe-Rijn Helmerzijde
P5	Barradeel	P13	Twenthe-Rijn Oude Maten
P6	Barradeel II	P14	Veendam
P7	Buurse	P15	Weerselo
P8	Havenmond	P16	Zuidoost-Enschede

Applied production licence for rock salt	
P17	Twenthe-Rijn Boekelerveld

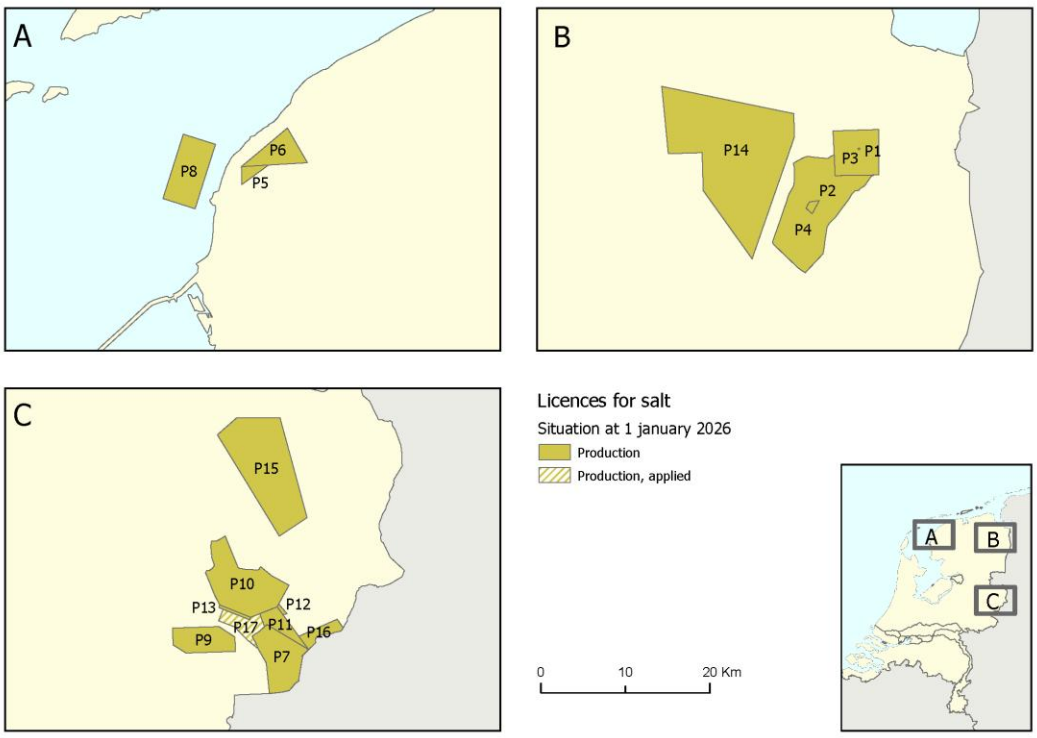


Figure 6.2 Licences for rock salt as of 1 January 2026.

7. Coal

On 1 January 2026 there were five production licences for coal in force. In 2025 there were no mining activities in the licence areas.

7.1 Production licences for coal

Production licences as of 1 January 2026

Licence	Licence holder	Effective from	Surface (km²)
Staatsmijn Beatrix	Koninklijke DSM N.V.	27-09-1920	130
Staatsmijn Emma	Koninklijke DSM N.V.	26-10-1906	73
Staatsmijn Hendrik	Koninklijke DSM N.V.	08-08-1910	24
Staatsmijn Maurits	Koninklijke DSM N.V.	12-03-1915	51
Staatsmijn Wilhelmina	Koninklijke DSM N.V.	08-01-1903	6
		Total	284

7.2 Licences for coal

Names on production licences for coal on land as shown in Figure 7.1.

Production licences for coal					
P1	Staatsmijn Beatrix	P3	Staatsmijn Hendrik	P5	Staatsmijn Wilhelmina
P2	Staatsmijn Emma	P4	Staatsmijn Maurits		

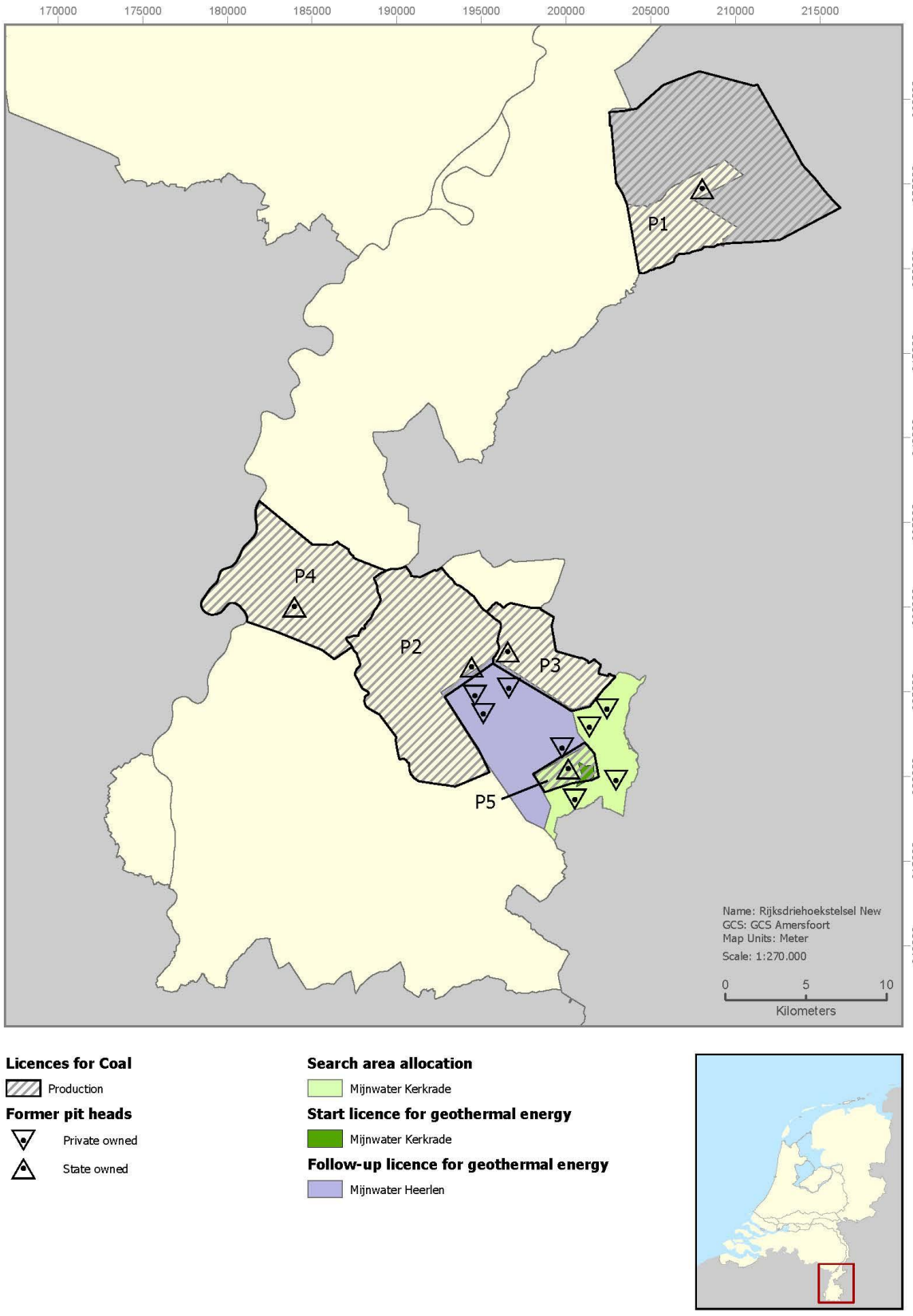


Figure 7.1 Licences for coal as of 1 January 2026.

8.
Licences, changes in 2025

Changes in the licences which took place during 2025, are listed in the tables below. This also includes all pending applications for licences. The overview of all pending licences are published on NLOG (www.nlog.nl) The annexes of the annual review contain the overview maps of all hydrocarbon (Figure G.1) and geothermal energy (Figure I.1).

8.1 Hydrocarbon licences, land

Total area licenced for hydrocarbons

Total land area	Under licence for hydrocarbons
42 203 km^2	14 539 km^2 (34,5%)

Exploration licences hydrocarbons

Applied for

Licence	Official Journal of the EU	Date	Closing date	Gov. gazette	Applicant(s)
Waskemeer *	C 84	22-03-2014	23-06-2014	10 937	NAM
Slootdorp-Oost *	C 55	14-02-2015	18-05-2015	10 234	Vermilion
Brielle *	C 170	23-05-2015	24-08-2015	15 891	ONE-Dyas cs; Vermilion

* Application ongoing, published in an earlier annual review.

Extended

Licence holder	Licence	Effective from	Effective till
Vermilion Energy Netherlands B.V.	Lemsterland	20-06-2025	Denied
Vermilion Energy Netherlands B.V.	Engelen	18-12-2025	Denied
Vermilion Energy Netherlands B.V.	Oosterwolde	18-12-2025	Denied
Vermilion Energy Netherlands B.V.	Utrecht	29-12-2025	*

* legal proceedings are ongoing

Expired/Relinquished

Licence holder	Licence	Effective from	km²
Vermilion Energy Netherlands B.V.	Lemsterland	01-07-2025	111
Vermilion Energy Netherlands B.V.	Follega	01-07-2025	3
Vermilion Energy Netherlands B.V.	Engelen	01-01-2026	97
Vermilion Energy Netherlands B.V.	Oosterwolde	01-01-2026	127

	Total	338

Production licences hydrocarbons

Awarded

Licence holder	Licence	Effective from	km²
Vermilion Energy Netherlands B.V.	Akkrum	19-06-2025	210
		Total	210

Reduced

Licence holder	Licence	Effective from	km²
Nederlandse Aardolie Maatschappij B.V.	Beijerland	19-04-2025	45
Vermilion Energy Netherlands B.V.	Slootdorp	28-10-2025	3
Vermilion Energy Netherlands B.V. cs	Andel Vb	12-12-2025	<1
Vermilion Energy Netherlands B.V.	Waalwijk	12-12-2025	42
Vermilion Energy Netherlands B.V. cs	Andel Va	24-12-2025	43

Extended

Licence holder	Licence	Effective from	Effective till
Nederlandse Aardolie Maatschappij B.V.	Beijerland	19-04-2025	31-12-2033

Expired/Relinquished

Licence holder	Licence	Effective from	km²
Kistos NL1 B.V.	Akkrum 11	05-04-2025	6
Kistos NL1 B.V.	Donkerbroek	05-04-2025	22
Kistos NL1 B.V.	Donkerbroek-West	05-04-2025	2
Vermilion Energy Netherlands B.V.	Marknesse	22-10-2025	19
		Total	49

8.2 Hydrocarbon licences, Sea

Total area licenced for hydrocarbons

Total sea area	Under licence for hydrocarbons
56 396 km^2	14 471 km^2 (25.7%)

Exploration licences hydrocarbons

Awarded

Licence holder	Licence	Effective from		km²
Petrogas E&P Netherlands B.V. cs	F9	25-09-2025		400
			Total	400

Extended

Licence holder	Licence	Effective from	Effective till
ONE-Dyas B.V. cs	M3b & N1a	16-10-2025	31-12-2028

Revised

Licence	Change	Effective from
M10a, M10b & M11	Deadline for drilling appraisel well	18-07-2025
M3b & N1a	Work program	16-10-2025

Reduced

Licence holder	Licence	Effective from	km²
Kistos NL2 B.V.	Q10b & Q11a	24-12-2025	52

Expired/Relinquished

Licence holder	Licence	Effective from		km²
Kistos NL2 B.V.	P12b	16-12-2025		161
Kistos NL2 B.V.	Q13b & Q14	16-12-2025		346
Petrogas E&P Netherlands B.V. cs	A18b	16-12-2025		119
			Total	626

Production licences hydrocarbons

Applied for

Licence	Official Journal of the EU	Date	Closing date	Gov. gazette	Applicant(s)
Q10b & Q11a *	-	20-12-2019	-	Kistos	Q10b & Q11a *
J9 *	-	27-10-2022	-	Tenaz cs	

Awarded

Licence holder	Licence	Effective from		km²
Eni Energy Netherlands B.V.	L7e & L8f	13-06-2025		41
			Total	41

Split

Licence holder	Licence	Effective from	km²
Originally			
ONE-Dyas B.V. cs	F6b		260
After split			
ONE-Dyas B.V. cs	F6b	28-02-2025	56
ONE-Dyas B.V. cs	F6e	28-02-2025	204

Reduced

Licence holder	Licence	Effective from	km²
Eni Energy Netherlands B.V. cs	G17d	01-08-2025	37
Eni Energy Netherlands B.V.	K3c	16-09-2025	15
TotalEnergies EP Nederland B.V. cs	K6a, K6b, L7a & L7b	22-10-2025	260
TotalEnergies EP Nederland B.V. cs	K4b & K5a	03-12-2025	210
Wintershall Noordzee B.V. cs	L5b	05-12-2025	2
Kistos NL2 B.V.	Q7a & Q10a	17-12-2025	62
Wintershall Noordzee B.V. cs	L6a-diep *	23-12-2025	172

* in lateral and vertical direction

Extended

Licence holder	Licence	Effective from	Effective till
Eni Energy Netherlands B.V. cs	G17d	01-08-2025	31-12-2032
Eni Energy Netherlands B.V.	K3c	16-09-2025	31-12-2038

Revised

Licence	Change	Effective from
P18a	Withdrawal of the decision to reduce the area	19-12-2025

Expired/Relinquished

Licence holder	Licence	Effective from		km²
ONE-Dyas B.V.	M1a & M1c	08-06-2025		54
			Total	54

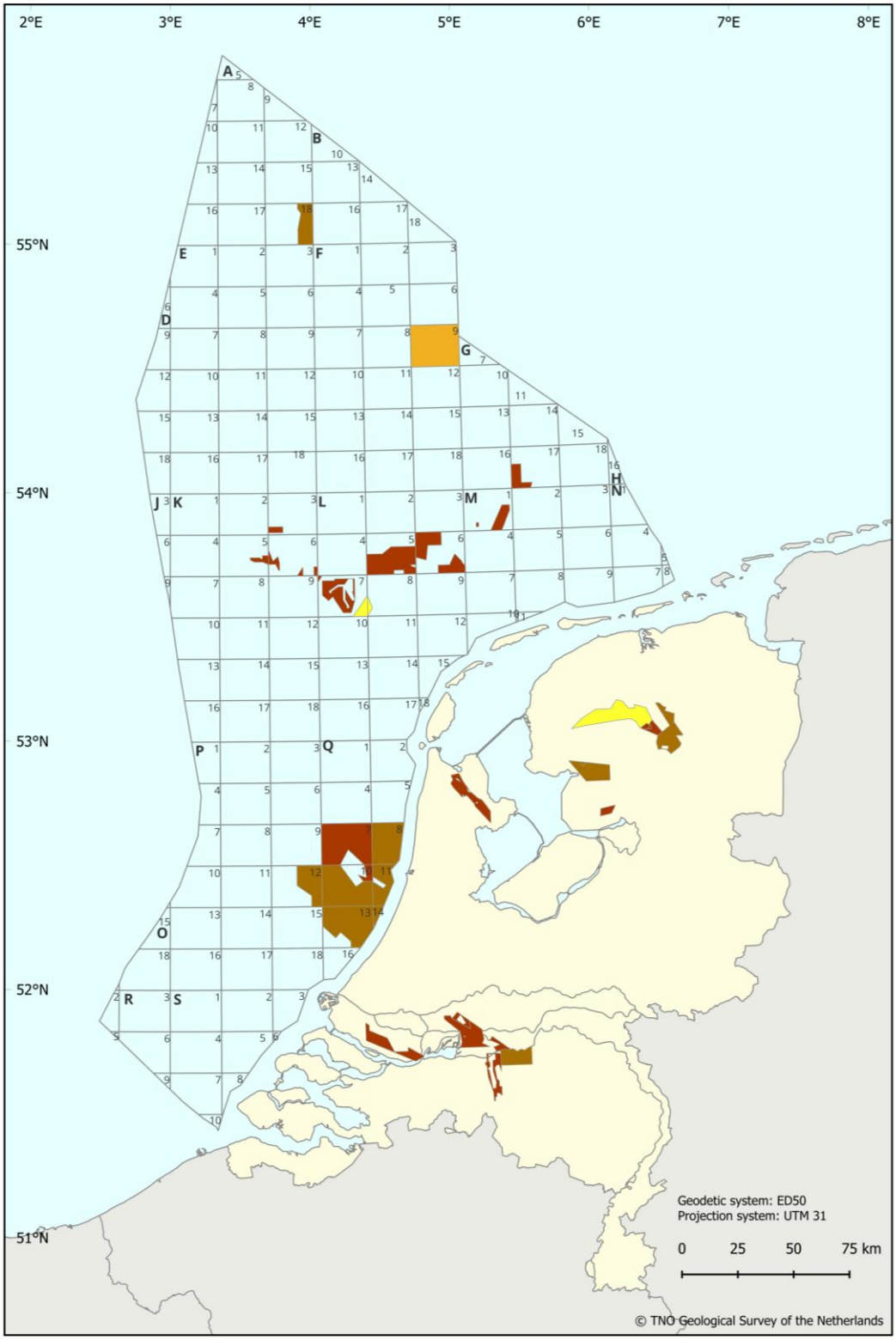


Figure 8.1 Changes in exploration, production and storage licences for hydrocarbons as of 1 January 2026.

8.3 Storage licences

Applied for

Licence	Publication	Date	Closing date	Storage of	Applicant(s)
K14-FA *	33 008	01-12-2022	02-03-2023	CO_2	Shell Gas & Power Development B.V.
L4-A *	20 982	25-07-2023	25-10-2023	CO_2	TotalEnergies E&P Nederland B.V.
L10-ALBE *	5 514	20-02-2024	20-05-2024	CO_2	Eni Netherlands CCUS B.V. cs
L9-FF	32 645	23-09-2025	23-12-2025	CO_2	Shell Exploration and Production (107) B.V., Shell Gas & Power Developments B.V.
Q16-FA	35 278	14-10-2025	13-01-2026	CO_2	

Awarded

Licence holder	Licence	Effective from	km²
Eni Energy Netherlands B.V.	L7e & L8f	13-06-2025	41
		Total	41

Revised

Licence	Change	Effective from
Norg *	Delimitation of the license area	06-09-2025
P18-2	Period for CO_2 injection and boundary conditions -Start of injection no later than 1-7-2028 - Injection shall cease no later than 31-12-2045	26-09-2025
P18-4	Entry into force of the licence Period for CO_2 injection and boundary conditions -Start of injection no later than 1-7-2028 - Injection shall cease no later than 31-12-2045	19-12-2025

* Per rectificatiebesluit van 5 september 2025 (kenmerk DGRGG-DTDO/V-92205)

Exploration licences for storage

Applied for

Licence	Publication	Date	Closing date	Storage of	Applicant(s)
K18a, L16a, L17a, P3a, Q1, Q2a, Q4 & Q5a	28 373-n11	19-09-2025*	14-11-2025	CO_2	Petrogas E&P Netherlands B.V.; Wintershall Noordzee B.V.**

*second correction to the official notice dated 15-8-2025

** Competing application submitted by Wintershall on 13-11-2025

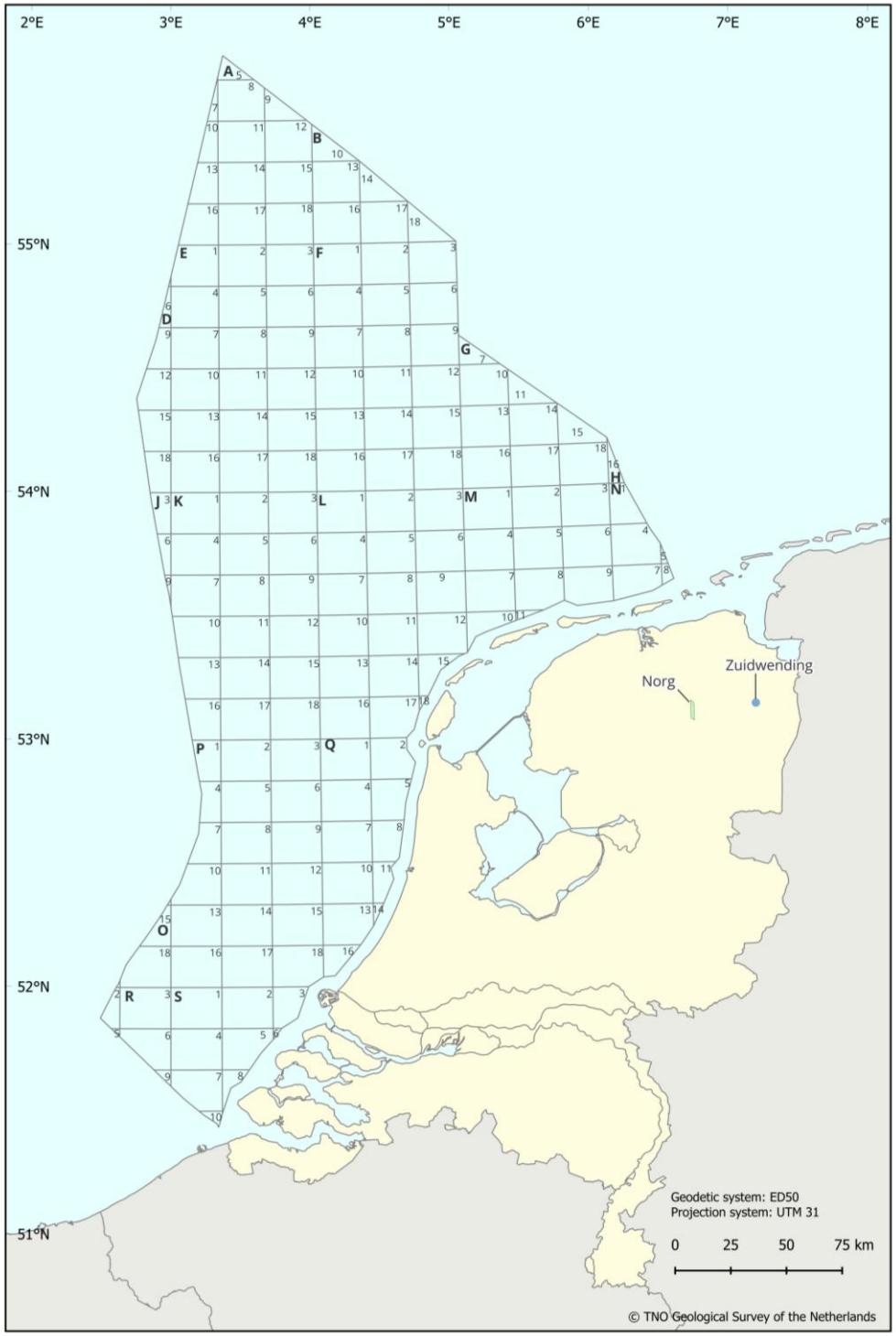


Figure 8.2 Changes in exploration for storage and storage licences as of 1 January 2026.

8.4 Geothermal energy licences

Scientific research and central policy licences for geothermal energy

Applied for

Licence	Gov. gazette	Date	Closing date	Applicant(s)
Kempen 1	-	31-01-2025	-	EBN B.V.
Moerdijk 1	-	18-02-2025	-	EBN B.V.

* Application ongoing, published in an earlier annual review.

Start licences awarded

Licence holder	Licence	Effective from	km²
EBN B.V.	Amsterdam-Diemen-Almere 1	15-05-2025	10
EBN B.V.	Deurne 1	10-10-2025	12
		Total	22

Assigned operator

Licence	Operator	Effective from
EBN B.V.	Amsterdam-Diemen-Almere 1	15-05-2025

Expired/Relinquished

Licence holder	Licence	Effective from	km²
EBN B.V.	Amstelland 1	01-01-2026	14
EBN B.V.	Oss 2	01-01-2026	5
EBN B.V.	West-Brabant Noord 1	01-01-2026	2
		Total	21

Search area allocated for geothermal energy

Applied for

Licence	Gov. gazette	Date	Closing date	Applicant(s)
Luttelgeest 3	17 814	21-05-2025	13-08-2025	Hoogweg Aardwarmte B.V.
Berkel 1	34 056	02-10-2025	29-12-2025	IPS Geothermal Energy B.V.
Nootdorp-Oost 4	34 818	09-10-2025	02-01-2026	
Berkel 2	35 270	14-10-2025	06-01-2026	

Awarded

Licence holder	Licence	Effective from	km²
Gemeente Alphen aan den Rijn	Alphen aan den Rijn 1	10-10-2025	110
Laurant Ammerzoden B.V.	Ammerzoden 1	26-11-2025	5
		Total	115

Extended

Licence holder	Licence	Effective from	Effective till
Aardyn B.V.	Bommelerwaard 2	21-03-2025	24-04-2026
Geopower Exploitatie B.V.	Maasland 6	24-04-2025	29-05-2026
Aardyn B.V.	Delft-Abtswoude	19-07-2025	22-07-2026
Tellus Renkum B.V.	Renkum	22-08-2025	24-08-2026
Aardyn B.V., GeoMEC-4P Realisatie & Exploitatie B.V.	Brielle 2	25-11-2025	30-11-2026
Aardyn B.V., GeoMEC-4P Realisatie & Exploitatie B.V.	Vierpolders	25-11-2025	30-12-2026
Yeager Energy B.V.	Nissewaard	26-11-2025	26-11-2026
Yeager Energy B.V.	Purmerend 3	10-12-2025	20-12-2026

Remaining part extended*

Licence holder	Licence	Effective from	Effective till
IPS Geothermal Energy B.V.	Zoetermeer 2	04-08-2025	11-12-2029
Aardwarmte Klazienaveen B.V.	Klazienaveen	Applied for	
Aardwarmte Klazienaveen B.V.	Klazienaveen 2	Applied for	
Gaia Energy B.V.,	Ede	Applied for	
MPD Groene Energie B.V.			
Mijnwater Energy B.V.	Kerkrade 1	Applied for	
Geothermie Plukmade B.V.	Made 2	Applied for	

* Based on Article 24k(3) of the Dutch Mining Act.

Expired/Relinquished

Licence holder	Licence	Effective from	km²
Gemeente Zwolle	Zwolle	03-02-2025	74
Aardyn B.V., Izzy Projects B.V.	Terheijden 2	23-02-2025	23
GeoPower Exploitatie B.V.	Maasland 8	28-02-2025	1
Aardyn B.V., Essent Infrastructure Solutions B.V.	Rotterdam Prins Alexander	25-03-2025	20
Yeager Energy Bergschenhoek Holding B.V.	Zuidplas 2	21-08-2025	53
Shell Geothermal B.V., Havenbedrijf Rotterdam N.V.	Rotterdam-Haven	04-11-2025	245
Aardyn B.V.	Rotterdam 4	07-11-2025	20
Duurzaam Voorne Holding B.V.	Nissewaard 2	27-11-2025	76
Ennatuurlijk B.V.	Eindhoven 2	01-12-2025	66
		Total	578

Start licences for geothermal energy

Applied for

Licence	Gov. gazette	Date	Closing date	Applicant(s)
Kampen II *	-	30-12-2024	-	Aardwarmtecluster KKP 1 B.V.
Klazienaveen I	-	31-12-2024	-	Aardwarmte Klazienaveen B.V.
Den Hoorn I	-	21-02-2025	-	HVC Aardwarmte Wippolderlaan B.V.
Heerhugowaard I	-	23-06-2025	-	N.V. HVC
Ede I	-	18-03-2025	-	Gaia Energy B.V., MPD Groene Energie

* Application ongoing, published in an earlier annual review.

Awarded

Licence holder	*Originally / after award of the licence*	Licence	Effective from	km²
Aardwarmte Vogelaer B.V.	*Originally*	Poeldijk 2*		3
	After award of the licence	Poeldijk II	12-06-2025	3
IPS Geothermal Energy B.V.	*Originally*	Zoetermeer 2*[2]		4
	After award of the licence	Zoetermeer I	24-06-2025	4
Mijnwater Energy B.V.	*Originally*	Kerkrade 1*[3]		1
	After award of the licence	Kerkrade I *[4]	14-11-2025	1
Geothermie Plukmade B.V	*Originally*	Made 2*[2]		7
	After award of the licence	Made I *[4]	03-12-2025	7
HVC Aardwarmte Wippolderlaan B.V.	*Originally*	Wateringen 1*		1
		Wateringen 2*		<1
		Kwintsheul 2*[2]		2
		Den Hoorn*[2]		<1
	After award of the licence	Wateringen I *[4]	12-12-2025	4
			Total	19

* Vertical part of search area allocation
*[2] Horizontal and vertical part of search area allocation
*[3] Lateral part of search area allocation
*[4] draft decision

Assigned operator

Licence	Operator	Effective from
Aardwarmte Vogelaer B.V.	Poeldijk II	12-06-2025
IPS Geothermal Energy B.V.	Zoetermeer I	24-06-2025

Extended

Licence holder	Licence	Effective from	Effective till
HVC Aardwarmte Polanen B.V.	Monster I	21-02-2025	10-03-2026
HVC Aardwarmte Maasdijk B.V.	Maasdijk I	03-05-2025	04-05-2026
IPS Geothermal Energy B.V., 85 Degrees Renewables 1 & 2 B.V.	Bleiswijk 1b	09-05-2025	30-06-2026
IPS Geothermal Energy B.V., 85 Degrees Renewables 1 & 2 B.V.	Bleiswijk II	09-05-2025	30-06-2026
IPS Geothermal Energy B.V., 85 Degrees Renewables 1 & 2 B.V.	Bleiswijk III	09-05-2025	30-06-2026
Nappa B.V.	Californië V	26-06-2025	30-06-2026
Californië Wijnen Geothermie B.V., GeoWeb B.V.	Californië IV	26-06-2025	30-06-2026
Yeager Energy Bergschenhoek Holding B.V.	Lansingerland III	07-08-2025	11-08-2026

Revised

Licence	Change	Effective from
Monster I	Prerequisite for production of geothermal energy	21-03-2025
Bleiswijk 1b	Prerequisite for production of geothermal energy	29-03-2025
Bleiswijk II	Prerequisite for production of geothermal energy	29-03-2025
Maasdijk I	Prerequisite for production of geothermal energy	05-04-2025
Maasdijk I	Prerequisite for production of geothermal energy	17-12-2025
Poeldijk II	Wider lateral extend (derived from Poeldijk) Prerequisite for production of geothermal energy	20-12-2025

Split

Licence holder	Licence	Effective from	km²
Originally			
IPS Geothermal Energy B.V. cs	Bleiswijk		4
After split			
IPS Geothermal Energy B.V. cs	Bleiswijk II	22-02-2025	4*
IPS Geothermal Energy B.V. cs	Bleiswijk III	22-02-2025	4*

* Licence split based on vertical extent

Expired/Relinquished

Licence holder	Licence	Effective from	km²
Yeager Energy Bergschenhoek Holding B.V.	Nootdorp-Oost I	13-08-2025	11
Yeager Energy Bergschenhoek Holding B.V.	Nootdorp-Oost II	01-09-2025	5
		Total	16

Follow-up licence for geothermal energy

Applied for

Licence	Gov. gazette	Date	Closing date	Applicant(s)
Luttelgeest II *	-	18-10-2024	-	Aardwarmte Combinatie Luttelgeest B.V.
Pijnacker-Nootdorp IV-d *	-	04-11-2024	-	Ammerlaan Geothermie B.V.
Luttelgeest III	-	20-02-2025	-	Hoogweg Aardwarmte B.V.
Naaldwijk II	-	29-04-2025	-	Trias Westland B.V.
Leeuwarden I	-	07-05-2025	-	Geocombinatie Leeuwarden B.V.
Middenmeer III	-	15-08-2025	-	Ennatuurlijk Aardwarmte Middenmeer B.V.

Awarded

Licence holder	*Originally / after award of the licence*	Licence	Effective from	km²
Aardyn B.V. cs	*Originally*	Oostvoorne*		4
	After award of the licence	Den Haag**		10
Aardyn B.V. cs	*Originally*	Oostvoorne	17-07-2025	4
	After award of the licence	Den Haag	05-09-2025	10
			Total	14

* lateral and vertical part of start licence

** vertical part of start licence

Revised

Licence	Change	Effective from
Middenmeer II	Adjustment of production parameters	26-08-2025
Middenmeer I	Adjustment of production parameters *	20-09-2025
Poeldijk	Adjustment of vertical limits	20-12-2025

* Original production well replaced

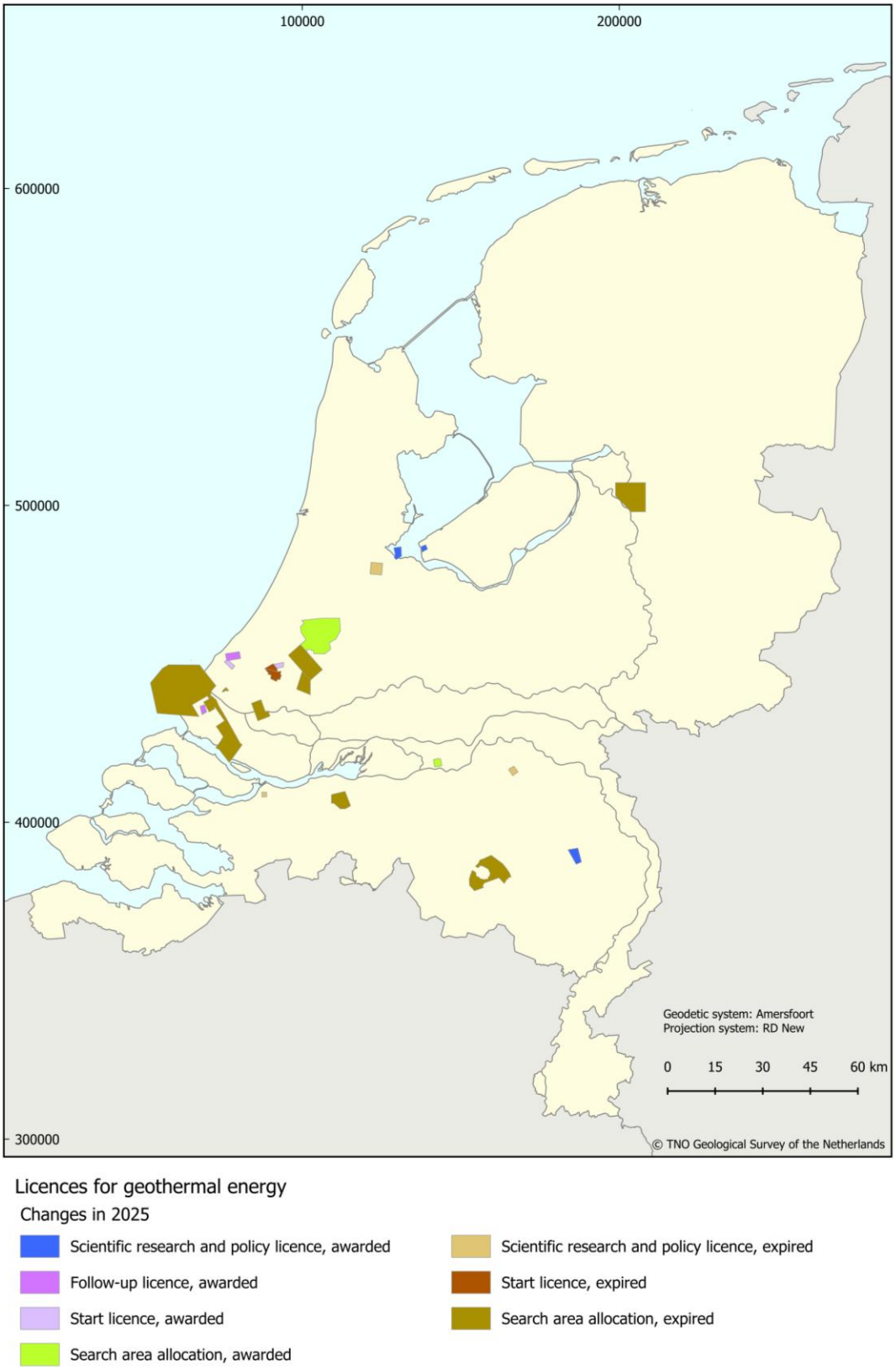


Figure 8.3 Changes in geothermal energy licences as of 1 Januari 2026.

8.5 Production licences rock salt

Applied for

Licence	Gov. gazette	Date	Closing date	Applicant(s)
Twenthe-Rijn Boekelerveld *	36 855	08-11-2024	07-02-2025	Nobian Salt B.V.

* Application ongoing, published in an earlier annual review.

8.6 Production licences coal

No changes.

9.
Licences, company- and name changes in 2025

The tables below list changes in chronological order which took place during 2025, as a result of mutations in consortia of companies participating in licences as well as name changes of participating companies or name changes as a result of legal mergers.

9.1 Hydrocarbons

Company changes in exploration licences

Licence	In/Out	Company	Permission	Gov. gazette	Effective from
E16a	In	Vermilion Netherlands Offshore B.V.	31-01-2025 *	4 895	05-03-2025
	Out	Vermilion Energy Netherlands B.V.			
E17a & E17b	In	Vermilion Netherlands Offshore B.V.	31-01-2025 *	4 895	05-03-2025
	Out	Vermilion Energy Netherlands B.V.			
F15a	In	Vermilion Netherlands Offshore B.V.	31-01-2025 *	4 895	05-03-2025
	Out	Vermilion Energy Netherlands B.V.			
K3b	In	Vermilion Netherlands Offshore B.V.	31-01-2025 *	4 895	05-03-2025
	Out	Vermilion Energy Netherlands B.V.			
K4b & K5a	In	Vermilion Netherlands Offshore B.V.	31-01-2025 *	4 895	05-03-2025
	Out	Vermilion Energy Netherlands B.V.			
K6a, K6b, L7a, L7b & L7c	In	Vermilion Netherlands Offshore B.V.	31-01-2025 *	4 895	05-03-2025
	Out	Vermilion Energy Netherlands B.V.			
L1e	In	Vermilion Netherlands Offshore B.V.	31-01-2025 *	4 895	05-03-2025
	Out	Vermilion Energy Netherlands B.V.			
L1f	In	Vermilion Netherlands Offshore B.V.	31-01-2025 *	4 895	05-03-2025
	Out	Vermilion Energy Netherlands B.V.			
L4a & L4b	In	Vermilion Netherlands Offshore B.V.	31-01-2025 *	4 895	05-03-2025
	Out	Vermilion Energy Netherlands B.V.			
Q2c	In	-	27-12-2024	1 178	19-12-2025
	Out	RockRose (NL) CS1 B.V.			
Andel Va	In	Parkmead Renewable Energy Limited	19-02-2025	6 922	17-04-2025
	Out	Parkmead (E&P) Ltd.			

Licence	In/Out	Company	Permission	Gov. gazette	Effective from
Andel Vb	In	Parkmead Renewable Energy Limited	21-02-2025	7 234	17-04-2025
	Out	Parkmead (E&P) Ltd.			
Drenthe IV	In	Parkmead Renewable Energy Limited	21-02-2025	7 269	17-04-2025
	Out	Parkmead (E&P) Ltd.			
Drenthe V	In	Parkmead Renewable Energy Limited	21-02-2025	7 151	17-04-2025
	Out	Parkmead (E&P) Ltd.			
Drenthe VI	In	Parkmead Renewable Energy Limited	21-02-2025	7 255	17-04-2025
	Out	Parkmead (E&P) Ltd.			
Papekop	In	Parkmead Renewable Energy Limited	21-02-2025	7 277	17-04-2025
	Out	Parkmead (E&P) Ltd.			
F6e	In	**	28-02-2025	8 063	09-05-2025
	Out	ONE-Dyas B.V.			

* The validity period has been extended; the condition precedent was fulfilled in due time

** New operator: Dana Petroleum Netherlands B.V.

Name changes

Previous company name	New company name
NAM Offshore B.V.	Tenaz Energy Netherlands B.V.

9.2 Storage

No changes.

9.3 Geothermal energy

Name changes

Previous company name	New company name
Wayland Energy B.V.	Yeager Energy Bergschenhoek Holding B.V.
Wayland Energy Bergschenhoek B.V.	Yeager Energy Bergschenhoek 1 B.V.
Shell Geothermal B.V.	OMV GeoTherm NL B.V.

9.4 Salt

No changes.

9.5 Coal

No changes.

10.
Seismic surveys

In 2025, Neither 2D nor 3D seismic data were acquired in the Dutch sector of the North Sea. Onshore, one 3D seismic survey was carried out on behalf of Energie Beheer Nederland (EBN) in the Metropolitan Region Amsterdam (MRA). This 3D seismic survey, covering a total area of approximately 162 km², was acquired within the framework of the SCAN programme (Seismische Campagne Aardwarmte Nederland) (see Figure 10.1).

In addition, 14 onshore 2D seismic lines were acquired during 2025, with a cumulative length of approximately 60 km (see Figure 10.2). Of these, six seismic lines were acquired in the Kempen and Deurne areas as part of the SCAN programme directed by EBN. Two seismic lines were acquired near Kwintsheul within the framework of the Geo4All programme, in which Nature's Heat is involved. Furthermore, six seismic lines were acquired near Ede by Gaia Energy (see Figure 10.3); these were positioned and configured in such a way that a cross-spread volume could also be obtained.

Historic overview of Seismic surveys

The long-term overview of seismic data acquisition is presented in Excel Overview I.

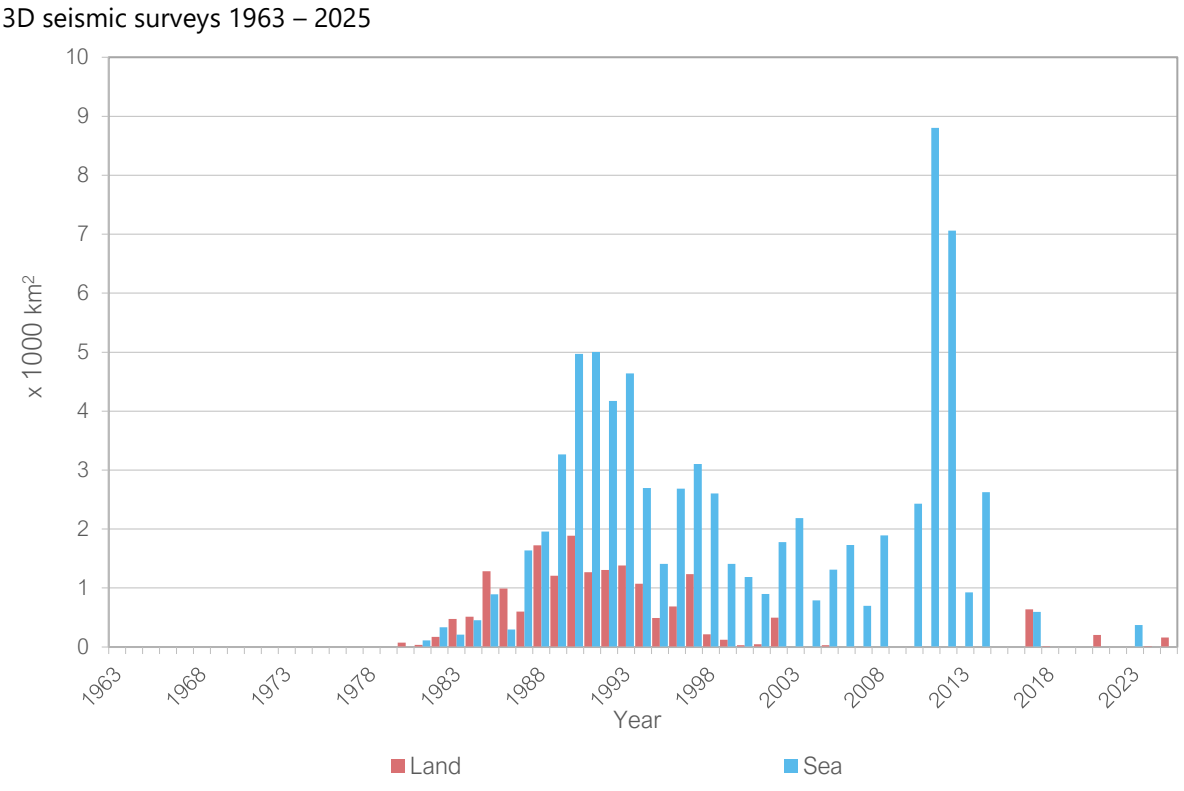


Figure 10.1 Development of 3D seismic surveys in the Netherlands from 1963.

2D seismic surveys 1963 – 2025

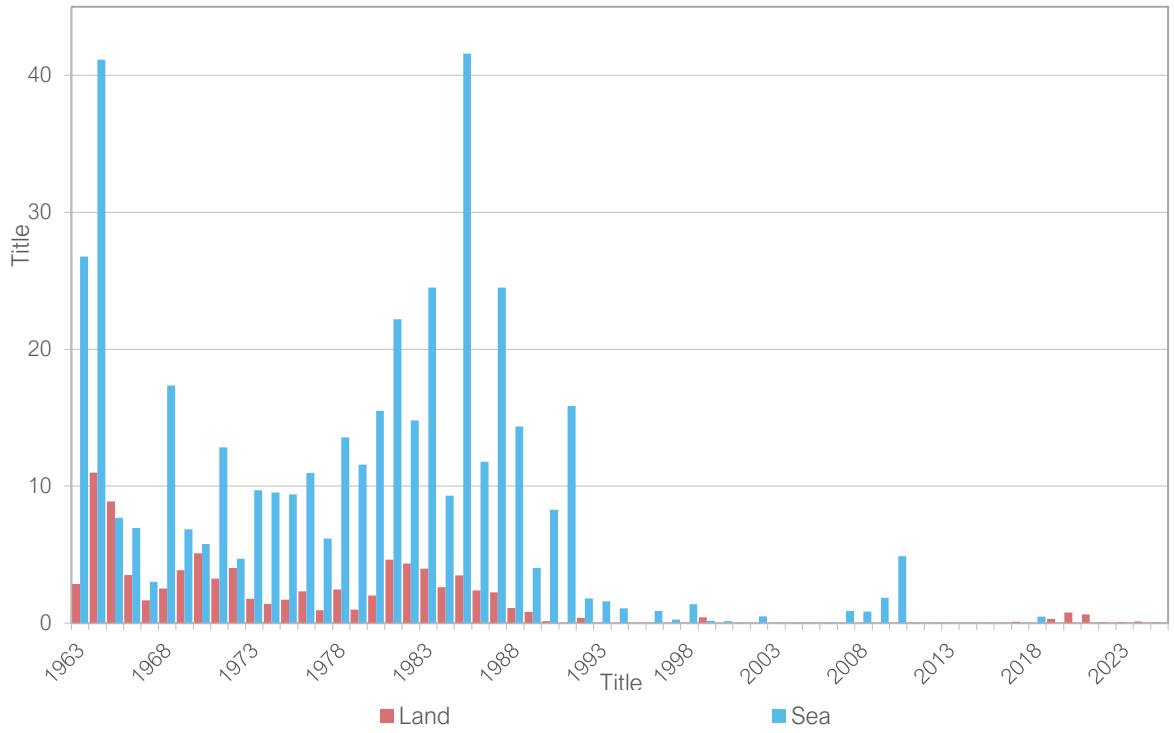


Figure 10.2 Development of 2D seismic surveys in the Netherlands from 1963

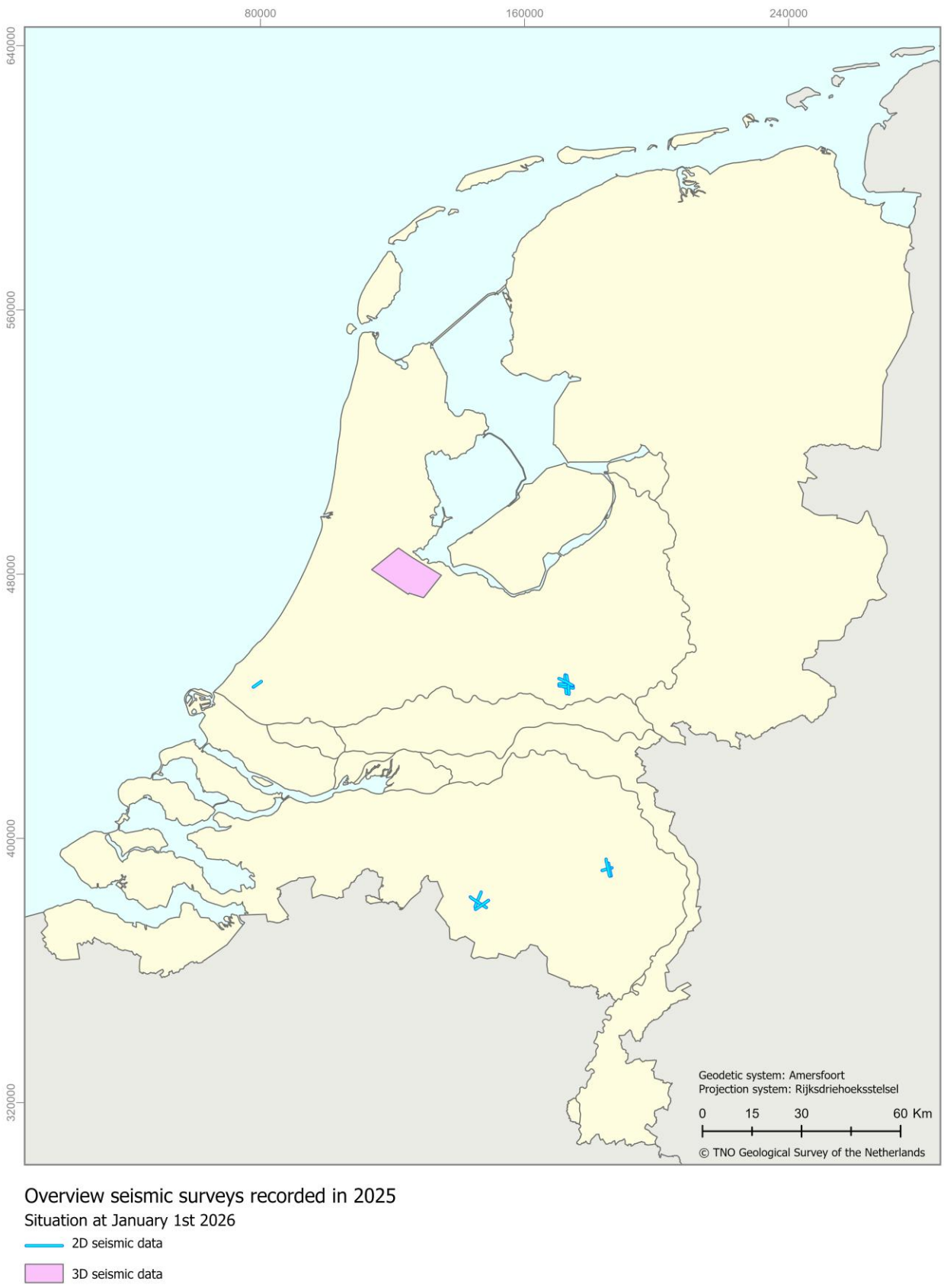


Figure 10.3 Overview seismic surveys recorded in 2025.

11.
Wells completed in 2025

The wells completed have been grouped into three categories: hydrocarbons, geothermal and salt. Hydrocarbon wells have subsequently been classified by drilling location: land or sea. All categories are further sorted by well type: exploration or development, with appraisal also included as a well type for hydrocarbon wells. For each category, an aggregated overview of the drilling activities in 2025 is presented.

11.1 Hydrocarbons

In 2025, 6 exploration wells were drilled, of which 3 at sea and 3 on land. At sea, gas was encountered twice and oil once. On land, all three wells encountered gas. The total number of exploration wells in 2025 increased by 6 compared with 2024.

At sea, 3 appraisal wells were drilled in 2025 and all 3 confirmed a gas discovery. No appraisal wells were drilled on land. The number of appraisal wells increased by 3 compared with the previous year.

Finally, 3 development wells were drilled in 2025, 4 fewer than in 2024. At sea, 2 development wells were drilled and 1 on land. At sea, 1 of the 2 development wells proved to be dry.

For the historic overview of exploration and evaluation wells over time see Figure 11.1, 11.2 and 11.3. the underlying data can be found in the Excel overview J.

Land

Exploration wells

	Name well	License	Operator	Result
1	MAASDIEP-01	Botlek Breeddiep	ONE Dyas	Gas
2	OPPENHUIZEN-02	Zuid-Friesland III	Vermilion	Gas
3	OPPENHUIZEN-03	Zuid-Friesland III	Vermilion	Gas

Development wells

	Name well	License	Operator	Result
1	COLLENDOORNERVEEN-02	Schoonebeek	NAM	Gas

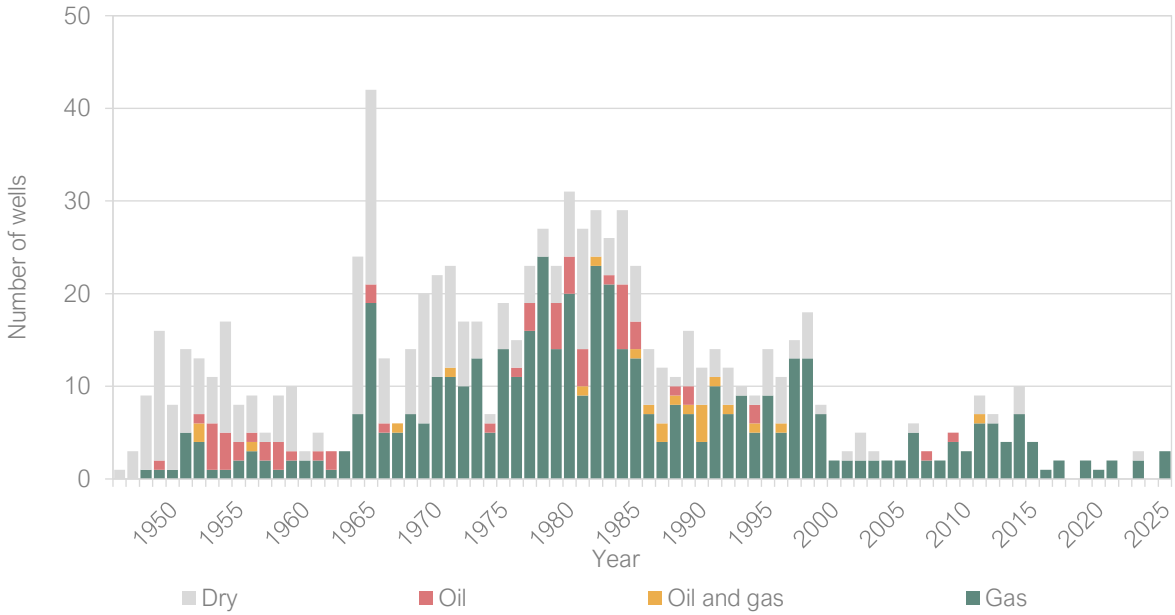


Figure 11.1 Development of exploration appraisal wells for hydrocarbons on land from 1946 onwards.

Sea

Exploration wells

	Name well	License	Operator	Result
1	A18-03	A18b	Petrogas	Gas
2	F06-10	F06e	Dana	Gas
3	P11-13	P10b	Dana	Oil

Appraisal wells

	Name well	License	Operator	Result
1	A12-A-01-SIDETRACK1	A12a	Petrogas	Gas
2	B16-02	B16a	Petrogas	Gas
3	M07-A-01-SIDETRACK3	M07a	ONE Dyas	Gas

Development wells

	Name well	License	Operator	Result
1	A12-A-01-SIDETRACK2	A12a	Petrogas	Gas
2	M07-A-01-SIDETRACK2	M07a	ONE Dyas	Dry

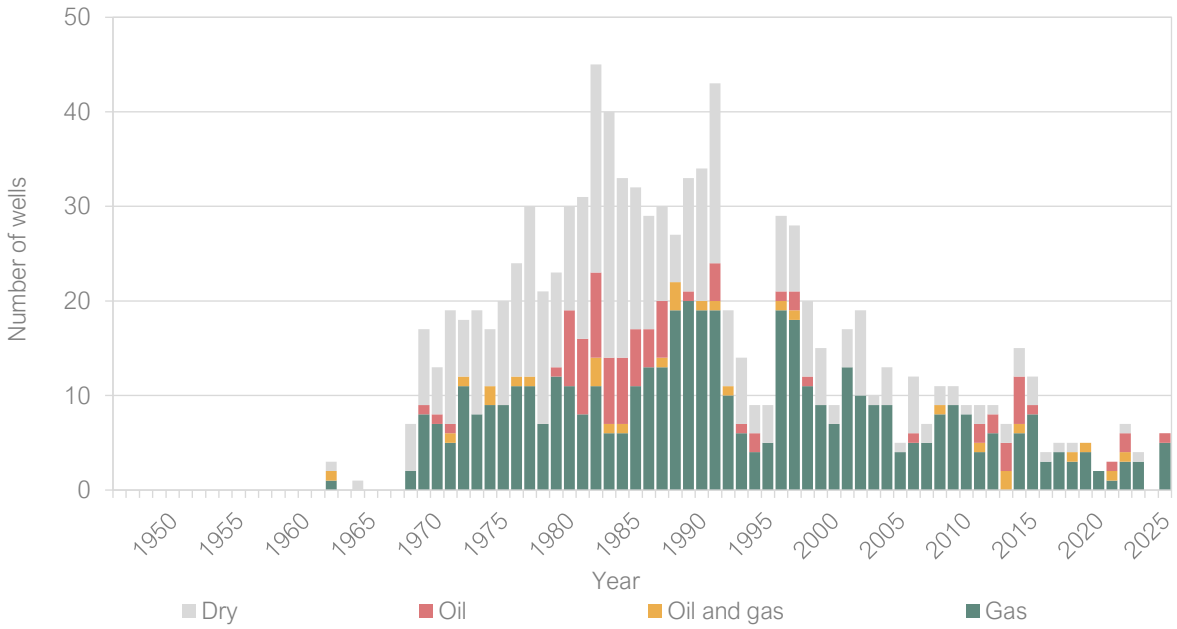


Figure 11.2 Development of exploration appraisal wells for hydrocarbons at sea from 1946 onwards.

Summary

Oil- and gas wells completed in 2025

Area	Type	Result							Total
		Gas	Gas shows	Oil	Oil shows	Oil & Gas	Dry	Other	
Land	Exploration	3	-	-	-	-	-	-	3
	Appraisal	-	-	-	-	-	-	-	-
	Development	1	-	-	-	-	-	-	1
Sea	Exploration	2	-	1	-	-	-	-	3
	Appraisal	3	-	-	-	-	-	-	3
	Development	1	-	-	-	-	1	-	2
	Total	10	-	1	-	-	1	-	12

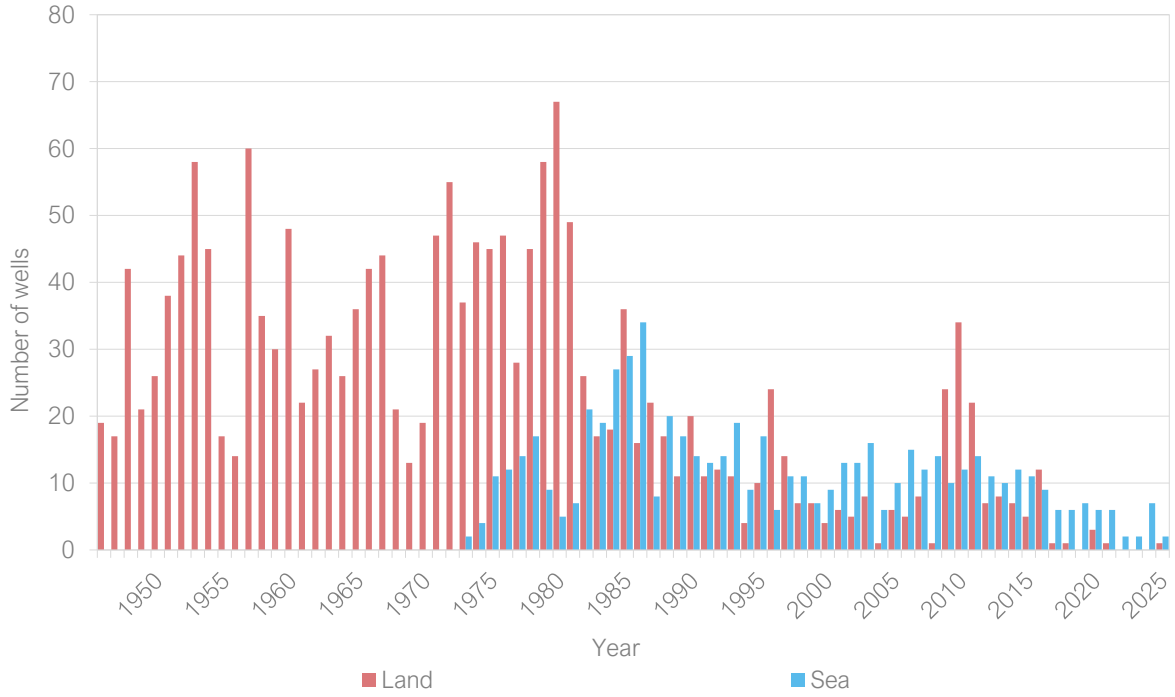


Figure 11.3 Development of production wells for hydrocarbons on land and at sea from 1946 onwards. In this figure the referent date of a well is defined by the start of drilling and not, as is the case for figure 11.1 and 11.2, the completion of the well.

11.2 Geothermal energy

In 2025, a total of 9 geothermal wells were drilled, 1 fewer than in 2024.

Of the 9 geothermal wells, 5 were exploration wells, 1 more than in 2024. All of these exploration wells were drilled under the licence type "Scientific research and central policy licence". The exploration wells are part of the SCAN Geothermal Energy project, the drilling phase of which was completed this year. All wells cored, logged and tested one or more potential aquifers for geothermal production and were abandoned as planned after completion.

In 2025, 4 development wells were drilled, 2 fewer than in 2024. The PLD-GT wells were resumed after technical difficulties and were completed in 2025.

Exploration wells

	Name well	License	Operator	Result
1	AMSTERDAM-01	Amsterdam-Diemen-Almere 1	EBN	Water
2	BILT-01	De Bilt-Zeist 1	EBN	Water
3	EDE-01	Ede-Veenendaal 1	EBN	Water
4	MILHEEZE-01	Deurne 1	EBN	Water
5	STAD VAN GERWEN-01	Eindhoven 3	EBN	Water

Development wells

	Name well	License	Operator	Result
1	MIDDENMEER-GT-07-S2	Middenmeer II	Ennatuurlijk Aardwarmte	Water
2	MIDDENMEER-GT-11-S2	Middenmeer II	Ennatuurlijk Aardwarmte	Water
3	POELDIJK-GT-03-S2	Poeldijk II	Aardwarmte Vogelaer 2	Water
4	POELDIJK-GT-04-S3	Poeldijk II	Aardwarmte Vogelaer 2	Water

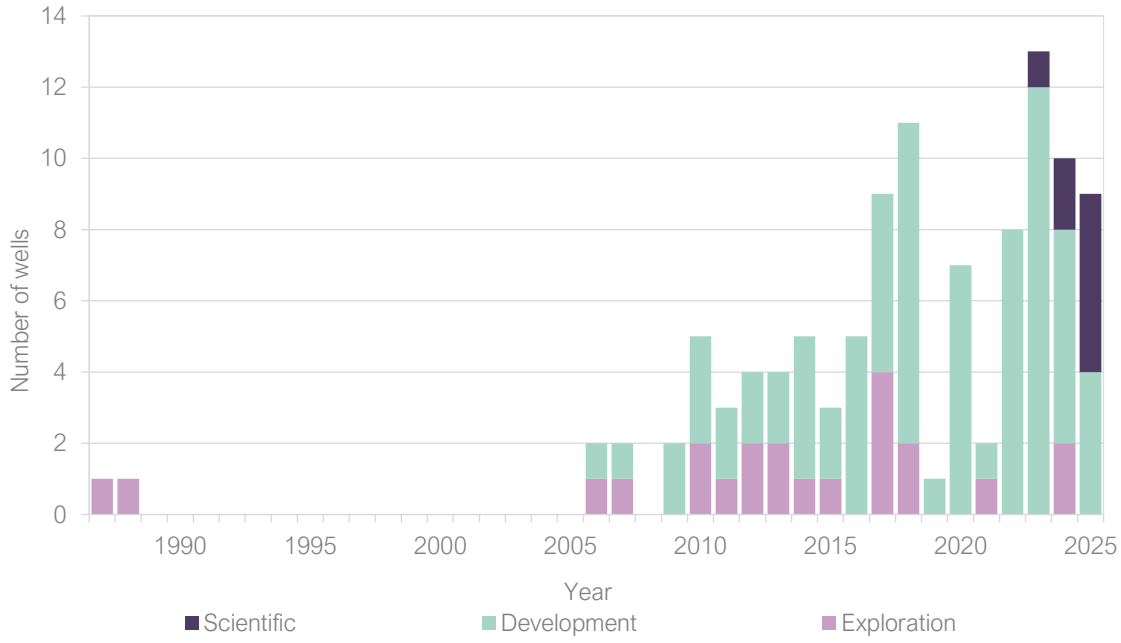


Figure 11.4 1 Development of geothermal energy wells on land from 1987 onwards.

11.3 Salt

In 2025, 4 salt wells were drilled, all of which were development wells. This is 4 more than in the previous year. For the historic overview of exploration and evaluation wells over time see Figure 11.5 the underlying data can be found in the Excel overview L.

Development wells

	Name well	License	Operator	Result
1	HAAKSBERGEN-H-01	Isidorushoeve	Nobian	Zout
2	HAAKSBERGEN-H-02	Isidorushoeve	Nobian	Zout
3	HAAKSBERGEN-H-03-SIDETRACK1	Isidorushoeve	Nobian	Zout
4	HAVENMOND-01-S1	Havenmond	Frisia Zout	Zout

Salt wells, land

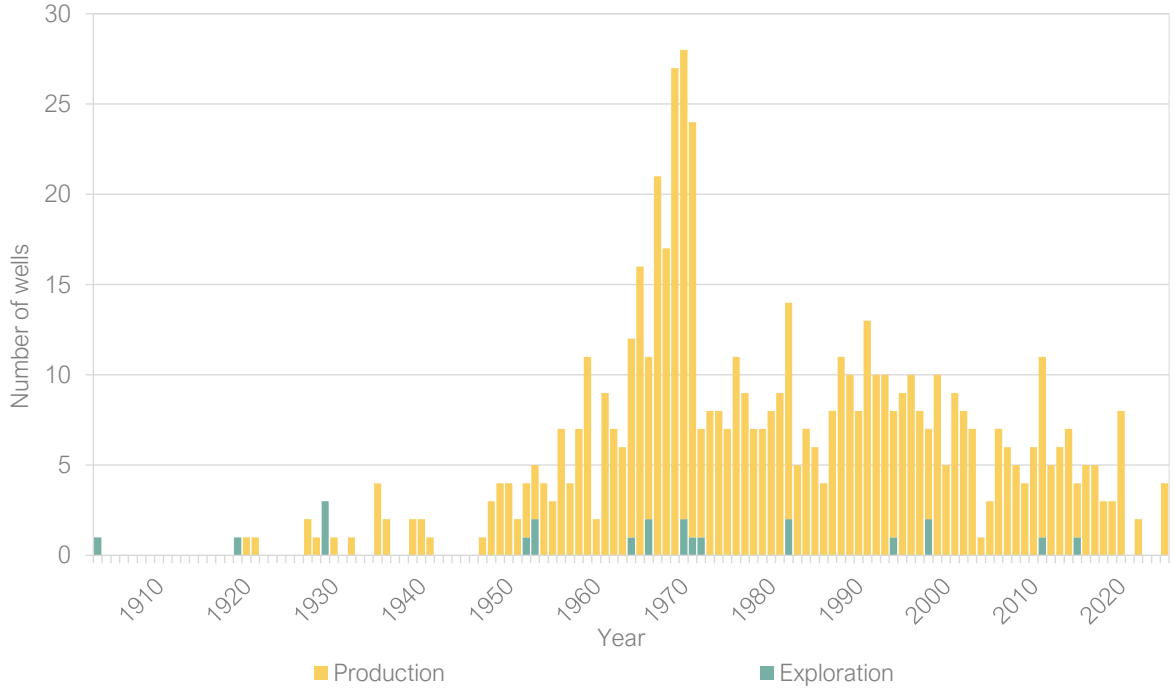


Figure 11.5 Development of exploration and production wells for salt on land from 1903 onwards. .

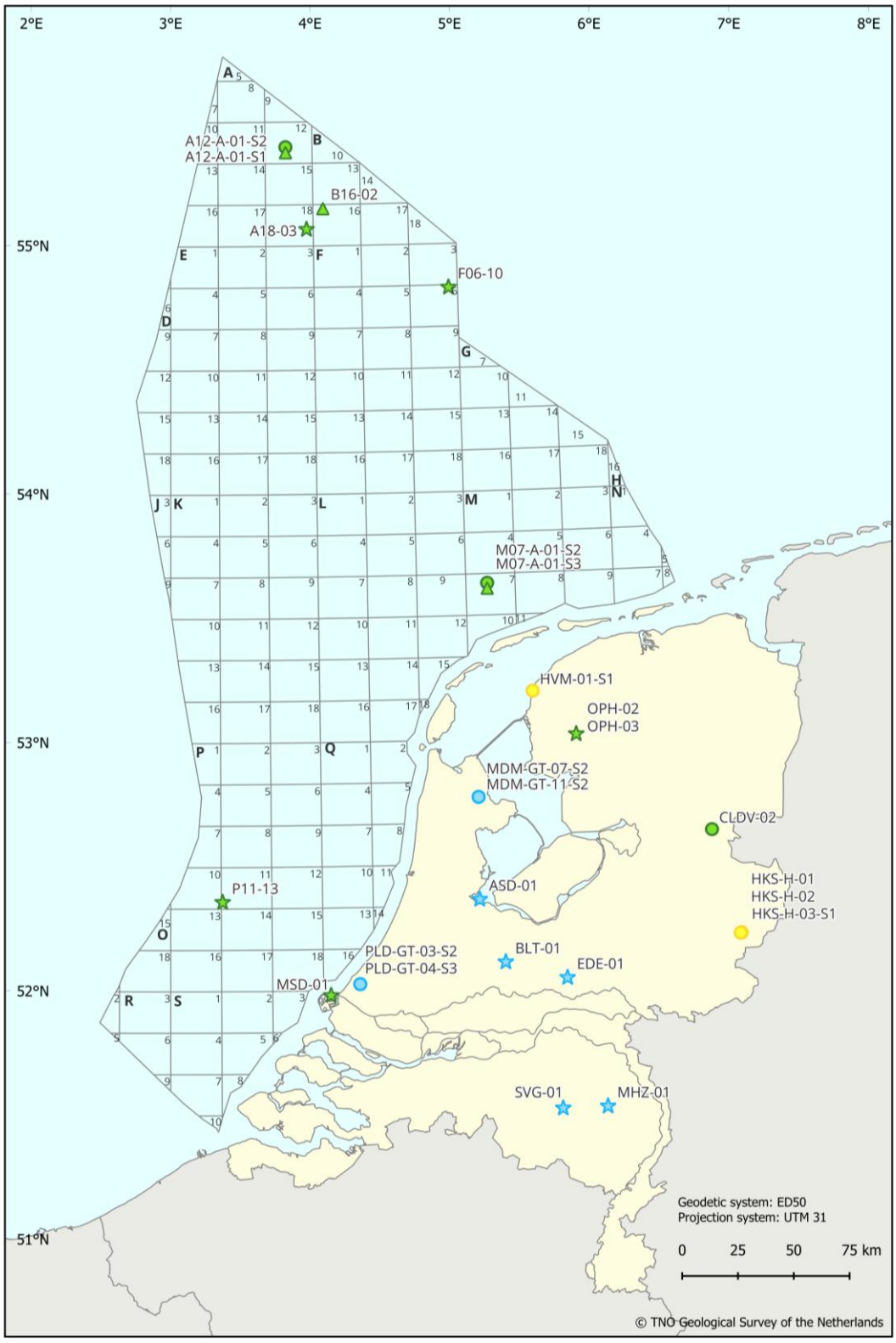


Figure 11.6 Wells completed in 2025.

12.
Natural gas revenues

This chapter provides a brief overview of the natural gas revenues of the Dutch State since 1965. It includes a short explanation of how these revenues are allocated and the composition of the tax proceeds. Recent developments concerning these revenues are briefly discussed. In addition, historical figures and future projections are presented, based on assumptions about gas prices. An overview of the natural gas revenues in tabular form is provided in Excel Overview M.

12.1 Natural gas revenues 1965 – 2019

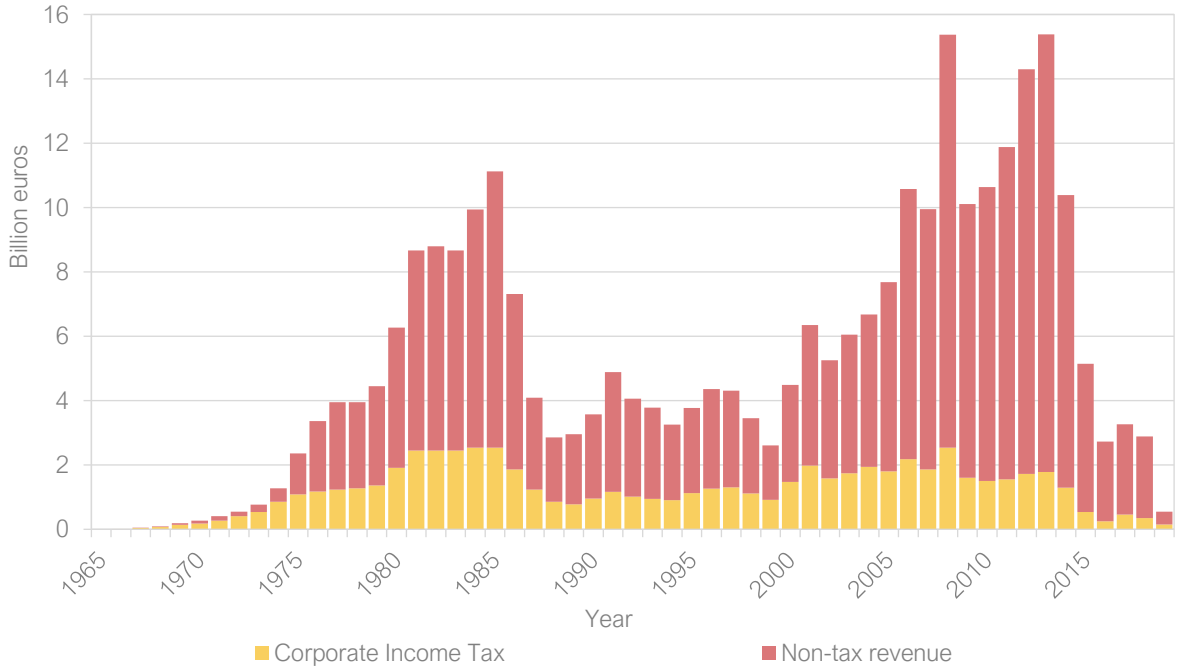


Figure 12.1 Natural gas revenues in billions of euros of the Dutch State from 1965 up to and including 2019, as provided by the Ministry of Economic Affairs and Climate Policy

The revenues as presented above are directly provided by the Ministry Economic Affairs and Climate Policy. The revenues presented here are based on a so-called transaction basis. This means they have been allocated to the year in which the production took place. By contrast, revenue recorded on a cash basis is recorded at the time the state receives the revenue, which is sometime later than the transaction-based revenue.

Non-taxable revenue consists of surface rights, royalties, the State profit shares, the dividend payments from GasTerra and the dividend from EBN the State participant in production.

12.2 Composition and projection of natural gas revenues form 2019 onwards

From 2019 onwards, only an estimate is made of the non-taxable resources on a cash basis, which is why the historical data up to and including 2019 and the forecasts are shown separately (Overview M). The table below shows the gas revenues for 2019 up to 2025 and an estimate for the years 2026 to 2031 in million euros. EBN's dividend in 2025 amounted to € 0 and Mining Act revenues in 2025 amounted to € 126.2 million. The end date of GasTerra has now been set at 31 December 2026; therefore, GasTerra's dividend will decline to zero from 2028 onwards.

Table 12.1 Non-tax revenue (in million euros), 2019 – 2031 (based on estimates from February 2026)

Year	Dividend EBN	Dividend GasTerra	Mining Act	Total (106 €)
2019	141,8	3,6	432,4	557,8
2020	35,9	3,6	34,8	74,3
2021	2,8	3,6	25,8	32,2
2022	0	3,6	1.614,6	1.618,2
2023	2.159,0	3,6	2.429,0	4.591,6
2024	1.329,0	3,6	292,7	1.625,3
2025	0	3,6	126,2	129,8
Forecast				
2026	0	3,6	19,0	22,6
2027	0	3,6	0	3,6
2028	0	0	19,0	19,0
2029	0	0	26,0	26,0
2030	0	0	26,0	26,0
2031	0	0	26,0	26,0

Tax income estimates for the years 2026 to 2031 are based on price forecasts of the CPB (based on the gas trading hub prices as published by TTF). The following gas prices in euro cents per cubic metre have been estimated:

Tabel 12.2 Gas price* forecast in eurocent per cubic meter

Year	2026	2027	2028	2029	2030	2031
Gasprice	26,4	24,5	23,1	21,9	21,6	21,9

* forecast from February 2026

Appendix 1.
Overview map of hydrocarbon licences

Names of (applied for) exploration and production licences on land for hydrocarbons, as shown in the figure of Appendix 1.

Exploration licences					
E1	Hemelum	E2	Utrecht		
Applied for exploration licences					
E3	Brielle	E4	Slootdorp-Oost	E5	Waskemeer
Production Licences					
P1	Akkrum	P14	Drenthe IIb	P27	Rijswijk
P2	Alkmaar	P15	Drenthe IIIa	P28	Rossum-De Lutte
P3	Andel Va	P16	Drenthe IV	P29	Schoonebeek
P4	Andel Vb	P17	Drenthe V	P30	Slootdorp
P5	Beijerland	P18	Drenthe VI	P31	Steenwijk
P6	Bergen II	P19	Gorredijk	P32	Tietjerksteradeel II
P7	Bergermeer	P20	Groningen	P33	Tietjerksteradeel III
P8	Botlek IV	P21	Hardenberg	P34	Tubbergen
P9	Botlek Breeddiep	P22	Leeuwarden	P35	Twenthe
P10	Botlek Maasmond	P23	Middelie	P36	Waalwijk
P11	Botlek-Maas	P24	Noord-Friesland	P37	Zuid-Friesland III
P12	De Marne	P25	Oosterend	P38	Zuidwal
P13	Drenthe IIa	P26	Papekop	P27	Rijswijk

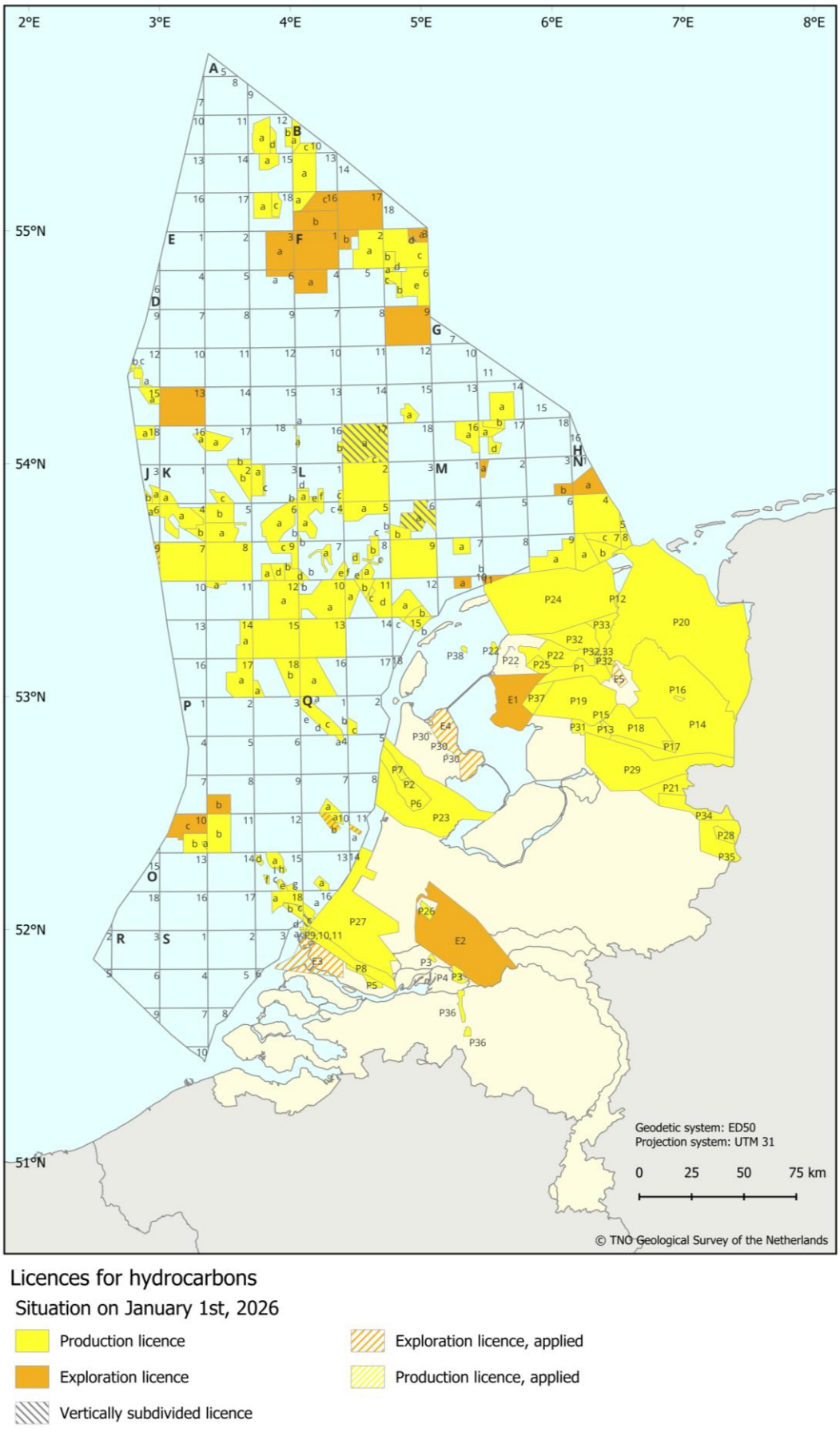


Figure Appendix 1 Exploration and production licences for hydrocarbons as of 1 Januari 2026

Appendix 2.
Overview map of geothermal licences, land

Names of search area allocation, start- and follow-up licences for geothermal, as shown in the appendix figures 2.1 and 2.2.

Start licences for scientific research and central policy					
O1	Amsterdam-Diemen- Almere 1	O3	Deurne 1	O5	Eindhoven 3
O2	De Bilt-Zeist 1	O4	Ede-Veenendaal 1		
Applied for start licences for scientific research and central policy					
O6	Kempen 1	O7	Moerdijk 1		
Search area allocations					
Z1	Alkmaar	Z22	Edam-Volendam 1	Z45	Oude Rijn
Z2	Almere 1	Z23	Ede	Z46	Purmerend 3
Z3	Almere-Diemen 1	Z24	Honselersdijk 5	Z47	Renkum
Z4	Alphen aan den Rijn 1	Z25	Honselersdijk 6	Z48	Rijnland
Z5	Amersfoort	Z26	Hoorn	Z49	Rotterdam 7
Z6	Ammerzoden 1	Z27	Kampen 2	Z50	Rotterdam-Bar
Z7	Amstelveen-Haarlemmermeer 1	Z28	Kerkrade 1	Z51	Rotterdam-Stad
		Z29	Klazienaveen	Z52	Sneek
Z8	Amsterdam-Amstelveen 1	Z30	Klazienaveen 2	Z53	Someren
		Z31	Kudelstaart 1	Z54	Tilburg 1
Z9	Andijk 2	Z32	Kwintsheul 2	Z55	Tilburg-Zuid 1
Z10	Bommelerwaard 2	Z33	Lansingerland 5	Z56	Uithoorn 1
Z11	Breda-Moerdijk 1	Z34	Leeuwarden	Z57	Veenendaal-Scherpenzeel 1
Z12	Brielle 2	Z35	Leeuwarden 5		
Z13	Capelle aan den IJssel	Z36	Leiden 2	Z58	Velsen
Z14	De Lier 9	Z37	Leiden 3	Z59	Vierpolders
Z15	De Ronde Venen 1	Z38	Lelystad	Z60	Wateringen 1
Z16	Delft-Abtswoude	Z39	Maasland 6	Z61	Wateringen 2
Z17	Den Haag 4a	Z40	Made 2	Z62	Westeinder 1
Z18	Den Haag 6a	Z41	Nijmegen	Z63	Westland-Zuidwest 1a
Z19	Den Helder	Z42	Nissewaard	Z64	Ypenburg 1a
Z20	Den Hoorn	Z43	Nootdorp-Oost 2	Z65	Zoetermeer
Z21	Drechtsteden	Z44	Oss	Z66	Zoetermeer 2
Z1	Alkmaar	Z22	Edam-Volendam 1	Z45	Oude Rijn
Z2	Almere 1	Z23	Ede	Z46	Purmerend 3
Z3	Almere-Diemen 1	Z24	Honselersdijk 5	Z47	Renkum

Applied for search area allocations					
Z67	Luttelgeest 3	Z69	Nootdorp-Oost 4	Z70	Berkel 2
Z68	Berkel 1				
Start licences					
S1	Bleiswijk 1b	S7	Lansingerland III	S13	Monster I
S2	Bleiswijk II	S8	Leeuwarden I	S14	Naaldwijk II
S3	Bleiswijk III	S9	Luttelgeest II	S15	Pijnacker-Nootdorp 4d
S4	Californië IV	S10	Luttelgeest III	S16	Poeldijk II
S5	Californië V	S11	Maasdijk I	S17	Zoetermeer I
S6	Delft I	S12	Middenmeer III		
Applied for Start licences					
S18	Den Hoorn I	S21	Kampen II	S24	Made I
S19	Ede I	S22	Kerkrade I	S25	Wateringen I
S20	Heerhugowaard I	S23	Klazienaveen I		
Follow-up licences					
V1	Andijk	V8	Kwintsheul	V15	Oostvoorne
V2	De Lier	V9	Lansingerland	V16	Pijnacker-Nootdorp 4
V3	Den Haag	V10	Luttelgeest	V17	Pijnacker-Nootdorp 5
V4	Heemskerk	V11	Maasland	V18	Poeldijk
V5	Heerlen	V12	Middenmeer I	V19	Vierpolders
V6	Honselersdijk	V13	Middenmeer II	V20	Zevenbergen
V7	Kampen	V14	Naaldwijk		
Applied for Follow-up licences					
V21	Leeuwarden I	V23	Luttelgeest III	V25	Naaldwijk II
V22	Luttelgeest II	V24	Middenmeer III	V26	Pijnacker-Nootdorp IV-d

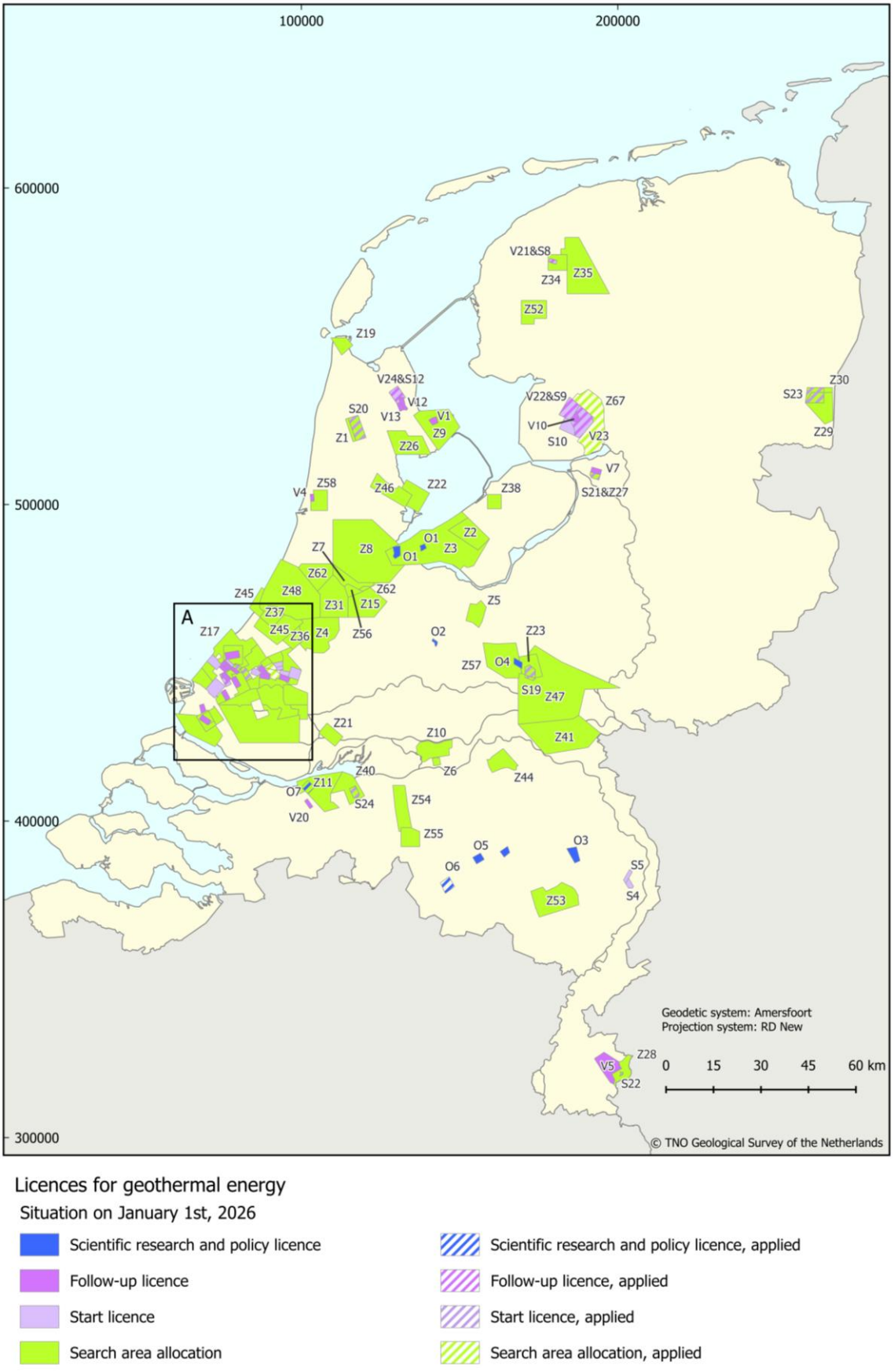


Figure Appendix 2.1 Geothermal licences as of 1 January 2026.

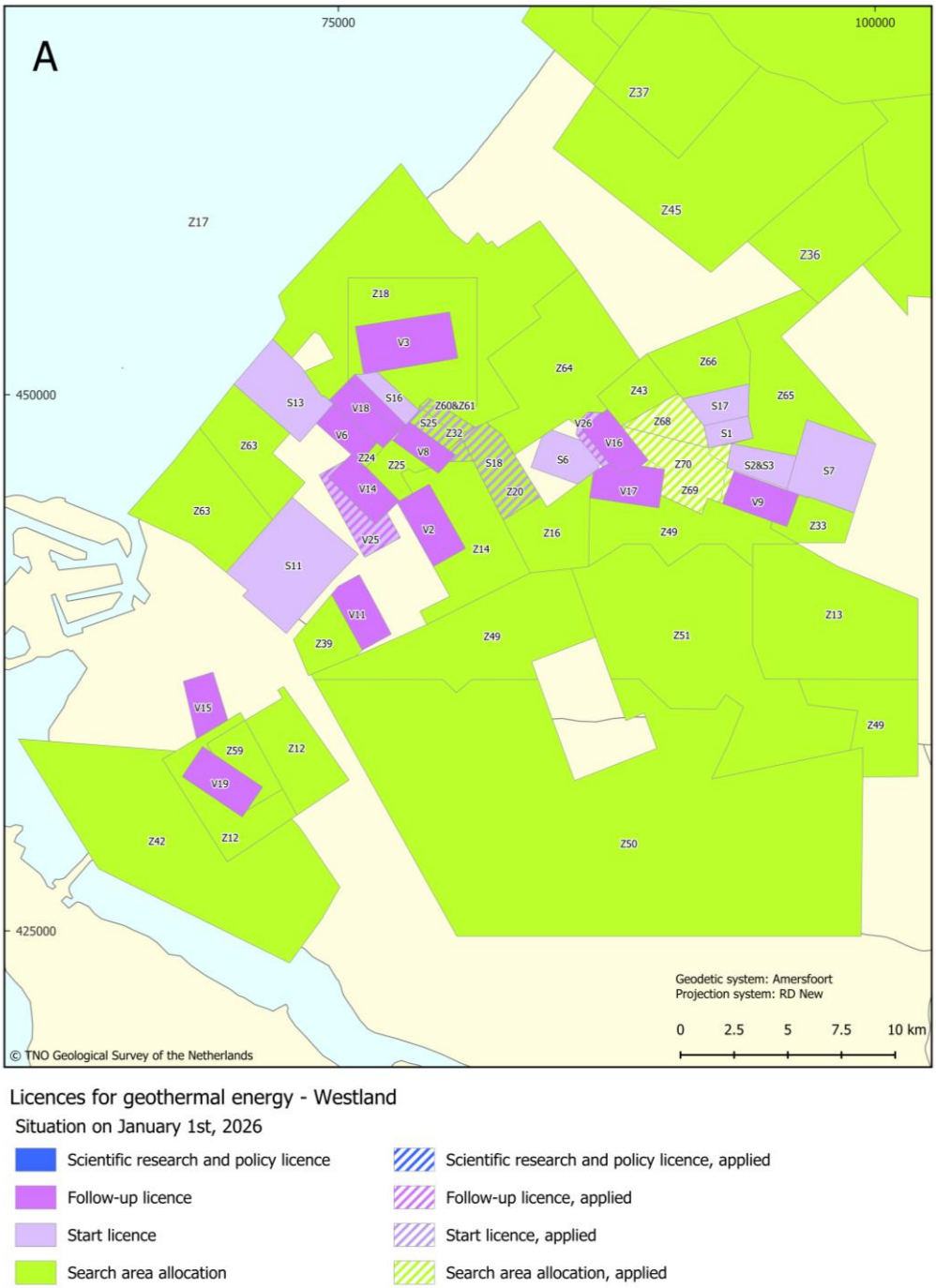


Figure Appendix 2.2 Geothermal licences as of 1 January 2026, enhanced view of area A from figure Appendix 2.1.

Appendix 3.
Authorities involved in mining

Ministry of Economic Affairs and Climate

Directorate-General for Achievement Green Growth

Address:	Bezuidenhoutseweg 73 2594 AC 's-Gravenhage	Postbus 20411 2500 EK 's-Gravenhage
Telephone:	070 379 89 11	
Website:	www.rijksoverheid.nl	

TNO – Advisory Group for Economic Affairs

Address:	Princetonlaan 6 3584 CB Utrecht	Postbus 80015 3508 EC Utrecht
Telephone:	088 866 42 56	
Website:	www.tno.nl	

State Supervision of Mines

Address:	Henri Faasdreef 312 2492 JP 's-Gravenhage	Postbus 24037 2490 AA 's-Gravenhage
Telephone:	070 379 84 00	
E-mail:	info@sodm.nl	
Website:	www.sodm.nl	

Netherlands Oil and Gas Portal – www.nlog.nl

The Netherlands Oil and Gas Portal provides information about mineral resources and geothermal energy on land and at sea the Netherlands, with the aim of making information supplied by the Dutch government easily and clearly accessible. The portal is administered by TNO, *Geological Survey of the Netherlands* on the authority of the Ministry of Economic Affairs and Climate.

Appendix 4. Definitions of selected terms

Land:

In this annual review, the terms land and onshore refer to the Dutch mainland and that part of the Netherlands territorial waters located on the landward side of the line referred to in the appendix of the Mining Act.

Sea:

In this annual review, the terms sea and offshore refer to that part of the continental shelf over which the Kingdom of the Netherlands has sovereign rights, and which is located on the seaward side of the line referred to in the appendix of the Mining Act.

Exploration licence:

Licence to explore for the minerals stipulated therein (excluding geothermal energy).

Production licence:

Licence to produce the mineral resources specified in the licence, and to explore for these mineral resources (excluding geothermal energy).

Search Area allocation (Geothermal energy):

The search area allocation is only applicable in geothermal energy projects. It provides the exclusive right to search for geothermal energy in a specified area. In this phase of licensing, it is not allowed to drill wells in the area.

Start licence (Geothermal energy):

The start licence is only applicable in geothermal energy projects. Licence to explore for geothermal energy and produce geothermal energy within the time allocation of the licence.

Follow-up licence (Geothermal energy):

The follow-up licence is only applicable in geothermal energy projects. Licence to produce geothermal energy within the time allocation of the licence.

Licence for Scientific Research and central (Geothermal energy):

Licence to conduct purely scientific research or implementing central policy, such as data collection. Special licensing rules apply for this type of licence within the Dutch Mining law. The licence is solely intended for the collection of geological and technical data, not for ongoing production of geothermal energy.

Seismic surveys:

This review differentiates between 2D and 3D seismic techniques. There is a long tradition of two-dimensional (2D) seismic surveying in the oil industry. Vibrations are generated along a line on the surface of the ground. They are reflected by the layers in the earth's crust and recorded by geophones or hydrophones. As the vibrations do not always propagate solely in the vertical plane underneath the recording line, the representations of geological structures in the 2D seismic sections only approximate the real-life situation. The approximation is far superior in 3D seismic surveys, in which many recording lines are positioned close together in a relatively small area. Modern electronic data processing makes it possible to correct for deviations of the wave fronts that are not in the vertical plane underneath an individual recording line, making it possible to generate an accurate model of the geological structures at any desired location.

Wells:

- Exploration well: well to explore a prospective underground accumulation of oil, or gas, or of both.
- Appraisal well: well drilled to establish the volume and extent of a gas field, or an oilfield, or a combined gas/oilfield.
- Production well: well drilled in order to produce a gas field or an oilfield.

Gas field/oilfield:

A natural, isolated accumulation of gas and/or oil in an underground reservoir consisting of a porous rock that is capped or enclosed by impermeable rock. In this review, the terms reservoir, field and accumulation are used synonymously.

Resource categories and definitions:

In the following definitions, natural gas and oil are referred to collectively as hydrocarbons.

- Gas/oil initially in place (GIIP/OIIP)
  Total volume of hydrocarbons initially present in a reservoir, calculated on the basis of the mean values of the parameters used in the calculations.

- Expected initial reserves
  Total volume of hydrocarbons in a reservoir estimated to be ultimately commercially recoverable, calculated on the basis of the mean values of the parameters used in the calculations.

- Proven initial reserves
  Volume of hydrocarbons in a reservoir estimated to be ultimately commercially recoverable (with a 90 % probability, based on an expectation curve).

- Remaining expected reserves
  That part of the expected initial reserves remaining after subtracting the cumulative production (this is the total volume of hydrocarbons produced from the reservoir concerned by the end of the year under review).

- Remaining proven reserves
  Volume of hydrocarbons with a 90 % probability of still being recoverable from a reservoir. This volume is calculated by subtracting the cumulative production from the proven initial reserves.

- Contingent resources
  Volume of hydrocarbons in a reservoir estimated to have a 90 % probability of being potentially recoverable, but currently not considered commercially recoverable due to one or more contingencies. In this annual review, only the contingent resources in the 'pending production' subclass are considered.

- Expected contingent resources
  Volume of hydrocarbons in a reservoir expected to be commercially viable to produce under certain conditions. It is calculated using mean values of the parameters. In this annual review, only the contingent resources in the 'pending production' subclass are considered.

- Future reserves
  Volumes of hydrocarbons not yet proven by drilling but having a certain possibility of success of contributing to reserves in the future. The following datasets and definitions have been used to estimate future reserves:

  a. Prospect database
     Data base containing all prospective structures ('prospects') known to the Netherlands government which may potentially contain gas or oil (future reserves). The main source of data for this database is the annual reports submitted by the operating companies in accordance with article 113 of the Mining Act.
  b. Prospect portfolio
     The selection of prospects from the prospect database located within 'proven play' areas.
  c. Exploration potential
     Cumulative 'risked volumes' of all prospects in the prospect portfolio that meet certain selection criteria. Since 1992 the prospect folio as reported in the exploration potential reports has contained only those prospects with an expected reserve exceeding a certain minimum value. In certain reports the term 'firm futures' has been used. It is largely synonymous with exploration potential.
  d. Potential futures in proven plays
     Volume of gas expected to be present in yet unmapped structures in the 'proven play' areas.
  e. Potential futures in yet unproven plays
     Volume of gas expected to be present in valid plays that have not yet been proven in the Netherlands.
  f. Potential futures in hypothetical plays
     Volume of gas in plays in which one or more of the basic play elements such as reservoir, seal and source rock are not yet known.

In the definitions above, the term 'expected' is used in the statistical sense and thus the figure given represents the expected value (or expectation). The following explanation may be helpful. All data used for the purpose of calculating volumes have an intrinsic uncertainty. By processing these uncertainties statistically, an expectation curve can be determined for each accumulation. This is a cumulative probability distribution curve, i.e. a graph in which reserve values are plotted against the associated probabilities that they will be achieved or exceeded. As production from a hydrocarbon reservoir progresses, various uncertainties decrease, and the expected value will deviate less and less from the 50 % value on the cumulative probability distribution curve.
In practice, the stated reserves of a given field are the expected values. This is the most realistic estimate of the volume of hydrocarbons present in a reservoir. The recoverability of hydrocarbons from an accumulation is determined by the geological and reservoir characteristics of that accumulation, the recovery techniques available at the time of reporting and the economic conditions prevailing at that time.

Probabilistic summation of the proven reserves:
In this method, the probability distributions of the reserves of the individual fields are combined in order to take account of the uncertainties inherent to all reserve estimates. The result of applying the probabilistic summation method is that the total figure obtained for the proven reserves in the Netherlands is statistically more reliable. In other words, the probability that the actual reserves exceed the value stated is 90 %.

Exploration potential:

The exploration potential has been calculated using the ExploSim program, which is described in:

LUTGERT, J., MIJNLIEFF, H. & BREUNESE, J. 2005. Predicting gas production from future gas discoveries in the Netherlands: quantity, location, timing, quality. In: DORE, A. G. & VINING, B. A. (eds) Petroleum Geology: North-West Europe and Global Perspectives—Proceedings of the 6th Petroleum Geology Conference, 77–84. Petroleum Geology Conferences Ltd. Published by the Geological Society, London.

Units:

Standard m^3:

Natural gas and oil reserves are expressed in cubic metres at a pressure of 101.325 kPa (or 1.01325 bar) and 15 °C. This m^3 is defined as a standard m^3 in Standard no. 5024-1976(E) of the International Organisation for Standardisation (ISO) and is usually abbreviated Sm^3.

Normal m^3:

Natural gas and oil reserves are expressed in cubic metres at a pressure of 101.325 kPa (or 1.01325 bar) and 0 °C. This m^3 is defined as a normal m^3 in Standard no. 5024-1976(E) of the International Organisation for Standardisation (ISO) and is usually abbreviated Nm^3.

Groningen gas equivalent:

In order to be able to incorporate volumes of natural gas of different qualities in calculations, they have been converted to Groningen gas equivalents (Geq). This is achieved by converting the volume of gas that differs in quality from the gas in the Groningen field to a volume of gas that is hypothetically of the same quality as the gas in the Groningen field (which is 35.17 Mega joules upper value per m^3 of 0 °C and 101.325 kPa. or 1.01325 bar). One Nm^3 gas with a calorific value of 36.5 MJ is equivalent to 36.5/35.17 Nm^3 Geq.

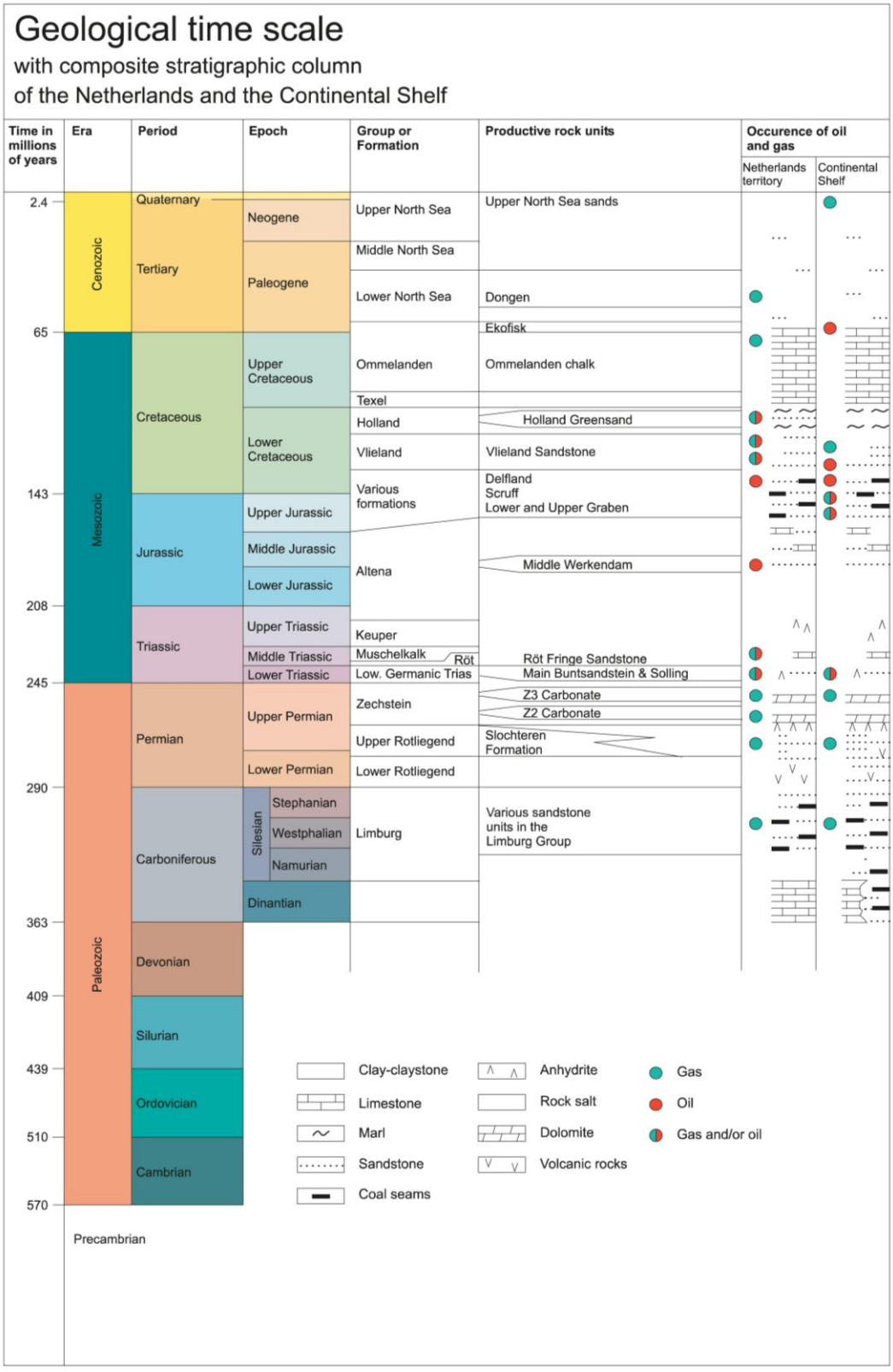
The Groningen gas equivalent is commonly used in the Netherlands, including by N.V. Netherlands Gasunie.

Figures given as Groningen gas equivalents can easily be converted into equivalents for other fuels, such as tonnes of oil equivalents (TOE) and coal equivalents (CE).

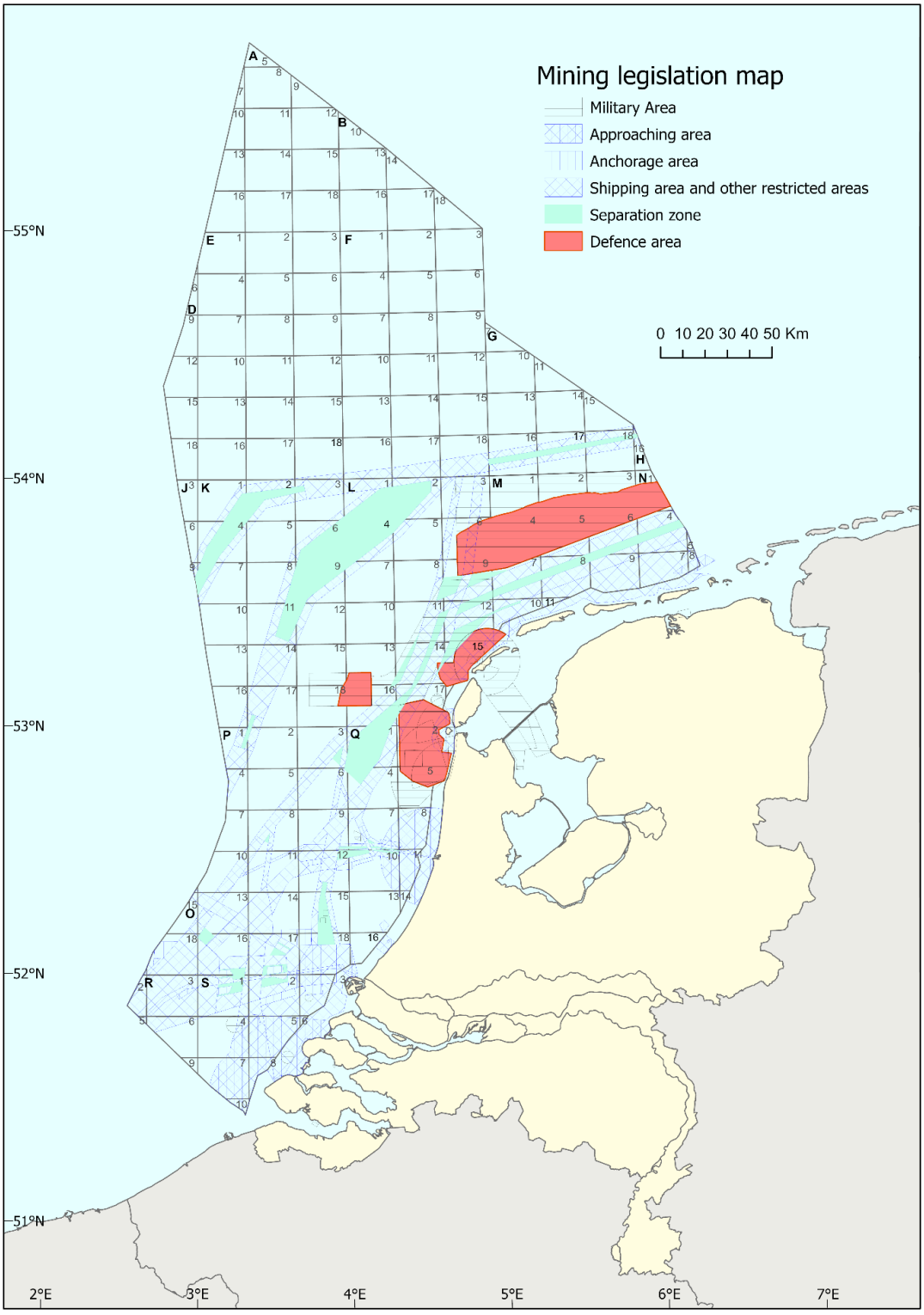
Fuel	Unit	Giga joule	Giga calorie	Oil equiv. tonnes	Oil equiv. barrels	Coal equiv. tonnes	Gas equiv. 1000 m^3
Fuelwood (dry)	tonnes	13.51	3.23	0.32	2.36	0.46	0.43
Coal	tonnes	29.30	7.00	0.70	5.11	1.00	0.93
Lignite	tonnes	17.00	4.06	0.41	2.96	0.58	0.54
Coke	tonnes	28.50	6.81	0.68	4.97	0.97	0.90
Coke-oven gas	1000 m^3	17.60	4.20	0.42	3.07	0.60	0.56
Blast furnace gas	1000 m^3	3.80	0.91	0.09	0.66	0.13	0.12
Crude oil	tonnes	42.70	10.20	1.02	7.45	1.46	1.35
Oil equivalent	tonnes	41.87	10.00	1.00	7.30	1.43	1.32
Refinery gas	1000 m^3	46.10	11.01	1.10	8.04	1.57	1.46
LPG	1000 m^3	45.20	10.79	1.08	7.88	1.54	1.43
Naphtha	tonnes	44.00	10.51	1.05	7.67	1.50	1.39
Aviation fuel	tonnes	43.49	10.39	1.04	7.58	1.48	1.37
Petrol	tonnes	44.00	10.51	1.05	7.67	1.50	1.39
Paraffin	tonnes	43.11	10.29	1.03	7.52	1.47	1.36
Domestic fuel oil	tonnes	42.70	10.20	1.02	7.45	1.46	1.35
Heavy fuel oil	tonnes	41.00	9.79	0.98	7.15	1.40	1.30
Petroleum coke	tonnes	35.20	8.41	0.84	6.14	1.20	1.11
Natural gas	1000 m^3	31.65	7.56	0.76	5.52	1.08	1.00
Electricity*	MWh	3.60	0.86	0.09	0.63	0.12	0.11

* In this energy conversion table, the energy value of one MWh electricity is to be understood as the energy content of a generated unit of electricity. In order to produce this unit of energy, more energy is necessary. The amount required depends on the efficiency of the conversion.

Appendix 5. Geological time scale



Appendix 6. Mining legislation map



Appendix 1. Mining legislation map of the Netherlands including shipping lanes and military areas and defence zones [30]. Accessed on 12 May 2026.

[30] https://noordzeeloket.nl/functies-gebruik/militair-gebruik/

Appendix 7. Petroleum Resource Management Systeem (PRMS)

The development of a gas accumulation is normally phased in a number of projects. After the initial development, further projects may be planned, such as extra (infill) wells, the installation of compression and finally the placing of velocity strings, or the injection of soap. Each of these projects represents an incremental volume of gas that is expected to be produced.

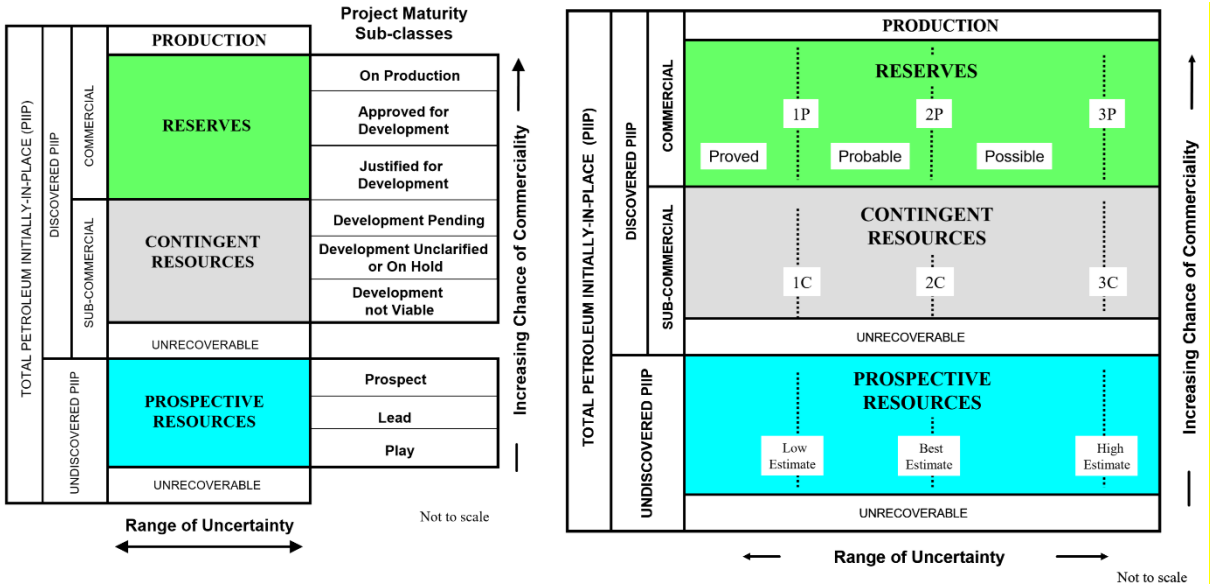


Figure Appendix .1 Schematic representation of the PRMS classification.

Status (chance of commercial realisation)

The gas resources associated with the individual projects are, based on their chance of maturation, allocated to the three main resource classes.

- Reserves, the gas volume in proven plays that is regarded to be economically viable by well-defined projects.
- The contingent resources, the gas volume in proven plays that is recoverable in (incremental) projects, but only considered economically viable when one or more (technical, economic, or legal) conditions are met.
- The prospective resources are defined as the part of the gas considered recoverable in accumulations which have not been demonstrated yet.

The subdivision of these three main classes is shown in Figure Appendix 3.1.

Since oil and natural gas are physically located underground at great depths, hydrocarbon resources are estimated by evaluating the data on the amounts present. All resource estimates have an intrinsic uncertainty. The PRMS resource classification takes account of this uncertainty. This is expressed in a low, expected and high estimate as depicted along the horizontal axis (Figure Appendix 3.1).

1P (proved), 2P (probable) and 3P (possible) for the resources classified as reserves and 1C, 2C and 3C for the corresponding probabilities of the contingent resources.

More information on the PRMS is available at www.spe.org.

Ministry of Economic Affairs and Climate
Directorate-General for Achievement of Green Growth
September 2026

For more information:
www.nlog.nl