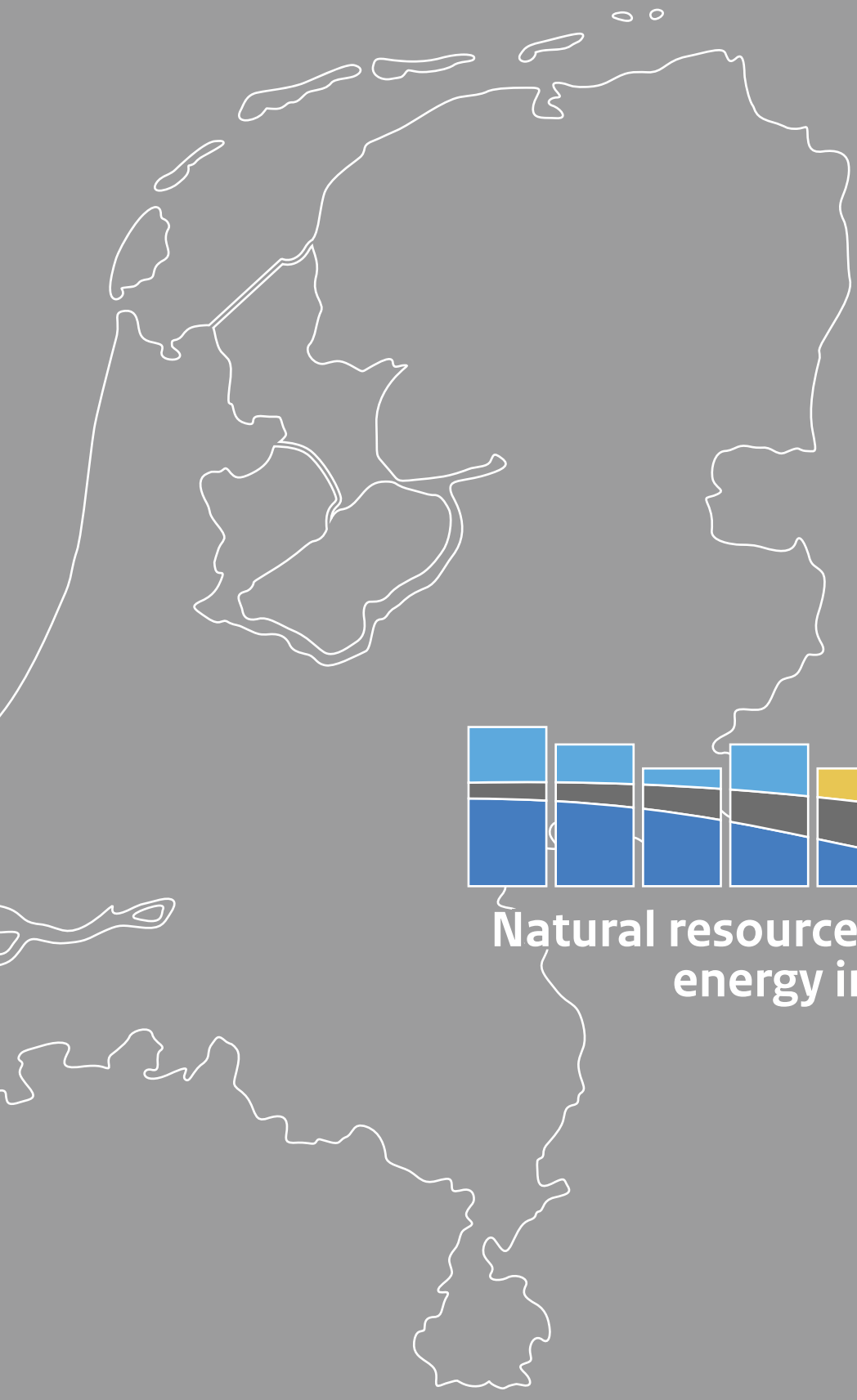
Ministry of Economic Affairs



Natural resources and geothermal energy in the Netherlands

Annual review 2015

NATURAL RESOURCES AND GEOTHERMAL ENERGY IN THE NETHERLANDS

2015 Annual review

An overview of exploration, production and underground storage

Preface

As well as reporting on the exploration and production of hydrocarbons, rock salt and geothermal energy in the Netherlands, this annual review entitled 'Natural Resources and Geothermal Energy in the Netherlands' also reports on the underground storage of natural gas, nitrogen, CO_2 and saline water. In so doing it covers all the exploration, production and storage activities in onshore Netherlands and in the Dutch part of the continental shelf that fall under the Mining Act.

The first section of this annual review deals with developments during the year 2015. The second part of this report comprises annexes giving an overview of the situation as at 1 January 2016, and the developments during preceding decades.

The first nine chapters deal with the exploration, production and underground storage of hydrocarbons. **Chapters 1 and 2 review** the changes in the estimates of natural gas and oil resources in 2015 and the resulting situation as of 1 January 2016. These chapters also present a prognosis for the gas and oil production for the next 25 years. Due to the issues associated with the induced seismicity in Groningen, only the production from the small fields is reported. The remaining volumes of natural gas and oil are reported in accordance with the Petroleum Resource Management System (PRMS).

Chapters 3 to 8 contain information on developments relating to licensing, exploration and related matters (seismic surveys, drilling activities, the placing of new platforms and the laying of pipelines). **Chapter 9** summarises the produced volumes of natural gas, condensate and oil. **Chapters 10 to 13** report on the underground storage of substances and on the exploration and production of coal, rock salt and geothermal energy.

This report has been compiled by TNO, at the request of the Energy Market Directorate of the Dutch Ministry of Economic Affairs. It includes data that the Minister of Economic Affairs is required to supply to both Chambers of the Dutch Parliament in accordance with article 125 of the Mining Act. The digital version of this review can be found on the Netherlands Oil and Gas Portal: www.nlog.nl

The volumes of gas and oil have been expressed in accordance with article 11.3.1. of the Mining Regulations: gas in normal cubic metres and oil (a liquid) in standard cubic metres.

The Hague, July 2016.

CONTENTS

Note:

In this annual report the natural gas volumes are given in normal cubic metres (Nm³).
'Normal' relates to the reference conditions 0°C and 101.325 kPa. 1 Nm³.= 0,9475 Sm³.

In a few instances the volumes of natural gas are given in Groningen gas equivalents (m^3Geq) of 35.17 mega joules gross calorific value per m³ 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 (Sm³). 'Standard' relates to the reference conditions 15°C and 101.325 kPa.

The name of GdF Suez E&P Nederland B.V and GdF Suez E&P Participation Nederland B.V. was formally changed to to ENGIE E&P Nederland B.V. and ENGIE E&P Participation Nederland B.V, respectively. This annual report adopts GDF SUEZ for the description of activities during 2015. In the overviews which have 1 January 2016 as date ENGIE is used.

KEY FIGURES FOR 2015

Natural gas and oil resources

The natural gas resources as at 1 January 2016 are estimated at 891 billion Nm^3, of which 665 billion Nm^3 are in the Groningen gas field. The small fields in Netherlands Territory (i.e. onshore) contain 109 billion Nm^3 natural gas; those in the Dutch sector of the continental shelf contain 117 billion Nm^3 natural gas.
Oil resources at 1 January 2016 were 31.6 million Sm^3, of which 20.5 million Nm^3 are in onshore oilfields and 11.1 million Sm^3 in fields on the continental shelf.

Hydrocarbon licences

As of July 10th 2015 the government has indicated that commercial exploration and production of shale gas will not be allowed the coming 5 years. As a result the open applications for extension of the exploration licenses “Noord-Brabant”, “Noordoostpolder” and “Peel” on the Netherlands Territory have not been granted and have therefore expired. The exploration license “Opmeer” has been extended by two years.
The production licenses “Drenthe IIIb” and “Andel V” have been split into two new production licenses, this so as Vermilion can exploit fields in these areas.
Five exploration licences for the continental shelf were issued in 2015. Of these Hansa was awarded three exploration licenses in the N-blocks which neighbour the German sector. The blocks D9 and E7 have been combined in one license area. The exploration license Q13b-diep was combined with exploration license Q13-ondiep, thus reversing the vertical divide for the Q13-b area. This vertical combination of exploration license was also carried out for F14-ondiep and F14-diep, which are now simply F14.
29 exploration licences were extended for the continental shelf. Four of these extensions resulted in a restriction of the license area. Centrica relinquished their exploration licenses in the E-blocks. Total also relinquished their exploration license for F12 after drilling a dry exploration well. The last quarter of 2015 saw four more exploration licenses being relinquished. Three exploration licenses were not extended and automatically became open area.
The production license “P11a” was awarded in September of 2015. Application for the production license was received in December 2014.
2015 saw the first split of a license under the “Fallow acreage” incentive: the N7b production license was split into two new licenses of which one was transferred to another party.
One of the oldest production licenses, “K6 & L7”, would have reached the end of its’ 40 year life in 2015; this license was extended by 5 years.

For details, see chapters 3 and 4 and annexes 2, 3, 9 and 10.

Wells

In total, 35 wells were drilled for oil and gas, 18 less than in 2014. Eleven exploration wells were drilled in 2015. Of these, 8 found gas, thus the technical success rate was 73%. In addition, four appraisal wells, 14 production wells and 4 wells for gas storage and underground observation were drilled (Territory plus continental shelf). Details can be found in chapter 7 and summary -table 2.

Natural gas production
In 2015 the volume of natural gas produced from Dutch fields was 49.7 billion Nm^3. Onshore gas fields accounted for 35.6 billion Nm^3. Of the total of 35.6 billion Nm^3, 7.5 billion Nm^3 came from small fields and 28.1 billion Nm^3 from the Groningen gas field. The gas fields on the continental shelf produced 14.0 billion Nm^3. As a result, total production in 2015 was 24.7% less than in 2014. For details, see chapter 9.

Oil production
In 2015 a total of 1.7 million Sm^3 oil was produced. This is 8.5% less than in 2014. Territory (i.e. onshore) fields accounted for 0.3 million Sm^3, which is 48.4% less than in 2014. Production on the continental shelf was 1.3 million $Sm^{3,}$ an increase of 15.4%. Average daily oil production in 2015 was 4537 Sm^3. For details, see chapter 9.

Underground storage
In 2015 no new applications for storage licences were submitted. Two licences applications submitted previously are still in the procedure. These licenses are for storage of a filler in order to stabilize a salt cavern and the storage of brine. The storage license for brine held by Vitens expired in 2015 and the date of commencement of the Taqa CO_2 storage licence has changed. For details, see chapter 10.

Coal
There are no developments to report for 2015. There are still five coal production licences in force. See chapter 11.

Rock salt
In 2015 one exploration licence application which was applied for before 2015 was still in the application procedure. In addition one production licence for rock salt expired. In total, 16 production licences and no exploration licences were in force at 1 January 2016. Production of rock salt in 2015 was 6.7 million tonnes. For details, see chapter 12 and annexes 5 and 6.

Geothermal energy
In 2015 there were six new applications for exploration licences for geothermal energy and five exploration licences were issued and three applications were rejected. A re-evaluation of the extent of the license area was done in three licenses in order to allow exploitation of geothermal energy; “De Lier”, “Delft/Pijnacker” and “Californië”. This reevaluation comprised transfers, joining and splitting of existing licenses.
Twelve exploration licences expired and one was relinquished by the licensee. In these areas no geothermal sources were realised. Licensees applied for and were granted extension of nineteen exploration licenses.
In 2015 one production licence was issued; Bleijswijk 1b. An application for a production license was submitted for the “De Lier” area in 2015.

For details, see chapter 13 and annexes 7 and 8.

1. NATURAL GAS RESOURCES AND FUTURE DOMESTIC PRODUCTION

INTRODUCTION

This chapter reports on the natural gas resources in the Netherlands and in the Dutch part of the continental shelf. First, it presents estimates of the natural gas resources as at 1 January 2016 and the changes compared with the resources as at 1 January 2015. The procedure for estimating the natural gas resources is explained briefly below. Prognoses are then given for the annual production of Dutch natural gas in the next 25 years (2016–2040).

Figures

In accordance with the Mining Act (article 13, Mining Decree), every year operators of production licences report their estimates of remaining resources, per accumulation, and their expected annual production. These data are used to estimate the domestic resources of natural gas and the future production of natural gas from domestic reserves. The data on the natural gas resources are required to be reported in accordance with the Petroleum Resource Management System (PRMS)[1], enabling a uniform classification of the resources.

Petroleum Resource Management System (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 wells (infill or acceleration), 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

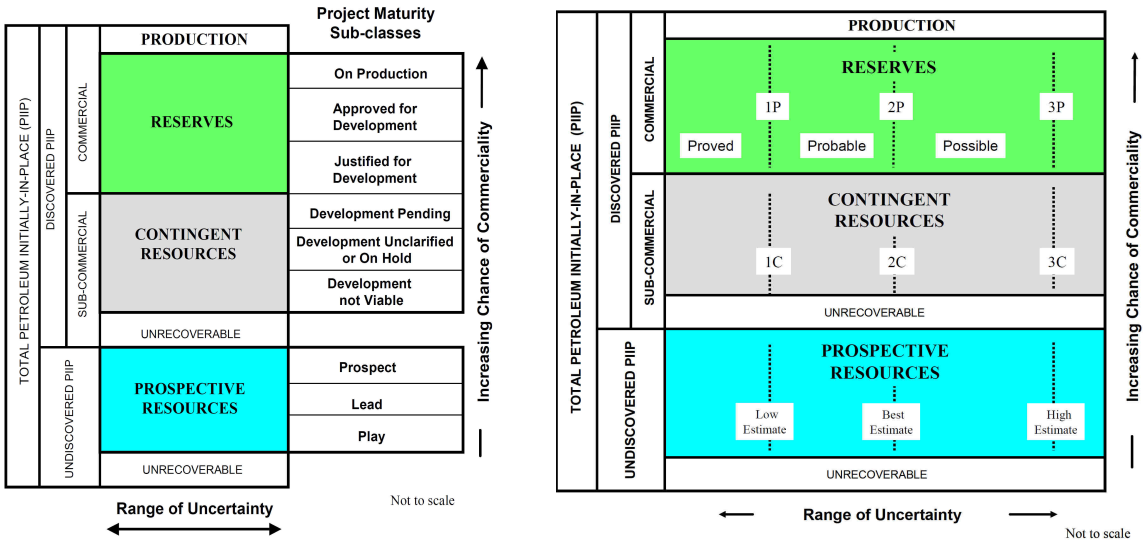


Figure 1. Schematic representation of the PRMS classification[1]

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 in its central framework by classifying the gas resources for each project according to the likelihood of recovery. This is depicted along the horizontal axis in figure 1.

[1] Guidelines for application of the PRMS, Society of Petroleum Engineers, 2012.

The expectation is expressed in 1P (proved), 2P (probable) and 3P (possible). Similar categories exist for contingent resources: these are expressed as 1C, 2C and 3C. In turn, these volumes classified in the vertical axis, based on the probability that the project will be realised (probability of commercial viability). The natural gas resources are divided into three main classes: reserves, contingent resources and prospective resources. It is possible to subdivide the classes (figure 1).

The reported resources are a snapshot. This annual review gives the picture for 1 January 2016. The Dutch gas resources reported here comprise the total volume of expected reserves (2P) and the contingent resources (2C), insofar that these belong to the subclass ‘development pending’. In this review, the contingent resources subclasses ‘unclarified or on hold’ and ‘development not viable’ have not been included in the recoverable gas resources. The paragraph on exploration potential describes how the third class, which is of undiscovered resources (or prospective resources), is determined.

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

RESOURCES

The natural gas resource is the volume of recoverable natural gas in proven underground accumulations of natural gas in the Netherlands. A part of the resources initially in place has been produced over the last decades. The volume of natural gas remaining in the proven accumulations that is economically viable to produce is called the remaining reserve. The term ‘contingent resource’ is applied to the proven resources whose commercially viable exploitation currently depends on one or more criteria.

At 1 January 2016 there were 477 proven accumulations of natural gas in the Netherlands (see table 1) and over half (253) were in production. A further four gas fields were being used to store gas (in addition to the one gas storage facility in a salt cavern). The remaining 108 accumulations were not being exploited, but it is expected that 33 of them will be brought into production in the next five years (2016–2020). It is uncertain whether the remaining 77 will be developed. 110 of the accumulations that were not being produced had been producing previously but their exploitation had been (temporarily) abandoned. As compared to 1 January 2015 two new fields have been discovered.

Table 1. Proven natural gas accumulations as at 1 January 2016, classified according to their status

Status of gas accumulation	Territory	Continental shelf	Total
I. Developed			
a. Producing	106	147	253
b. Natural gas storage	4	0	4
II. Undeveloped			
a. Production to start 2015-2019	12	21	31
b. Other	32	45	77
III. Production			
a. Temporarily abandoned	19	9	28
b. Abandoned	31	51	82
Total	**204**	**273**	**477**

Table 2 shows fields whose status changed during 2015. One of the 13 fields that came on stream during 2015 had previously been closed in. A complete list of all fields, grouped according to status and with information on operators and licences, is presented in appendix 1 (part two of this review).

Table 2. Gas accumulations with a status change in 2015

Accumulation	Operator	Licence [Type]	Status 2015	Status 2016
A18-FA	Petrogas	A18a [pl], A18c [pl]	P	NP<5
D12-Sillimanite	Wintershall	D12a [pl], D12b [el]	NP>5	-
D15-A	GDF SUEZ	D12a [pl], D15 [pl]	U	P
Donkerbroek - Main	Tulip	Donkerbroek [pl], Donkerbroek-West [pl]	P	NP<5
Donkerbroek - West	Tulip	Donkerbroek [pl], Donkerbroek-West [pl]	P	NP<5
Eesveen	Vermilion	Drenthe VI [pl], Steenwijk [pl]	P	NP<5
Geestvaartpolder	NAM	Rijswijk [pl]	U	P
Grouw	Vermilion	Leeuwarden [pl], Oosterend [pl]	T	P
Halfweg	Petrogas	Q01 [pl], Q02c [pl]	U	P
Hemrik (Akkrum 11)	Tulip	Akkrum 11 [pl]	P	T
K15-FI	NAM	K15 [pl]	P	NP>5
L04-B	Total	K06 & L07 [pl], K09c [pl], L04a [pl]	U	P
L06-B	Wintershall	L06a [pl]	P	NP<5
L07-H	Total	K06 & L07 [pl]	T	P
L07-H South-East	Total	K06 & L07 [pl]	U	P
L07-N	Total	K06 & L07 [pl]	U	P
L09-FM	NAM	L09 [pl]	P	-
L10-P	GDF SUEZ	L10 & L11a [pl]	P	-
L10-S1	GDF SUEZ	L10 & L11a [pl]	A	U
L11-Gillian	ONE	L11b [pl], L11c [ep]	NP<5	-

Accumulation	Operator	Licence [Type]	Status 2015	Status 2016
Middenmeer	Vermilion	Slootdorp [pl]	T	P
Noorderdam	NAM	Rijswijk [pl]	T	P
P09-B	Wintershall	P09c [pl]	U	P
P10a De Ruyter Western Extension	Dana Petroleum	P10a [pl]	P	NP<5
P15-14	TAQA	P15c [pl]	U	P
P18-7	ONE	P18b [ep], P18c [pl], Q16a [pl]	NP>5	-
Pieterzijl-Oost	NAM	Groningen [pl], Tietjerksteradeel [pl]	NP>5	-
Sonnega-Weststellingwerf	Vermilion	Gorredijk [pl], Steenwijk [pl]	P	NP<5
Suawoude	NAM	Tietjerksteradeel [pl]	T	P
Wijk en Aalburg	Vermilion	Andel Va [pl]	T	U
Witterdiep	NAM	Drenthe IIb [pl]	T	P

Licence types:

pl: Production License

ep: Exploration License

Status

P: Producing

NP<5: Undeveloped field, expected to come on stream within 5 years

NP>5: Undeveloped field, no known date of start of production

T: Production put on hold

U: Production terminated

A: Abandoned

RESOURCE ESTIMATES

Gas resources as at 1 January 2016

On 1 January 2016 the total gas resource in developed and undeveloped accumulations was 891 billion Nm^3 (table 3a).

Restriction to conventional accumulations of gas

The estimates of resources in this review relate solely to resources that are proven plays, and thus this year to the review is limited to conventional natural gas accumulations and excludes shale gas. As of July 10th 2015 the government has indicated that commercial exploration and production of shale gas will not be allowed during the following 5 years.

Reserves and contingent resources

Figures for the gas resources are given in tables 3a (in billion Nm^3) and 3b (in billion m^3 Groningen gas equivalents, m^3Geq). According to the PRMS, a volume of gas qualifies as a reserve if it has been discovered and the gas is assumed to be commercially recoverable by means of well defined projects. Contingent resources are those resources from proven accumulations that are potentially recoverable by means of development projects but which are deemed to be commercially viable only if they meet one or more preconditions. Here, only the contingent resources that are likely to be produced ('Development pending') are presented.

Up until last year the remaining reserves at the time of conversion in gas buffers, Norg, Grijpskerk and Alkmaar were reported separately. As of this annual report these are included in the regular reserves. On 1 January 2016 the remaining reserves totalled 825 billion Nm^3: 658 billion Nm^3 reserves in the Groningen field and 168 billion Nm^3 in the remaining (small) fields.

Some of the contingent resources are in the developed accumulations, but most are in undeveloped accumulations. According to the PRMS, 7 billion Nm^3 in the Groningen field belong to the contingent resources (table 3a). The small fields contain contingent resources of 34 billion Nm^3 on the Territory (onshore) and 25 billion Nm^3 on the Continental Shelf (offshore).

Table 3a. Netherlands natural gas resources as at 1 January 2015, in billion Nm^3

Accumulations	Reserves	Contingent resources (development pending)	Total
Groningen	658	7	665
Other Territory	76	34	109
Continental shelf	92	25	117
Total	826	66	891

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) on the basis of their calorific

value (table 3b). The Groningen gas equivalent used to be calculated relative to a calorific value of 35.17 MJ/Nm^3, the calorific value of the original content of the Groningen field. Since 2010, however, a calorific value of 35.08 MJ/Nm^3 has been assigned to the volume of gas still to be produced from the Groningen field, to reflect a slight change in the composition of the gas produced from this field.

Table 3b. Netherlands natural gas resources as at 1 January 2016, in billion m^{3}Geq

Accumulations	Reserves	Contingent resources (development pending)	Total
Groningen	656	7	663
Other Territory	83	37	120
Continental shelf	102	25	127
Total	841	69	910

Revised estimates compared to 1 January 2015

Table 4 shows the estimates for the Dutch natural gas resources after revision to account for

- New discoveries
- Re-evaluations of previously proven accumulations
- Production during 2015.

Table 4. Revised estimates of expected natural gas resources compared with 1 January 2015, in billion Nm^3

Area	New discoveries	Re-evaluation,	Production	Total
Groningen field	0.0	22.5	-28.1	-5.6
Other Territory	0.2	22.1	-7.3	15.0
Continental shelf	0.6	12.7	-14.4	-1.1
Total	0.8	57.3	-49.8	8.3

The net result is an increase of the resource by 8.3 billion Nm^3 compared with 1 January 2015. A brief explanation of the figures follows below.

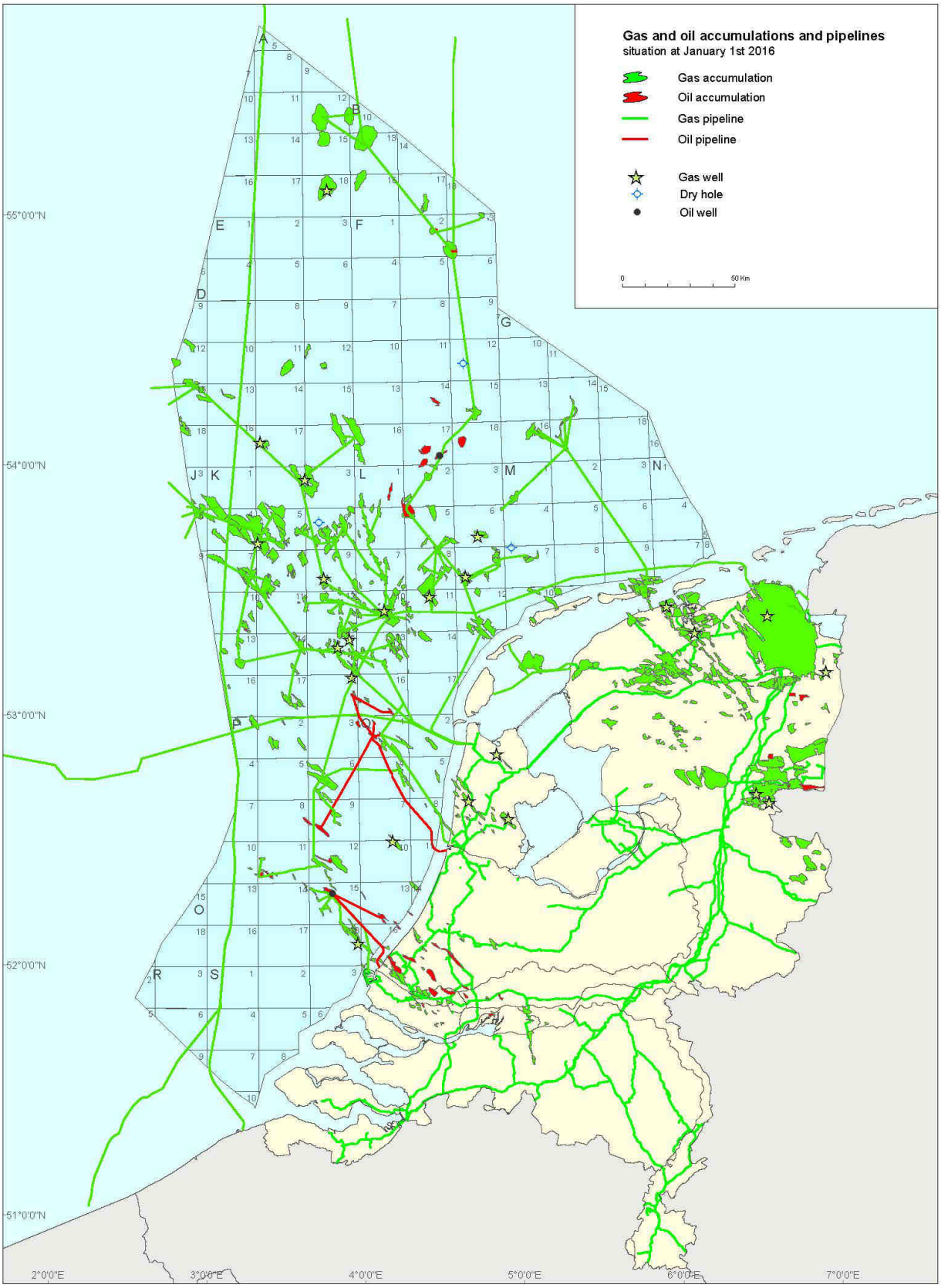


Figure 2. Map showing oil and gas accumulations in the Netherlands (as at 1 January 2016).

New discoveries

The 8 exploration wells that struck gas seem to have found commercially recoverable volumes; six of those are new fields (table 5). The locations of the new discoveries are indicated by asterisks in figure 2.

Table 5. Natural gas accumulations discovered in 2015

Name of accumulation	Discovery well	Licence [Type]	Operator
Pieterzijl-Oost	Warfstermolen-03	Groningen [pl], Tietjerksteradeel [pl]	NAM
D12-Sillimanite	44/19a-8 (UK)	D12a [pl], D12b [ep]	Wintershall
L09-FM	L09-FA-105	L09 [pl]	NAM
L10-P	L10-38	L10 & L11a [pl]	GDF SUEZ
L11-Gillian	L11-14	L11b [pl], L11c [ep]	ONE
P18-7	P18-07	P18b [ep], P18c [pl], Q16a [pl]	ONE

Licence types:

pl: Production License

ep: Exploration License

Re-evaluation

Operators periodically evaluate the gas fields in technical and economic terms. New developments and insights may lead to revised estimates of the resources. As a result of such re-evaluations of producing and non-producing fields, the estimates of resources were adjusted upwards by 8.3 billion Nm^3 in 2015. The estimate for the Groningen field was adjusted upwards by 22.5 billion Nm^3 (approx. 3% of the remaining reserves), due to re-evaluation of the reserves based on newly acquired data from the production and the new situation which has arisen as a consequence of the seismicity in the Groningen Field. This adjustment compensates the changes of 2014. The adjustment for small fields on the Territory (22.1 billion Nm^3) is mostly caused by the incorporation of UGS cushion gas in the reserves value. This in combination with an adjustment of 22.1 billion Nm^3 mostly due to a cumulative effect of re-evaluation and subsequent downgrading of the gas resources in 135 fields. On the continental shelf the contingent resources have increased by 12.1 billion Nm^3 due to re-evaluation. This offshore adjustment is a cumulative effect of re-evaluations in 173 fields. Especially the contingent resources show several major changes; mostly by a change of classifications from “on hold” to “awaiting production”. This shift in classification results in an increase in the reserve numbers. The “on hold” classification has not been included in the resource overview due to uncertainty in the actual realisation of these projects.

The resources have been adjusted on the basis of production performance and the implementation of technical modifications. The latter include the drilling of new wells and the application of techniques to prolong production, such as compression and the deliquification of production wells. Only these proven techniques have been included. At the moment experiments are being performed with Enhanced Gas Recovery (EGS) in the De Wijk field. Currently this technique is assumed non-proven and the associated resources are therefore not included in the overviews.

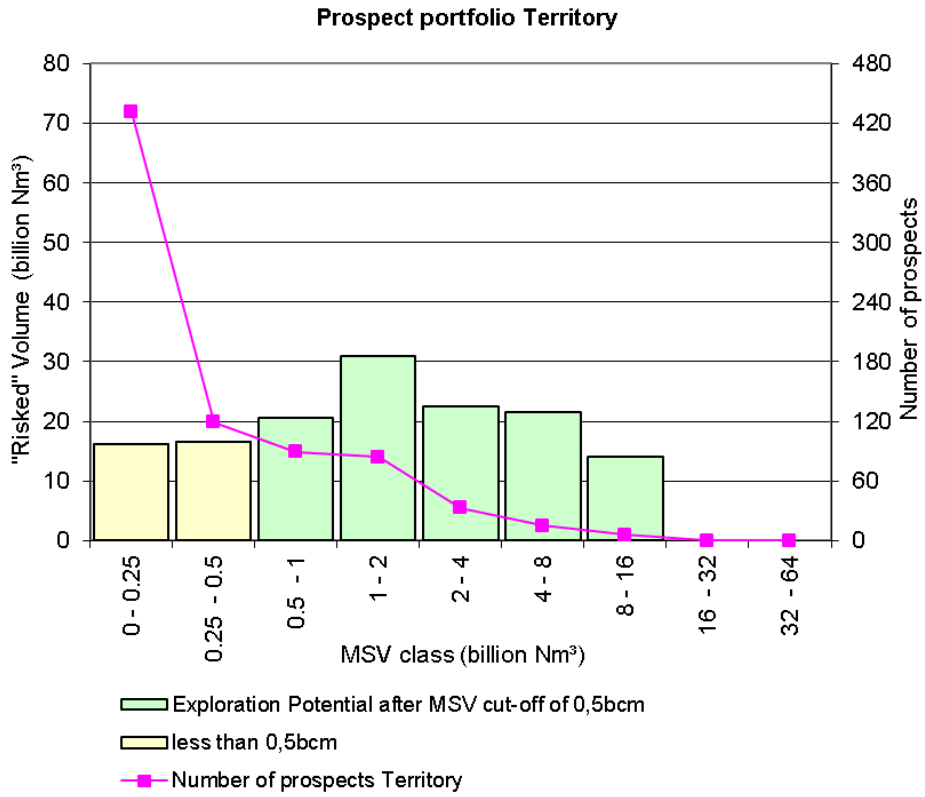
EXPLORATION POTENTIAL

TNO updates the Dutch prospect portfolio for natural gas annually and evaluates the potential for recoverable volume it contains. It does so partly on the basis of figures that operators present in their annual reports for their licensed areas in accordance with article 113 of the Mining Decree. For other areas TNO uses figures from its own database. In this evaluation information provided by the licensees is preferred. However, both TNO and EBN (Focus on Dutch Oil and Gas, 2015) have noticed that in the majority of prospect developments the predrill volume of gas in place are overestimated. This implies that any volumes presented as a result of the exploration potential in this annual report may be deemed optimistic.

TNO assumes a fixed number of prospect developments (i.e. exploration wells) per year in the evaluation. The number of exploration wells occurring each year is based on the long-term moving average (5 years) of historical exploration drilling intensity, which corresponds to 7 offshore and 4 onshore wells. The choice to base the drilling intensity in the evaluation on historical figures does mean that the current low oil and gas price does not result in a decreased drilling intensity.

Geological units and prospects

TNO focuses on the evaluation of the so-called ‘proven plays’. These are geological units for which the data and discoveries justify the assumption that the necessary geological conditions for the accumulation of natural gas are met. Together, all prospective structures (‘prospects’) that have been mapped and evaluated on the basis of existing data form the prospect portfolio. Hypothetical plays and prospects are ignored, due to their speculative character.



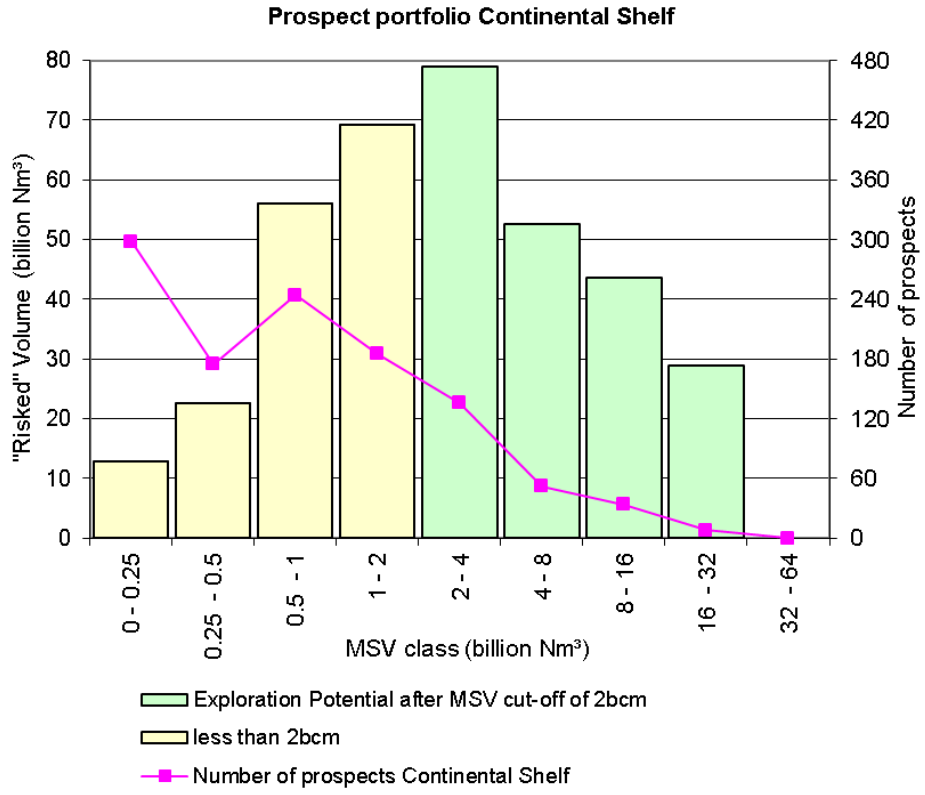


Figure 3. Prospect portfolio characteristics: Number of prospects, in volume classes. Green columns show the exploration potential after applying an MSV lower cut-off (see text for explanation)

Gas portfolio characteristics

The prospect portfolio is characterised by the number of prospects and the associated volume of gas. The volume of a prospect can be expressed in terms of the expected recoverable volume in the case of a discovery (the so-called Mean Success Volume, MSV), or as the risked volume (the so-called Expectation volume, EXP), which is the product of the MSV and the probability of finding natural gas (the Possibility of Success: POS). The prospect portfolio characteristics as of 1 January 2016 are presented in Figure 3 for Territory and Continental Shelf. The number of prospects and the cumulative risked volumes are shown per MSV volume class. The total number of prospects in the Continental Shelf has increased slightly as compared to 1 January 2015, although the cumulative risked volume did decrease slightly in the volume classes larger than 1 bcm due to a re-evaluation.
The number of prospects in the Territory has remained practically constant as compared to 1 January 2015, although the risked volume has also decreased slightly.

Exploration potential

The exploration potential is that part of the prospect portfolio that meets certain minimum conditions. This section aims to present the exploration potential through three methodologies which quantify the attractiveness of the portfolio. These methods define prospects based on gas volumes (MSV), expected monetary value (EMV) and expected, risked rate of returns (RVIR).

Analysis based on recoverable gas volumes (MSV)

Since the first report on the exploration potential in 1992, a lower cut-off (MSV) has been defined for the expected recoverable volume in the case of discovery. This cut-off is 0.5 billion m^3 for Territory prospects and 2 billion m^3 for continental shelf prospects. The green columns in figure 3 represent the risked volume of the prospects with an MSV above this cut-off. This volume is called the exploration potential based on the MSV lower cut-off.

The estimate of the exploration potential (see table 6) is expressed as a range, to indicate its inherent uncertainty.

Table 6. Exploration potential for natural gas as at 1 January 2015, after applying the MSV lower cut-off to the prospect portfolio

Area	MSV cut-off [bill. Nm^3]	Exploration potential [bill. Nm^3]
Territory	0.5	67 – 171
Continental shelf	2	123 – 288

The consequence of a minimum MSV-based lower cut-off is that other factors determining the commercial attractiveness of prospects are not considered. These factors are partly related to individual prospects (possibility of success, distance to infrastructure, type of field development, gas quality, productivity, etc.) and partly to generic factors, in particular the anticipated costs and yields.

Economic analysis based on expected monetary value (EMV)

An alternative lower cut-off, first presented in the annual review of 2006, requires that for a prospect to be included in the exploration potential the expected net cash value of a project must be positive. A discounted cash flow model takes account of the factors determining the

commercial attractiveness of prospects. Using the expected net cash value and taking account of the exploration risk, the Expected Monetary Value (EMV) is calculated for each prospect. The EMV is used to rank the prospects. The possibilities for developing individual prospects are determined using a holistic exploration simulator that takes account of the location of each prospect in relation to distance to infrastructure, probability of success and uncertainty about the volumes. In the bigger picture, the infrastructure of pipelines and the producing fields are considered, in order to realistically evaluate the new resources that are expected to be found. The EMV of each prospect is used to select the most attractive prospects (i.e. those with the highest EMV). The EMV (and RVIR method, see below) uses the long term gas price as input. TNO uses the evaluation of gas prices as provided by the Ministry of Economic affairs. From 2016 onwards a gas price of 14 eurocents per m^3 is used, this as compared to the gas price of 21.5 eurocents per m^3 used in the annual report 2014.

Table 7 shows the expected volume for the exploration potential of prospects with a positive EMV cut-off at a gas price scenario of 14 eurocents per m^3. A comparison with the figures in table 6 reveals that setting the lower cut-off EMV > 0 results in volumes close to the middle of the range of the exploration potential based on the MSV lower cut-off for the Territory. The Continental shelf values show that a significant portion of the gas volumes larger than 2 bcm are not economical under current economic conditions, these are mainly prospects which have poor productivity (“tight gas”) and which lie far from existing infrastructure.
The decrease of expected values for the exploration potential as compared to 1 January 2015 is mostly caused by the decrease in long term gas price and to a lesser extent by re-evaluation of the prospect portfolio resulting in a net decrease. In order to illustrate the effect of the lower gas price Table 7 also shows the expected values of the exploration potential with the gas price of 21.5 eurocents per m^3 as used in the annual report 2014. This shows that the major decrease in values on the Continental Shelf can be attributed to the decrease in gas price.

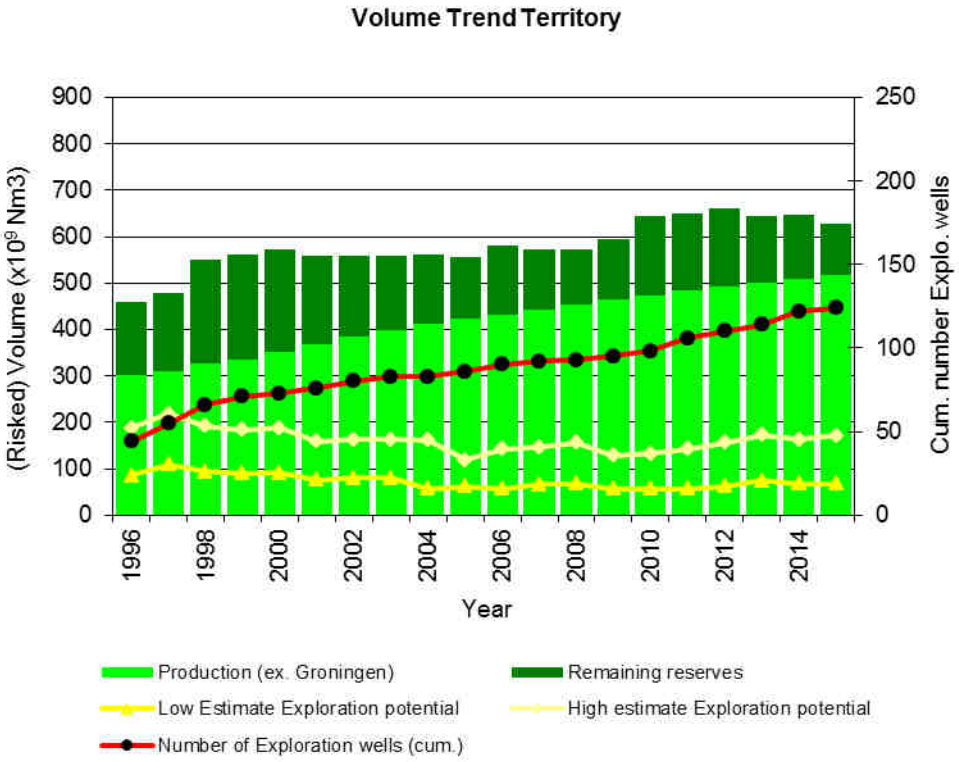
Table 7. Exploration potentials for natural gas as at 1 January 2016, assuming an economic lower cut-off of EMV = €0 and a gas price of 14 and 21.5 eurocents per m^3

Area	**Expected value of exploration potential 14 ct/ m^2 [billion Nm^3]**	**Expected value of exploration potential 21.5 ct/ m^2 [billion Nm^3]**
Territory	99	116
Continental shelf	94	161

Exploration potential trend/history

Figure 4 shows the trend in the exploration potential in the Netherlands. The graph for Territory shows a gradual decline from 1996 to 2009 followed by a slight increase continuing to the present, for both the high and the low estimates. Particularly striking in the graph for the continental shelf is the upward trend in the high estimate until about 2004, after which there is a downturn to the level of the 1990s.

Over the course of time, exploration wells have led to some of the exploration potential being transformed into reserves. This can be seen from the increase in cumulative production and remaining reserves (height of the green columns) in figure 4.



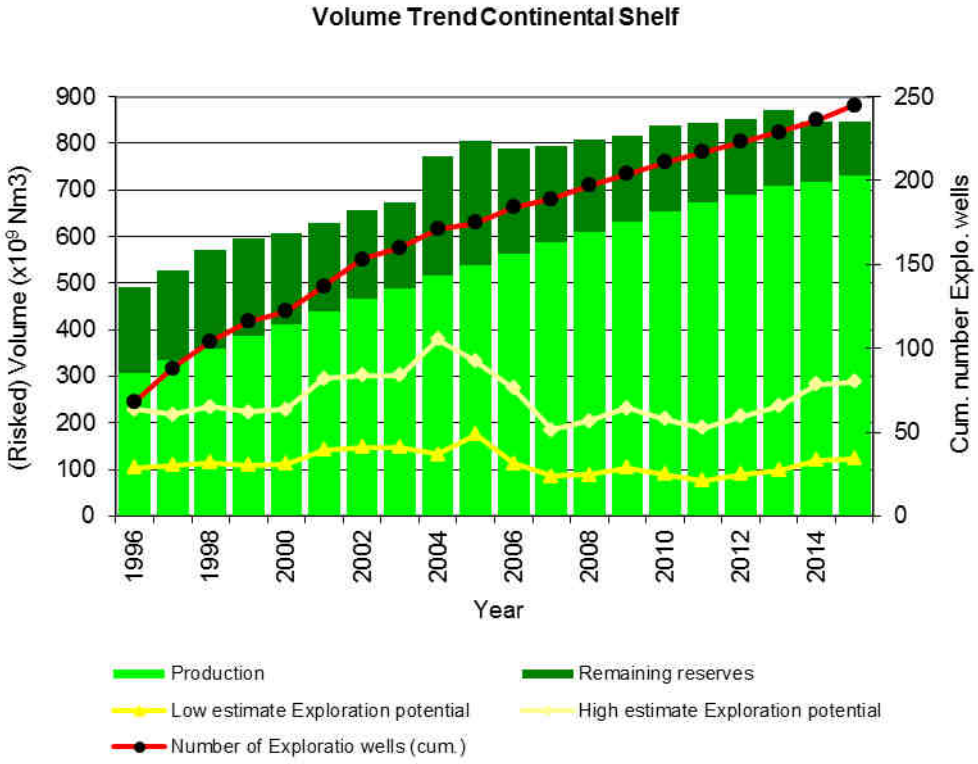


Figure 4. Trends in exploration potential, exploratory drilling, reserves and production 1992–present (excluding the Groningen field)

The exploration potential of 100 billion m^3 for Territory reported in 1996 had already been added to the reserves in 2000. The exploration potential has nonetheless remained stable because of the dynamics in the prospect portfolio on which the estimates are based: Every year, prospects are removed from the portfolio after the drilling of exploration wells, and new prospects are added. Re-evaluations of prospects may also lead to changes in the values of the portfolio (see the paragraph 'Portfolio characteristics').

INCENTIVES

The Decree on investment deduction for marginal gas accumulations on the continental shelf (*Regeling investeringsaftrek marginale gasvoorkomens continentaal plat*) came into force on 16 September 2010 to stimulate the development of marginal gas fields that would otherwise not be drilled. It allows licensees and co-licensees to offset 25 % of the sum they invest in assets for exploring and exploiting a given marginal field or prospect against the result over which they are liable for profit sharing. Applications for marginal fields are reviewed against the following three parameters: technically recoverable volume of gas, initial well productivity and transport distance to a platform.

Since the Decree came into force 64 applications have been filed, of which 37 have been successful. 19 applications are being processed and five were rejected.

At the same time and with the same purpose as the decree, an agreement came into force between the Minister of Economic Affairs and the mining companies active on the continental shelf. This covenant includes a voluntary procedure to stimulate companies holding licences for gas production on the continental shelf to transfer to third parties their fallow concessions (i.e. those that they neither actively exploit nor have concrete plans to bring into production, despite being given the opportunity). Since 1 July 2012, the Minister of Economic Affairs has determined which offshore production licences or parts thereof classify as fallow. The classification is updated annually and is adjusted if, in the interim, this is necessary because new data have become available. The most recent classification is published on NLOG. After a licence area has been declared fallow, the main licensee is notified by the Ministry of Economic Affairs and then has nine months to submit a plan for activities that are deemed significant under the Mining Act. If the main licensee does not make use of this opportunity, the co-licensees are allowed three months to submit their own activity plan. Finally, third parties may then submit their activity plans. In 2015 the first subdivision of a licence occurred as a result of the "Fallow acreage" incentive. The licence N7b was split into two licences, of which one was transferred to a new party.

The current status of the production licences based on the abovementioned covenant can be found at www.nlog.nl.. This site also gives the activities in the production licence areas onshore, classified under article 32a of the Mining Act.

DOMESTIC SUPPLIES OF NATURAL GAS

This section of the annual review deals with the expected trend in the supply of Dutch natural gas (domestic production) in the next 25 years (2016 to 2040). Estimates are largely based on data submitted by operators. The reference date for the present review is 1 January 2016. All the volumes are given in billions of m^3 Groningen gas equivalents.

The prognosis of production from Dutch natural gas will again be restricted to the small fields this year. No long term prediction of production from the Groningen field can be established due to the continuing discussion on gas extraction and associated induced seismicity above the Groningen field. The NAM has submitted an updated production plan for the Groningen field to the ministry of Economic Affairs for approval. On 24 June 2016 the minister sent a letter to the Second chamber which stated that the cabinet decided to establish the level of production of gas from the Groningen field at 24 billion m^3 per year in the draft assent. In order to establish security of supply, this decision allows for an increase in the maximum level should winters colder than average occur. As the decision is not definitive yet, the estimated supply for the next 25 years (2016 to 2040) is restricted to the small fields and as yet undiscovered accumulations (exploration potential). In addition to the estimated future production figure 5 also provides the actual natural gas production in the Netherlands for the period 2006-2016. 92% of the prognosis production from the small fields for the year 2015 was actually realised.

The estimated domestic production from the small fields is based on the following:

- The summation of the profiled **reserves** and **contingent resources from the subclass ‘**development pending’. These profiles have been provided by the gas producers in their annual reports (in accordance with article 113 of the Mining Decree).
- The summation of the simulated production profiles of **as yet undiscovered accumulations**. These profiles have been prepared using a simulation model that takes into account the number of wells expected to be drilled (11 exploration wells per year and a minimum risked value to investment ratio (RVIR) of 0.1), the expected recoverable volumes of the prospects, the expected productivity of the well and the possibility of success.
- The production of the reserves in underground gas storage facilities (i.e. that part of the gas that at conversion to UGS was originally present in the reservoir) has not been taken into account in the prognosis of production. This as the timing of production of this gas is highly uncertain; currently this is not expected to start before 2040.

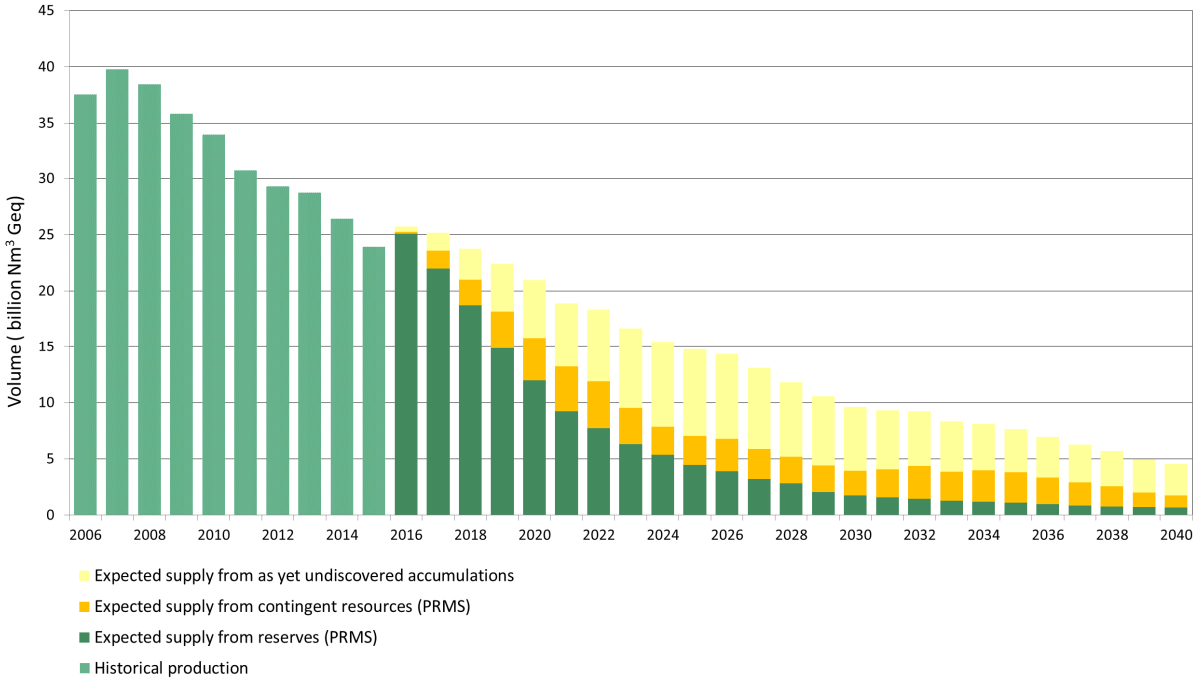


Figure 5. Actual production of natural gas from small fields in the Netherlands from 2001 - 2015 and production prognosis for the period 2016 - 2040. The Groningen field is excluded in this overview (see accompanying text).

Total domestic production from small fields and the exploration potential

Production from the small fields is estimated at 26 billion m^3Geq for 2016, but will gradually decrease to approximately five billion m^3Geq in 2040. The total estimated domestic production from the small fields will be 332 billion m^3Geq over the next 25 years (Table 8).

Table 8. Domestic production of natural gas from small fields for the next 10 and 25 years, in billion m^3Geq

Production Small fields	2016 to 2026	2016 to 2041
Reserves	126	149
Contingent resources (dev. pending)	28	62
As yet undiscovered	49	120
Total for small fields	202	332

2. OIL RESOURCES

On 1 January 2016 there were 48 proven oil accumulations in the Netherlands, 12 of which were producing.

All oilfields are listed in summary annex 1, sorted by status and stating operator and licence.

Table 9. Number of proven oil accumulations as at 1 January 2016

Status of oil accumulation	Territory	Continental shelf	Total
I. Developed			
a. Producing	2	10	12
II. Undeveloped			
a. Production to start 2016-2020	0	4	4
b. Other	10	10	20
III. Production			
a. Ceased	2	0	2
b. Abandoned	8	2	10
Total	22	26	48

Table 10. Oil accumulations with a development status change in 2015

Accumulation	Operator	Licence [Type]	Status 2015	Status 2016
F17-SW Culmination*	Wintershall	F17a-Diep [ep] , F17c [pl] , L02 [pl]	NP>5	-
Kotter	Wintershall	K18b [pl]	U	P
Logger	Wintershall	L16a [pl] , Q01 [pl]	U	P
Schoonebeek (olie)	NAM	Schoonebeek [pl]	T	P

*Split from F17-FC as a result of well F17-12

Licence types:

- pl: Production License
- ep: Exploration License

Status

- P: Producing
- NP>5: Undeveloped field, no known date of start of production
- T: Production temporarily halted
- U: Production terminated

Oil resources as at 1 January 2016

The resource estimates for developed fields are based on the figures and information submitted by the operators in accordance with the Mining Act. The estimates follow the Petroleum Resource Management System (SPE, 2011). Table 11 shows the reserves (i.e. that part of the resources that can be produced commercially and has been qualified as such by the operators) and also the contingent resources (i.e. 'production pending' – that part of the resources that may be reasonably be assumed to be commercially recoverable, but which do not yet meet all the criteria for classification as such).The contingent resources with higher uncertainty of coming into production (On hold, unclarified or unviable) have not been included in table 11.

As the resource classification is project-based, reserves and contingent resources may both be present within one accumulation.

The total oil resources are 31.6 million Sm^3: 18.0 million Sm^3 oil reserves plus 13.5 million Sm^3 contingent resources.

Table 11. Oil resources in million Sm^3 as at 1 January 2016

Area	Reserves	Contingent resources (development pending)	Total
Territory	9.0	11.5	20.5
Continental shelf	9.1	2.0	11.1
Total	18.0	13.5	31.6

Revised estimates of the oil resources compared with 1 January 2016

Table 12 shows the adjustments made to the Dutch oil resources as a result of:

- Re-evaluations of previously proven accumulations
- Production during 2015.

The decrease in oil resources onshore in 2015 mainly the result of a strong depreciation of the reserves. This depreciation exceeds the increase in reserves offshore, which are a result of a quantification of a number of recent new finds. The net result is a decrease of the oil resource by 3.1 million Sm^3 compared with 1 January 2015. Additionally oil production in 2015 results in a decrease in oil resources of 1.7 million Sm^3.

Table 12. Revised estimates of oil resources compared with 1 January 2015, in million Sm^3

Area	Change as a result of:		
	Re-evaluation	Production	Total
Territory	-7.0	-0.3	-7.3
Continental shelf	5.5	-1.3	4.2
Total	-1.5	-1.7	-3.1

Figure 6 shows oil production since 2006 and the prognosis for the next 25 years. This prognosis is based on the annual reports of the operators. Compared to last year's forecast, the production has lagged behind expected production slightly. This is due to the halt in production in the Schoonebeek field as a result of problems in disposal of produced water. The expected increase in production is mostly from the Q13-Amstel and Schoonebeek fields. Moreover several new offshore fields will come into production.

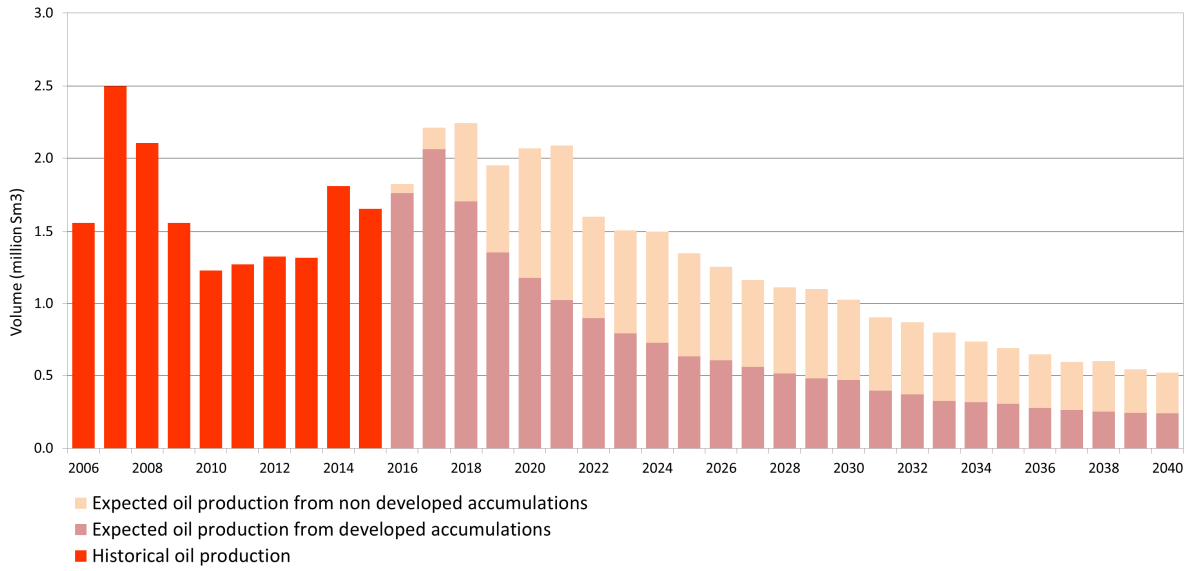


Figure 6. Historical oil production and prognosis for production until 2040

3. HYDROCARBON LICENCES, changes in 2015 Netherlands Territory

Changes in the licences for hydrocarbon exploration and production onshore, which took place during 2015 in the onshore Territory, are listed in the tables below. Also all current licence applications. Figure 7 shows the license situation as at 1 January 2016, license changes which occurred during 2015 are depicted in Figure 8.

Total area	Under licence
41 785 km^2	18 224 km^2 (43.61%)

EXPLORATION LICENCES, Netherlands Territory

Applied for

License	Publication	Date	Closing date	Applicant(s)
De Kempen *	Official Journal C 174 Govern. Gazette 11 021	15-06-2011	14-09-2011	Basgas Energia, Cuadrilla Brabant
Breda-Maas *	Official Journal C 178 Govern. Gazette 11 810	18-06-2011	19-09-2011	Cuadrilla Brabant, Petromanas **
Midden-Nederland *	Official Journal C 79 Govern. Gazette 9 820	17-03-2012	18-06-2012	BNK **
Waskemeer *	Official Journal, C 84 Govern. Gazette 10 937	22-03-2014	23-06-2014	NAM
Slootdorp-Oost	Official Journal, C 55 Govern. Gazette 10 234	14-02-2015	18-05-2015	Vermilion
Brielle	Official Journal, C 170 Govern. Gazette 15 891	23-05-2015	24-08-2015	Oranje-Nassau cs, Vermilion

* Current application, formerly published in Annual Report

** Application withdrawn in response to Government Resolution about shale gas, 10-7-2015

Rejected application for prolongation

Licence holder	Licence	In force	km²
Cuadrilla Brabant B.V.	Noord-Brabant	27-07-2015	1 929
Cuadrilla Hardenberg B.V.	Noordoostpolder	27-07-2015	819
Hexagon Energy B.V.	Peel	27-07-2015	365
		Total	3 113

Prolonged

Licence holder	Licence	In force	Up to
Vermilion Oil & Gas Netherlands B.V.	Opmeer	19-12-2015	18-12-2018

PRODUCTION LICENCES, Netherlands Territory

Applied for

Licence	Publication	Date	Closing date	Applicant(s)
Terschelling-Noord	-	10-11-2014	-	Tulip Oil

Split

Licence holder	Licence	In force	km²
- Original			
Vermilion Oil & Gas Netherlands B.V. cs	Drenthe IIIb		388
Vermilion Oil & Gas Netherlands B.V. cs	Andel V		225
- After splitting			
Vermilion Oil & Gas Netherlands B.V. cs	Drenthe V	20-06-2015	25
Vermilion Oil & Gas Netherlands B.V. cs	Drenthe VI	20-06-2015	363
Vermilion Oil & Gas Netherlands B.V. cs	Andel Va	05-08-2015	61
Vermilion Oil & Gas Netherlands B.V. cs	Andel Vb	05-08-2015	164

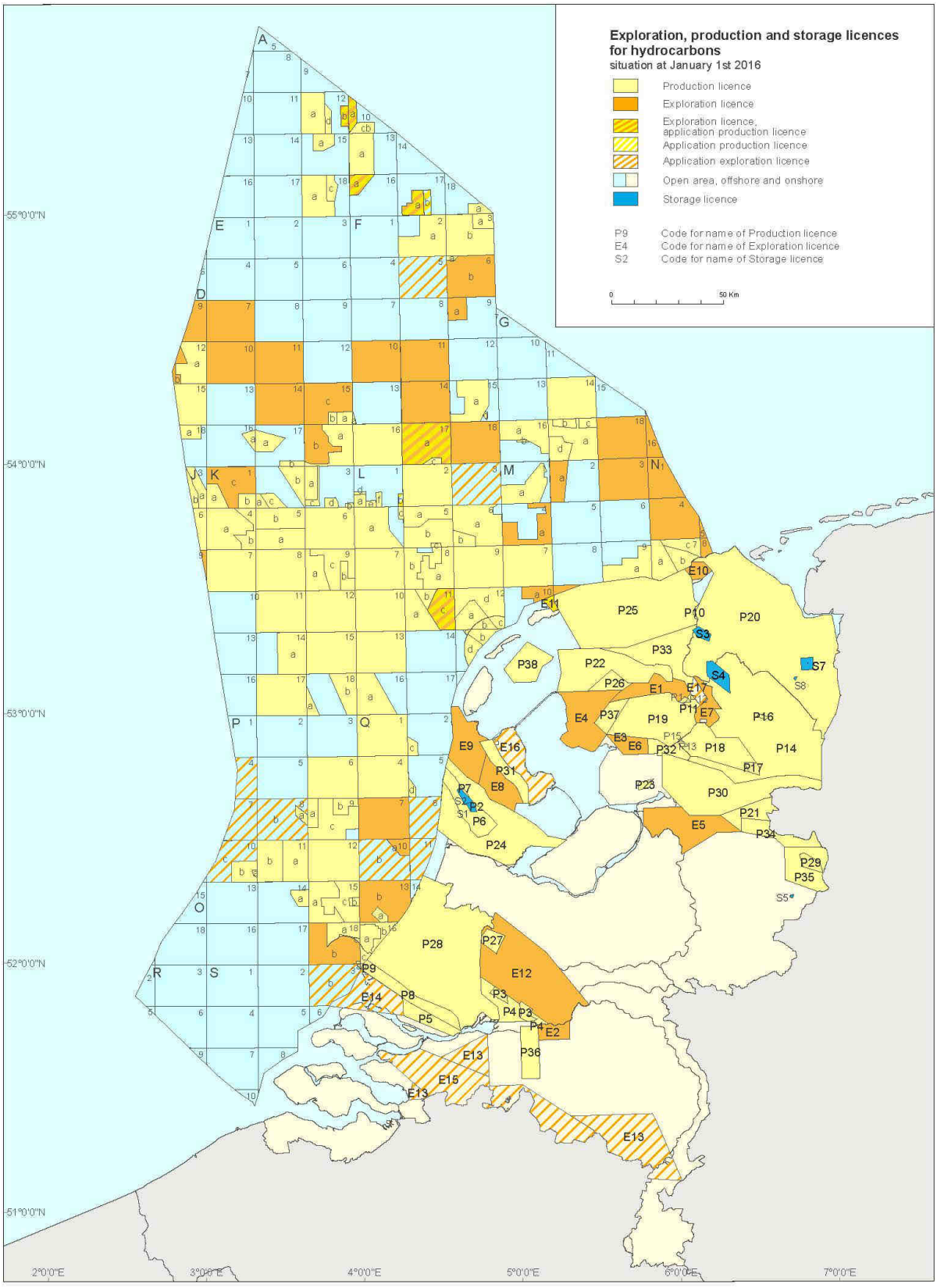


Figure 7 Exploration, production and storage licences for hydrocarbons

The names of exploration, production and storage licenses for hydrocarbons on the Netherlands Territory as shown in Figure 7. The licenses on the Continental Shelf are named after the corresponding parts of blocks.

	Exploration licences		
E1	Akkrum	E7	Oosterwolde
E2	Engelen	E8	Opmeer
E3	Follega	E9	Schagen
E4	Hemelum	E10	Schiermonnikoog-Noord
E5	IJsselmuiden	E11	Terschelling-Noord
E6	Lemsterland	E12	Utrecht
	Exploration licences as applied for		
E13	Breda-Maas	E16	Slootdorp-Oost
E14	Brielle	E17	Waskemeer
E15	De Kempen		
	Production licences		
P1	Akkrum 11	P20	Groningen
P2	Alkmaar	P21	Hardenberg
P3	Andel Va	P22	Leeuwarden
P4	Andel Vb	P23	Marknesse
P5	Beijerland	P24	Middelie
P6	Bergen II	P25	Noord-Friesland
P7	Bergermeer	P26	Oosterend
P8	Botlek II	P27	Papekop
P9	Botlek-Maas	P28	Rijswijk
P10	De Marne	P29	Rossum-De Lutte
P11	Donkerbroek	P30	Schoonebeek
P12	Donkerbroek-West	P31	Slootdorp
P13	Drenthe IIa	P32	Steenwijk
P14	Drenthe IIb	P33	Tietjerksteradeel
P15	Drenthe IIIa	P34	Tubbergen
P16	Drenthe IV	P35	Twenthe
P17	Drenthe V	P36	Waalwijk
P18	Drenthe VI	P37	Zuid-Friesland III
P19	Gorredijk	P38	Zuidwal
	Production licences as applied for		
P39	Terschelling-Noord		
	Storage licences		
S1	Alkmaar	S5	Twenthe-Rijn De Marssteden
S2	Bergermeer	S6	Winschoten II
S3	Grijpskerk	S7	Winschoten III
S4	Norg	S8	Zuidwending

Note: table revised on 1/12/2016

4. HYDROCARBON LICENCES, changes in 2015 Netherlands continental shelf

Changes in the licences for hydrocarbon exploration and production, which took place during 2015 on the Continental Shelf, are listed in the tables below. Also all current licence applications are included. Figure 7 shows the license situation as at 1 January 2016, license changes which occurred during 2015 are depicted in Figure 8.

Total area	Under licence
56 814 km^2	27 266 km^2 (47.99%)

EXPLORATION LICENCES, continental shelf

Applied for

Licence	Publication	Date	Closing date	Applicant(s)
L3	Official Journal C 55 Govern. Gazette 9 904	14-02-2015	18-05-2015	NAM, GDF SUEZ
P10c	Official Journal C 102 Govern. Gazette 10 235	27-03-2015	26-06-2015	Van Dyke, Jetex
S3b	Official Journal C 170 Govern. Gazette 15 892	23-05-2015	24-08-2015	Oranje-Nassaucs
F5	Official Journal C 256 Govern. Gazette 29 117	05-08-2015	04-11-2015	Van Dyke, GDF SUEZ, HALO
P4	Official Journal C 256 Govern. Gazette 29 118	05-08-2015	04-11-2015	Jetex
P7	Official Journal C 256 Govern. Gazette 29 118	05-08-2015	04-11-2015	Jetex
P8b	Official Journal C 256 Govern. Gazette 29 118	05-08-2015	04-11-2015	Jetex
Q8	Official Journal C 331 Govern. Gazette 39 129	08-10-2015	07-01-2016	
Q10b	Official Journal C 331 Govern. Gazette 39 129	08-10-2015	07-01-2016	
Q11	Official Journal C 331 Govern. Gazette 39 129	08-10-2015	07-01-2016	

Awarded

Licence holder	Licence	In force	km²
Hansa Hydrocarbons Limited	N4	14-03-2015	381
Hansa Hydrocarbons Limited	N5	14-03-2015	14
Hansa Hydrocarbons Limited	N8	14-03-2015	34
GDF SUEZ E&P Nederland B.V.	Q13b-diep	27-03-2015	369
GDF SUEZ E&P Nederland B.V.	D9 & E7	04-09-2015	548
		Total	1 346

Merged

Licence holder	Licence	In force	km²
- Original			
Wintershall Noordzee B.V. cs	F14-ondiep		403
Wintershall Noordzee B.V. cs	F14-diep		403
GDF SUEZ E&P Nederland B.V.	Q13b-ondiep		369
GDF SUEZ E&P Nederland B.V.	Q13b-diep		369
- After merging			
Wintershall Noordzee B.V. cs	F14	10-04-2015	403
GDF SUEZ E&P Nederland B.V.	Q13b	01-05-2015	369

Prolonged

Licence holder	Licence	In force	Up to
Oranje-Nassau Energie B.V.	F9a	16-01-2015	02-01-2017
Oranje-Nassau Energie B.V.	M2a	16-01-2015	02-01-2017
Oranje-Nassau Energie B.V.	M4a	16-01-2015	02-01-2017
Oranje-Nassau Energie B.V. cs	L11c	16-01-2015	31-12-2015
Wintershall Noordzee B.V. cs	E3	06-02-2015	02-01-2018
Wintershall Noordzee B.V. cs	F1	06-02-2015	02-01-2018
TAQA Offshore B.V. cs	P18b	12-02-2015	01-01-2017
Tulip Oil Netherlands B.V.	Q7	12-02-2015	26-02-2017
Tulip Oil Netherlands B.V.	Q10a	12-02-2015	26-02-2017
Sterling Resources Netherlands B.V. cs	F17a-ondiep	20-02-2015	31-12-2016
Sterling Resources Netherlands B.V. cs	F18-ondiep	20-02-2015	31-12-2016
Tullow Exploration & Production Netherlands B.V.	E10	31-03-2015	30-06-2015
Tullow Exploration & Production Netherlands B.V.	E11	31-03-2015	30-06-2015
Tullow Exploration & Production Netherlands B.V.	E14	31-03-2015	30-06-2015
Tullow Exploration & Production Netherlands B.V. cs	E15c	31-03-2015	30-06-2015
Tullow Exploration & Production Netherlands B.V.	E18b	31-03-2015	30-06-2015
GDF SUEZ E&P Nederland B.V. cs	E17c	10-04-2015	03-04-2015
Wintershall Noordzee B.V. cs	D12b	16-04-2015	07-04-2016
GDF SUEZ E&P Nederland B.V.	Q13b-ondiep	01-05-2015	08-05-2019
Dana Petroleum Netherlands B.V. cs	F6b	19-05-2015	18-05-2016
GDF SUEZ E&P Nederland B.V. cs	E10	05-08-2015	31-12-2017
GDF SUEZ E&P Nederland B.V. cs	E11	05-08-2015	31-12-2017
GDF SUEZ E&P Nederland B.V. cs	E14	05-08-2015	31-12-2017
GDF SUEZ E&P Nederland B.V. cs	E15c	05-08-2015	31-12-2017
GDF SUEZ E&P Nederland B.V. cs	E18b	05-08-2015	31-12-2017
Tulip Oil Netherlands B.V.	M10a & M11	05-08-2015	30-06-2017
Wintershall Noordzee B.V. cs	F14	05-09-2015	20-11-2018
Wintershall Noordzee B.V. cs	F18-diep	15-09-2015	20-11-2016
GDF SUEZ E&P Nederland B.V. cs	K1c	24-12-2015	03-01-2018

Restricted

Licence holder	Licence	In force	km²
Oranje-Nassau Energie B.V.	F9a	16-01-2015	86
Oranje-Nassau Energie B.V.	M2a	16-01-2015	134
Oranje-Nassau Energie B.V.	M4a	16-01-2015	209
GDF SUEZ E&P Nederland B.V. cs	E17c	10-04-2015	107
		Total	536

Lapsed/Relinquished

Licence holder	Licence	In force	km²
Centrica Production Nederland B.V. cs	E1	04-03-2015	374
Centrica Production Nederland B.V. cs	E2	04-03-2015	396
Centrica Production Nederland B.V. cs	E4	04-03-2015	398
Centrica Production Nederland B.V. cs	E5	04-03-2015	398
Wintershall Noordzee B.V. cs	K3e	04-06-2015	30
GDF SUEZ E&P Nederland B.V.	Q16b & Q16c-ondiep	05-08-2015	80
Dana Petroleum Netherlands B.V.	F13b	22-09-2015	399
Petrogas E&P Netherlands B.V.	P2a	27-10-2015	193
Total E&P Nederland B.V.	F12	09-12-2015	402
GDF SUEZ E&P Nederland B.V. cs	E17c	09-12-2015	107
Wintershall Noordzee B.V. cs	E3	30-12-2015	396
Wintershall Noordzee B.V. cs	F1	30-12-2015	396
		Total	3 569

PRODUCTION LICENCES, continental shelf

Applied for

Licence	Publication	Date	Closing date	Applicant(s)
A12b & B10a *	Govern. Gazette 22	30-12-1999	-	Petrogas cs
B16a *	Govern. Gazette 105	06-05-1993	-	Petrogas cs
B17a *	Govern. Gazette 106	30-05-1997	-	Petrogas cs
B17b *	-	29-07-2010	-	Petrogas cs
L1c *	-	27-02-2014	-	GDF SUEZ
F17a-diep *	-	16-12-2014	-	Wintershall cs
L11c	-	11-11-2015	-	Oranje-Nassau cs

* Current application, formerly published in Annual Report

Awarded

Licence holder	Licence	In force	km²
Oranje-Nassau Energie B.V. cs	P11a	23-09-2015	210
		Total	210

Applied for fallow area

Licence	Publication	Date	Closing date	Applicant(s)
F3b	www.nlog.nl	01-07-2013	30-09-2013	PA Resources UK

Split

Licence holder	Licence	In force	km²
- Original			
GDF SUEZ E&P Nederland B.V. cs	N7b		174
- After splitting			
GDF SUEZ E&P Nederland B.V. cs	N7b	14-02-2015	87
GDF SUEZ E&P Nederland B.V. cs	N7c	14-02-2015	87

Prolonged

Licence holder	Licence	In force	Up to
Total E&P Nederland B.V. cs	K6 & L7	17-06-2015	19-06-2020

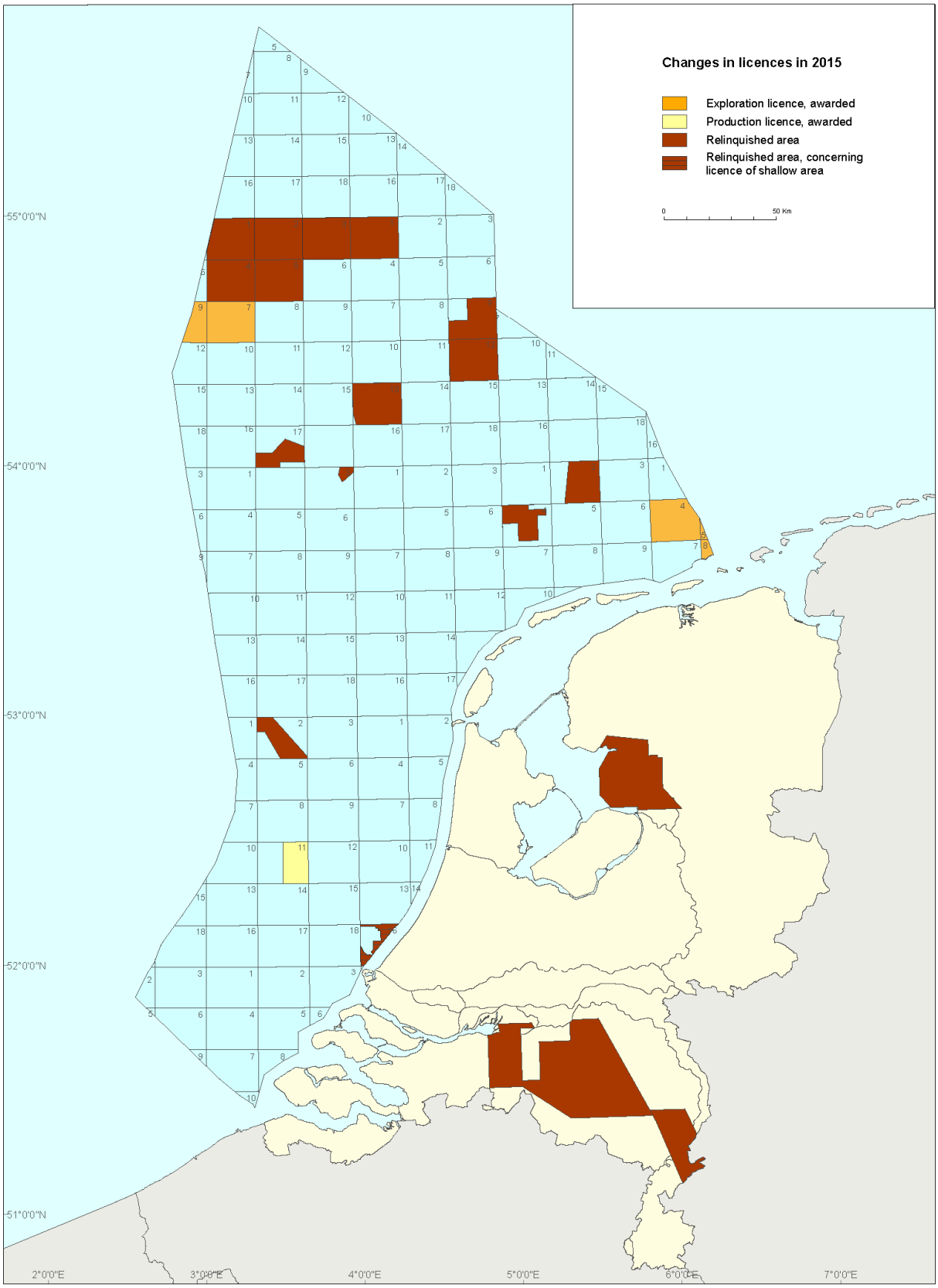


Figure 8 Changes in licences in 2015

5. HYDROCARBON LICENCES: COMPANY CHANGES, NAME CHANGES AND LEGAL MERGERS IN 2015

The tables below list changes in chronological order which took place during 2015, as a result of mutations in consortiums of companies that participate in licences as well as name changes of participating companies or name changes as a result of legal mergers

Company changes in exploration licences

Licence	Relinquishing company	Acquiring company	In force	Govern. Gazette
P18b *	-	-	12-02-2015	5 844
E18b **	-	GDF SUEZ E&P Nederland B.V.	01-05-2015	13 283
E10 **	-	GDF SUEZ E&P Nederland B.V.	01-05-2015	13 285
E11 **	-	GDF SUEZ E&P Nederland B.V.	01-05-2015	13 287
E14 **	-	GDF SUEZ E&P Nederland B.V.	01-05-2015	13 288
E15c **	-	GDF SUEZ E&P Nederland B.V.	01-05-2015	13 289
Q7	Tulip Oil Netherlands B.V.	Tulip Oil Netherlands Offshore B.V.	15-08-2015	29 969
Q10a	Tulip Oil Netherlands B.V.	Tulip Oil Netherlands Offshore B.V.	15-08-2015	29 970
M3	-	GDF SUEZ E&P Nederland B.V.	04-09-2015	42 313
H16	-	GDF SUEZ E&P Nederland B.V.	04-09-2015	42 318
N1	-	GDF SUEZ E&P Nederland B.V.	04-09-2015	42 319
G18	-	GDF SUEZ E&P Nederland B.V.	04-09-2015	42 320
M2a	-	Energy06 Investments B.V.	14-11-2015	
M4a	-	Energy06 Investments B.V.	14-11-2015	

* on 12-2-2015 TAQA Offshore B.V. has become operator

** new operator: GDF SUEZ E&P Nederland B.V.

Company changes in production licences

Licence	Relinquishing company	Acquiring company	In force	Govern. Gazette
Q5d	Tullow Exploration & Production Netherlands B.V.	Tullow Netherlands B.V.	14-01-2015	2 982
Q4	Tullow Exploration & Production Netherlands B.V.	Tullow Netherlands B.V.	14-01-2015	2 985
L12b & L15b	Tullow Exploration & Production Netherlands B.V.	Tullow Netherlands B.V.	14-01-2015	2 987
L12a	Tullow Exploration & Production Netherlands B.V.	Tullow Netherlands B.V.	14-01-2015	2 990
L12d	Tullow Exploration & Production Netherlands B.V.	-	21-01-2015	3 490
L15d	Tullow Exploration & Production Netherlands B.V.	-	21-01-2015	3 491
L12c	Tullow Exploration & Production Netherlands B.V.	-	21-01-2015	3 494
N7c	GDF SUEZ E&P Nederland B.V. Rosewood Exploration Ltd. XTO Netherlands Ltd.	Hansa Hydrocarbons Limited	14-02-2015	5 845
Zuid-Friesland III	Dana Petroleum Netherlands B.V. Dyas B.V. Total E&P Nederland B.V.	-	11-06-2015	18 023
Drenthe V	Nederlandse Aardolie Maatschappij B.V.	-	20-06-2015	18 037
Andel Va	Nederlandse Aardolie Maatschappij B.V.	-	05-08-2015	29 954
P8a*	-	Petrogas E&P Netherlands B.V.	29-08-2015	30 237
L12a	Dutch Gas Development B.V.	Delta Hydrocarbons B.V.	28-12-2015	158
Q5d	Dutch Gas Development B.V.	Delta Hydrocarbons B.V.	28-12-2015	159

* new operator: Petrogas E&P Netherlands B.V.

Name changes

Previous company name	New company name
Tullow Netherlands B.V.	Dutch Gas Development B.V.
GdF Suez E&P Nederland B.V.	ENGIE E&P Nederland B.V.
GdF Suez E&P Participation Nederland B.V.	ENGIE E&P Participation Nederland B.V.

6. SEISMIC SURVEYS

In 2015 no seismic surveys were carried out, neither onshore or offshore. This was the first year since the onset of exploration that no seismic data were acquired at all. Since several years there is a tendency to reprocess existing seismic data. However we have observed an increase in reprocessing of existing data. For a long-term overview of seismic data acquisition see annex 8

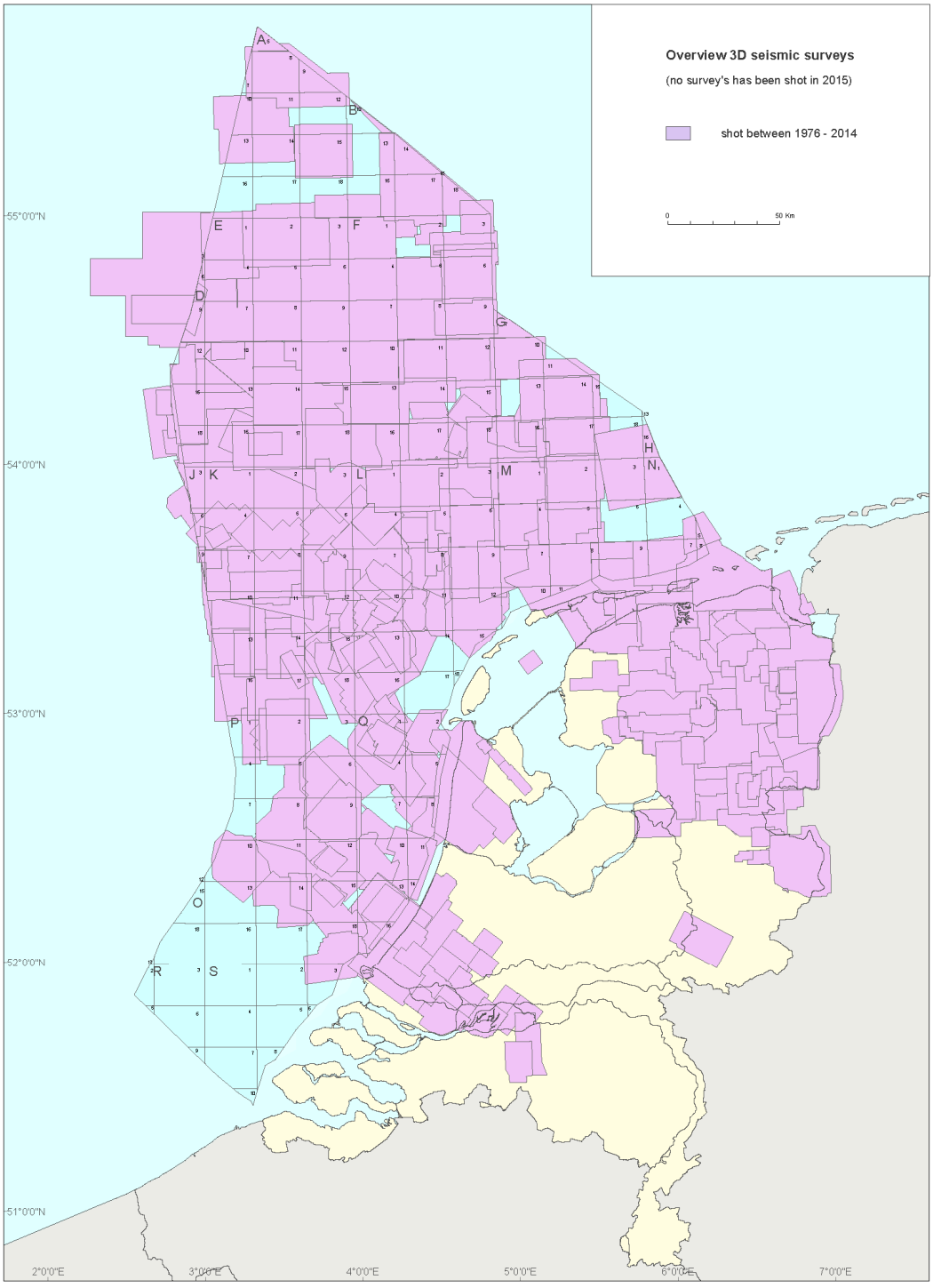


Figure 9 Overview 3D Seismic

7. OIL AND GAS WELLS COMPLETED IN 2015

The wells completed in 2015 have been grouped according to drilling location (on Netherlands Territory or on the continental shelf) and then according to whether they are exploration, appraisal, or production wells. An overview of other type of wells is also presented. This concerns wells for gas- or waterinjection or to observe seismic activity. The final table is an aggregated overview of the drilling activities in 2015. Eight of the eleven exploration wells encountered gas. This is a success rate of 73%. The five appraisal wells (all on the continental shelf) confirmed accumulations discovered earlier. Fourteen production wells were drilled in 2015.

Two wells were drilled to observe seismic activity around the Groningen gasfield, two wells were drilled to develop the Bergermeer gas storage of which one is for the purpose of injection of water.

TERRITORY

Exploration wells

	Name of well	License	Operator	Result
1	Slootdorp-06-Sidetrack1	Slootdorp	Vermilion	Gas
2	Warfstermolen-03	Tietjerksteradeel	NAM	Gas

Appraisal wells

	Name of well	License	Operator	Result
1	Coevorden-59	Schoonebeek	NAM	Gas
2	Langebrug-01-Sidetrack1	Groningen	NAM	Gas

Production wells

	Name of well	License	Operator	Result
1	Den Velde-04	Hardenberg	NAM	Gas
2	Moddergat-04-Sidetrack1	Noord-Friesland	NAM	Gas
3	Middelie-303	Middelie	NAM	Gas
4	Slootdorp-07-Sidetrack1	Slootdorp	Vermilion	Gas

Other wells

	Name of well	License	Operator	Function
1	Bergermeer-3-Sidetrack4	Bergermeer	TAQA	Injection
2	Bergermeer-17-Sidetrack1	Bergermeer	TAQA	Gas storage
3	Zeerijp-02	Groningen	NAM	Observation
4	Zeerijp-03-Sidetrack1	Groningen	NAM	Observation

CONTINENTAL SHELF

Exploration wells

	Name of well	License	Operator	Result
1	F12-05	F12	Total	Dry
2	K06-12	K06 & L07	Total	Dry
3	K15-FB-109	K15	NAM	Gas
4	L09-FA-104-Sidetrack2	L09	NAM	Gas
5	L09-FA-105	L09	NAM	Gas
6	L10-38-Sidetrack3	L10 & L11a	GDF SUEZ	Gas
7	L11-14	L11b	Oranje-Nassau	Gas
8	M07-09	M07	Oranje-Nassau	Dry
9	P18-07	P18b	TAQA	Gas

Appraisal wells

	Name of well	License	Operator	Result
1	E17-A-05-Sidetrack1	E17a	GDF SUEZ	Gas
2	F17-13-Sidetrack1	F17a-diep	Wintershall	Oil
3	Q10-06	Q10a	Tulip Oil	Gas

Production wells

	Name of well	License	Operator	Result
1	A18-A-02	A18a	Petrogas	Gas
2	K02-A-06-Sidetrack1	K02b	GDF SUEZ	Gas
3	K02-A-08	K02b	GDF SUEZ	Gas
4	K05-A-06-Sidetrack1	K05a	Total	Gas
5	K09AB-B-03-Sidetrack7	K09a	GDF SUEZ	Gas
6	K15-FG-104-Sidetrack2	K15	NAM	Gas
7	K18-G-02	K18b	Wintershall	Gas
8	L06-B-01-Sidetrack2	L06a	Wintershall	Gas
9	L10-L-06	L10	GDF SUEZ	Gas
10	L11B-A-09	L11b	Oranje-Nassau	Gas
11	P15-RIJN-A-02-Sidetrack1	P15a	TAQA	Oil

SUMMARY OF WELLS completed in in 2015

	Type	Result							Total
		Gas	Gas shows	Oil	Oil shows	Oil & Gas	Dry	Other	
Territory	Exploration	2							2
	Appraisal	2							2
	Production	4							4
	Other							4	4
	Subtotal	8						4	12
Continental Shelf	Exploration	6					3		9
	Appraisal	2		1					3
	Production	10		1					11
	Subtotal	18		2			3		23
	Total	26		2			3	4	35

Figure 10 Changes in wells in 2015

8. PLATFORMS AND PIPELINES, Netherlands continental shelf

In 2015 one new platform was installed on the continental shelf and two were removed. One new pipeline was laid.

For a complete list of platforms and pipelines, see annexes 16 and 17. The pipeline data was supplied by State Supervision of Mines (*Staatstoezicht op de Mijnen*).

Platforms installed in 2015

Platform	Operator	No. legs	Gas/Oil	Function
A-18-A	Petrogas	1	G	Satellite
K18-G2	Wintershall	-	G	subsea completion

New pipelines in 2015

Operator	From	To	Diameter (inches)	Length (km)	Carries*
ONE	P11-E	P15-F	8	19	g,m,
Wintershall	K18-G1	K18-G2	4	<1	g
Petrogas	A18-A	A12-A	8	33	g

* g = gas, c = condensate, m = methanol, o=oil

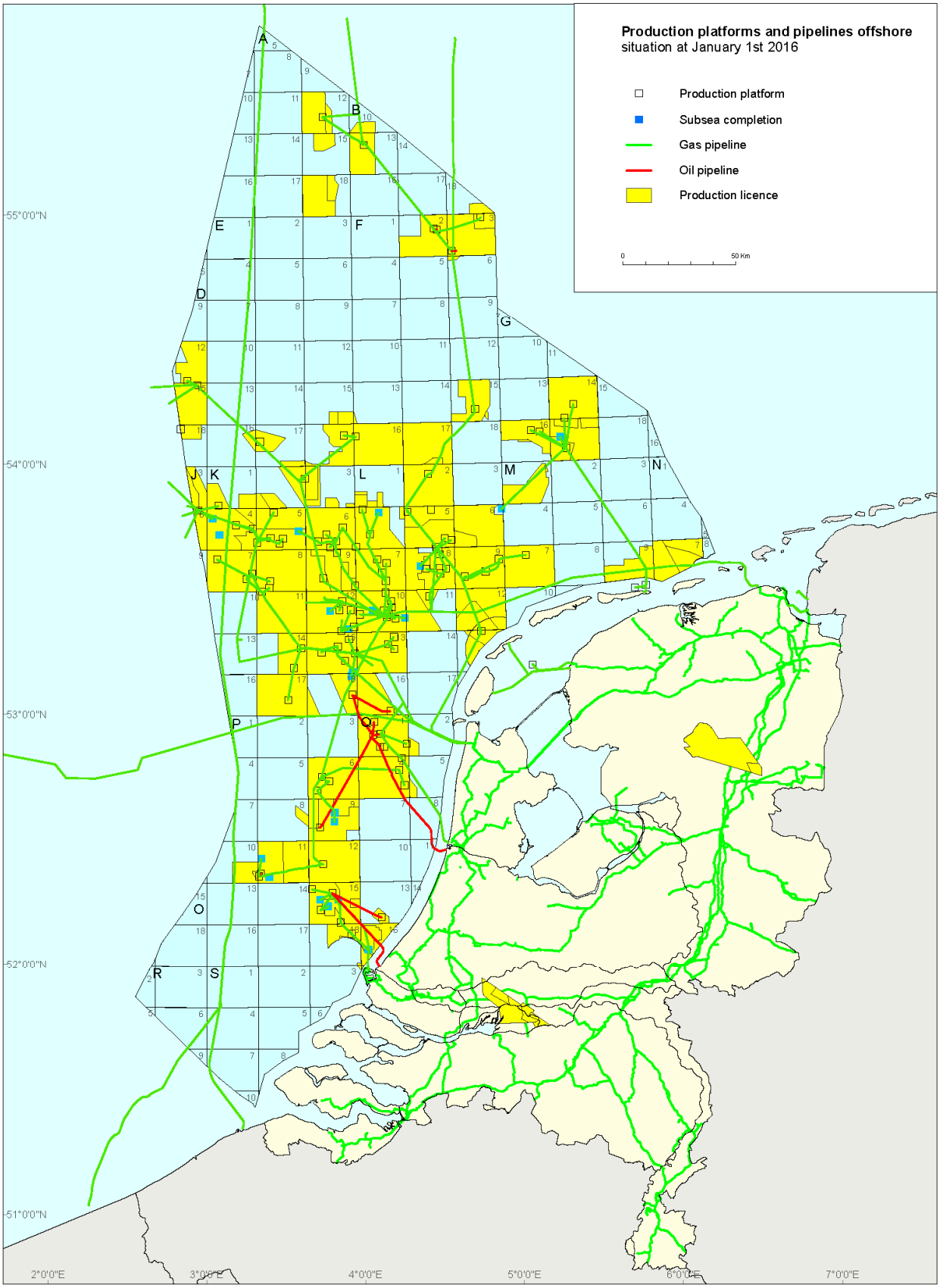


Figure 11 Pipelines and Platforms Offshore (source Rijkswaterstaat)

9. PRODUCTION OF GAS AND OIL

The tables below list the aggregated production figures for natural gas, oil and condensate for 2015. Condensate is considered to be a by-product of oil or gas production. Changes compared with 2014 are given in absolute figures and as percentages. The information in the tables is based on figures supplied by the operators.

The fall in gas production compared with 2014 is largely attributable to production from the Groningen field being reduced. The decline in production from the small gas fields reflects the gradual depletion of the producing fields. The increase in oil production offshore is largely the result of the Q13 Amstel field coming on stream. The decrease in oil production onshore is caused by the temporary halt of production in the Schoonebeek field due to technical problems with the transport of injection water.

In 2015 the following fields came on stream or stopped producing.

Production start	Field	Producing	Year discovered
June - 2015	L6-B	Gas	2009
April - 2015	Eesveen	Gas	1986
March - 2015	Donkerbroek West	Gas	2012
July - 2015	Donkerbroek Main	Gas	1991
May 2015	Sonnega	Gas	2014
October - 2015	Diever	Gas	2014
August 2015	K15-FI (Noord)	Gas	1992/2015
December - 2015	A18-FA	Gas	1987
October - 2015	L10-P	Gas	2015

Production ceased	Field	Producing	Year discovered
January 2015	D15-A	Gas	1999
June - 2015	Geestvaartpolder)	Gas	2005
July - 2015	L07-N	Gas	1988
October - 2015	L07-H South-East	Gas	1996
December - 2015	L04-B)	Gas	1985

Overview of natural gas, oil and condensate production in 2015 and the changes compared with 2014

Gas	Production 2015	Changes compared with 2014	
	10^6 Nm^3	10^6 Nm^3	%
Territory (total)	*35.640*	-15.056	-29.7
Groningen field	*28.103*	*-14.054*	*-33.3*
Other onshore fields	*7.537*	*-1.002*	*-11.7*
Continental shelf	14.049	-1.208	-7.9
Total	49.690	-16.264	-24.7

Oil	Production 2015	Changes compared with 2014	
	10^3 Sm^3	10^3 Sm^3	%
Territory (total)	349	-328	-48.4
Continental shelf	1.307	174	15.4
Total	1.656	-153	-8.5
Average daily oil production		4.537	Sm^3/day

Condensate	Production 2015	Changes compared with 2014	
	10^3 Sm^3	10^3 Sm^3	%
Territory	340	60	21.4
Continental shelf	192	-24	-11.1
Total	532	35	7.0

The table below gives monthly production figures per production licence.

Annexes 18 to 20 give the historical annual figures for the production of natural gas and oil. Annual totals may differ slightly due to the rounding off of the monthly production totals.

PRODUCTION OF NATURAL GAS, Netherlands Territory in 2015 (in million Nm^3)

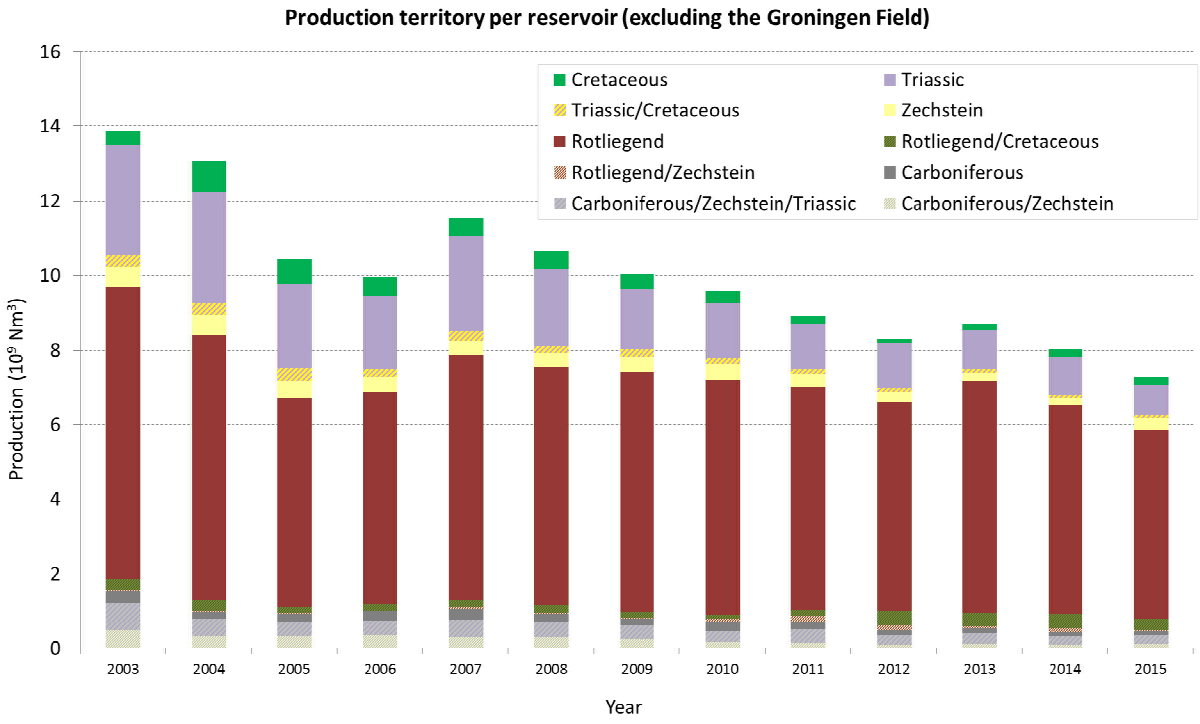
Production per licence is the total of the production from wells with a wellhead within the licence area. Data supplied by the operating companies.

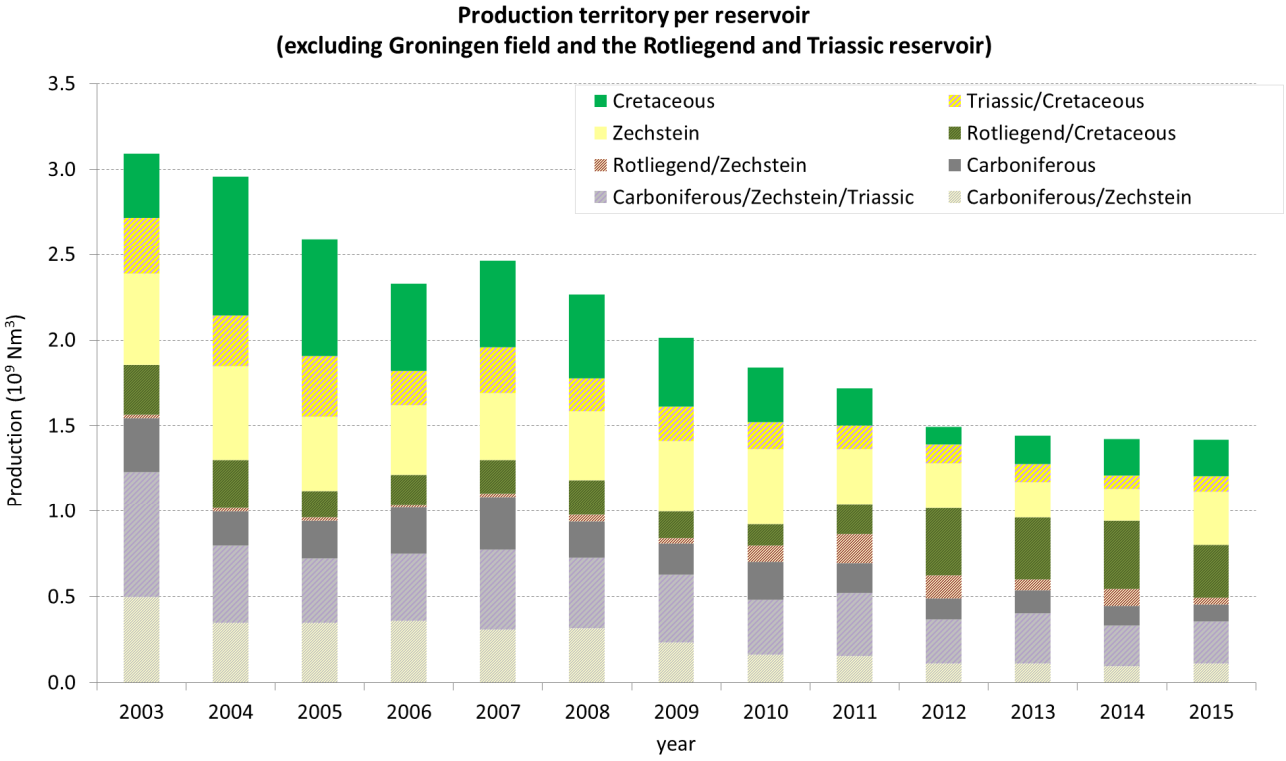
Licence	Operator	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Akkrum 11	Tulip	0.0	0.0	0.5	0.7	0.0	0.0	0.0	0.7	0.0	0.0	1.4	2.2	0.3
Andel Va	Vermilion	0.0	1.8	1.8	1.7	1.6	1.1	0.4	0.2	1.2	0.1	0.0	0.0	0.0
Beijerland	NAM	0.1	14.0	13.1	14.6	13.0	10.4	8.0	10.8	11.3	4.1	6.8	10.5	10.1
Bergen II	Taqa	55.1	5.3	1.7	4.8	5.3	3.1	5.4	4.7	5.5	5.6	5.5	3.2	5.0
Botlek II	NAM	369.6	37.8	30.2	32.6	31.1	35.0	32.3	32.3	32.5	19.2	24.2	29.9	32.4
Botlek II	ONE	284.9	17.8	17.9	18.8	26.9	25.3	11.4	22.9	27.8	28.9	30.5	28.7	27.9
Donkerbroek	Tulip	55.8	0.0	0.0	2.5	0.7	0.3	10.4	12.9	13.2	8.7	6.4	0.7	0.0
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	435.4	38.3	34.2	44.1	35.5	41.3	40.6	35.9	34.9	24.5	37.8	24.9	43.5
Drenthe IV	Vermilion	6.1	0.8	0.5	0.7	0.6	0.7	0.7	0.5	0.4	0.0	0.2	0.3	0.7
Drenthe V	Vermilion	22.9	2.2	1.8	1.6	2.3	2.0	2.1	1.7	2.2	1.0	2.3	2.0	1.7
DrentheVII	Vermilion	47.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	22.3	24.0
Gorredijk	Vermilion	325.0	31.6	34.3	35.8	26.1	25.3	23.5	30.4	30.3	29.1	27.7	15.7	15.1
Groningen	NAM	9569.3	4754.0	2816.0	2262.4	2289.0	2699.2	2458.9	2403.1	1872.0	1814.2	1576.8	2318.4	2305.5
Hardenberg	NAM	17.8	1.9	1.6	1.7	1.6	1.5	1.3	1.2	1.3	0.6	1.4	1.9	1.9
Leeuwarden	Vermilion	70.2	9.4	8.8	7.8	6.3	5.8	4.1	5.0	4.5	3.8	4.2	5.3	5.3
Middelie	NAM	315.5	29.2	26.0	29.0	27.7	27.4	20.4	25.7	26.3	24.1	20.4	25.4	34.0
Noord-Friesland	NAM	2827.8	255.2	232.4	252.1	144.9	246.4	264.0	252.0	245.1	202.9	243.4	237.0	252.4
Oosterend	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
Rijswijk	NAM	317.9	36.1	31.0	36.4	21.9	32.5	29.4	25.1	26.6	25.6	22.5	18.1	12.7
Schoonebeek	NAM	510.4	45.7	40.3	44.7	37.0	43.9	46.0	46.6	46.0	26.1	48.0	37.3	48.8
Slootdorp	Vermilion	151.0	4.7	2.4	1.8	1.7	1.8	1.7	17.0	24.0	24.7	24.6	22.0	24.7
Steenwijk	Vermilion	61.8	0.0	0.0	0.0	1.9	14.8	10.5	10.0	8.0	6.1	4.1	3.3	3.0
Tietjerksteradeel	NAM	154.6	15.7	14.7	16.1	15.8	15.4	8.6	9.9	13.8	12.1	9.9	10.3	12.2
Waalwijk	Vermilion	14.9	2.2	2.2	1.2	1.7	2.0	1.1	0.8	1.6	2.1	0.0	0.0	0.0
Zuidwal	Tulip	26.9	2.5	2.2	2.4	2.0	2.3	2.1	2.2	2.3	2.3	2.3	2.1	2.2
Total		35640.3	5306.1	3313.7	2813.6	2694.5	3237.5	2983.0	2951.5	2430.6	2265.7	2101.4	2821.2	2863.5

Natural gas production from small fields on Netherlands Territory, per stratigraphic reservoir

The bar graphs below show the contribution of each stratigraphic reservoir level to the total gas production from the small onshore fields. Production from fields with multiple reservoir levels is depicted by hatched shading. The Groningen field (excluded from this overview) lies in the Rotliegend reservoir. The first bar graph shows that the biggest contribution to the gas production from the small fields is from the Rotliegend and Triassic reservoirs. The steep decline in production (by about 10% annually) during the period 2003 – 2006 was halted in 2007, largely thanks to gas production from under the Wadden Sea. Since then, there has been a general decline of about 5% per annum. However, in 2013 there was an upturn, largely thanks to production from Rotliegend fields. The second bar graph shows production excluding that from the Rotliegend and Triassic reservoirs. This reveals the contribution from the Cretaceous,

Zechstein and Carboniferous reservoirs to the gas production. (Note that onshore there is no production from Jurassic reservoirs). Production from these reservoirs declined steadily in previous years but as a whole levelled since 2012. This stabilisation is mainly due to production from Cretaceous and Zechstein (Slootdorp accumulation) while the production from combined Rotliegend/Cretaceous reservoirs is decreasing (mainly depletion of the Vinkega accumulation).





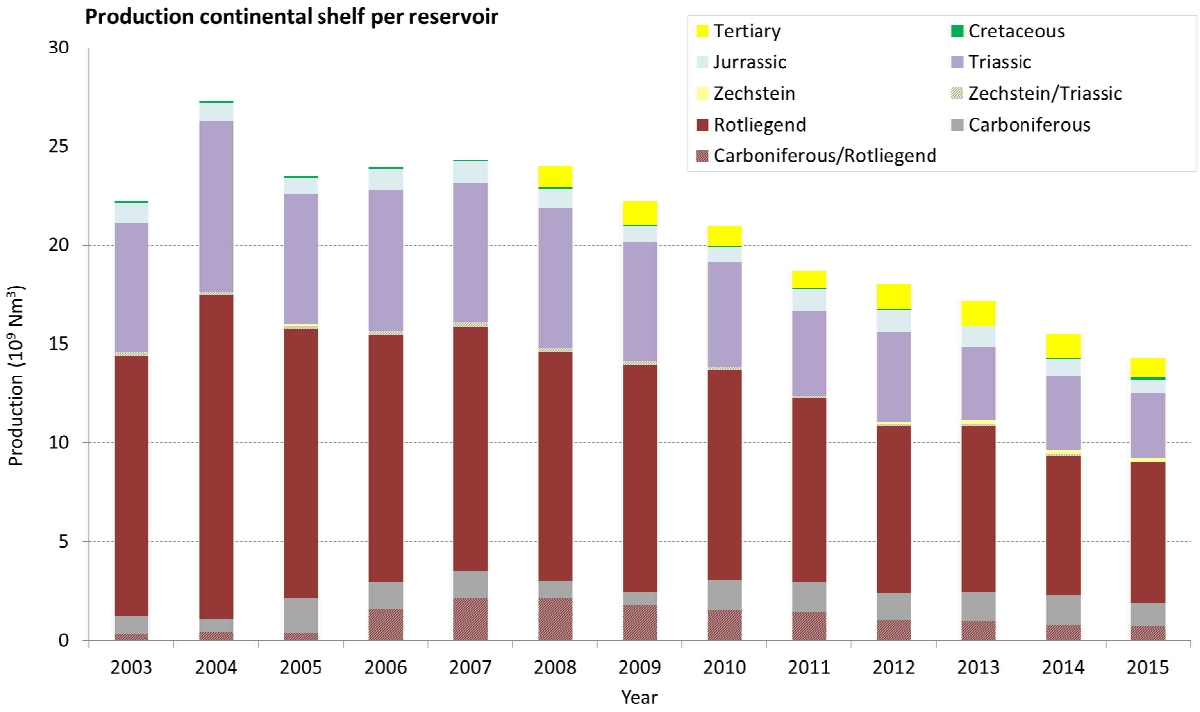
PRODUCTION OF NATURAL GAS, Continental shelf in 2015 (in million Nm^3)

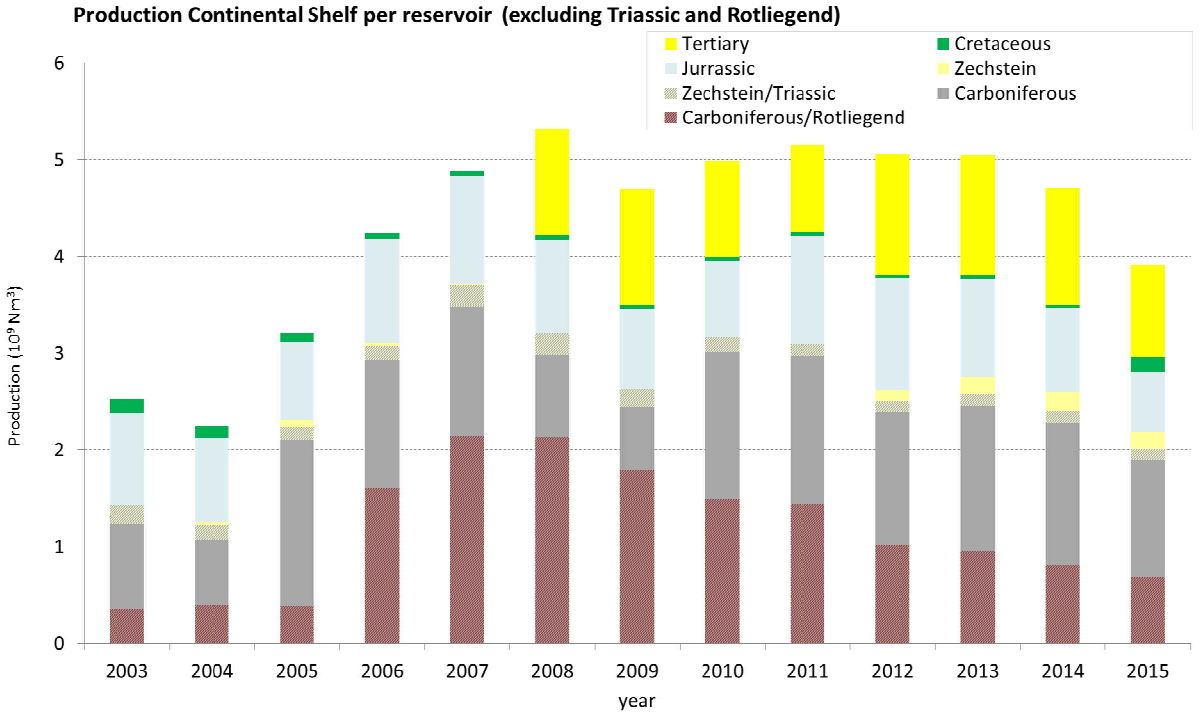
The production per licence is the total production of all producing wells with a wellhead within the licence area. Production data are supplied by the operating companies.

Licence	Operator	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
A12a	Petrogas	294.7	26.9	25.0	20.2	27.9	27.4	26.0	28.1	26.0	14.3	26.6	23.5	22.8
A18a	Petrogas	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
B10c & B13a	Petrogas	631.3	60.2	55.4	44.6	57.6	54.5	56.2	58.7	57.1	27.7	56.1	51.0	52.3
D12a	Wintershall	15.7	0.0	0.0	0.9	1.9	4.1	3.1	0.2	0.8	2.3	1.8	0.7	0.0
D15	GDF SUEZ	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
D18a	GDF SUEZ	45.5	4.5	4.1	4.8	3.4	4.5	2.5	3.9	4.8	4.0	2.4	3.9	2.8
E17a & E17b	GDF SUEZ	881.5	76.3	63.2	74.3	72.1	70.3	71.7	78.4	82.4	73.1	62.1	69.4	88.2
E18a	Wintershall	62.7	6.4	5.9	6.3	6.2	6.0	5.7	5.6	4.2	4.3	0.8	5.4	6.0
F02a	Dana	48.7	6.0	1.5	1.6	1.5	1.6	1.3	7.1	7.0	3.9	5.8	5.7	5.7
F03a	Centrica	272.2	29.5	28.5	21.8	26.5	24.8	11.2	21.5	23.2	21.0	22.3	20.9	21.1
F03b	GDF SUEZ	196.9	20.1	18.2	10.5	20.8	20.1	21.2	19.7	14.4	13.3	16.0	6.4	16.2
F15a	Total	123.0	11.3	10.4	8.5	10.4	10.2	10.9	11.0	10.4	8.7	10.0	9.0	12.2
F16	Wintershall	133.6	14.2	12.1	13.6	13.5	14.1	13.5	14.0	8.6	8.5	1.7	10.3	9.4
G14 & G17b	GDF SUEZ	772.6	64.5	58.5	52.7	0.3	67.8	84.6	79.5	79.9	68.7	76.4	69.7	70.0
G16a	GDF SUEZ	618.8	81.1	46.6	45.8	0.0	19.6	32.3	76.8	70.4	56.6	66.1	63.2	60.3
G17c & G17d	GDF SUEZ	142.1	18.6	9.7	10.8	0.0	0.0	3.6	18.8	17.7	13.6	16.3	16.5	16.6
J03b & J06	Centrica	20.1	1.9	2.6	3.4	2.8	3.1	1.5	0.7	0.0	0.0	0.0	0.8	3.1
J03b & J06	Total	65.6	4.4	5.9	7.3	5.6	8.1	4.8	5.2	6.6	0.2	3.1	6.5	7.9
K01a	Total	257.1	17.1	23.3	28.8	27.8	27.8	17.9	23.5	26.5	2.8	11.2	24.1	26.3
K02b	GDF SUEZ	259.6	16.4	14.7	15.7	12.8	14.4	13.4	15.8	23.8	36.2	38.6	35.4	22.5
K04a	Total	708.9	59.1	59.2	67.4	64.4	64.5	47.6	53.1	56.8	60.5	60.1	58.6	57.6
K04b & K05a	Total	1003.5	78.4	77.2	86.2	79.3	78.4	75.2	103.5	91.9	85.8	80.4	83.3	83.8
K05b	Total	153.9	15.5	14.7	15.7	15.2	11.4	8.9	13.1	11.5	11.5	13.2	11.4	11.8
K06 & L07	Total	454.3	42.8	40.2	40.5	42.9	40.7	41.3	38.5	39.3	18.6	33.1	38.5	37.9
K07	NAM	133.9	12.6	11.6	13.5	15.4	12.3	6.4	14.7	7.4	10.3	8.0	10.5	11.2
K08 & K11	NAM	445.8	39.1	44.9	39.6	39.7	39.1	19.3	37.9	26.8	40.5	42.0	39.4	37.5
K09a & K09b	GDF SUEZ	123.4	11.2	7.7	10.2	12.0	11.3	8.7	8.4	9.1	6.0	7.5	14.5	16.9
K09a & K09b	Total	4.6	0.2	0.2	0.3	0.5	0.4	0.2	0.2	0.4	0.4	0.5	0.6	0.6
K09c	GDF SUEZ	14.8	1.5	1.3	1.0	1.2	0.5	1.3	1.2	1.6	1.3	1.0	1.4	1.6
K12	GDF SUEZ	740.6	67.6	70.6	69.3	54.9	68.2	58.2	54.7	65.0	63.2	55.1	58.1	55.8
K14a	NAM	49.6	4.2	3.9	3.7	3.6	3.6	2.2	5.2	2.3	5.4	5.8	5.4	4.2
K15	NAM	737.5	74.0	68.7	72.8	52.8	60.6	51.9	64.5	44.4	69.4	33.1	71.8	73.5
K17	NAM	106.8	7.8	8.8	8.7	8.9	8.5	5.4	9.2	8.3	10.4	10.4	9.6	10.7
K18b	Wintershall	391.5	27.2	29.2	30.7	30.0	27.8	14.5	33.5	26.9	42.5	42.7	40.8	45.8
L02	NAM	393.2	38.9	34.9	29.2	35.1	34.3	34.2	35.1	30.1	17.1	35.6	34.4	34.3
L04a	Total	318.6	29.4	23.0	28.1	28.8	30.4	24.1	27.0	27.0	27.8	25.6	25.1	22.2
L05a	GDF SUEZ	106.6	11.3	3.7	5.3	7.0	6.7	10.9	5.5	9.1	10.8	11.0	10.5	14.8
L05b	Wintershall	203.5	17.9	15.6	17.3	15.0	19.1	16.5	17.2	18.5	16.2	16.1	16.8	17.4
L06a	Wintershall	55.0	0.0	0.0	0.0	0.0	0.0	4.7	13.9	1.4	8.3	11.8	14.3	0.6
L08a	Wintershall	44.9	4.6	3.9	4.1	3.5	3.7	3.9	3.9	3.9	3.5	3.5	3.1	3.4
L08b	Wintershall	105.9	8.2	7.5	8.5	8.2	9.8	10.3	10.0	8.9	8.7	9.9	7.2	8.7
L09	NAM	395.8	40.6	41.2	42.4	37.7	12.9	37.0	41.9	30.5	8.0	30.6	33.6	39.3
L10 & L11a	GDF SUEZ	438.8	32.9	31.7	34.6	17.9	35.8	40.7	41.8	34.6	24.3	52.5	52.9	39.0
L11b	ONE	120.9	5.9	8.0	1.5	6.9	9.8	4.4	6.3	13.6	16.1	13.5	19.4	15.5

Licence	Operator	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
L12b & L15b	GDF SUEZ	435.0	44.9	40.0	43.1	41.4	31.2	38.5	30.3	32.3	21.5	37.2	35.0	39.6
L13	NAM	154.9	13.1	13.0	12.2	11.1	11.8	7.1	11.1	7.9	16.9	15.3	17.7	17.5
M07	ONE	147.2	6.4	6.8	5.4	18.8	6.5	19.5	20.2	19.3	16.4	16.4	11.6	0.0
P06	Wintershall	131.0	13.5	11.8	11.1	1.3	11.1	12.4	13.3	12.6	12.3	12.6	9.7	9.3
P09a & P09b	Petrogas	11.9	1.3	1.3	1.2	0.0	1.8	1.6	1.2	1.2	0.0	0.0	0.0	2.4
P09c	Petrogas	2.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
P11b	Dana	295.2	28.4	25.5	24.0	4.0	28.0	26.5	28.4	28.1	25.5	28.3	21.3	27.2
P12	Wintershall	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
P15a & P15b	Taqa	91.3	8.2	7.1	8.3	7.5	7.6	4.3	9.1	7.9	7.7	7.7	7.7	8.3
P15c	Taqa	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
P18a	Taqa	135.5	12.3	10.0	12.1	11.0	11.4	6.2	10.4	14.8	16.5	9.9	9.6	11.2
Q01	Petrogas	4.6	0.4	0.3	0.3	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Q01	Wintershall	209.7	21.1	19.7	19.0	18.8	19.5	18.8	19.1	18.0	11.7	12.1	12.9	18.9
Q04	Wintershall	204.0	18.7	16.8	18.8	11.7	17.9	18.7	16.6	13.4	20.2	13.4	19.9	18.0
Q13a	GDF SUEZ	48.1	2.6	2.9	4.3	4.3	4.0	2.2	4.5	4.9	4.6	4.9	4.7	4.3
Q16a	ONE	84.4	9.1	6.8	8.9	8.4	8.6	4.3	8.0	5.1	0.0	8.3	8.3	8.4
Totaal		14049.4	1270.8	1155.4	1170.9	1010.7	1128.1	1069.9	1281.5	1198.9	1079.7	1187.1	1242.6	1253.6

Gas production, Netherlands continental shelf per stratigraphic reservoir.
The two bar graphs below show the contribution of the gas reservoirs to gas production from the continental shelf. From the first graph it can be seen that on the continental shelf (just as onshore) the biggest contribution to the gas production is from the Rotliegend and Triassic reservoirs. Production increase slightly from 2003–2008, but thereafter declined steadily, with 2011 being the first year in which offshore production fell below 20 billion Sm^3/year. The second graph shows production excluding that from the Rotliegend (s.s.) and Triassic reservoirs, in order that the contribution from reservoirs at other levels can more clearly be seen. During the period 2005–2007 the contribution from fields with combined Carboniferous–Rotliegend reservoirs almost tripled, but since 2008 production from this reservoir level has again been declining steadily. The start of production from the shallow (Tertiary) reservoirs in the northern part of the Dutch continental shelf in 2008 is striking. Production from the Tertiary reservoirs has remained fairly stable, thanks to B13-A coming on stream, but as a whole a decrease can be observed.


Production continental shelf per reservoir
Tertiary
Cretaceous
Jurrassic
Triassic
Zechstein
Zechstein/Triassic
Rotliegend
Carboniferous
Carboniferous/Rotliegend
Production (10⁹ Nm³)
30
25
20
15
10
5
0
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Year


Production Continental Shelf per reservoir (excluding Triassic and Rotliegend)
Tertiary
Cretaceous
Jurrassic
Zechstein
Zechstein/Triassic
Carboniferous
Carboniferous/Rotliegend
Production (10⁹ Nm³)
6
5
4
3
2
1
0
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
year

OIL PRODUCTION in 2015 (in 1000 Sm^3)

The production per licence is the total production from all producing wells with a wellhead within the licence area. Production data are supplied by the operating companies.

Licence	Operator	Total	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Botlek	NAM	12.8	2.1	0.0	0.0	1.8	0.0	0.0	0.6	2.8	0.9	0.0	2.0	2.6
Rijswijk	NAM	122.0	12.3	12.2	10.7	13.3	14.1	12.8	10.3	9.7	5.0	12.4	1.3	7.8
Schoonebeek	NAM	214.4	49.9	47.2	51.5	28.8	27.7	9.3	0.0	0.0	0.0	0.0	0.0	0.0
F02a	Dana	234.9	20.3	17.8	18.6	17.6	18.4	12.7	19.2	18.1	16.4	42.5	16.2	17.0
F03b	GDF SUEZ	49.3	5.0	4.6	2.6	5.2	5.0	5.3	4.8	3.6	3.3	4.0	1.6	4.2
K18b	Wintershall	18.1	2.8	2.8	3.0	2.5	2.8	1.9	2.2	0.0	0.0	0.0	0.0	0.0
L16a	Wintershall	16.2	2.3	2.2	2.6	2.3	2.4	2.6	1.9	0.0	0.0	0.0	0.0	0.0
P09c	Petrogas	29.7	2.6	2.4	2.7	2.6	2.8	2.6	2.7	2.6	2.6	1.7	2.0	2.3
P11b	Dana	117.9	10.6	11.5	11.0	3.4	12.2	10.4	9.9	10.0	8.4	12.4	8.8	9.3
P15a & P15b	TAQA	44.9	3.6	1.4	0.3	1.0	6.1	3.8	5.5	5.3	4.2	4.2	4.6	4.8
Q01	Petrogas	102.8	9.1	7.8	6.7	4.9	8.9	8.7	9.3	9.8	9.7	8.9	9.4	9.6
Q13a	GDF SUEZ	692.8	37.1	41.1	61.6	61.6	56.9	31.5	64.5	69.8	65.5	69.1	66.8	67.2
Totaal		1655.7	157.7	151.2	171.2	145.0	157.3	101.6	130.9	131.8	116.0	155.3	112.7	125.0

CONDENSATE PRODUCTION* in 2015 (in 1000 Sm^3)

Production data are supplied by the operating companies.

Licence	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Territory gas fields	340.4	31.8	32.5	33.2	31.5	30.1	23.0	22.6	26.8	25.2	25.5	27.6	30.5
Continental shelf gas fields	191.7	15.6	16.1	17.0	16.5	17.1	12.6	15.7	19.0	16.1	14.7	15.3	16.1
Total	532.0	47.3	48.6	50.2	47.9	47.3	35.6	38.3	45.8	41.3	40.2	42.9	46.6

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

10. UNDERGROUND STORAGE

In 2015 no new storage licences applications have been submitted. Two applications from previous years are still in the process of application. These are concerned with the storage of filling material to stabilise a salt cavern and storage of brine. The storage licence for brine of Vitens has expired in 2015 and the commencement date of the CO_2 storage licence from Taqa has changed.

STORAGE LICENCES, Netherlands Territory
Changes in 2015

Applied for

Licence	Publication	Date	Closing date	Storage of	Applicant(s)
Luttelgeest	Government Gazette 5 395	04-03-13	03-06-13	Saline water	Leo Hoogweg B.V.
Twenthe–Rijn Boeldershoek	-	24-01-14	-	Filler	AkzoNobel

***** Application ongoing, published in an earlier annual review.

Expired/ Relinquished

Licenceholder	Licence	Effective From	km^2
Vitens Friesland	Noardburgum	05-05-2015	1
		Totaal	1

STORAGE LICENCES, Netherlands Continental Shelf
Changes in 2015

Awarded

Licenceholder	Licence	In Force	km²
TAQA Offshore B.V.	P18-4	01-01-2017/ 01-01-2021	11
		Totaal	11

GAS STORAGE in 2015

The tables below show the monthly figures for volumes of natural gas and nitrogen injected and withdrawn in 2015, per storage facility. Data supplied by licensees.

STORED of natural gas (in million Nm^3)

Licence	Operator	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Alkmaar	TAQA	231	0	0	0	0	99	132	0	0	0	0	0	0
Bergermeer	TAQA	1758	87	0	0	42	423	409	0	600	0	0	197	0
Grijpskerk	NAM	2190	0	0	0	364	460	312	401	404	248	0	0	0
Norg	NAM	5060	0	0	0	709	1220	904	1015	607	604	0	0	0
Zuidwending	Gasunie	596	17	10	32	44	80	23	60	64	90	63	52	61
Total		9835	104	10	32	1158	2281	1781	1476	1675	942	63	249	61

DISCHARGED of natural gas (in million Nm^3)

Licence	Operator	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Alkmaar	TAQA	463	167	222	74	0	0	0	0	0	0	0	0	0
Bergermeer	TAQA	646	53	155	111	207	0	0	0	0	0	0	121	0
Grijpskerk	NAM	1635	500	671	280	15	0	4	0	0	0	35	107	25
Norg	NAM	7743	1635	1877	965	0	0	0	0	0	0	256	1075	1935
Zuidwending	Gasunie	666	87	98	71	51	43	49	47	41	30	41	61	47
Total		11154	2441	3022	1500	273	43	53	47	41	30	332	1364	2007

STORED of nitrogen (in million Nm^3)

Licence	Operator	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Winschoten II	Gasunie	6.4	0.0	1.3	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0

DISCHARGED of nitrogen (in million Nm^3)

Licence	Operator	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Winschoten II	Gasunie	25.1	0.0	1.1	18.3	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0

11. COAL

No coal has been mined in the Netherlands since 1974. By then, almost 570 million tonnes of coal had been mined. Conventional mining is not expected to become profitable again in the future but interest has been shown in producing coal bed methane (CBM). Although research has indicated that a large resource of CBM may be present in the coal seams, the economic feasibility of recovering it has not yet been demonstrated.

On 1 January 2015 there were five production licences for coal in force. In 2015 there were again no mining activities in the licence areas. A map showing the location of the production licence areas is presented in appendix 6.

PRODUCTION LICENCES, Netherlands Territory, on 1 January 2016

Licensee	Licence	Effective from	km²
DSM	Staatsmijn Beatrix (1)	27-09-1920	130
DSM	Staatsmijn Emma (2)	26-10-1906	73
DSM	Staatsmijn Hendrik (3)	08-08-1910	24
DSM	Staatsmijn Maurits (4)	12-03-1915	51
DSM	Staatsmijn Wilhelmina (5)	08-01-1903	6
		Total	284

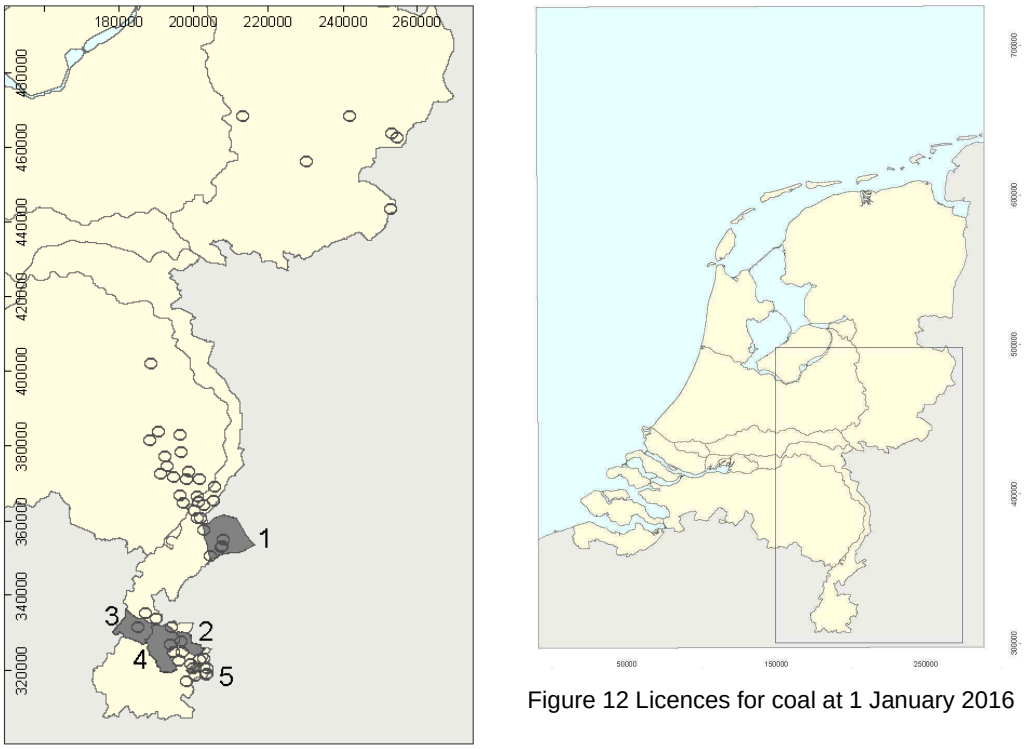


Figure 12 Licences for coal at 1 January 2016

12. ROCK SALT

Changes which took place during 2015 in relation to licences for the exploration and mining of salt are listed in the tables below, together with all ongoing applications for licences. In addition, monthly salt production per location is given, as well as an overview of annual production since 2003.

In 2015 one application for an exploration licence, submitted the previous year, was still ongoing and one production licence was awarded for rock salt production. In 2015 one licence expired.

On 1 January 2015 16 production and no exploration licences were in force. A complete list of all production licences can be found in Annex 6. All for areas in the north and east of the country, which is where the salt is found (in Zechstein and Triassic deposits).

EXPLORATION LICENCES, Netherlands Territory: changes in 2015

Expired

licenceholder	Licence	Effective From		km^2
Akzo Nobel Salt B.V.	Zuidoost-Twente	27-04-2015		30
			Total	30

PRODUCTION LICENCES, Netherlands Territory: changes in 2015

Applied for

Licence	Publication	Date	Closing date	Applicant(s)
Barradeel-Oost *	Government Gazette 249	19-12-07	24-03-08	Frisia

* Application ongoing, published in an earlier annual review.

ROCK SALT PRODUCTION, 2015 (in 1000 tonnes)

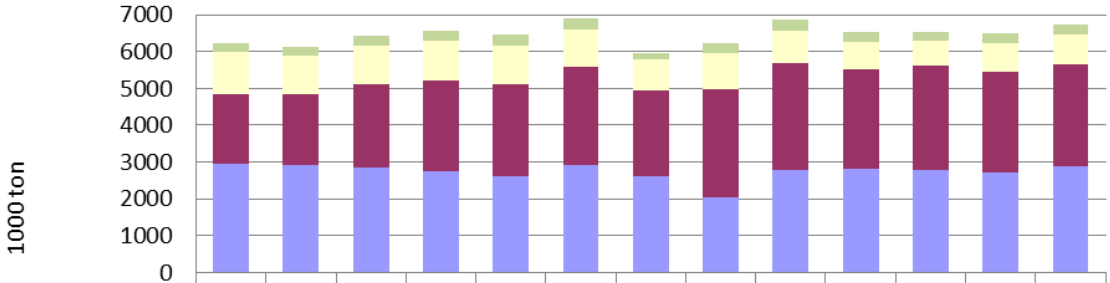
Production	Operator	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Adolf van Nassau	AKZO	1.380	121	105	116	111	119	113	124	115	85	125	122	121
Adolf van Nassau*	AKZO	1.508	105	103	103	135	149	117	143	128	115	136	133	142
Barradeel	Frisia	172	0	0	4	11	3	8	20	29	19	23	30	26
Barradeel II	Frisia	640	65	59	58	44	13	54	61	63	67	63	56	46
Twenthe–Rijn	AKZO	1.402	144	119	136	112	125	111	117	117	87	95	120	119
Twenthe–Rijn**	AKZO	349	16	14	28	30	37	31	38	37	30	26	33	29
Twenthe–Rijn***	AKZO	1024	75	78	89	78	89	79	95	107	78	79	86	92
Veendam	Nedmag	268	21	23	26	11	23	28	23	27	21	20	20	25
	Total	6.743	548	501	561	532	556	532	621	621	503	567	601	600

* Extension of Adolf van Nassau

**Extension of Twenthe–Rijn Helmerzijde

*** Extension of Twenthe–Rijn

ROCK SALT PRODUCTION 2003 – 2015



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Veendam	242	226	288	298	288	289	173	274	295	290	235	260	268
Barradeel I & II	1127	1052	1058	1,061	1,060	1,016	855	969	889	747	670	778	812
Twenthe Rijn**	1913	1929	2247	2,468	2,509	2,678	2,317	2,936	2,888	2,704	2,826	2,739	2,775
Adolf van Nassau*	2940	2915	2850	2,751	2,607	2,912	2,622	2,044	2,793	2,806	2,787	2,707	2,888

* Including extension of Adolf van Nassau

** Including extension of Twenthe – Rijn

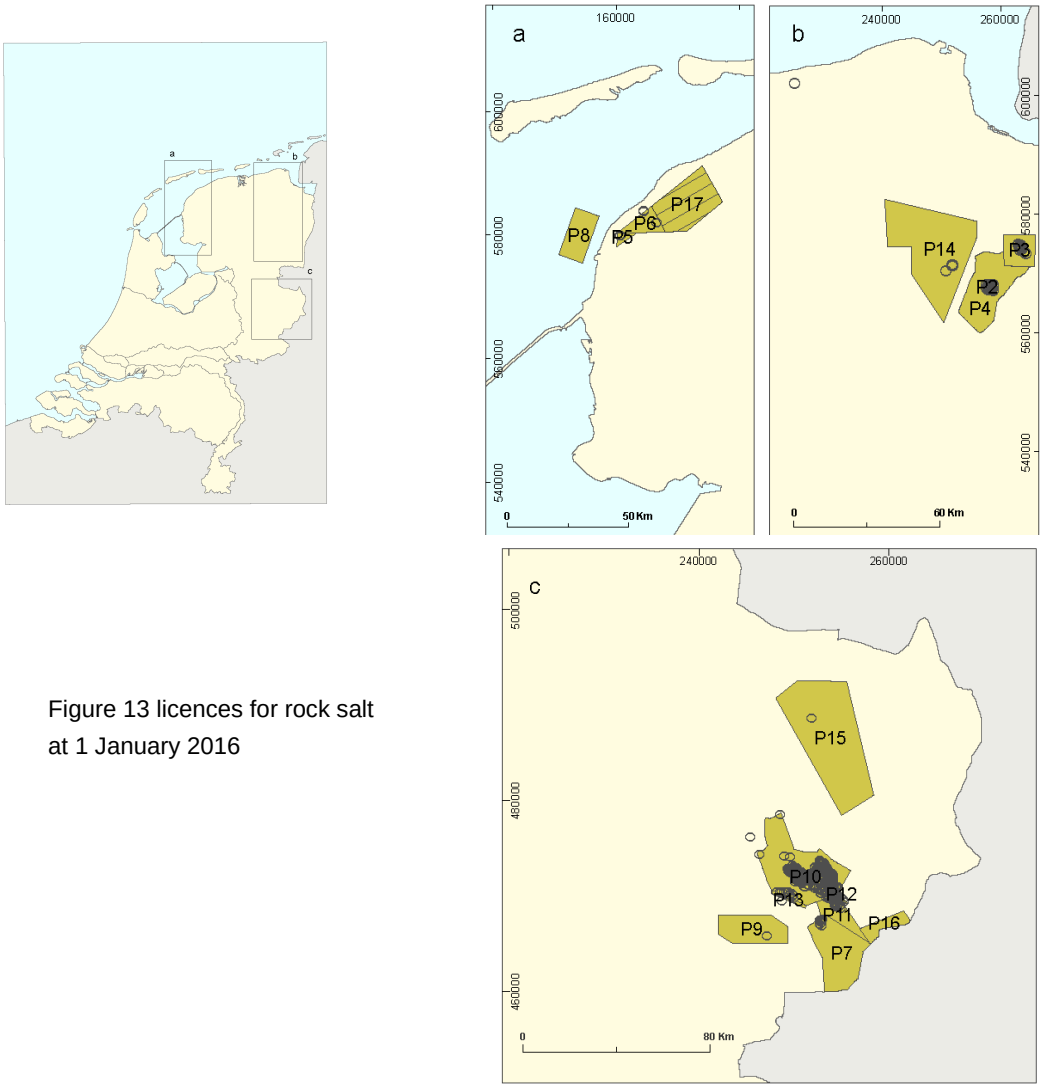


Figure 13 licences for rock salt at 1 January 2016

Production licences for rock salt	
P1	Adolf van Nassau II
P2	Uitbreiding Adolf van Nassau II
P3	Adolf van Nassau III
P4	Uitbreiding Adolf van Nassau III
P5	Barradeel
P6	Barradeel II
P7	Buurse
P8	Havenmond
P9	Isidorushoeve
P10	Twenthe-Rijn
P11	Uitbreiding Twenthe-Rijn
P12	Twenthe-Rijn Helmerzijde
P13	Twenthe-Rijn Oude Maten
P14	Veendam
P15	Weerselo
P16	Zuidoost-Enschede
Applied production licences for rock salt	
P17	Barradeel-Oost

13. GEOTHERMAL ENERGY

Geothermal licences as at January 1st 2016.
In 2015 there were six new applications for exploration licences for geothermal energy. As at 1 January 2016 a total of twelve geothermal energy exploration licences were in the process of the application procedure. During 2015 five licences were awarded and two were rejected. Six exploration licences were split into fifteen new ones. Subsequently, ten licences were merged into three new geothermal energy licences. One licence was spatially restricted. Nineteen geothermal energy licences were extended. Thirteen licences expired, withdrawn or relinquished. As at 1 January 2016 there were a total of 58 geothermal energy exploration licences in effect (see Appendix 7).

In 2015 there was one new application for a production licence for geothermal energy. At the first of January 2016 seven geothermal energy production licences are in the application procedure. One geothermal energy production licence was issued resulting in total four effective geothermal energy production licences as at 1st January 2016.

Changes in the licences for the exploration and production of geothermal energy which took place during 2015 are listed in the tables at the end of this chapter.

Geothermal wells and production installations
In 2015 three geothermal wells were completed (see table **Error! Reference source not found.**13). They were drilled in the licence areas Vierpolders and Honselersdijk. The well in the Honselersdijk licence was a replacement well for the blocked production well. Realising these wells increased the geothermal production installations in the Netherlands in 2015 by one (Figure 14).

Table 13: Geothermal energy wells completed in 2015

	Name of well	Geothermal energy licence	Operator
1	Brielle-GT-01	Vierpolders	Aardwarmte Vierpolders
2	Brielle-GT-02	Vierpolders	Aardwarmte Vierpolders
3	HON-GT-01-S2	Honselersdijk	Green Well Westland B.V.

As at January 2016 there were a total of fourteen geothermal installations. Although the installation of Heerlerheide (wells HLH-GT-1 & 2) is classed under mining legislation as being for geothermal energy it actually is a heat/cold storage facility and as such will not be included in the following overview. The other thirteen geothermal systems (Table 14) produce heat from the deep subsurface. In general these installations are named doublets as they consist of two wells. One well pumps up the warm water and after extracting the heat, the second well injects the cooled down water back into the aquifer. Eleven of these geothermal systems are operational in 2015 with reference to the fact that they provide (energy) production figures according to art. 111 and 119 of the mining decree.

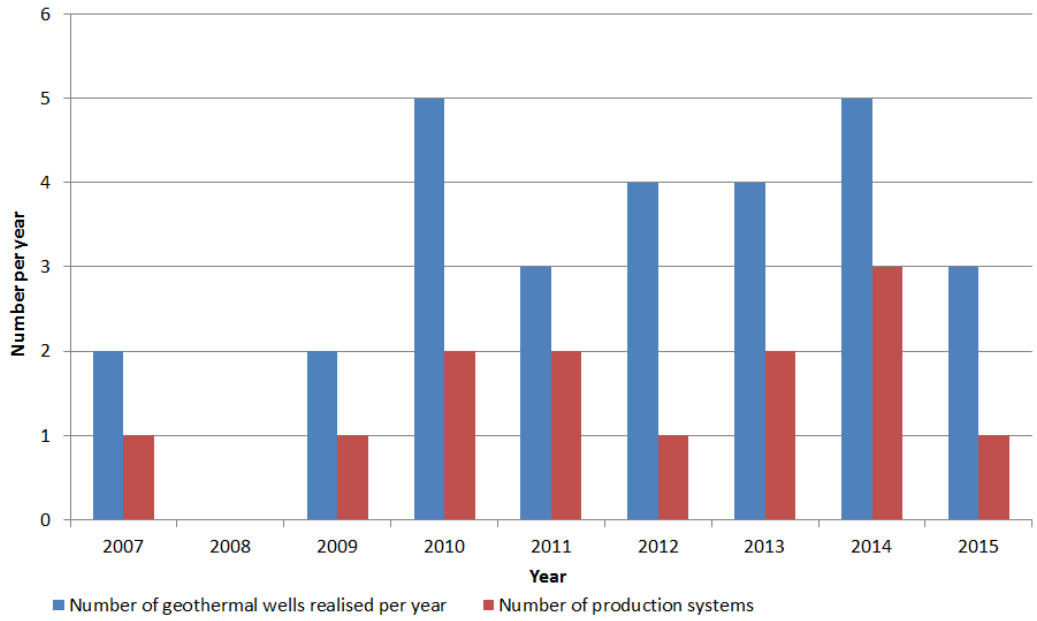


Figure 14. Number of geothermal wells completed per calendar year and number of installations completed since 2007

Table 14: Geothermal installations.

	Name of geothermal energy installation	Wells	Geothermal energy licence	Operational in 2015
1	Californië Geothermie	CAL-GT-	Californie I	Yes
2	De Lier Geothermie	LIR-GT-1&2	De Lier	Yes
3	Honselersdijk Geothermie	HON-GT-	Honselersdijk	Yes
4	Installatie Berkel en Rodenrijs	VDB-GT-	Bleiswijk 1b	Yes
5	Installatie Bleiswijk	VDB-GT-	Bleiswijk	Yes
6	Koekoekspolder Geothermie	KKP-GT-1&2	Kampen	Yes
7	Mijnwater energiecentrale Heerlen	HLH-G-1&2	Heerlen	Yes, HCS
8	Pijnacker-Nootdorp Geothermie	PNA-GT-	Pijnacker-Nootdorp	Yes
9	Pijnacker-Nootdorp Zuid Geothermie	PNA-GT-	Pijnacker-Nootdorp	Yes
10		HAG-GT-	Den Haag	Closed In
11	Heemskerk Geothermie	HEK-GT-	Heemskerk	Yes
12	Middenmeer Geothermie I	MDM-GT-	Middenmeer	Yes
13	Middenmeer Geothermie II	MDM-GT-	Middenmeer	Yes
14	Vierpolders.	BRI-GT1&2	Vierpolders	Nee

The heat is produced from different depth intervals between 1600 and 2700 meter. (Figure 15a) and from strata in various geological units. (Figure 15b). Most of the geothermal energy is produced from rocks in the Upper-Jurassic and Lower-Cretaceous; these installations are located in the southwest of the Netherlands. One installation in the southwest of the Netherlands expects to produce from Triassic strata. The four production installations in Noord-Holland and Overijssel produce from Rotliegend strata, whereas the installation in North-Limburg produces from Lower Carboniferous strata.

The heat produced by the installations is mainly used to heat commercial greenhouses. One project also supplies heat to a public utility facility and buildings. Another project intends to supply heat to a heating network in an urban area (Figure 15c).

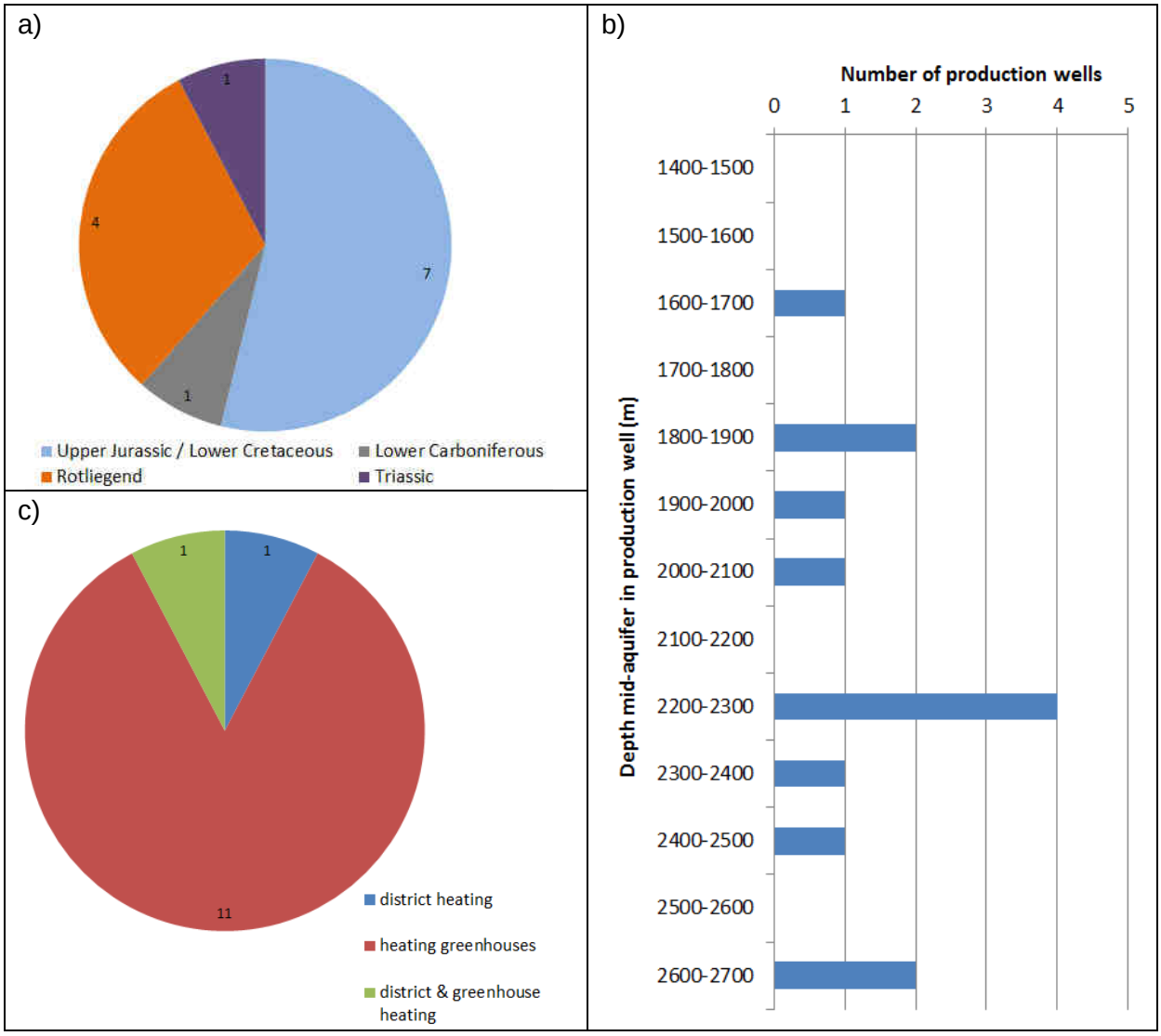


Figure 15. a) Stratigraphy of the productive interval, b) Depth to mid of aquifer, c) uses of the heat produced

Production of geothermal energy in 2015

Of the thirteen geothermal systems eleven were operational in 2015. These operational systems have submitted the obligatory monthly production figures. Of the two remaining non-operational installations one was in the start-up phase while the other was temporarily closed in. Three producing installations operate under a formal production licence (excluding the Heerlerheide installation), the remaining eight geothermal installations produce as an 'extended well test'. During this test period the licence will gather data to enable an efficient operation for future times. At the end of 2015 all but one producing operators had applied for a formal production licence and had submitted a production plan.

Figure 16 shows the aggregate production of geothermal energy per month in tera joules (TJ) and also the number of installations contributing to the monthly total. Not all installations were operational throughout the year.

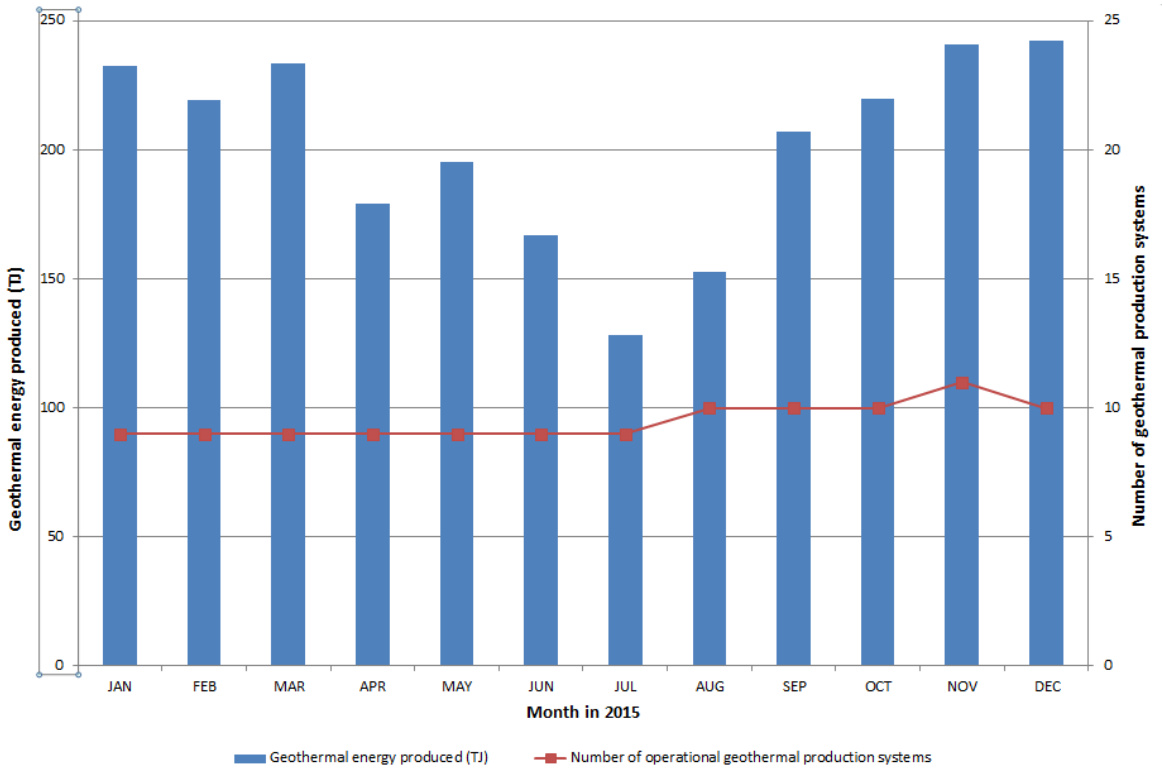


Figure 16. Monthly production of geothermal energy in tera joules and the number of geothermal energy production systems contributing to the reported production (excluding Heerlen mine water power station)

The cumulative reported annual production steadily grew since the beginning of 2008 to 2417 TJ in 2015 (Table 15, Figure 16).

Table 15: Annual production of energy and co-produced hydrocarbons

Year	Energy produced (TJ)	Co-produced gas (x1000Nm^3)	Co-produced oil (Sm^3)
2008	96*	-	-
2009	142*	-	-
2010	318*	-	-
2011	316*	-	-
2012	495*	-	-
2013	993*	-	-
2014	1509	3267	429
2015	2417	4378	186

'*Figure derived from: *Hernieuwbare energie in Nederland 2013*. Statistics Netherlands, The Hague/Heerlen, 2014. ISBN: 978-90-357-1857-9

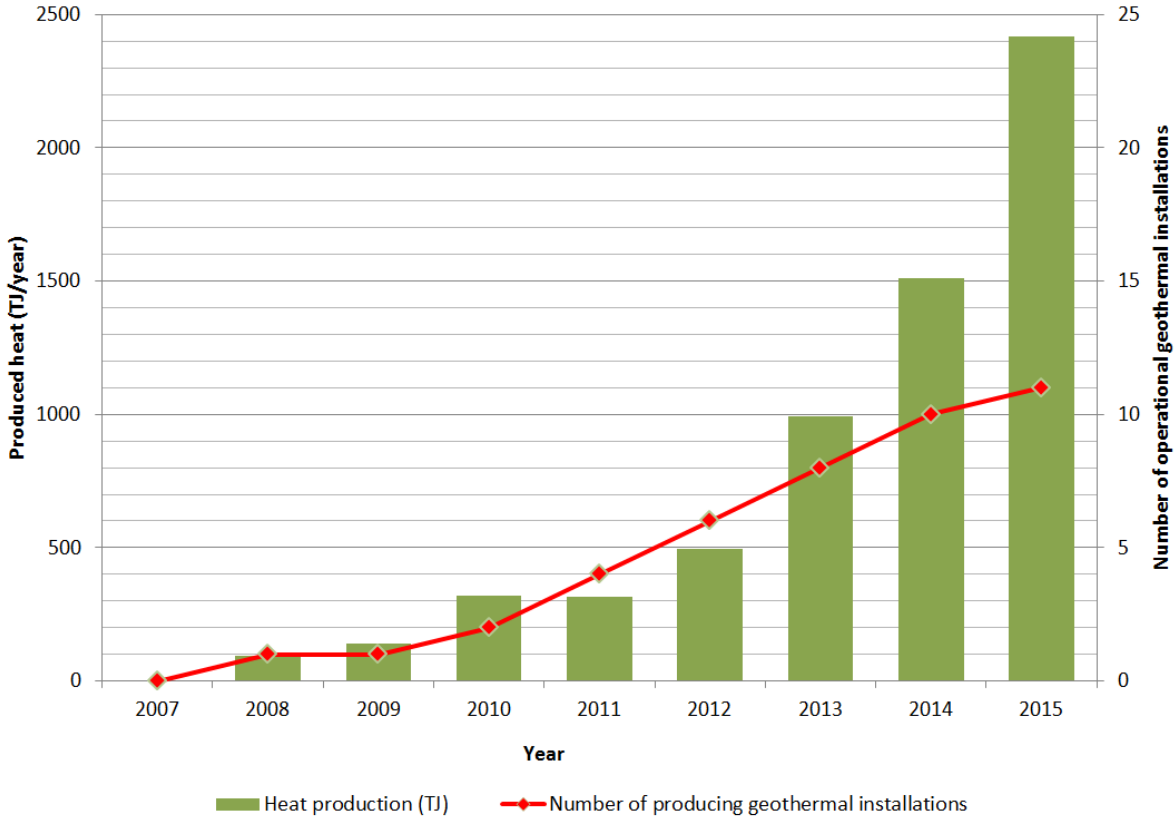


Figure 17. Annual production of geothermal energy (TJ/year)

Small amounts of hydrocarbons are co-produced with the geothermal energy. In most installations the hydrocarbon is gas, but in one installation oil is produced as well. The gas is usually dissolved in the formation water and released when the pressure of the production water in the production installation falls below the 'bubble point'. Five installations reported the volumes of gas captured (Figure 10). In the remaining installations no gas or oil was captured.

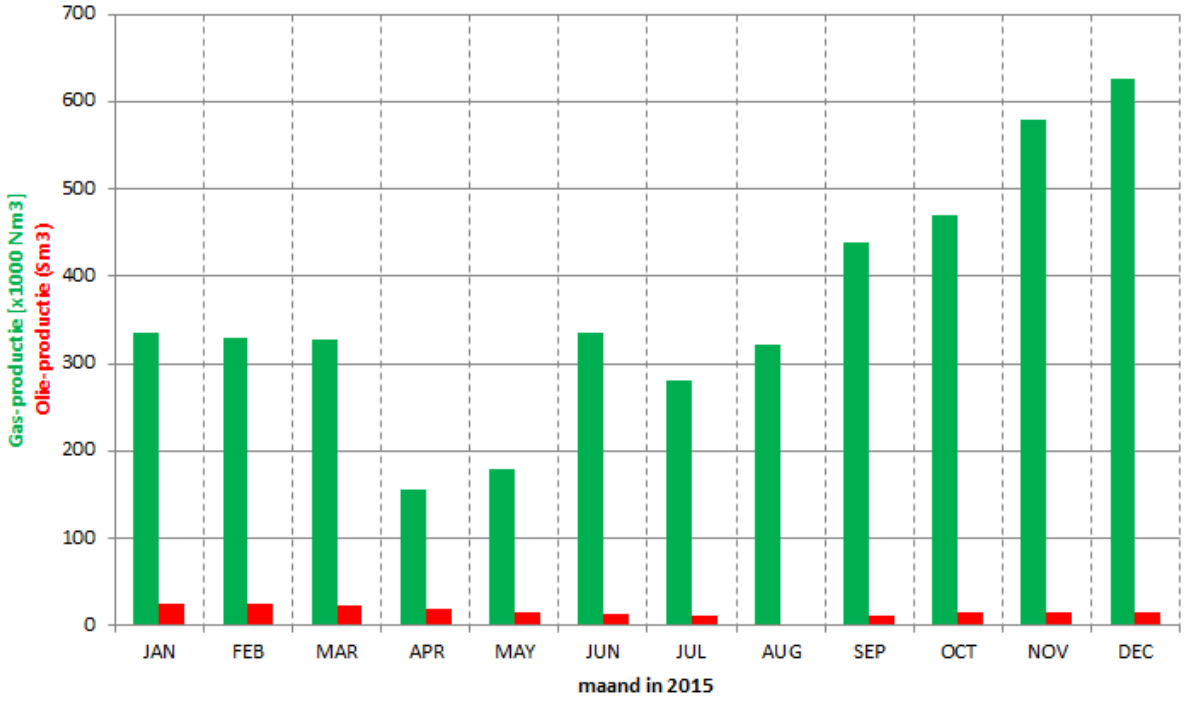


Figure 18.Volumes of hydrocarbons co-produced with geothermal energy. Gas in 1000Nm^3 and oil in Sm^3.

EXPLORATION LICENCES Netherlands Territory as at 1 January 2016

Applied for

Licence	Government Gazette	Date	Closing date	Applicant(s)
Franekeradeel *	Staatscourant 13 167	25-08-2010	24-11-2010	A.C. Hartman Beheer cs
Hoogeveen *	Staatscourant 19 287	03-12-2010	04-03-2011	Gemeente Hoogeveen
Monster 3 *	-	04-01-2011	-	Opti-flor B.V.
Eindhoven *	Staatscourant 2 045	07-02-2011	09-05-2011	Gemeente Eindhoven
Monster 2 *	Staatscourant 2 440	07-02-2011	09-05-2011	Fa. Van den Ende Rozen
Den Haag 3 *	Staatscourant 7 444	18-03-2014	17-06-2014	Gemeente Den Haag cs
Naaldwijk 3	Staatscourant 244	06-01-2015	07-04-2015	Trias Westland B.V. cs
Venlo	Staatscourant 5 691	03-03-2015	02-06-2015	Gipmans Verhuur B.V.
Velden	Staatscourant 5 692	03-03-2015	02-06-2015	Ekowarmte B.V.
Maasland 3	Staatscourant 15 889	15-06-2015	14-09-2015	GeoPower Exploitatie B.V.
Leeuwarden 3	Staatscourant 45 673	16-12-2015	16-03-2016	
Middenmeer 3	Staatscourant 45 674	16-12-2015	16-03-2016	

* Application ongoing, published in an earlier annual review.

Rejected

Applicant(s)	Area	Date	km²
Projectbureau Herstructurering Tuinbouw Bommelerwaard	Bommelerwaard	12-02-2015	211
Energiecoöperatie Greenhouse Energy u.a.	Lingewaard	12-02-2015	70
Van Dijk Energie B.V.	Wervershoof	20-02-2015	10
		Total	291

Awarded

Licensee	Licence	Effective from	km²
Dick Oosthoek cs	Oostland	31-01-2015	18
DDH Energy B.V.	Leeuwarden 2	01-04-2015	14
Hydreco GeoMEC B.V.	Tilburg-Geertruidenberg	10-07-2015	325
Hydreco GeoMEC B.V.	Helmond 2	26-08-2015	71
Visser en Smit Hanab B.V.	Zevenbergen	19-09-2015	43
		Total	471

Split

Licensee	Licence	Effective from	km²
- Originally			
Geothermie De Lier B.V. cs	De Lier		23
Geothermie De Lier B.V. cs	De Lier 3		11
Coöperatieve Bloemenveiling FloraHolland U.A.	Naaldwijk 2		4
Geothermie De Lier B.V. cs	De Lier II		22
Directeur Facilitair Management en Vastgoed, TU Delft	Delft IVa		58
Grondexploitatiemaatschappij Californië B.V.	Californië III		78
- After splitting			
Geothermie De Lier B.V. cs	De Lier II	01-05-2015	22
Geothermie De Lier B.V. cs	De Lier III	01-05-2015	1
Geothermie De Lier B.V. cs	De Lier 3II	01-05-2015	10
Geothermie De Lier B.V. cs	De Lier 3III	01-05-2015	1
Coöperatieve Bloemenveiling FloraHolland U.A.	Naaldwijk 2II *	01-05-2015	4
Coöperatieve Bloemenveiling FloraHolland U.A.	Naaldwijk 2III **	01-05-2015	1
Geothermie De Lier B.V. cs	De Lier III	01-07-2015	20
Geothermie De Lier B.V. cs	De Lier IV	01-07-2015	2

Directeur Facilitair Management en Vastgoed, TU Delft	Delft V	26-08-2015	39
Directeur Facilitair Management en Vastgoed, TU Delft	Pijnacker-Nootdorp 4a	26-08-2015	4
Directeur Facilitair Management en Vastgoed, TU Delft	Pijnacker-Nootdorp 5a	26-08-2015	5
Directeur Facilitair Management en Vastgoed, TU Delft	Pijnacker-Nootdorp 6a	26-08-2015	9
Grondexploitatiemaatschappij Californië B.V.	Californië IV	01-10-2015	10
Grondexploitatiemaatschappij Californië B.V.	Californië V	01-10-2015	5
Grondexploitatiemaatschappij Californië B.V.	Californië VI	01-10-2015	63

* The northeastern part is restricted in depth: valid for depths over 3000 m.
** is restricted in depth: valid for depths less than 3000 m

Merged

Licensee	Licence	Effective from	km²
- Originally			
TomSelect B.V.	Kwintsheul		5
TomSelect B.V.	De Lier III		1
TomSelect B.V.	De Lier 3III		1
TomSelect B.V.	Naaldwijk 2III		1
Directeur Facilitair Management en Vastgoed, TU Delft	Delft IV		40
Directeur Facilitair Management en Vastgoed, TU Delft	Pijnacker-Nootdorp 4		4
Directeur Facilitair Management en Vastgoed, TU Delft	Pijnacker-Nootdorp 5		4
Directeur Facilitair Management en Vastgoed, TU Delft	Pijnacker-Nootdorp 6		9
Grondexploitatiemaatschappij Californië B.V.	Californië I		7
Grondexploitatiemaatschappij Californië B.V.	Californië 2		71
- After merging			
TomSelect B.V.	Kwintsheul II	01-05-2015	7
Directeur Facilitair Management en Vastgoed, TU Delft	Delft IVa	26-08-2015	58
Grondexploitatiemaatschappij Californië B.V.	Californië III	01-10-2015	78

Restricted

Licensee	Licence	Effective from	km²
Ce-Ren Beheer B.V.	Heemskerk 2	08-11-2015	1
		Total	1

Prolonged

Licensee	Licence	Effective from	Effective till
A.P.M. Ammerlaan cs	Bleiswijk 4	16-01-2015	31-12-2016
Geothermie De Lier B.V. cs	De Lier	16-01-2015	19-01-2017
Geothermie De Lier B.V. cs	De Lier 3	16-01-2015	19-01-2017
Hydreco GeoMEC B.V. cs	Brielle 2	14-02-2015	30-01-2016
Hydreco GeoMEC B.V. cs	Vierpolders	14-02-2015	30-01-2016
Directeur Facilitair Management en Vastgoed, TU Delft	Delft IV	16-04-2015	08-10-2015
Gemeente Groningen	Groningen 2	16-04-2015	31-10-2017
A.P.M. Zuidgeest cs	Honselersdijk 2	11-06-2015	31-05-2017
Zuidgeest Growers B.V.	Honselersdijk 4	01-06-2015	31-05-2017
AC Hartman Beheer B.V.	Sexbierum	11-06-2015	30-11-2017
Hydreco GeoMEC B.V.	Pijnacker-Nootdorp 6	05-08-2015	30-06-2016
ECW Geoholding B.V.	Middenmeer 2	03-10-2015	23-11-2017
Hydreco GeoMEC B.V.	Pijnacker-Nootdorp 6a	28-10-2015	30-06-2016
Kwekerij de Westhoek B.V. cs	Maasland	24-12-2015	31-12-2016
Vereniging van Eigenaren Oude Campspolder	Maasland 2	24-12-2015	31-12-2016
Californië Lipzig Gielen Geothermie B.V.	Californië V	24-11-2015	30-12-2017
Duurzaam Voorne Holding B.V.	Oostvoorne	28-12-2015	31-12-2017
Californië Wijnen Geothermie B.V.	Californië IV	24-11-2015	30-12-2016
Grondexploitatiemaatschappij Californië B.V.	Californië VI	24-11-2015	30-12-2018

* Pending

Expired/Relinquished/Withdrawn

Licensee	Licence	Effective from	km²
Stadsverwarming Purmerend B.V.	Purmerend	29-01-2015	59
Jamuflor B.V.	De Kwakel	31-01-2015	18
Provincie Drenthe cs	Emmen	30-03-2015	94
Gietwater Berlikum B.V.	Berlikum	20-04-2015	19
NHN Projecten B.V. cs	Texel	18-05-2015	256
Coöperatieve Bloemenveiling FloraHolland U.A.	Aalsmeer	28-05-2015	39
Gemeente Amstelveen	Amstelveen	28-05-2015	40
Stallingsbedrijf Glastuinbouw Nederland B.V.	Haarlemmermeer	22-06-2015	44
G.J. van de Sande cs	Pijnacker-Nootdorp 3	01-07-2015	17
Hydreco GeoMEC B.V.	Werkendam	25-09-2015	28
Directeur Facilitair Management en Vastgoed, TU	Delft V	09-10-2015	39

Delft			
D.J. Bac cs	Zevenhuizen-Moerkapelle	14-10-2015	13
Wayland Nova B.V.	Maasbree	01-12-2015	22
		Total	688

PRODUCTION LICENCES, Netherlands Territory

Applied for

Licence	Publication	Date	Closing date	Applicant(s)
Den Haag *	-	21-09-2011	-	Gemeente Den Haag
Honselersdijk *	-	15-01-2013	-	J.W.M. Scheffers, G. Verkade B.V.
Pijnacker-Nootdorp 5a *	-	31-01-2013	-	Duijvestijn Energie B.V.
Pijnacker-Nootdorp 4a *	-	06-02-2013	-	Ammerlaan Real Estate B.V.
Middenmeer *	-	21-03-2013	-	ECW Geoholding B.V.
Heemskerk *	-	20-11-2013	-	Ce-Ren Beheer B.V.
De Lier III	-	11-08-2015	-	Geothermie De Lier B.V. cs

***** Application ongoing, published in an earlier annual review.

Awarded

Licensee	Licence	Effective from	km²
A en G van den Bosch B.V.	Bleiswijk 1b	20-03-2015	2
		Total	2

Company changes in 2015

The table below lists in chronological order the changes which took place during 2015 as a result of mutations in consortiums of companies with licences.

Company changes in exploration licences

Licence	Relinquishing company	Acquiring company	Effective from	Staats courant
Brielle 2 *	Gemeente Brielle T4P Project B.V.	-	14-02-2015	5 847
Vierpolders *	Gemeente Brielle T4P Project B.V.	-	14-02-2015	5 846
De Lier III	Geothermie De Lier B.V. De Bruijn Geothermie B.V.	TomSelect B.V.	01-05-2015	13 276
De Lier 3III	Geothermie De Lier B.V. cs De Bruijn Geothermie B.V.	TomSelect B.V.	01-05-2015	13 276
Naaldwijk 2III	Coöperatieve Bloemenveiling FloraHolland U.A.	TomSelect B.V.	01-05-2015	13 276
De Lier IV	Geothermie De Lier B.V. De Bruijn Geothermie B.V.	Trias Westland B.V.	01-07-2015	21 833
Pijnacker-Nootdorp 4	Ammerlaan Real Estate B.V.	Directeur Facilitair Management en Vastgoed, TU Delft	26-08-2015	30 241
Pijnacker-Nootdorp 5	Gebroeders Duijvestijn Energie B.V.	Directeur Facilitair Management en Vastgoed, TU Delft	26-08-2015	30 241
Pijnacker-Nootdorp 6	Hydreco GeoMEC B.V.	Directeur Facilitair Management en Vastgoed, TU Delft	26-08-2015	30 241
Pjnacker-Nootdorp 4a	Directeur Facilitair Management en Vastgoed, TU Delft	Ammerlaan Real Estate B.V.	26-08-2015	30 241
Pijnacker-Nootdorp 5a	Directeur Facilitair Management en Vastgoed, TU Delft	Gebroeders Duijvestijn Energie B.V.	26-08-2015	30 241
Pijnacker-Nootdorp 6a	Directeur Facilitair Management en Vastgoed, TU Delft	Hydreco GeoMEC B.V.	26-08-2015	30 241
Californië I	Tuinbouwbedrijf Wijnen B.V.	Grondexploitatiemaatschappij Californië B.V.	01-10-2015	34 771
Californië IV	Grondexploitatiemaatschappij Californië B.V.	Californië Wijnen Geothermie B.V.	01-10-2015	34 771
Californië V	Grondexploitatiemaatschappij Californië B.V.	Californië Lipzig Gielen Geothermie B.V.	01-10-2015	34 771
Oostvoorne	P.N.A. van Dijk Beheer B.V.	Duurzaam Voorne Holding B.V.	11-12-2015	47 603

* new operator: Hydreco GeoMEC B.V.

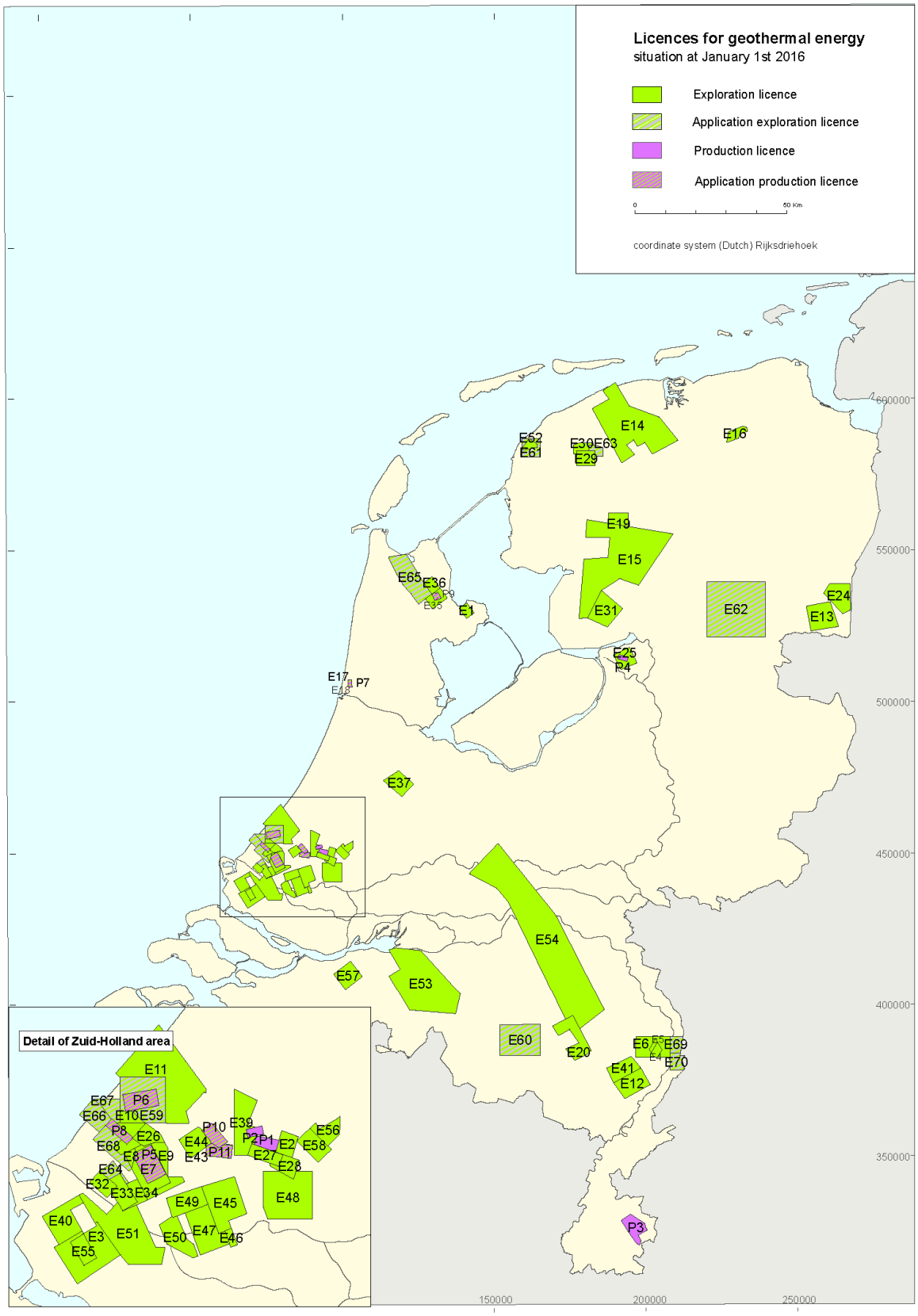


Figure 19 Licenses for Geothermal Energy

Legend to names of exploration and production licences for geothermal energy, Netherlands Territory, as indicated on the map on previous page:

	Exploration licences				
E1	Andijk	E22	Honselersdijk 2	E43	Pijnacker-Nootdorp 5a
E2	Bleiswijk 4	E23	Honselersdijk 4	E44	Pijnacker-Nootdorp 6a
E3	Brielle 2	E24	Klazienaveen	E45	Rotterdam 2
E4	Californië IV	E25	Koekoekspolder IIa	E46	Rotterdam 3
E5	Californië V	E26	Kwintsheul II	E47	Rotterdam 4
E6	Californië VI	E27	Lansingerland	E48	Rotterdam 5
E7	De Lier III	E28	Lansingerland 4	E49	Rotterdam 6-Trias
E8	De Lier IV	E29	Leeuwarden	E50	Rotterdam-Vlaardingen
E9	De Lier 3II	E30	Leeuwarden 2		
E10	Den Haag	E31	Luttelgeest	E51	Rozenburg
E11	Den Haag 2	E32	Maasdijk	E52	Sexbierum
E12	Egchel	E33	Maasland	E53	Tilburg-Geertruidenberg
E13	Erica	E34	Maasland 2		
E14	Friesland-Noord	E35	Middenmeer	E54	Utrecht-Noord-Brabant
E15	Friesland-Zuid	E36	Middenmeer 2		
E16	Groningen 2	E37	Mijdrecht	E55	Vierpolders
E17	Heemskerk	E38	Naaldwijk 2II	E56	Waddinxveen 2
E18	Heemskerk 2	E39	Oostland	E57	Zevenbergen
E19	Heerenveen	E40	Oostvoorne	E58	Zevenhuizen
E20	Helmond 2	E41	Peel en Maas		
E21	Honselersdijk	E42	Pijnacker-Nootdorp 4a		
	Exploration licences as applied for				
E59	Den Haag 3	E63	Leeuwarden 3	E67	Monster 3
E60	Eindhoven	E64	Maasland 3	E68	Naaldwijk 3
E61	Franekeradeel	E65	Middenmeer 3	E69	Velden
E62	Hoogeveen	E66	Monster 2	E70	Venlo
	Production licences				
P1	Bleiswijk	P3	Heerlen		
P2	Bleiswijk 1b	P4	Kampen		
	Production licences as applied for				
P5	De Lier III	P8	Honselersdijk	P11	Pijnacker-Nootdorp 5a
P6	Den Haag	P9	Middenmeer		
P7	Heemskerk	P10	Pijnacker-Nootdorp 4a		

Note: table revised on 1/12/2016

ANNEXES

NATURAL GAS AND OIL ACCUMULATIONS BY STATUS as at 1 January 2016

NATURAL GAS ACCUMULATIONS

I. DEVELOPED ACCUMULATIONS

Accumulation	Company	Licence name***	Gas/Oil
a) Producing			
Ameland-Oost	NAM	Noord-Friesland [pl]	G
Ameland-Westgat	NAM	Noord-Friesland [pl]	G
Anjum	NAM	Noord-Friesland [pl]	G
Annerveen	NAM	Drenthe IIb [pl], Groningen [pl]	G&O
Bedum	NAM	Groningen [pl]	G
Bergen	TAQA	Bergen Ii [pl]	G
Blija-Ferwerderadeel	NAM	Noord-Friesland [pl]	G
Blija-Zuid	NAM	Noord-Friesland [pl]	G
Blija-Zuidoost	NAM	Noord-Friesland [pl]	G
Blijham	NAM	Groningen [pl]	G
Boerakker	NAM	Groningen [pl]	G
Botlek	NAM	Botlek Ii [pl], Rijswijk [pl]	G
Brakel	Vermilion	Andel Va [pl]	O&G
Burum-Oost	NAM	Tietjerksteradeel [pl]	G
Coevorden	NAM	Hardenberg [pl], Schoonebeek [pl]	G
Collendoorn	NAM	Hardenberg [pl], Schoonebeek [pl]	G
Collendoornerveen	NAM	Schoonebeek [pl]	G
Dalen	NAM	Drenthe IIb [pl], Drenthe V [pl], Schoonebeek [pl]	G
De Hoeve	Vermilion	Gorredijk [pl]	G
De Lier	NAM	Rijswijk [pl]	O&G
De Wijk	NAM	Drenthe IIb [pl], Schoonebeek [pl]	G
Den Velde	NAM	Hardenberg [pl], Schoonebeek [pl]	G
Diever	Vermilion	Drenthe VI [pl]	G
Donkerbroek - Main	Tulip	Donkerbroek [pl], Donkerbroek-West [pl]	G
Donkerbroek - West	Tulip	Donkerbroek [pl], Donkerbroek-West [pl]	G
Eernewoude	Vermilion	Leeuwarden [pl]	G
Eesveen	Vermilion	Drenthe VI [pl], Steenwijk [pl]	G
Eleveld	NAM	Drenthe Iib [pl]	G
Emmen	NAM	Drenthe Iib [pl], Groningen [pl]	G
Emmen-Nieuw Amsterdam	NAM	Drenthe Iib [pl], Schoonebeek [pl]	G
Ezumazijl	NAM	Noord-Friesland [pl]	G
Faan	NAM	Groningen [pl]	G
Feerwerd	NAM	Groningen [pl]	G
Gaag	NAM	Rijswijk [pl]	G
Gasselternijveen	NAM	Drenthe Iib [pl]	G
Geesbrug	Vermilion	Drenthe V [pl]	G
Groet	TAQA	Bergen II [pl], Bergermeer [pl]	G

Groet-Oost	TAQA	Middelie [pl]	G
Grolloo	Vermilion	Drenthe IV [pl]	G
Groningen	NAM	Groningen [pl]	G
Grootegast	NAM	Groningen [pl], Tietjerksteradeel [pl]	G
Hardenberg	NAM	Hardenberg [pl], Schoonebeek [pl]	G
Hardenberg-Oost	NAM	Hardenberg [pl], Schoonebeek [pl]	G
Harkema	NAM	Tietjerksteradeel [pl]	G
Heinenoord	NAM	Botlek II [pl]	G
Hekelingen	NAM	Beijerland [pl], Botlek II [pl]	G
Hemrik (Akkrum 11)	Tulip	Akkrum 11 [pl]	G
Kiel-Windeweer	NAM	Drenthe IIb [pl], Groningen [pl]	G
Kollum	NAM	Noord-Friesland [pl], Tietjerksteradeel [pl]	G
Kollum-Noord	NAM	Noord-Friesland [pl], Tietjerksteradeel [pl]	G
Kommerzijl	NAM	Groningen [pl]	G
Langezwaag	Vermilion	Gorredijk [pl]	G
Lauwersoog	NAM	Noord-Friesland [pl]	G
Leens	NAM	Groningen [pl]	G
Leeuwarden en Nijega	Vermilion	Akkrum [el], Leeuwarden [pl], Tietjerksteradeel [pl]	G
Loon op Zand	Vermilion	Waalwijk [pl]	G
Loon op Zand-Zuid	Vermilion	Waalwijk [pl]	G
Maasdijk	NAM	Rijswijk [pl]	G
Marum	NAM	Groningen [pl], Tietjerksteradeel [pl]	G
Metslawier-Zuid	NAM	Noord-Friesland [pl]	G
Middelie	NAM	Middelie [pl]	G
Moddergat	NAM	Noord-Friesland [pl]	G
Molenpolder	NAM	Groningen [pl]	G
Monster	NAM	Rijswijk [pl]	G
Munnekezijl	NAM	De Marne [pl], Groningen [pl], Noord-Friesland [pl]	G
Nes	NAM	Noord-Friesland [pl]	G
Noordwolde	Vermilion	Gorredijk [pl]	G
Oosterhesselen	NAM	Drenthe IIb [pl], Drenthe V [pl], Drenthe VI [pl]	G
Oostrum	NAM	Noord-Friesland [pl]	G
Opeinde	Vermilion	Leeuwarden [pl], Tietjerksteradeel [pl]	G
Opeinde-Zuid	Vermilion	Akkrum [el], Leeuwarden [pl]	G
Opende-Oost	NAM	Groningen [pl]	G
Oud-Beijerland Zuid	NAM	Beijerland [pl], Botlek II [pl]	G
Oude Pekela	NAM	Groningen [pl]	G
Oudeland	NAM	Beijerland [pl]	G
Oudendijk	NAM	Beijerland [pl]	G
Pasop	NAM	Drenthe IIb [pl], Groningen [pl]	G
Pernis	NAM	Rijswijk [pl]	G
Pernis-West	NAM	Rijswijk [pl]	G
Pieterzijl-Oost	NAM	Groningen [pl], Tietjerksteradeel [pl]	G
Reedijk	NAM	Botlek II [pl]	G
Ried	Vermilion	Leeuwarden [pl]	G
Rustenburg	NAM	Middelie [pl]	G
Saaksum	NAM	Groningen [pl]	G
Schermer	TAQA	Bergen II [pl]	G
Schoonebeek (gas)	NAM	Schoonebeek [pl]	G

Sebaldeburen	NAM	Groningen [pl]	G
's-Gravenzande	NAM	Rijswijk [pl]	G
Slootdorp	Vermilion	Slootdorp [pl]	G
Sonnega-Weststellingwerf	Vermilion	Gorredijk [pl], Steenwijk [pl]	G
Spijkenisse-Oost	NAM	Botlek II [pl]	G
Spijkenisse-West	NAM	Beijerland [pl], Botlek II [pl]	G
Sprang	Vermilion	Waalwijk [pl]	G
Surhuisterveen	NAM	Groningen [pl], Tietjerksteradeel [pl]	G
Tietjerksteradeel	NAM	Leeuwarden [pl], Tietjerksteradeel [pl]	G
Ureterp	NAM	Tietjerksteradeel [pl]	G
Vierhuizen	NAM	De Marne [pl], Groningen [pl], Noord-Friesland [pl]	G
Vinkega	Vermilion	Drenthe IIa [pl], Drenthe IIIa [pl], Gorredijk [pl]	G
Vries	NAM	Drenthe IIb [pl]	G
Waalwijk-Noord	Vermilion	Waalwijk [pl]	G
Wanneperveen	NAM	Schoonebeek [pl]	G
Warffum	NAM	Groningen [pl]	G
Warga-Wartena	Vermilion	Leeuwarden [pl], Tietjerksteradeel [pl]	G
Westbeemster	NAM	Bergen II [pl], Middelie [pl]	G
Wieringa	NAM	Groningen [pl], Noord-Friesland [pl], Tietjerksteradeel [pl]	G
Zevenhuizen	NAM	Groningen [pl]	G
Zuidwal	Vermilion	Zuidwal [pl]	G
Zuidwending-Oost	NAM	Groningen [pl]	G
A12-FA	Petrogas	A12a [pl], A12d [pl]	G
A18-FA	Petrogas	A18a [pl], A18c [pl]	G
B13-FA	Petrogas	B10c & B13a [pl]	G
D12-A	Wintershall	D12a [pl], D15 [pl]	G
D18a-A	ENGIE	D15 [pl], D18a [pl]	G
E17a-A	ENGIE	E16a [pl], E17a & E17b [pl]	G
E18-A	Wintershall	E15a [pl], E15b [pl], E18a [pl]	G
F02-A Plioceen	Dana	F02a [pl]	G
F03-FA	Centrica	B18a [pl], F03a [pl]	G
F03-FB	ENGIE	F02a [pl], F03b [pl], F06a [pl]	G&O
F15a-A	Total	F15a [pl]	G
F15a-B	Total	F15a [pl]	G
F16-E	Wintershall	E15a [pl], E18a [pl], F13a [pl], F16 [pl]	G
G14-A & B	ENGIE	G14 & G17b [pl]	G
G14-C	ENGIE	G14 & G17b [pl]	G
G16a-A	ENGIE	G16a [pl]	G
G16a-B	ENGIE	G16a [pl]	G
G16a-C	ENGIE	G16a [pl]	G
G16a-D	ENGIE	G16a [pl]	G
G17a-S1	ENGIE	G17a [pl], G17c & G17d [pl]	G
G17cd-A	ENGIE	G17c & G17d [pl]	G
J03-C Unit	Total	J03a [pl], J03b & J06 [pl], K01a [pl], K04a [pl]	G
K01-A Unit	Total	J03a [pl], K01a [pl], K04a [pl]	G
K02b-A	ENGIE	E17a & E17b [pl], E18a [pl], K02b [pl], K03a [pl], K03c [pl]	G

K04-A	Total	K04a [pl], K04b & K05a [pl], K05b [pl]	G
K04a-B	Total	K04a [pl], K04b & K05a [pl]	G
K04a-D	Total	J03b & J06 [pl], K04a [pl]	G
K04a-Z	Total	K04a [pl]	G
K04-E	Total	K04a [pl], K04b & K05a [pl]	G
K04-N	Total	K04a [pl], K04b & K05a [pl]	G
K05a-A	Total	K04a [pl], K04b & K05a [pl], K08 & K11 [pl]	G
K05a-B	Total	K04b & K05a [pl], K05b [pl]	G
K05a-D	Total	K04b & K05a [pl]	G
K05a-En	Total	K04b & K05a [pl], K05b [pl]	G
K05-C North	Total	K01b & K02a [pl], K05b [pl]	G
K05-C Unit	Total	K04b & K05a [pl], K05b [pl]	G
K05-F	Total	K04b & K05a [pl], K05b [pl], K06 & L07 [pl]	G
K05-U	Total	K01b & K02a [pl], K02c [pl], K05b [pl]	G
K06-A	Total	K03b [pl], K06 & L07 [pl]	G
K06-C	Total	K06 & L07 [pl]	G
K06-D	Total	K06 & L07 [pl], K09c [pl]	G
K06-DN	Total	K06 & L07 [pl]	G
K06-G	Total	K06 & L07 [pl]	G
K07-FA	NAM	K07 [pl], K08 & K11 [pl]	G
K07-FB	NAM	J09 [el], K07 [pl]	G
K07-FC	NAM	K07 [pl], K08 & K11 [pl]	G
K07-FD	NAM	K07 [pl]	G
K07-FE	NAM	K07 [pl]	G
K08-FA	NAM	K08 & K11 [pl]	G
K08-FC	NAM	K08 & K11 [pl]	G
K09ab-A	ENGIE	K06 & L07 [pl], K09a & K09b [pl], K09c [pl], K12 [pl], L10 & L11a [pl]	G
K09ab-B	ENGIE	K09a & K09b [pl]	G
K09ab-D	ENGIE	K09a & K09b [pl]	G
K09c-A	ENGIE	K06 & L07 [pl], K09c [pl]	G
K12-B	ENGIE	K12 [pl], K15 [pl]	G
K12-B9	ENGIE	K12 [pl], K15 [pl]	G
K12-D	ENGIE	K12 [pl]	G
K12-G	ENGIE	K12 [pl], L10 & L11a [pl]	G
K12-L	ENGIE	K09c [pl], K12 [pl]	G
K12-M	ENGIE	K12 [pl]	G
K12-S2	ENGIE	K12 [pl]	G
K12-S3	ENGIE	K12 [pl]	G
K14-FA	NAM	K14a [pl]	G
K14-FB	NAM	K14a [pl], K17 [pl]	G
K15-FA	NAM	K15 [pl], L13 [pl]	G
K15-FB	NAM	K15 [pl]	G
K15-FC	NAM	K15 [pl]	G
K15-FD	NAM	K15 [pl]	G
K15-FE	NAM	K15 [pl]	G
K15-FG	NAM	K15 [pl]	G
K15-FI	NAM	K15 [pl]	G
K15-FK	NAM	K15 [pl]	G

K15-FL	NAM	K12 [pl], K15 [pl]	G
K15-FM	NAM	K15 [pl]	G
K15-FN	NAM	K15 [pl]	G
K15-FO	NAM	K15 [pl]	G
K15-FP	NAM	K15 [pl]	G
K17-FA	NAM	K17 [pl]	G
K18-Golf	Wintershall	K15 [pl], K18b [pl]	G
L01-A	Total	L01a [pl], L01d [pl], L04a [pl]	G
L02-FA	NAM	L02 [pl]	G
L02-FB	NAM	F17c [pl], L02 [pl]	G
L04-A	Total	L04a [pl]	G
L04-D	Total	L04a [pl]	G
L04-F	Total	L01e [pl], L04a [pl]	G
L04-G	Total	L01f [pl], L04a [pl]	G
L04-I	Total	L04a [pl]	G
L05a-A	ENGIE	L02 [pl], L04c [pl], L05a [pl]	G
L05-B	Wintershall	L05b [pl]	G
L05-C	Wintershall	L05b [pl], L06b [pl]	G
L06-B	Wintershall	L06a [pl]	G
L07-B	Total	K06 & L07 [pl]	G
L07-C	Total	K06 & L07 [pl]	G
L07-G	Total	K06 & L07 [pl]	G
L08-A	Wintershall	L08a [pl], L08b [pl]	G
L08-A-West	Wintershall	L08a [pl], L08b [pl]	G
L08-D	ONE	L08a [pl], L08b [pl], L11b [pl]	G
L08-G	Wintershall	L08a [pl]	G
L08-H	Wintershall	L08a [pl]	G
L08-P	Wintershall	L05c [pl], L08b [pl]	G
L09-FA	NAM	L09 [pl]	G
L09-FB	NAM	L09 [pl]	G
L09-FD	NAM	L09 [pl]	G
L09-FE	NAM	L09 [pl]	G
L09-FF	NAM	L09 [pl]	G
L09-FG	NAM	L09 [pl]	G
L09-FH	NAM	L09 [pl]	G
L09-FJ	NAM	L09 [pl]	G
L09-FK	NAM	L09 [pl]	G
L09-FL	NAM	L09 [pl]	G
L09-FM	NAM	L09 [pl]	G
L10-CDA	ENGIE	L10 & L11a [pl]	G
L10-G	ENGIE	L10 & L11a [pl]	G
L10-M	ENGIE	L10 & L11a [pl]	G
L10-N	ENGIE	L10 & L11a [pl]	G
L10-O	ENGIE	K12 [pl], L10 & L11a [pl]	G
L10-P	ENGIE	L10 & L11a [pl]	G
L12a-B	ENGIE	L12a [pl], L12b & L15b [pl], L15c [pl]	G
L12b-C	ENGIE	L12a [pl], L12b & L15b [pl]	G
L13-FC	NAM	L13 [pl]	G
L13-FD	NAM	L13 [pl]	G

L13-FE	NAM	L13 [pl]	G
L13-FF	NAM	L13 [pl]	G
L15b-A	ENGIE	L12b & L15b [pl]	G
M07-A	ONE	M07 [pl]	G
M07-B	ONE	M07 [pl]	G
Markham	Centrica	J03a [pl], J03b & J06 [pl]	G
N07-FA	NAM	N07a [pl], Noord-Friesland [pl]	G
P06-D	Wintershall	P06 [pl], P09c [pl]	G
P06-Main	Wintershall	P06 [pl]	G
P09-A	Wintershall	P09a & P09b [pl], P09c [pl]	G
P10a De Ruyter Western Extension	Dana	P10a [pl]	G&O
P11b Van Nes	Dana	P11b [pl]	G
P15-09	TAQA	P15a & P15b [pl], P18a [pl]	G
P15-11	TAQA	P15a & P15b [pl]	G
P15-13	TAQA	P15a & P15b [pl]	G
P15-17	TAQA	P15a & P15b [pl]	G
P15-19	TAQA	P15a & P15b [pl]	G
P18-2	TAQA	P18a [pl], P18c [pl]	G
P18-4	TAQA	P15a & P15b [pl], P18a [pl]	G
P18-6	TAQA	P15c [pl], P18a [pl]	G
Q01-B	Wintershall	Q01 [pl], Q04 [pl]	G
Q01-D	Wintershall	Q01 [pl]	G
Q04-A	Wintershall	Q04 [pl]	G
Q04-B	Wintershall	Q04 [pl], Q05d [pl]	G
Q16-FA	ONE	Q16a [pl]	G
Q16-Maas	ONE	Botlek-Maas [pl], P18d [pl], Q16b & Q16c-Diep [pl], S03a [pl], T01 [pl]	G
b) Underground gas storage			
Aardgasbuffer Zuidwending	Gasunie	Zuidwending [sl]	G
Alkmaar	TAQA	Alkmaar [sl]	G
Bergermeer	TAQA	Bergermeer [sl]	G
Grijpskerk	NAM	Grijpskerk [sl]	G
Norg	NAM	Norg [sl]	G

II. UNDEVELOPED ACCUMULATIONS

Accumulation	Company	Licence name***	Gas/Oil
a) Production expected to start 2015–2019			
Assen-Zuid	NAM	Drenthe IIb [pl]	G
Marknesse	Tulip	Marknesse [pl]	G
Marumerlage	NAM	Groningen [pl]	G
Nes-Noord	NAM	Noord-Friesland [pl]	G
Oppenhuizen	Vermilion	Zuid-Friesland III [pl]	G
Papekop	Vermilion	Papekop [pl]	G&O
Rodewolt	NAM	Groningen [pl]	G
Terschelling-Noord	Tulip	M10a & M11 [el], Terschelling-Noord [el]	G
Usquert	NAM	Groningen [pl]	G
Woudsend	Vermilion	Zuid-Friesland III [pl]	G
A15-A	Petrogas	A12a [pl], A12d [pl], A15a [pl]	G
D15 Tourmaline	ENGIE	D15 [pl]	G
F16-P	Wintershall	E18a [pl], F16 [pl]	G
K09c-B	ENGIE	K09a & K09b [pl], K09c [pl]	G
K15-FH	NAM	K15 [pl]	G
L05a-D	ENGIE	L02 [pl], L05a [pl], L05b [pl]	G
L07-F	Total	K06 & L07 [pl], L08b [pl]	G
L08-I	Wintershall	L08a [pl]	G
L10-19	ENGIE	L10 & L11a [pl]	G
L11-7	ENGIE	L10 & L11a [pl]	G
L11-Gillian	ONE	L11b [pl], L11c [el]	G
L12-FA	ENGIE	L12a [pl], L12b & L15b [pl]	G
L13-FI	NAM	L13 [pl]	G
M01-A	ONE	M01a [pl]	G
M09-FA	NAM	M09a [pl], Noord-Friesland [pl]	G
M10-FA	Tulip	M10a & M11 [el]	G
M11-FA	Tulip	M10a & M11 [el], Noord-Friesland [pl]	G
P11a-E	ONE	P11a [pl]	G
P11b Van Ghent East	Dana	P11b [pl]	G&O
P11b Witte de With	Dana	P11b [pl]	G
Q07-FA	Tulip	Q07 [el], Q10a [el]	G
b) Production to start after 2019			
Beerta	NAM	Groningen [pl]	G
Boskoop	NAM	Rijswijk [pl]	G
Buma	NAM	Drenthe IIb [pl]	G
Burum	NAM	Tietjerksteradeel [pl]	G
Deurningen	NAM	Twenthe [pl]	G
Egmond-Binnen	NAM	Middelie [pl]	G
Exloo	NAM	Drenthe IIb [pl]	G
Haakswold	NAM	Schoonebeek [pl]	G
Heiloo	TAQA	Bergen II [pl]	G

Accumulation	Company	Licence name***	Gas/Oil
Hollum-Ameland	NAM	Noord-Friesland [pl]	G
Kerkwijk	NAM	Andel Vb [pl], Utrecht [el]	G
Kijkduin-Zee	NAM	Rijswijk [pl]	G
Langebrug	NAM	Groningen [pl]	G
Lankhorst	NAM	Schoonebeek [pl]	G
Maasgeul	NAM	Botlek II [pl], Q16b & Q16c-Diep [pl]	G
Midlaren	NAM	Drenthe IIb [pl], Groningen [pl]	G&O
Molenaarsgraaf	NAM	Andel Vb [pl], Rijswijk [pl]	G
Nieuwehorne	Vermilion	Gorredijk [pl]	G
Nieuweschans	NAM	Groningen [pl]	G
Oosterwolde	-	open	G
Oude Leede	NAM	Rijswijk [pl]	G
Rammelbeek	NAM	Twenthe [pl]	G
Schiermonnikoog-Wad	NAM	Noord-Friesland [pl]	G
Ternaard	NAM	Noord-Friesland [pl]	G
Terschelling-West	-	open	G
Valthermond	NAM	Drenthe IIb [pl]	G
Vlagtwedde	NAM	Groningen [pl]	G
Wassenaar-Diep	NAM	Rijswijk [pl]	G
Werkendam-Diep	NAM	Rijswijk [pl]	G&O
Witten	NAM	Drenthe IIb [pl]	G
Zevenhuizen-West	NAM	Groningen [pl]	G
Zuidwijk	TAQA	Bergen II [pl], Middelie [pl]	G
B10-FA	Petrogas	A12b & B10a [el]	G
B16-FA	Petrogas	B10c & B13a [pl], B16a [el]	G
B17-A	Petrogas	B17a [el]	G
D12 Ilmenite	Wintershall	D09 & E07 [el], D12a [pl]	G
D12-Sillimanite	Wintershall	D12a [pl], D12b [el]	G
E11-Vincent	Tullow	E11 [el]	G
E12 Lelie	-	open	G
E12 Tulp East	-	open	G
E13 Epidoot	-	open	G
K08-FB	NAM	K08 & K11 [pl]	G
K08-FD	NAM	K04b & K05a [pl], K08 & K11 [pl]	G
K08-FE	NAM	K08 & K11 [pl], K09a & K09b [pl]	G
K08-FF	NAM	K08 & K11 [pl]	G
K14-FC	NAM	K08 & K11 [pl], K14a [pl]	G
K15-FF	NAM	K15 [pl]	G
K16-5	-	open	G
K17-FB	NAM	K17 [pl]	G
K17-Zechstein	NAM	K17 [pl]	G
K18-FB	Wintershall	K18b [pl]	G
K6-GT4	Total	K06 & L07 [pl]	G
L02-FC	NAM	L02 [pl]	G
L05b-A	Wintershall	L05b [pl]	G
L07-D	Total	K06 & L07 [pl]	G
L10-6	ENGIE	L10 & L11a [pl]	G
L11-1	ENGIE	L10 & L11a [pl]	G

Accumulation	Company	Licence name***	Gas/Oil
L12-FD	Tullow	L09 [pl], L12d [pl]	G
L13-FA	NAM	L13 [pl]	G
L13-FJ	NAM	L13 [pl]	G
L13-FK	NAM	L13 [pl]	G
L14-FB	ENGIE	L13 [pl]	G
L16-Alpha	Wintershall	L16a [pl]	G
L16-Bravo	Wintershall	L16a [pl]	G
L16-FA	Wintershall	K18b [pl], L16a [pl]	G
M09-FB	NAM	M09a [pl], N07a [pl], Noord-Friesland [pl]	G
P01-FA	Petrogas	open	G
P01-FB	Petrogas	open	G
P02-Delta	Petrogas	open	G
P02-E	Petrogas	open	G
P06-Northwest	Wintershall	P06 [pl]	G
P10b Van Brakel	Dana	P10b [pl]	G
P12-14	Wintershall	P12 [pl]	G
P18-7	ONE	P18b [el], P18c [pl], Q16a [pl]	G
Q02-A	-	open	G
Q13-FC	ONE	Q13b [el]	G
Q14-A	ONE	Q13b [el]	G

III. PRODUCTION CEASED

Accumulation	Status**	Company	Licence name***	Gas/Oil
Akkrum 1	A	Chevron USA	Akkrum [el], Leeuwarden [pl]	G
Akkrum 13	A	Chevron USA	Akkrum [el], Gorredijk [pl]	G
Akkrum 3	A	Chevron USA	Akkrum [el]	G
Akkrum 9	A	Chevron USA	Akkrum [el]	G
Ameland-Noord	T	NAM	M09a [pl], Noord-Friesland [pl]	G
Appelscha	T	NAM	Drenthe IIb [pl]	G
Assen	T	NAM	Drenthe IIb [pl]	G
Barendrecht-Ziedewij	T	NAM	Rijswijk [pl]	G
Blesdijke	T	Vermilion	Gorredijk [pl], Steenwijk [pl]	G
Boekel	U	TAQA	Bergen II [pl]	G
Bozum	U	Vermilion	Oosterend [pl]	G
Castricum-Zee	A	Wintershall	Middelie [pl]	G
De Blesse	T	Vermilion	Gorredijk [pl], Steenwijk [pl]	G
De Klem	U	NAM	Beijerland [pl]	G
De Lutte	U	NAM	Rossum-De Lutte [pl], Twenthe [pl]	G
Een	T	NAM	Drenthe IIb [pl], Groningen [pl]	G
Emshoern	A	NAM	Groningen [pl]	G
Engwierum	U	NAM	Noord-Friesland [pl]	G
Franeker	U	Vermilion	Leeuwarden [pl]	G
Geestvaartpolder	U	NAM	Rijswijk [pl]	G
Grouw	T	Vermilion	Leeuwarden [pl], Oosterend [pl]	G
Harlingen Lower Cretaceous	U	Vermilion	Leeuwarden [pl]	G
Harlingen Upper Cretaceous	T	Vermilion	Leeuwarden [pl]	G
Hoogenweg	A	NAM	Hardenberg [pl]	G
Houwerzijl	T	NAM	Groningen [pl]	G
Kollumerland	T	NAM	Tietjerksteradeel [pl]	G
Leeuwarden 101 Rotliegend	U	Vermilion	Leeuwarden [pl]	G
Leidschendam	A	NAM	Rijswijk [pl]	G
Metslawier	U	NAM	Noord-Friesland [pl]	G
Middelburen	U	Vermilion	Leeuwarden [pl]	G
Middenmeer	T	Vermilion	Slootdorp [pl]	G
Nijensleek	U	Vermilion	Drenthe IIa [pl], Steenwijk [pl]	G
Noorderdam	T	NAM	Rijswijk [pl]	G
Norg-Zuid	U	NAM	Drenthe IIb [pl]	G
Oldelamer	T	Vermilion	Gorredijk [pl], Lemsterland [el]	G
Oldenzaal	U	NAM	Rossum-De Lutte [pl], Twenthe [pl]	G
Rauwerd	T	Vermilion	Leeuwarden [pl], Oosterend [pl]	G
Roden	T	NAM	Drenthe IIb [pl], Groningen [pl]	G
Rossum-Weerselo	U	NAM	Rossum-De Lutte [pl], Twenthe [pl]	G
Roswinkel	A	NAM	Drenthe IIb [pl], Groningen [pl]	G

Accumulation	Status**	Company	Licence name***	Gas/Oil
Sleen	A	NAM	Drenthe IIb [pl]	G
Starnmeer	U	TAQA	Bergen II [pl]	G
Suawoude	T	NAM	Tietjerksteradeel [pl]	G
Tubbergen	U	NAM	Tubbergen [pl]	G
Tubbergen-Mander	U	NAM	Tubbergen [pl]	G
Weststellingwerf	U	Vermilion	Gorredijk [pl]	G
Wijk en Aalburg	T	Vermilion	Andel Va [pl]	G
Wimmenum-Egmond	A	NAM	Middelie [pl]	G
Witterdiep	T	NAM	Drenthe IIb [pl]	G
Zuid-Schermer	U	TAQA	Bergen II [pl]	G
D15-A	U	ENGIE	D12a [pl], D15 [pl]	G
D15-A-104	U	ENGIE	D15 [pl]	G
Halfweg	U	Petrogas	Q01 [pl], Q02c [pl]	G
K05a-Es	U	Total	K04b & K05a [pl]	G
K05-G	U	Total	K04b & K05a [pl]	G
K06-N	U	Total	K06 & L07 [pl]	G
K06-T	U	Total	K06 & L07 [pl]	G
K09ab-C	T	ENGIE	K09a & K09b [pl], K09c [pl]	G
K10-B (gas)	A	Wintershall	open	G
K10-C	A	Wintershall	open	G
K10-V	A	Wintershall	K07 [pl]	G
K11-FA	A	NAM	K08 & K11 [pl]	G
K11-FB	A	ENGIE	K08 & K11 [pl], K12 [pl]	G
K11-FC	A	ENGIE	K08 & K11 [pl]	G
K12-A	A	ENGIE	K12 [pl]	G
K12-C	U	ENGIE	K12 [pl]	G
K12-E	A	ENGIE	K12 [pl], L10 & L11a [pl]	G
K12-K	T	ENGIE	K12 [pl]	G
K12-S1	A	ENGIE	K12 [pl]	G
K13-A	A	Wintershall	open	G
K13-B	A	Wintershall	open	G
K13-CF	A	Wintershall	open	G
K13-DE	A	Wintershall	open	G
K15-FJ	T	NAM	K15 [pl]	G
K15-FQ	T	NAM	K15 [pl], L13 [pl]	G
L04-B	U	Total	K06 & L07 [pl], K09c [pl], L04a [pl]	G
L06d-S1	T	ONE	open	G
L07-A	A	Total	K06 & L07 [pl]	G
L07-H	T	Total	K06 & L07 [pl]	G
L07-H South-East	U	Total	K06 & L07 [pl]	G
L07-N	U	Total	K06 & L07 [pl]	G
L09-FC	U	NAM	L09 [pl]	G
L09-FI	T	NAM	L09 [pl]	G
L10-K	A	ENGIE	K06 & L07 [pl], L10 & L11a [pl]	G
L10-S1	A	ENGIE	L10 & L11a [pl]	G
L10-S2	U	ENGIE	L10 & L11a [pl]	G

Accumulation	Status**	Company	Licence name***	Gas/Oil
L10-S3	A	ENGIE	L10 & L11a [pl]	G
L10-S4	U	ENGIE	L10 & L11a [pl]	G
L11a-A	A	ENGIE	L10 & L11a [pl]	G
L11b-A	U	ONE	L11b [pl]	G
L11-Lark	A	ENGIE	L10 & L11a [pl]	G
L13-FB	U	NAM	L13 [pl]	G
L13-FG	T	NAM	L13 [pl]	G
L13-FH	A	NAM	L13 [pl]	G
L14-FA	A	Transcanada Int.	open	G
P02-NE	A	Clyde	open	G
P02-SE	A	Clyde	open	G
P06-South	A	Wintershall	P06 [pl], P09c [pl]	G
P09-B	U	Wintershall	P09c [pl]	G
P12-C	A	Wintershall	P12 [pl]	G

** T = *production halted temporarily,* U= *production halted,* A = *abandoned*

*** *el = exploration licence, pl = production licence, open = open area; sl = storage licence.*

OIL ACCUMULATIONS

I. DEVELOPED ACCUMULATIONS

Accumulation	Company	Licence name***	Gas/Oil
a) Producing			
Oud-Beijerland Noord	NAM	Botlek II [pl]	O&G
Rotterdam	NAM	Rijswijk [pl]	O
F02a Hanze	Dana	F02a [pl]	O
Haven	Petrogas	Q01 [pl]	O
Helder	Petrogas	Q01 [pl]	O
Helm	Petrogas	Q01 [pl]	O
Hoorn	Petrogas	Q01 [pl]	O
Horizon	Petrogas	P09a & P09b [pl], P09c [pl]	O
P11b De Ruyter	Dana	P10a [pl], P11b [pl]	O
P11b Van Ghent	Dana	P11b [pl]	O&G
P15 Rijn	TAQA	P15a & P15b [pl]	O&G
Q13a-Amstel	ENGIE	Q13a [pl]	O

II. UNDEVELOPED ACCUMULATIONS

Accumulation	Company	Licence name***	Gas/Oil
a) Production start expected between 2015 - 2019			
F17-NE (Rembrandt)	Wintershall	F17a-Diep [el], F17a-Ondiep [el], F17c [pl]	O
L05a-E	ENGIE	L02 [pl], L04c [pl], L05a [pl]	O
P08-A Horizon-West	Petrogas	P08a [pl], P09a & P09b [pl]	O
Q01-Northwest	Petrogas	Q01 [pl]	O
b) Production start after 2019			
Alblasserdam	NAM	Rijswijk [pl]	O
Denekamp	NAM	open	O
Gieterveen	NAM	Drenthe IIb [pl], Groningen [pl]	O
Lekkerkerk/blg	NAM	Rijswijk [pl]	O
Noordwijk	NAM	Rijswijk [pl]	O
Ottoland	Vermilion	Andel Va [pl]	O&G
Stadskanaal	NAM	Groningen [pl]	O&G
Wassenaar-Zee	NAM	Q13b [el], Rijswijk [pl]	O
Woubrugge	NAM	Rijswijk [pl]	O
Zweelo	NAM	Drenthe IIb [pl]	O
B18-FA	Centrica	B18a [pl], F03a [pl]	O
F03-FC	Centrica	F03a [pl]	O
F14-FA	-	F14 [el]	O

F17-Brigantijn (F17-FB)	Sterling	F17a-Diep [el], F17a-Ondiep [el]	O
F17-Korvet (F17-FA)	Sterling	F17a-Diep [el], F17a-Ondiep [el]	O
F17-SW Culmination	Wintershall	F17a-Diep [el], F17a-Ondiep [el], F17c [pl], L02 [pl]	O
F18-Fregat (F18-FA)	Sterling	F18-Diep [el], F18-Ondiep [el]	O
K10-B (oil)	Wintershall	open	O
L01-FB	-	open	O
P12-3	Wintershall	P12 [pl]	O
Q13-FB	NAM	Q13b [el], Q16b & Q16c-Diep [pl], Rijswijk [pl]	O

III. PRODUCTION CEASED

Accumulation	Status	Company	Licence name***	Gas/Oil
Barendrecht	T	NAM	Rijswijk [pl]	O&G
Berkel	A	NAM	Rijswijk [pl]	O&G
De Lier	A	NAM	Rijswijk [pl]	O&G
IJsselmonde	A	NAM	Rijswijk [pl]	O&G
Moerkapelle	A	NAM	Rijswijk [pl]	O
Pijnacker	A	NAM	Rijswijk [pl]	O
Rijswijk	A	NAM	Rijswijk [pl]	O&G
Schoonebeek (olie)	T	NAM	Schoonebeek [pl]	O
Wassenaar	A	NAM	Rijswijk [pl]	O
Werkendam	A	NAM	Rijswijk [pl]	O
Zoetermeer	A	NAM	Rijswijk [pl]	O
Kotter	U	Wintershall	K18b [pl]	O
Logger	U	Wintershall	L16a [pl], Q01 [pl]	O

** T = *production halted temporarily,* U= *production halted,* A = *abandoned*

*** *el = exploration licence, pl = production licence, open = open area; sl = storage licence.*

EXPLORATION LICENCES FOR HYDROCARBONS
Netherlands Territory as at 1 January 2016

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette
1	**ENGIE E&P Nederland B.V.**	Schiermonnikoog-Noord	62	05-06-2013	16-07-2017	16 234
2	**Tulip Oil Netherlands B.V.** PA Resources UK Ltd.	Schagen	355	20-6-2009	31-7-2016	118
3	**Tulip Oil Netherlands B.V.**	Terschelling-Noord	23	30-7-2014		22 215
4	**Vermilion Oil & Gas Netherlands B.V.**	Akkrum	210	14-3-2014	24-4-2017	10 461
5	**Vermilion Oil & Gas Netherlands B.V.**	Engelen	97	14-10-2009	23-11-2016	16 878
6	**Vermilion Oil & Gas Netherlands B.V.** Lundin Netherlands B.V.	Follega	3	15-6-2010	25-7-2017	9 426
7	**Vermilion Oil & Gas Netherlands B.V.**	Hemelum	450	17-1-2012	26-2-2017	1 490
8	**Vermilion Oil & Gas Netherlands B.V.**	IJsselmuiden	447	17-1-2015	27-2-2018	1 958
9	**Vermilion Oil & Gas Netherlands B.V.** Lundin Netherlands B.V.	Lemsterland	111	15-6-2010	25-7-2017	9 427
10	**Vermilion Oil & Gas Netherlands B.V.**	Oosterwolde	127	20-4-2007	23-11-2016	83
11	**Vermilion Oil & Gas Netherlands B.V.**	Opmeer	229	19-12-2012	29-1-2017	205
15	**Vermilion Oil & Gas Netherlands B.V.**	Utrecht	1144	26-4-2007	23-11-2016	85
		Total	3259	km^2		

PRODUCTION LICENCES FOR HYDROCARBONS
Netherlands Territory as at 1 January 2016

	Licensee	Licence	km^2	Awarded	Expires	Govern Gazette
1	**Nederlandse Aardolie Maatschappij B.V.**	Beijerland	140	14-2-1997	14-2-2027	243
2	**Nederlandse Aardolie Maatschappij B.V.**	Botlek ii	232	4-3-2015	19-7-2026	7 445
3	**Nederlandse Aardolie Maatschappij B.V.** ExxonMobil Producing Netherlands B.V.	De Marne	7	4-10-1994	4-10-2034	189
4	**Nederlandse Aardolie Maatschappij B.V.**	Drenthe IIb	1881	17-3-2012		6 883
5	**Nederlandse Aardolie Maatschappij B.V.**	Groningen	2970	30-5-1963		126
6	**Nederlandse Aardolie Maatschappij B.V.**	Hardenberg	161	22-10-1990	22-10-2035	149
7	**Nederlandse Aardolie Maatschappij B.V.**	Middelie	946	12-5-1969		94
8	**Nederlandse Aardolie Maatschappij B.V.** ExxonMobil Producing Netherlands B.V.	Noord-Friesland	1593	27-2-1969		47
9	**Nederlandse Aardolie Maatschappij B.V.**	Rijswijk	2090	3-1-1955		21
10	**Nederlandse Aardolie Maatschappij B.V.**	Rossum-de Lutte	46	12-5-1961		116
11	**Nederlandse Aardolie Maatschappij B.V.**	Schoonebeek	930	3-5-1948		110
12	**Nederlandse Aardolie Maatschappij B.V.**	Tietjerksteradeel	411	27-2-1969		47
13	**Nederlandse Aardolie Maatschappij B.V.**	Tubbergen	177	11-3-1953		80
14	**Nederlandse Aardolie Maatschappij B.V.**	Twenthe	276	1-4-1977		26
15	**Oranje-Nassau Energie B.V.** Energy06 Investments B.V. TAQA Offshore B.V.	Botlek-Maas	3	4-3-2015	19-7-2026	7 445
16	**TAQA Onshore B.V.** Dana Petroleum Netherlands B.V. Dyas B.V.	Bergen II	221	23-12-2006		232
17	**TAQA Onshore B.V.**	Bergermeer	19	23-12-2006		232
18	**TAQA Piek Gas B.V.**	Alkmaar	12	23-12-2006		232

	Licensee	Licence	km²	Awarded	Expires	Govern Gazette
	Dana Petroleum Netherlands B.V. Dyas B.V.					
19	**Tulip Oil Netherlands B.V.**	Akkrum 11	6	26-7-2012	4-4-2025	6 909
20	**Tulip Oil Netherlands B.V.**	Donkerbroek	22	4-4-1995	4-4-2025	66
21	**Tulip Oil Netherlands B.V.**	Donkerbroek-West	2	16-3-2011	4-4-2025	4 902
22	**Tulip Oil Netherlands B.V.**	Marknesse	19	26-1-2010	9-3-2030	1 446
23	**Vermilion Oil & Gas Netherlands B.V.** Nederlandse Aardolie Maatschappij B.V. Parkmead (E&P) Ltd.	Andel Va	61	5-8-2015	29-12-2038	
24	**Vermilion Oil & Gas Netherlands B.V.** Nederlandse Aardolie Maatschappij B.V. Parkmead (E&P) Ltd.	Andel Vb	164	5-8-2015	29-12-2038	
25	**Vermilion Oil & Gas Netherlands B.V.**	Drenthe IIa	7	17-3-2012		6 883
26	**Vermilion Oil & Gas Netherlands B.V.**	Drenthe IIIa	1	17-3-2012		6 885
27	**Vermilion Oil & Gas Netherlands B.V.** Parkmead (E&P) Ltd.	Drenthe IV	7	18-7-2007		140
28	**Vermilion Oil & Gas Netherlands B.V.** Parkmead (E&P) Ltd.	Drenthe V	25	20-6-2015		
29	**Vermilion Oil & Gas Netherlands B.V.** Nederlandse Aardolie Maatschappij B.V. Parkmead (E&P) Ltd.	Drenthe VI	363	20-6-2015		
30	**Vermilion Oil & Gas Netherlands B.V.** Lundin Netherlands B.V.	Gorredijk	629	29-7-1989	29-7-2024	145
31	**Vermilion Oil & Gas Netherlands B.V.** Lundin Netherlands B.V.	Leeuwarden	614	27-2-1969		46
32	**Vermilion Oil & Gas Netherlands B.V.** Lundin Netherlands B.V.	Oosterend	92	5-9-1985		84
33	**Vermilion Oil & Gas Netherlands B.V.** Parkmead (E&P) Ltd.	Papekop	63	8-6-2006	19-7-2031	113
34	**Vermilion Oil & Gas Netherlands B.V.**	Slootdorp	162	1-5-1969		94

	Licensee	Licence	km^2	Awarded	Expires	Govern Gazette
	Lundin Netherlands B.V.					
35	**Vermilion Oil & Gas Netherlands B.V.**	Steenwijk	99	16-9-1994	16-9-2029	177
36	**Vermilion Oil & Gas Netherlands B.V.** Gas Storage Ltd. Overseas Gas Storage Ltd.	Waalwijk	186	17-8-1989	17-8-2024	154
37	**Vermilion Oil & Gas Netherlands B.V.** Dana Petroleum Netherlands B.V. Dyas B.V. Total E&P Nederland B.V.	Zuid-Friesland III	105	9-3-2010	19-4-2030	4 016
38	**Vermilion Oil & Gas Netherlands B.V.**	Zuidwal	225	7-11-1984		190
		Total	14967	km^2		

UNDERGROUND STORAGE LICENCES
Netherlands Territory as at 1 January 2016

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette	Substance
1	**Akzo Nobel Salt B.V.**	Twenthe-Rijn de Marssteden	2	02-10-2010	12-11-2040	15 650	Gasolie
2	**Akzo Nobel Salt B.V.**	Winschoten III	28	15-11-2010	13-05-2079	18 321	Stikstof
3	**N.V. Nederlandse Gasunie**	Winschoten II	<1	15-11-2010	13-05-2079	18 321	Stikstof
4	**N.V. Nederlandse Gasunie** Akzo Nobel Salt B.V. Gasunie Zuidwending B.V. Gasunie Underground Storage B.V. Nuon Storage B.V.	Zuidwending	1	11-04-2006	11-04-2036	77	Aardgas
5	**Nederlandse Aardolie Mij. B.V.**	Grijpskerk	27	01-04-2003		67	Aardgas
6	**Nederlandse Aardolie Mij. B.V.**	Norg	81	01-04-2003		68	Aardgas
7	**Oasen N.V.**	Ridderkerk	1	19-12-2012	29-01-2018	7 641	Zout water
8	**TAQA Onshore B.V.**	Bergermeer	19	08-01-2007	30-06-2050	7	Aardgas
9	**TAQA Offshore B.V.**	P18-4	11	01-01-2015	01-01-2023	21 233	Kooldioxide
10	**TAQA Piek Gas B.V.** Dana Petroleum Netherlands B.V. Dyas B.V.	Alkmaar	12	01-04-2003		68	Aardgas
		Total	183	km^2			

EXPLORATION LICENCES FOR ROCK SALT
Netherlands Territory as at 1 January 2016

No ongoing exploration licences at 1 januari 2016

PRODUCTION LICENCES FOR ROCK SALT
Netherlands Territory as at 1 January 2016

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette
1	**Akzo Nobel Salt B.V.**	Adolf van Nassau III	28	16-11-2010		18 324
4	**Akzo Nobel Salt B.V.**	Buurse	30	18-06-1918		Staatsblad 421
5	**Akzo Nobel Salt B.V.**	Isidorushoeve	20	08-06-2012	19-07-2052	14 668
6	**Akzo Nobel Salt B.V.**	Twenthe-Rijn	48	20-10-1933		207
8	**Akzo Nobel Salt B.V.**	Twenthe-Rijn Helmerzijde	1	29-10-2008	09-12-2048	216
9	**Akzo Nobel Salt B.V.**	Twenthe-Rijn Oude Maten	1	01-06-2014	12-07-2053	18 332
2	**Akzo Nobel Salt B.V.** N.V. Nederlandse Gasunie Gasunie Zuidwending B.V. Gasunie Underground Storage B.V.	Uitbreiding Adolf van Nassau II	1	21-12-2009		81
3	**Akzo Nobel Salt B.V.**	Uitbreiding Adolf van Nassau III	77	21-12-2009		81
7	**Akzo Nobel Salt B.V.**	Uitbreiding Twenthe-Rijn	9	01-12-1994		249
10	**Akzo Nobel Salt B.V.**	Weerselo	80	13-03-1967		76
11	**Frisia Zout B.V.**	Barradeel	3	22-08-1998	22-08-2054	157
12	**Frisia Zout B.V.**	Barradeel II	17	12-06-2004	26-04-2062	110
13	**Frisia Zout B.V.**	Havenmond	32	03-01-2012	13-02-2052	405
14	**N.V. Nederlandse Gasunie**	Adolf van Nassau II	<1	16-11-2010		18 324
15	**Nedmag Industries Mining & Manufacturing B.V.**	Veendam	171	010-8-1980		148
		Total	526	Km^2		

EXPLORATION LICENCES FOR GEOTHERMAL ENERGY
Netherlands Territory as at 1 January 2016

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette	NB
1	**A.P.M. Ammerlaan** G.J.M. Kleijweg	Bleiswijk 4	7	23-06-2009	31-12-2016	9 944	
2	**A-ware Production B.V.**	Heerenveen	46	28-10-2015	08-12-2018	31 141	
3	**Ammerlaan Real Estate B.V.**	Pijnacker-Nootdorp 4A	4	28-12-2009		30 241	pla
4	**Bernhard Plantenkwekerij B.V.** ECL Netwerk B.V. Stichting Nieuwland	Luttelgeest	72	08-04-2015	19-05-2018	11 152	
5	**A+G van den Bosch B.V.**	Lansingerland 4	6	27-09-2015	07-11-2018	28 237	
6	**Grondexploitatiemaatschappij Californie B.V.**	Californie VI	63	01-10-2015	30-12-2018	34 771	
7	**Ce-Ren Beheer B.V.**	Heemskerk	2	09-12-2009		19 198	pla
8	**Ce-Ren Beheer B.V.**	Heemskerk 2	<1	27-09-2013		27 660	pla
9	**Duurzaam Voorne Holding B.V.**	Oostvoorne	17	09-03-2010	31-12-2017	4 013	
10	**Gebroeders Duijvestijn Energie B.V.**	Pijnacker-Nootdorp 5A	4	26-08-2015		30 241	pla
11	**E.ON Benelux N.V.**	Rotterdam 4	20	18-12-2012	28-01-2017	208	
12	**E.ON Benelux N.V.**	Rotterdam 5	39	18-12-2012	28-01-2017	733	
13	**ECW Geoholding B.V.**	Middenmeer 2	15	13-10-2009	23-11-2015	15 999	
14	**ECW Geoholding B.V.**	Middenmeer	24	16-07-2009	31-05-2016	11 070	pla
15	**Eneco Solar, Bio & Hydro B.V.**	Den Haag 2	62	06-03-2012	16-04-2016	5 165	
16	**Eneco Solar, Bio & Hydro B.V.**	Rotterdam 2	26	18-12-2012	28-01-2017	206	

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette	NB
17	**Eneco Solar, Bio & Hydro B.V.**	Rotterdam 3	2	18-12-2012	28-01-2017	203	
18	**Eneco Solar, Bio & Hydro B.V.**	Rotterdam 6-Trias	13	04-07-2012	14-08-2016	18 357	
19	**DDH Energy B.V.**	Leeuwarden 2	14	01-04-2015	12-05-2019	10 222	
20	**Coöperatieve Bloemenveiling FloraHolland U.A.**	Naaldwijk 2II	4	01-05-2015	30-06-2016	13 276	
21	**Gedeputeerde Staten van Overijssel**	Koekoekspolder IIa	28	21-03-2015	30-12-2016	9 051	
22	**Gemeente Den Haag**	Den Haag	10	03-04-2009		69	pla
23	**Gemeente Groningen**	Groningen 2	18	16-04-2011	31-10-2017	7 134	
24	**Geothermie De Kievit B.V**.	Peel En Maas	48	19-12-2014	29-01-2019	243	
25	**GeoWeb B.V.**	Egchel	62	26-11-2014	06-01-2018	34 027	
26	ECW Geoholding B.V.	Andijk	12	05-03-2010	15-04-2016	3 831	
27	**AC Hartman Beheer B.V.** Gemeente Franekeradeel	Sexbierum	11	17-07-2009	31-05-2015	11 805	
28	**Hollandplant Vastgoed B.V.**	Lansingerland	7	04-12-2008	31-05-2016	240	
29	**Hydreco GeoMEC B.V.** GeoMEC-4P Realisatie & Exploitatie B.V.	Brielle 2	29	13-10-2009	30-01-2015	15 990	
30	**Hydreco GeoMEC B.V.**	Helmond 2	71	26-08-2015	06-10-2019	30 252	
31	**Hydreco GeoMEC B.V.**	Pijnacker-Nootdorp 6A	9	26-08-2015	30-06-2015	30 241	
32	**Hydreco GeoMEC B.V.**	Rozenburg	45	26-06-2012	06-08-2016	18 216	
33	**Hydreco GeoMEC B.V.**	Tilbiurg -Geertruidenberg	325	10-07-2015	20-08-2016	21 858	

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette	NB
34	**Hydreco GeoMEC B.V.** GeoMEC-4P Realisatie & Exploitatie B.V.	Vierpolders	7	10-02-2010	30-01-2015	2 211	
35	**SC Johnson Europlant B.V.**	Mijdrecht	41	01-02-2012	13-03-2016	2 556	
36	**Geothermie De Lier B.V.** De Bruijn Geothermie B.V.	De Lier III	20	01-07-2010	19-01-2017	21 833	
37	**Geothermie De Lier B.V.** De Bruijn Geothermie B.V.	De Lier 3	11	01-05-2015	19-01-2017	13 276	
38	**Californië Lipzig Gielen Geothermie B.V.**	Californie V	5	01-10-2015	30-12-2017	34 771	
39	**Dick Oosthoek** Kees Ammerlaan	Oostland	18	31-01-2015	13-03-2019	4 370	
40	**Vereniging van Eigenaren Oude Campspolder**	Maasland 2	5	15-10-2010	31-12-2015	16 611	
41	**Provincie Drenthe** Gemeente Emmen	Erica	72	27-10-2010	06-12-2016	17 250	
42	**Provincie Drenthe** Gemeente Emmen	Klazienaveen	61	27-10-2010	30-11-2016	17 245	
43	**J.W.M. Scheffers** G. Verkade B.V.	Honselersdijk	5	20-06-2009		118	pla
44	**W.G.M. Tas** J.C.M. Tas-van Klink	Zevenhuizen	9	05-03-2010	15-04-2016	3 774	
45	**TomSelect B.V.**	Kwintsheul II	7	01-05-2015	30-06-2016	13 276	
46	**Transmark Renewable Products B.V.**	Friesland-Noord	326	19-11-2015	21-10-2018	34 411	
47	**Transmark Renewable Products B.V.**	Friesland-Zuid	456	19-11-2015	21-10-2018	34 411	
48	**Transmark Renewable Products B.V.**	Utrecht - Noord-Brabant	757	110-9-2014	22-10-2018	26 009	
49	**Trias Westland B.V.**	De Lier IV	2	01-07-2015	19-01-2017	21 833	

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette	NB
50	**Visser en Smit Hanab B.V.**	Zevenbergen	43	19-09-2015	30-10-2019	32 288	
51	**Vopak Terminal Vlaardingen B.V.**	Rotterdam-Vlaardingen	13	22-11-2014	02-01-2018	33 332	
52	**Wayland Developments B.V.**	Waddinxveen 2	7	05-03-2010	31-12-2016	3 829	
53	**Kwekerij de Westhoek B.V.** Van Geest Groep B.V.	Maasland	9	18-12-2009	31-12-2015	79	
54	**Californië Wijnen Geothermie B.V.**	Californie Iv	10	01-10-2015	30-12-2016	34 771	
55	**Van Wijnen Gorredijk B.V.**	Leeuwarden	30	28-10-2015	08-12-2018	31 137	
56	**A.P.M. Zuidgeest** L.M.M. Zuidgeest-Vijverberg M.T.M. Zuidgeest P.E.M. Zuidgeest-van den Berg W.M.J. Zuidgeest Y.C.M. Zuidgeest-van Kester	Honselersdijk 2	4	14-10-2009	31- 05-2015	15 957	
57	**Zuidgeest Growers B.V.**	Honselersdijk 4	4	03-10-2015	31-05-2017	28 896	
58	**A.P.M. Zuidgeest** L.M.M. Zuidgeest-Vijverberg M.T.M. Zuidgeest P.E.M. Zuidgeest-van den Berg W.M.J. Zuidgeest Y.C.M. Zuidgeest-van Kester	Maasdijk	6	21-10-2009	31-05-2016	16 041	
		Total	3044	km^2			

PRODUCTION LICENCES FOR GEOTHERMAL ENERGY
Netherlands Territory as at 1 January 2016

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette
1	**A+G van den Bosch B.V.**	Bleiswijk	4	28-11-2008	08-01-2039	237
2	**A+G van den Bosch B.V.**	Bleiswijk 1B	2	20-03-2015	30-04-2032	8 784
3	**Gemeente Heerlen**	Heerlen	41	13-10-2009	23-11-2044	15 963
4	**Aardwarmtecluster I KKP B.V.**	Kampen	5	27-09-2014	07-11-2044	28 239
		Total	52	km^2		

EXPLORATION LICENCES FOR HYDROCARBONS
Netherlands continental shelf as at 1 January 2016

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette	NB
1	**Dana Petroleum Netherlands B.V.** Dyas B.V. Tulip Oil Netherlands B.V.	F06b	390	07-04-2009	19-05-2015	70	
2	**ENGIE E&P Nederland B.V.**	D09&E07	548	04-09-2015	16-10-2019	27 592	
3	**ENGIE E&P Nederland B.V.** Tullow E&P Nederland B.V.	E10	401	16-01-2008	31-12-2017	13	
4	**ENGIE E&P Nederland B.V.** Tullow E&P Nederland B.V.	E11	401	22-04-2009	31-12-2017	84	
5	**ENGIE E&P Nederland B.V.** Tullow E&P Nederland B.V.	E14	403	15-01-2008	31-12-2017	12	
6	**ENGIE E&P Nederland B.V.** Gas Plus Netherlands B.V. Tullow E&P Nederland B.V.	E15c	343	22-04-2008	31-12-2017	78	
7	**ENGIE E&P Nederland B.V.** Tullow E&P Nederland B.V.	E18b	192	11-01-2008	31-12-2017	10	
8	**ENGIE E&P Nederland B.V.** Total E&P Nederland B.V.	K01c	274	22-11-2011	03-01-2017	21 372	
9	**ENGIE E&P Nederland B.V.**	Q13b	369	01-05-2015	08-05-2019	13 281	
10	**Hansa Hydrocarbons Limited** ENGIE E&P Nederland B.V.	G18	405	18-09-2012	29-10-2018	23 464	
11	**Hansa Hydrocarbons Limited** ENGIE E&P Nederland B.V.	H16	73	18-09-2012	29-10-2018	23 463	
12	**Hansa Hydrocarbons Limited** ENGIE E&P Nederland B.V.	M03	406	18-09-2012	29-10-2018	23 462	
13	**Hansa Hydrocarbons Limited** ENGIE E&P Nederland B.V.	N01	217	18-09-2012	29-10-2018	23 460	
14	**Hansa Hydrocarbons Limited**	N04	361	14-03-2015	17-04-2020	6 003	
15	**Hansa Hydrocarbons Limited**	N05	14	14-03-2015	17-04-2020	6 003	

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette	NB
16	**Hansa Hydrocarbons Limited**	N08	34	14-03-2015	17-04-2020	6 003	
17	**Nederlandse Aardolie Maatschappij B.V.** Oranje-Nassau Energie B.V. Tullow Exploration & Production Netherlands B.V. Wintershall Noordzee B.V.	J09	18	11-04-2014	27- 5-2016	10 508	
18	**Oranje-Nassau Energie B.V.**	F09a	86	22-11-2011	02-01-2017	784	
19	**Oranje-Nassau Energie B.V.** ENGIE E&P Nederland B.V.	L11c	179	23-11-2010		18 884	**pla**
20	**Oranje-Nassau Energie B.V.**	M02a	134	22-11-2011	02-01-2017	1 486	
21	**Oranje-Nassau Energie B.V.**	M04a	209	21-9-2010	02-01-2017	14 900	
22	**Petrogas E&P Netherlands B.V.** Dyas B.V. TAQA Offshore B.V.	A12b & B10a	79	16- 4-2005		77	**pla**
23	**Petrogas E&P Netherlands B.V.** Dyas B.V. TAQA Offshore B.V.	B16a	67	11-05-1987		70	**pla**
24	**Petrogas E&P Netherlands B.V.** Dana Petroleum Netherlands B.V. TAQA Offshore B.V.	B17a	80	02-06-1987		70	**pla**
25	**Sterling Resources Netherlands B.V.** Petro Ventures Netherlands B.V.	F17a-ondiep	386	30-12-2009	31-12-2016	154	
26	**Sterling Resources Netherlands B.V.** Petro Ventures Netherlands B.V	F18-ondiep	404	30-12-2009	31-12-2016	152	
27	**TAQA Offshore B.V**. Oranje-Nassau Energie B.V.	P18b	311	24-03-2012	01-01-2017	6 865	
28	**Tulip Oil Netherlands B.V.**	M10a & M11	110	28-07-2007	30- 6-2017	152	
29	**Tulip Oil Netherlands B.V.**	Q07	419	16-01-2008	26-02-2017	13	
30	**Tulip Oil Netherlands B.V.**	Q10a	53	06-08-2008	26-02-2017	155	

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette	NB
31	**Wintershall Noordzee B.V.** GAZPROM International UK Ltd. ENGIE E&P Nederland B.V. Oranje-Nassau Energie B.V.	D12b	41	25-02-2011	07-04-2016	5 287	
32	**Wintershall Noordzee B.V.** ENGIE E&P Nederland B.V. Rosewood Exploration Ltd. TAQA Offshore B.V.	F10	401	17-12-2014	30-01-2019	36 868	
33	**Wintershall Noordzee B.V.** ENGIE E&P Nederland B.V. Rosewood Exploration Ltd. TAQA Offshore B.V.	F11	401	19-12-2014	30-01-2019	36 868	
34	**Wintershall Noordzee B.V.** ENGIE E&P Nederland B.V. Rosewood Exploration Ltd. TAQA Offshore B.V.	F14	403	10-04-2015	20-11-2018	11 794	
35	**Wintershall Noordzee B.V.** ENGIE E&P Nederland B.V. Rosewood Exploration Ltd. TAQA Offshore B.V.	F17a-dieo	386	30-12-2009		154	**pla**
36	**Wintershall Noordzee B.V.** ENGIE E&P Nederland B.V. Rosewood Exploration Ltd.	F18-diep	404	30-12-2009	20-11-2016	152	
		Total	9422	km²			

*pla: Licensee has applied for a production licence

PRODUCTION LICENCES FOR HYDROCARBONS
Netherlands continental shelf as at 1 January 2016

	Licensee	Licence	km^2	Effective from	Expires	Govern. Gazette
1	**Centrica Production Nederland B.V.**	B18a	40	10-10-1985	10-10-2025	182
2	**Centrica Production Nederland B.V.**	F03a	62	13-12-2007	09-09-2022	245
3	**Centrica Production Nederland B.V.** Dyas B.V. Total E&P Nederland B.V.	J03b & J06	126	06-11-1992	06-11-2032	219
4	**Dana Petroleum Netherlands B.V.** Dyas B.V. Oranje-Nassau Energie B.V. TAQA Offshore B.V.	F02a	307	24-08-1982	24-08-2022	139
5	**Dana Petroleum Netherlands B.V.**	P10a	5	31-05-2005	11-07-2020	102
6	**Dana Petroleum Netherlands B.V.**	P10b	100	07-04-2009	19-05-2019	70
7	**Dana Petroleum Netherlands B.V.**	P11b	210	03-04-2004	14-05-2019	67
8	**Dana Petroleum Netherlands B.V.** Tulip Oil Netherlands B.V.	P14a	50	23-06-1992	23-06-2032	99
9	**Dutch Gas Development**	L12c	30	06-08-2008	23-06-2030	155
10	**Dutch Gas Development**	L12d	225	25-09-2008	14-03-2030	169
11	**Dutch Gas Development**	L15d	62	06-08-2008	12-03-20230	138
12	**ENGIE E&P Nederland B.V.** Faroe Petroleum (UK) Ltd. Wintershall Noordzee B.V.	D15	247	06-09-1996	06-09-2021	138
13	**ENGIE E&P Nederland B.V.** Faroe Petroleum (UK) Ltd. Wintershall Noordzee B.V.	D18a	58	29-08-2012	09-10-2032	19 757
14	**ENGIE E&P Nederland B.V.** Lundin Netherlands B.V. Total E&P Nederland B.V.	E16a	29	29-06-2007	09-08-2021	128

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette
15	**ENGIE E&P Nederland B.V.** Lundin Netherlands B.V. Total E&P Nederland B.V.	E17a & E17b	114	28-06-2007	08-08-2021	128
16	**ENGIE E&P Nederland B.V.** TAQA Offshore B.V.	F03b	335	13-12-2007	09-09-2022	245
17	**ENGIE E&P Nederland B.V.** Nederlandse Aardolie Maatschappij B.V. TAQA Offshore B.V.	G14 & G17b	441	15-12-2006	14-12-2019	248
18	**ENGIE E&P Nederland B.V.**	G16a	224	06-01-1992	06-01-2032	245
19	**ENGIE E&P Nederland B.V.**	G16b	5	11-10-2003	06-01-2032	198
20	**ENGIE E&P Nederland B.V.**	G17a	237	19-07-2006	14-12-2019	143
21	**ENGIE E&P Nederland B.V.** Wintershall Noordzee B.V.	G17c & G17d	130	10-11-2000	10-11-2025	188
22	**ENGIE E&P Nederland B.V.**	K02b	110	20-01-2004	24-08-2023	16
23	**ENGIE E&P Nederland B.V.**	K03a	83	24-08-1998	24-08-2023	122
24	**ENGIE E&P Nederland B.V.**	K03c	32	26-11-2005	06-01-2021	233
25	**ENGIE E&P Nederland B.V.** Oranje-Nassau Energie B.V. Rosewood Exploration Ltd. XTO Netherlands Ltd.	K09a & K09b	211	11-08-1986	11-08-2026	129
26	**ENGIE E&P Nederland B.V.** Oranje-Nassau Energie B.V. Rosewood Exploration Ltd. XTO Netherlands Ltd.	K09c	199	18-12-1987	18-12-2027	229
27	**ENGIE E&P Nederland B.V.** Oranje-Nassau Energie B.V. Production North Sea Netherlands Ltd. Rosewood Exploration Ltd. XTO Netherlands Ltd.	K12	411	18-02-1983	18-2-2023	11
28	**ENGIE E&P Nederland B.V.**	L04c	12	07-01-1994	07-01-2034	2
29	**ENGIE E&P Nederland B.V.**	L05a	163	15-03-1991	15-03-2031	55

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette
30	**ENGIE E&P Nederland B.V.** ENGIE E&P Participation Ned. B.V. Oranje-Nassau Energie B.V. Rosewood Exploration Ltd. XTO Netherlands Ltd.	L10 & L11a	596	13-01-1971	01-01-2025	4
31	**ENGIE E&P Nederland B.V.** Delta Hydrocarbons B.V. Oranje-Nassau Energie B.V. Wintershall Noordzee B.V.	L12a	119	25-09-2008	14-03-2030	189
32	**ENGIE E&P Nederland B.V.** Dutch Gas Development B.V. Wintershall Noordzee B.V.	L12b & L15b	92	06-08-2008	12-03-2030	155
33	**ENGIE E&P Nederland B.V.**	L15c	4	07-09-1990	07-09-2030	172
34	**ENGIE E&P Nederland B.V.** Rosewood Exploration Ltd. XTO Netherlands Ltd.	N07b	174	23-12-2003	10-03-2034	252
35	**ENGIE E&P Nederland B.V.** Aceiro Energy B.V. TAQA Offshore B.V.	Q13a	30	28-11-2006	28-12-2021	231
36	**Hansa Hydrocarbons Limited**	N07c	67	14/02/2015	09/03/2034	5 845
37	**Nederlandse Aardolie Maatschappij B.V.**	F17c	18	04-12-1996	04-12-2024	207
38	**Nederlandse Aardolie Maatschappij B.V.**	K07	408	08-07-1981	08-07-2021	120
39	**Nederlandse Aardolie Maatschappij B.V.** Oranje-Nassau Energie B.V. Tullow Exploration & Production Netherlands B.V. Wintershall Noordzee B.V.	K08 & K11	820	26-10-1977	26-10-2017	197
40	**Nederlandse Aardolie Maatschappij B.V.**	K14a	237	16-01-1975	31-12-2030	6
41	**Nederlandse Aardolie Maatschappij B.V.**	K15	412	14-10-1977	14-10-2017	197
42	**Nederlandse Aardolie Maatschappij B.V.**	K17	414	19-01-1989	19-01-2029	12
43	**Nederlandse Aardolie Maatschappij B.V.** Wintershall Noordzee B.V.	K18a	36	15-03-2007	09-05-2023	57

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette
44	**Nederlandse Aardolie Maatschappij B.V.**	L02	406	15-03-1991	15-03-2031	55
45	**Nederlandse Aardolie Maatschappij B.V.**	L09	409	18-09-2010	09-05-2035	14 911
46	**Nederlandse Aardolie Maatschappij B.V.** Oranje-Nassau Energie B.V. Tullow Exploration & Production Netherlands B.V. Wintershall Noordzee B.V.	L13	413	26-10-1977	26-10-2017	197
47	**Nederlandse Aardolie Maatschappij B.V.** ExxonMobil Producing Netherlands B.V.	M09a	213	10-04-1990	10-04-2030	56
48	**Nederlandse Aardolie Maatschappij B.V.**	N07a	141	23-12-2003	10-03-2034	252
49	**Oranje-Nassau Energie B.V.** Energy06 Investments B.V. TAQA Offshore B.V.	L11b	47	15-06-1984	15-06-2024	110
50	**Oranje-Nassau Energie B.V.** Energy06 Investments B.V.	M01a	213	28-06-2007	08-08-2022	128
51	**Oranje-Nassau Energie B.V.** Energy06 Investments B.V. TAQA Offshore B.V.	M07	409	22-03-2001	22-03-2021	19
52	**Oranje-Nassau Energie B.V.** TAQA Offshore B.V.	P11a	210	23-09-2015	03-11-2025	45 676
53	**Oranje-Nassau Energie B.V.** Energy06 Investments B.V. TAQA Offshore B.V.	P18d	2	20-09-2012	31-10-2027	23 457
54	**Oranje-Nassau Energie B.V.** Lundin Netherlands B.V. Total E&P Nederland B.V.	Q16a	85	29-12-1992	29-12-2032	227
55	**Oranje-Nassau Energie B.V.** Energy 06 Investments B.V. TAQA Offshore B.V.	Q16b & Q16c-diep	80	20-09-2012	31-10-2027	23 465
56	**Oranje-Nassau Energie B.V.** Energy06 Investments B.V. TAQA Offshore B.V.	S03a	2	20-09-2012	31-10-2027	23 466
57	**Oranje-Nassau Energie B.V.** Energy06 Investments B.V.	T01	1	20-09-2012	31-10-2027	23 467

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette
58	TAQA Offshore B.V. **Petrogas E&P Netherlands B.V.** Dyas B.V. TAQA Offshore B.V.	A12a	195	01-07-2005	11-08-2025	129
59	**Petrogas E&P Netherlands B.V.** Dyas B.V. TAQA Offshore B.V	A12d	33	01-07-2005	11-08-2025	129
60	**Petrogas E&P Netherlands B.V.** Dana Petroleum Netherlands B.V. Oranje-Nassau Energie B.V.	A15a	67	27-12-2011	03-02-2027	746
61	**Petrogas E&P Netherlands B.V.** Dyas B.V. TAQA Offshore B.V.	A18a	229	01-07-2005	11-08-2025	129
62	**Petrogas E&P Netherlands B.V.** Dyas B.V.	A18c	47	01-07-2005	11-08-2025	125
63	**Petrogas E&P Netherlands B.V.** Dyas B.V. TAQA Offshore B.V.	B10c & B13a	252	01-07-2005	11-08-2025	129
64	**Petrogas E&P Netherlands B.V.** Van Dyke Energy Company	P08a	26	21-10-2006	01-12-2021	214
65	**Petrogas E&P Netherlands B.V.** Aceiro Energy B.V. Dyas B.V. TAQA Offshore B.V. Wintershall Noordzee B.V.	P09a & P09b	126	16-08-1993	16-08-2033	127
66	**Petrogas E&P Netherlands B.V.** Dyas B.V. TAQA Offshore B.V. Wintershall Noordzee B.V.	P09c	267	16-08-1993	16-08-2033	126
67	**Petrogas E&P Netherlands B.V.** TAQA Offshore B.V. Wintershall Noordzee B.V.	Q01	416	11-07-1980	11-07-2020	110
68	**Petrogas E&P Netherlands B.V.** Dyas B.V. TAQA Offshore B.V.	Q02c	32	14-07-1994	14-07-2034	18

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette
69	**TAQA Offshore B.V.** Dana Petroleum Netherlands B.V. Dyas B.V. Oranje-Nassau Energie B.V. Van Dyke Netherlands Inc. Wintershall Noordzee B.V.	P15a & P15b	220	12-07-1984	12-07-2024	110
70	**TAQA Offshore B.V.** Dana Petroleum Netherlands B.V. Dyas B.V. Oranje-Nassau Energie B.V. Wintershall Noordzee B.V.	P15c	203	07-05-1992	07-05-2032	114
71	**TAQA Offshore B.V.**	P18a	105	30-04-1992	30-04-2032	99
72	**TAQA Offshore B.V.** Dana Petroleum Netherlands B.V. Dyas B.V.	P18c	6	02-06-1992	02-06-2032	99
73	**Total E&P Nederland B.V.** Lundin Netherlands B.V. TAQA Offshore B.V.	F06a	8	09-09-1982	09-09-2022	139
74	**Total E&P Nederland B.V.** Dyas B.V. First Oil Expro Ltd. Lundin Netherlands B.V.	F15a	233	06-05-1991	06-05-2031	52
75	**Total E&P Nederland B.V.** Dyas B.V. First Oil Expro Ltd. Lundin Netherlands B.V.	F15d	4	15-06-1992	15-06-2032	97
76	**Total E&P Nederland B.V.** Nederlandse Aardolie Maatschappij B.V.	J03a	72	12-01-1996	12-01-2036	22
77	**Total E&P Nederland B.V.** Nederlandse Aardolie Maatschappij B.V.	K01a	83	10-02-1997	10-02-2022	46
78	**Total E&P Nederland B.V.**	K01b & K02a	75	20-06-2009	31-07-2022	11 801
79	**Total E&P Nederland B.V.**	K02c	46	21-01-2004	07-11-2021	16
80	**Total E&P Nederland B.V.** Lundin Netherlands B.V.	K03b	7	30-01-2001	30-01-2021	19

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette
81	**Total E&P Nederland B.V.** Lundin Netherlands B.V.	K03d	26	01-04-1999	01-04-2024	58
82	**Total E&P Nederland B.V.**	K04a	307	29-12-1993	29-12-2033	220
83	**Total E&P Nederland B.V.** Dyas B.V. Lundin Netherlands B.V.	K04b & K05a	305	01-06-1993	01-06-2033	87
84	**Total E&P Nederland B.V.**	K05b	204	07-11-1996	07-11-2021	207
85	**Total E&P Nederland B.V.** Lundin Netherlands B.V.	K06 & L07	817	20-06-1975	20-06-2015	112
86	**Total E&P Nederland B.V.** Van Dyke Netherlands Inc.	L01a	31	12-09-1996	12-09-2016	135
87	**Total E&P Nederland B.V.**	L01d	7	13-11-1996	13-11-2016	207
88	**Total E&P Nederland B.V.** Lundin Netherlands B.V.	L01e	12	13-11-1996	13-11-2018	207
89	**Total E&P Nederland B.V.** Lundin Netherlands B.V.	L01f	17	14-01-2003	14-01-2033	235
90	**Total E&P Nederland B.V.** Lundin Netherlands B.V.	L04a	313	30-12-1981	30-12-2021	230
91	**Wintershall Noordzee B.V.** ENGIE E&P Participation Ned. B.V.	D12a	214	06-09-1996	06-09-2021	138
92	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V. ENGIE E&P Nederland B.V. Tullow Exploration & Production Netherlands B.V.	E15a	39	04-10-2002	21-10-2032	175
93	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V. Tullow Exploration & Production Netherlands B.V.	E15b	21	20-02-2008	01-04-2033	38

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette
94	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V. ENGIE E&P Nederland B.V. Tullow Exploration & Production Netherlands B.V.	E18a	212	04-10-2002	21-10-2032	175
95	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V. ENGIE E&P Nederland B.V. Tullow Exploration & Production Netherlands B.V.	F13a	4	04-10-2002	21-10-2032	175
96	**Wintershall Noordzee B.V.** ENGIE E&P Nederland B.V.	F16	404	04-10-2002	21-10-2032	175
97	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V. Dyas B.V. Nederlandse Aardolie Maatschappij B.V.	K18b	155	15-03-2007	09-05-2023	57
98	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V.	L05b	237	28-06-2003	09-08-2038	134
99	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V.	L05c	8	03-12-1996	03-12-2016	209
100	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V.	L06a	332	24-11-2010	04-01-2031	18 910
101	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V.	L06b	60	01-07-2003	11-08-2038	134
102	**Wintershall Noordzee B.V.** Oranje-Nassau Energie B.V. TAQA Offshore B.V.	L08a	213	18-08-1988	18-08-2028	146
103	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V. Oranje-Nassau Energie B.V.	L08b	181	17-05-1993	17-05-2033	78
104	**Wintershall Noordzee B.V.** Dana Petroleum Netherlands B.V. Dyas B.V. Nederlandse Aardolie Maatschappij B.V.	L16a	238	12-06-1984	12-06-2024	84

	Licensee	Licence	km²	Effective from	Expires	Govern. Gazette
105	**Wintershall Noordzee B.V.** Dyas B.V. Gas-Union GmbH	P06	417	14-04-1982	14-04-2022	54
106	**Wintershall Noordzee B.V.** Dyas B.V. Vermilion Oil & Gas Netherlands B.V.	P12	421	08-03-1990	08-03-2030	27
107	**Wintershall Noordzee B.V.** Dyas B.V. Tullow Exploration & Production Netherlands B.V.	Q04	417	02-12-1999	02-12-2019	228
108	**Wintershall Noordzee B.V.** Dyas B.V. Tullow Exploration & Production Netherlands B.V.	Q05d	20	15-02-2001	15-02-2021	19
		Total	18632	km²		

BLOCKS AND OPERATORS
Netherlands continental shelf as at 1 January 2016

Block (part of)	Open area (km^2)	Operator	Licence (km^2)	
			Exploration	Production
A04	0			
A05	91			
A07	47			
A08	382			
A09	141			
A10	129			
A11	392			
A12a		Petrogas		195
A12b		Petrogas	31	
A12c	130			
A12d		Petrogas		33
A13	211			
A14	393			
A15a		Petrogas		67
A15b	326			
A16	293			
A17	395			
A18a		Petrogas		229
A18b	119			
A18c		Petrogas		47
B10a		Petrogas	48	
B10b	85			
B10c		Petrogas		46
B13a		Petrogas		206
B13b	187			
B14	198			
B16a		Petrogas	67	
B16b	327			
B17a		Petrogas	80	
B17b	315			
B18a		Centrica		40
B18b	160			
D03	2			
D06	60			
D09		ENGIE	149	
D12a		Wintershall		214
D12b		Wintershall	41	
D15		ENGIE		247
D18a		ENGIE		58
D18b	139			

Block (part of)	Open area (km^2)	Operator	Licence (km^2)	
			Exploration	Production
E01	374			
E02	396			
E03	396			
E04	398			
E05	398			
E06	398			
E07		ENGIE	400	
E08	400			
E09	400			
E10		Tullow	401	
E11		Tullow	401	
E12	401			
E13	403			
E14		ENGIE	403	
E15a		Wintershall		39
E15b		Wintershall		21
E15c		ENGIE	343	
E16a		ENGIE		29
E16b	375			
E17a		ENGIE		87
E17b		ENGIE		27
E17c	290			
E17d	119			
E18a		Wintershall		212
E18b		ENGIE	192	
F01	396			
F02a		Dana		307
F02b	89			
F03a		Centrica		62
F03b		ENGIE		335
F04	398			
F05	398			
F06a		Total		8
F06b		Dana	390	
F07	400			
F08	400			
F09a		Oranje-Nassau	400	
F09b	314			
F10		Wintershall		
F11		Wintershall	401	
F12	402			
F13a		Wintershall		4
F13b	399			
F14		Wintershall	403	

Block (part of)	Open area (km^2)	Operator	Licence (km^2)	
			Exploration	Production
F15a		Total		233
F15b	73			
F15c	93			
F15d		Total		4
F16		Wintershall		404
F17a		Sterling / Wintershall	386	
F17c		NAM		18
F18		Sterling / Wintershall	404	
G07	122			
G10	397			
G11	169			
G13	403			
G14		ENGIE		403
G15	226			
G16a		ENGIE		224
G16b		ENGIE		5
G16c	176			
G17a		ENGIE		237
G17b		ENGIE		38
G17c		ENGIE		34
G17d		ENGIE		96
G18		Hansa	405	
H13	1			
H16		Hansa	73	
J03a		Total		72
J03b		Centrica		42
J03c	30			
J06		Centrica		83
J09		NAM	18	
K01a		Total		83
K01b		Total		50
K01c		ENGIE	274	
K02a		Total		25
K02b		ENGIE		110
K02c		Total		46
K02d	225			
K03a		ENGIE		83
K03b		Total		7
K03c		ENGIE		32
K03d		Total		26
K03e	258			
K04a		Total		307

Block (part of)	Open area (km^2)	Operator	Licence (km^2)	
			Exploration	Production
K04b		Total		101
K05a		Total		204
K05b		Total		204
K06		Total		408
K07		NAM		408
K08		NAM		409
K09a		ENGIE		150
K09b		ENGIE		61
K09c		ENGIE		199
K10	374			
K11		NAM		411
K12		ENGIE		411
K13	324			
K14a		NAM		237
K14b	175			
K15		NAM		412
K16	267			
K17		NAM		414
K18a		NAM		36
K18b		Wintershall		155
K18c	223			
L01a		Total		31
L01b	339			
L01d		Total		7
L01e		Total		12
L01f		Total		17
L02		NAM		406
L03	406			
L04a		Total		313
L04b	82			
L04c		ENGIE		12
L05a		ENGIE		163
L05b		Wintershall		237
L05c		Wintershall		8
L06a		Wintershall		332
L06b		Wintershall		60
L06d	16			
L07		Total		409
L08a		Wintershall		213
L08b		Wintershall		181
L08c	16			
L09		NAM		409
L10		ENGIE		411
L11a		ENGIE		185
L11b		Oranje-Nassau		47

Block (part of)	Open area (km^2)	Operator	Licence (km^2)	
			Exploration	Production
L11c		Oranje-Nassau	179	
L12a		ENGIE		119
L12b		ENGIE		37
L12c		Dutch Gas		30
L12d		Dutch Gas		225
L13		NAM		413
L14	413			
L15a	81			
L15b		ENGIE		55
L15c		ENGIE		4
L15d		Dutch Gas		62
L16a		Wintershall		238
L16b	176			
L17	394			
L18	14			
M01a		Oranje-Nassau		213
M01b	193			
M02a		Oranje-Nassau	134	
M02b	273			
M03		Hansa	406	
M04a		Oranje-Nassau	209	
M04b	199			
M05	408			
M06	408			
M07		Oranje-Nassau		409
M08	406			
M09a		NAM		213
M09b	158			
M10a		Tulip	82	
M10b	140			
M11		Tulip	28	
N01		Hansa	217	
N04		Hansa	381	
N05		Hansa	14	
N07a		NAM		141
N07b		ENGIE		87
N07c		Hansa		87
N08		Hansa	34	
O12	2			
O15	142			
O17	3			
O18	367			

Block (part of)	Open area (km^2)	Operator	Licence (km^2)	
			Exploration	Production
P01	209			
P02	416			
P03	416			
P04	170			
P05	417			
P06		Wintershall		417
P07	222			
P08a		Petrogas		26
P08b	393			
P09a		Petrogas		59
P09b		Petrogas		67
P09c		Petrogas		267
P09d	26			
P10a		Dana		5
P10b		Dana		100
P10c	249			
P11a		Oranje-Nassau		210
P11b		Dana		210
P12		Wintershall		421
P13	422			
P14a		Dana		50
P14b	372			
P15a		TAQA		203
P15b		TAQA		17
P15c		TAQA		203
P16	423			
P17	424			
P18a		TAQA		105
P18b		Oranje-Nassau	311	
P18c		TAQA		6
P18d		Oranje-Nassau		2
Q01		Petrogas		416
Q02a	333			
Q02c		Petrogas		32
Q04		Wintershall		417
Q05a	0			
Q05b	277			
Q05d		Wintershall		20
Q07		Tulip	419	
Q08	247			
Q10a		Tulip	53	
Q10b	367			
Q11	162			
Q13a		ENGIE		30
Q13b		ENGIE	369	

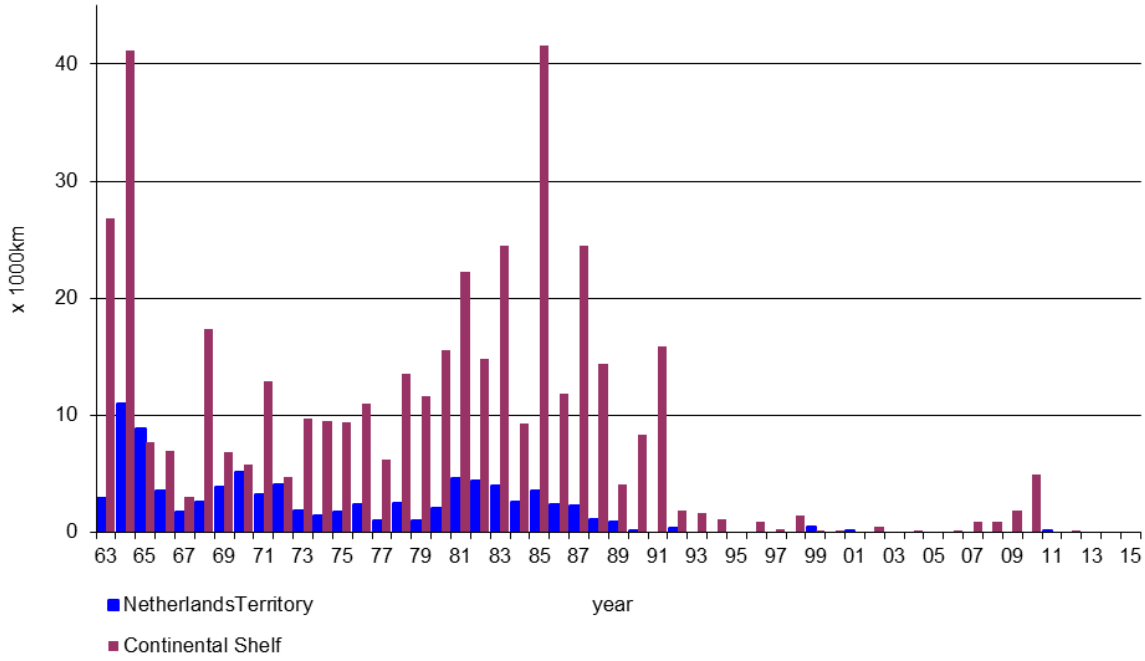
Block (part of)	Open area (km^2)	Operator	Licence (km^2)	
			Exploration	Production
Q14	25			
Q16a		Oranje-Nassau		85
Q16b		Oranje-Nassau		59
Q16c		Oranje-Nassau		21
R02	103			
R03	425			
R05	7			
R06	311			
R09	28			
S01	425			
S02	425			
S03a		Oranje-Nassau		2
S03b	338			
S04	427			
S05	378			
S06	45			
S07	360			
S08	129			
S10	36			
S11	0			
T01		Oranje-Nassau		1
Total	29334		8826	18632

SEISMIC SURVEYS

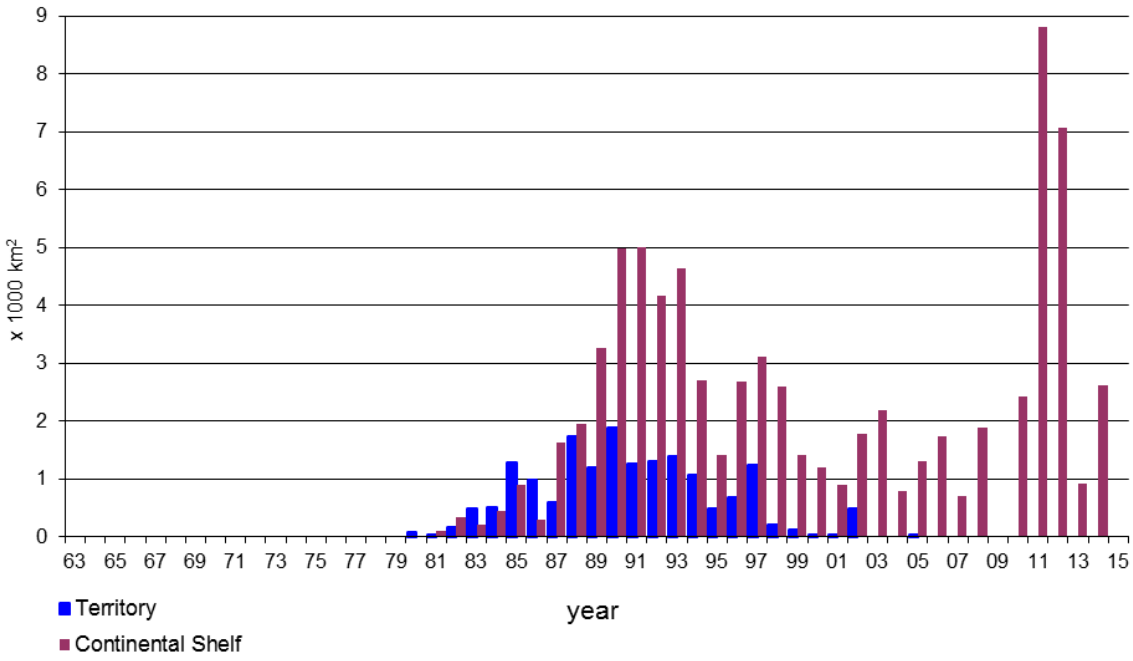
Year	Territory		Continental shelf	
	2D (km)	3D (km^2)	2D (km)	3D (km^2)
63	2 860	-	26 778	-
64	10 992	-	41 136	-
1965	8 885	-	7 707	-
66	3 510	-	6 939	-
67	1 673	-	3 034	-
68	2 541	-	17 349	-
69	3 857	-	6 846	-
1970	5 113	-	5 780	-
71	3 252	-	12 849	-
72	4 034	-	4 716	-
73	1 783	-	9 708	-
74	1 422	-	9 536	-
1975	1 706	-	9 413	-
76	2 318	-	10 963	-
77	948	-	6 184	-
78	2 466	-	13 568	-
79	986	-	11 575	-
1980	2 017	76	15 497	-
81	4 627	37	22 192	110
82	4 363	170	14 791	337
83	3 980	478	24 498	208
84	2 523	512	9 314	455
1985	3 480	1 282	41 593	892
86	2 386	993	11 795	296
87	2 243	601	24 592	1 637
88	1 103	1 726	14 356	1 958
89	828	1 206	4 033	3 264
1990	160	1 889	8 288	4 972
91	-	1 268	15 853	5 002
92	388	1 307	1 799	4 173
93	-	1 382	1 591	4 637
94	-	1 074	1 089	2 694
1995	-	491	-	1 408
96	-	689	892	2 686
97	-	1 236	260	3 101
98	-	214	1 383	2 603
99	43	124	181	1 409
2000	-	33	160	1 189

Year	Territory		Continental shelf	
	2 D (km)	3 D (km^2)	2 D (km)	3 D (km^2)
01	5	47	-	898
02	-	-	495	1 778
03	-	-	-	2 185
04	-	-	34	790
2005	-	32	-	1 314
06	-	-	53	1 732
07	-	-	886	700
08	-	-	838	1 893
09	-	-	1849	-
2010	-	-	4898	2431
11	14	-	-	8 800
12	-	-	37	7 060
13	-	-	-	925
14	-	-	-	2 624
2015	-	-	-	-

2D Seismic surveys 1963 – 2015



3D Seismic surveys 1963 – 2015



OIL AND GAS WELLS
Number of wells, Netherlands Territory

Year	Exploration					Appraisal					Production
	O	G	G&O	D	Σ	O	G	G&O	D	Σ	Σ
to1967	2	26	-	61	89	-	8	-	4	12	278
68	-	3	-	4	7	-	2	-	2	4	23
69	-	2	-	11	13	-	2	-	1	3	27
1970	-	3	-	11	14	-	1	-	-	1	25
71	-	3	-	9	12	-	3	-	1	4	55
72	-	3	-	7	10	-	-	-	2	2	64
73	-	2	-	2	4	-	1	-	-	1	46
74	-	-	-	2	2	-	4	-	1	5	50
1975	-	3	-	5	8	-	-	-	2	2	48
76	-	2	-	5	7	-	12	-	-	12	37
77	-	3	-	4	7	2	10	-	1	13	14
78	-	2	-	4	6	-	20	-	-	20	36
79	-	4	-	2	6	2	11	-	2	15	42
1980	1	2	-	2	5	2	16	-	4	22	33
81	2	2	-	11	15	5	7	-	2	14	23
82	-	5	-	9	14	-	8	-	2	10	14
83	-	4	-	4	8	1	13	-	1	15	8
84	1	6	-	7	14	4	8	-	4	16	32
1985	1	5	-	9	15	2	10	-	-	12	34
86	-	2	-	10	12	-	3	-	-	3	35
87	-	1	2	6	9	-	1	-	-	1	22
88	-	5	1	2	8	1	4	-	-	5	17
89	-	2	1	6	9	2	5	-	-	7	11
1990	-	3	1	4	8	-	3	1	1	5	17
91	-	7	1	3	11	-	3	-	1	4	11
92	-	5	2	4	11	-	1	-	-	1	12
93	-	8	-	2	10	-	-	-	-	-	11
94	-	4	-	1	5	2	2	-	1	5	4
1995	-	3	-	10	13	-	3	-	-	3	14
96	-	2	-	3	5	2	3	-	2	7	30
97	-	8	-	3	11	-	6	-	-	6	12
98	-	7	-	4	11	-	7	-	-	7	8
99	-	2	-	3	5	-	3	-	-	3	7
2000	-	2	-	-	2	-	2	-	-	2	5

Year	Exploration					Appraisal					Production
	O	G	G&O	D	∑	O	G	G&O	D	∑	∑
01	-	2	-	1	3	-	-	-	-	-	6
02	-	1	-	3	4	-	1	-	-	1	5
03	-	1	-	2	3	-	-	-	-	-	7
04	-	-	-	-	-	-	1	-	-	1	1
2005	-	2	-	1	3	-	-	-	-	-	3
06	-	3	-	1	4	-	1	-	-	1	6
07	-	2	-	-	2	-	3	-	2	5	9
08	-	1	-	-	1	-	1	-	-	1	1
09	-	1	-	1	2	-	3	-	-	3	26
2010	-	2	-	1	3	-	-	-	-	-	34
11	-	5	1	2	8	-	-	1	-	1	24
12	-	3	-	1	4	-	3	-	-	3	8
13	-	2	-	-	2	-	1	-	-	1	8
14	-	5	-	3	8	-	-	-	-	0	7
2015	-	2	-	-	2	-	2	-	-	2	4
Totaal:	7	173	9	246	435	25	198	2	36	261	1254

O = oil G = gas G&O = gas & oil D = dry ∑ = total

OIL AND GAS WELLS
Number of wells, Netherlands continental shelf

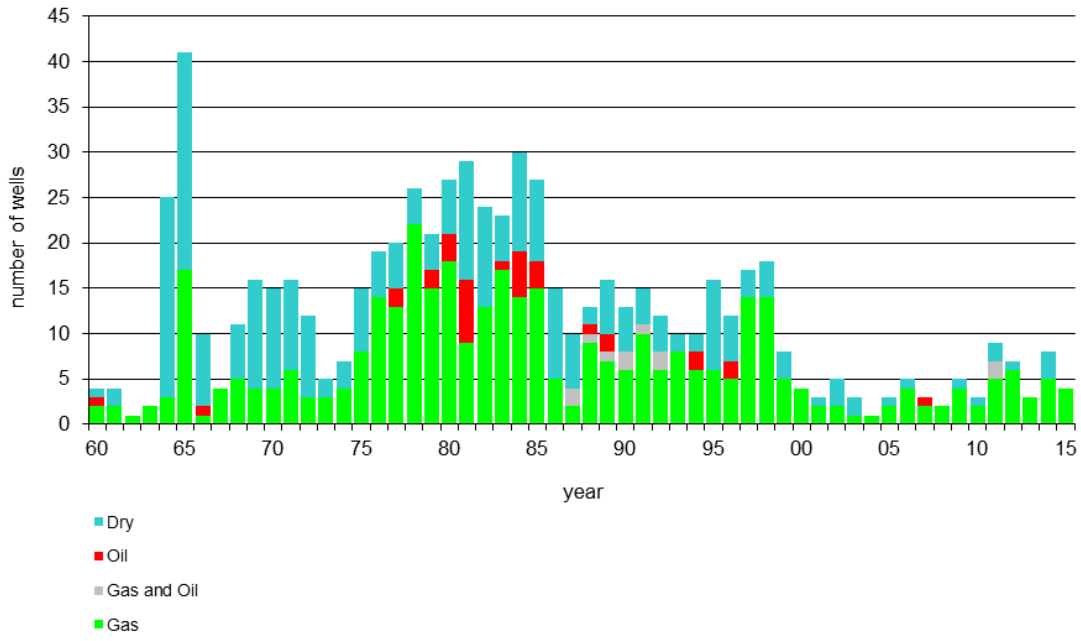
Year	Exploration					Appraisal					Production
	O	G	G&O	D	Σ	O	G	G&O	D	Σ	Σ
to1967		-	-	3	3	-	-	-	-	-	-
68	-	2	-	5	7	-	-	-	-	-	-
69	-	2	-	13	15	-	-	-	1	1	-
1970	-	6	-	7	14	-	-	-	-	-	-
71	1	3	-	15	18	1	-	-	-	1	-
72	-	10	-	6	16	-	-	-	1	1	-
73	-	4	-	13	17	-	1	-	1	2	2
74	-	7	-	8	16	-	1	-	-	1	9
1975	1	6	-	9	15	-	1	-	2	3	12
76	-	5	-	11	16	1	2	-	-	3	14
77	-	3	-	20	23	1	3	-	1	5	18
78	-	4	-	14	18	1	2	-	2	5	14
79	-	7	-	9	17	-	3	-	1	4	9
1980	1	6	-	16	26	2	2	-	1	5	7
81	4	3	-	11	15	6	5	-	6	17	5
82	1	6	-	22	35	1	6	-	3	10	20
83	7	3	-	27	31	1	2	-	9	12	15
84	1	6	-	19	26	3	1	-	3	7	24
1985	1	9	-	24	36	2	4	-	1	7	35
86	3	9	-	14	25	2	2	-	1	5	15
87	2	9	1	12	22	1	2	1	1	5	13
88	-	12	1	8	21	-	4	-	1	5	21
89	-	10	-	13	23	-	4	-	1	5	17
1990	-	8	-	21	29	-	6	-	-	6	14
91	-	15	-	26	43	-	2	-	-	2	18
92	2	8	-	11	19	-	-	-	1	1	15
93	-	3	-	10	13	-	1	-	-	1	17
94	-	4	-	5	10	1	1	-	-	2	10
1995	1	2	-	3	5	-	1	1	1	3	16
96	-	10	1	12	24	-	5	-	-	5	6
97	1	7	-	13	21	1	8	-	1	10	13
98	1	9	-	8	17	1	1	-	1	3	13
99	-	7	-	5	12	-	1	-	1	2	6
2000	-	4	-	2	6	-	6	-	-	6	9

Year	Exploration					Appraisal					Production
	O	G	G&O	D	∑	O	G	G&O	D	∑	∑
01	-	9	-	6	15	-	2	-	2	4	12
02	-	6	-	10	16	-	1	-	2	3	13
03	-	6		1	7	-	3	-	1	4	13
04	-	7	-	4	11	-	2	-	-	2	6
2005	-	3	-	1	4	-	1	-	-	1	8
06	-	3	-	6	9	1	2	-	-	3	16
07	-	3	-	2	5	-	2	-	-	2	12
08	-	4	1	3	8	-	3	-	-	3	13
09	-	4	-	3	7	-	3	-	-	3	11
2010	-	4	-	3	7	-	2	-	-	2	12
11	-	1	1	4	6	1	2	-	-	3	15
12	1	5	-	1	7	1	1	-	-	2	11
13	-	2	-	2	4	2	-	-	-	2	10
14	1	4	1	3	9	2	2			4	11
2015	-	6	-	3	9	- 1	2	-	-	3	11
Total:	29	276	6	467	778	39	105	2	46	186	561

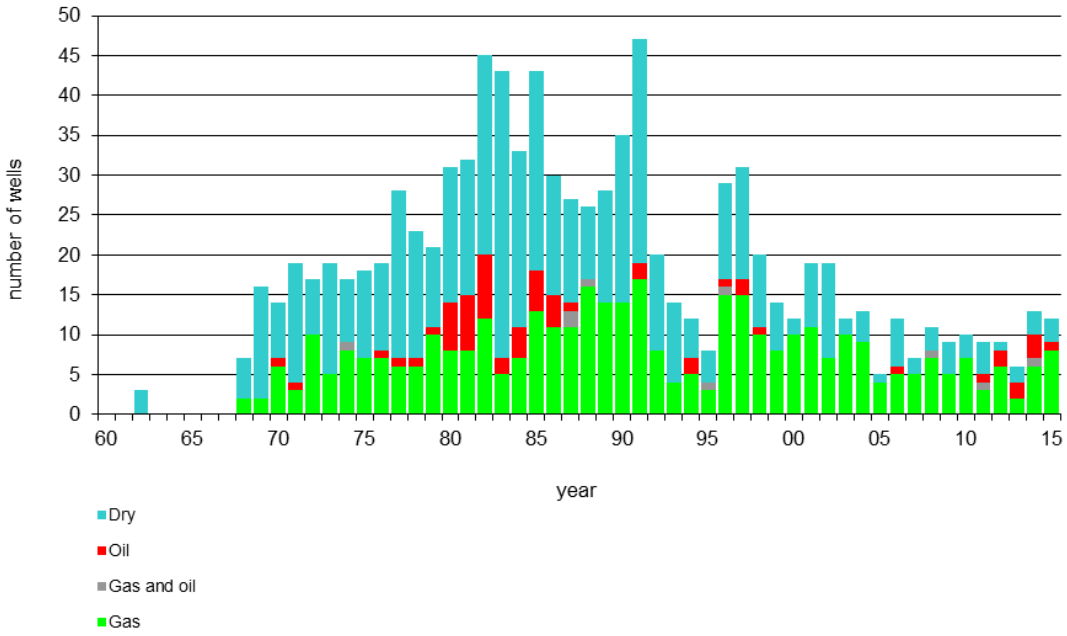
O = oil G = gas G&O = gas & oil D = dry ∑ = total

NUMBER OF WELLS
Netherlands Territory and continental shelf since 1960

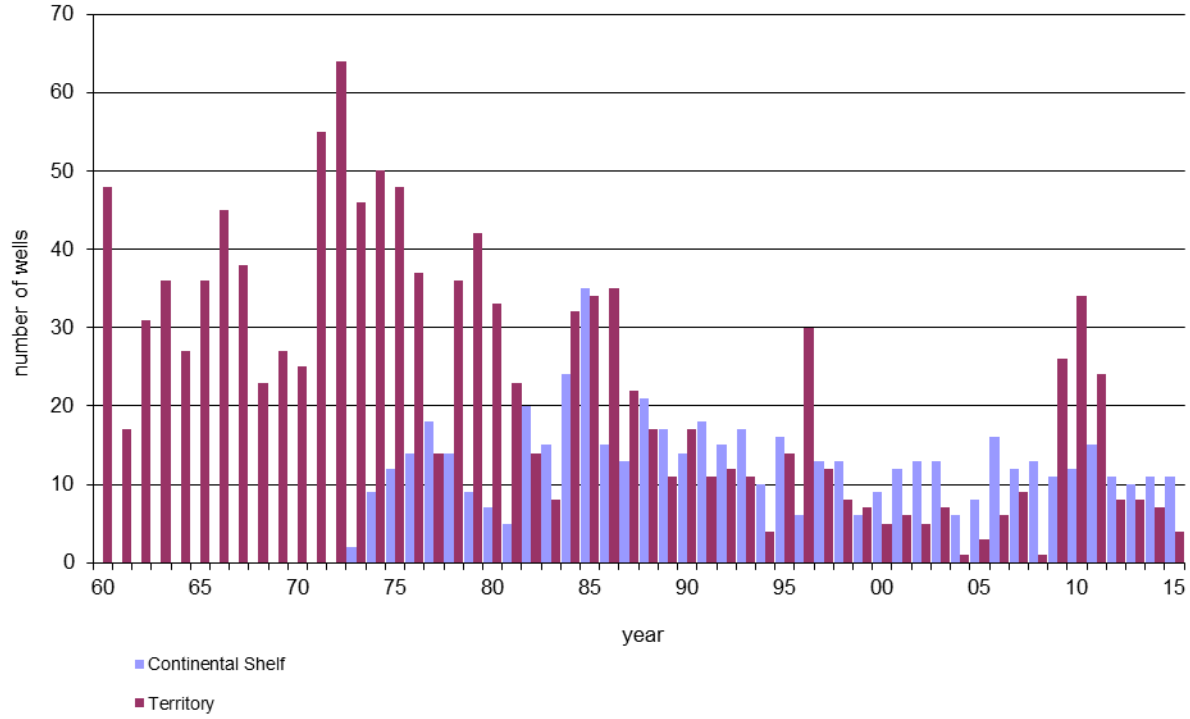
Exploration and appraisal wells. Netherlands Territory 1960 - 2015



Exploration and appraisal wells. Continental shelf 1960 – 2015



Production wells 1960 – 2015



PLATFORMS
Netherlands continental shelf as at 1 January 2016

Platform	Operator	Year installed	No. legs	Gas / Oil	Function
K13-A	Wintershall	1974	8	G	production/compression
K13-A	Wintershall	1974	4	G	Wellhead
L10-A	ENGIE	1974	8	G	production
L10-A	ENGIE	1974	10	G	wellhead/compression
L10-A	ENGIE	1974	4	G	Riser
L10-B	ENGIE	1974	4	G	Satellite
L10-C	ENGIE	1974	4	G	Satellite
K14-FA-1	NAM	1975	10	G	Integrated
L7-B	Total	1975	4	G	Integrated
K15-FA-1	NAM	1977	10	G	Integrated
K8-FA-1	NAM	1977	10	G	Integrated
K8-FA-2	NAM	1977	4	G	Satellite
L10-D	ENGIE	1977	4	G	Satellite
L10-E	ENGIE	1977	4	G	Satellite
L7-C(C)	Total	1977	4	G	Wellhead
L7-C(P)	Total	1977	8	G	production
L7-C(Q)	Total	1977	4	--	accommodation
K15-FB-1	NAM	1978	10	G	Integrated
L7-BB	Total	1978	4	G	wellhead
K7-FA-1	NAM	1980	4	G	Wellhead
L10-BB	ENGIE	1980	3	G	Wellhead
L10-F	ENGIE	1980	4	G	Satellite
K10-B	Wintershall	1981	6	G	production
K10-B	Wintershall	1981	6	G	Wellhead
L4-A(PA)	Total	1981	8	G	Integrated
Q1-HELM	Unocal	1981	6	O	Production
Q1-HELM	Unocal	1981	4	O	Wellhead
K7-FA-1	NAM	1982	6	G	Production
P6-A	Wintershall	1982	8	G	Integrated
Q1-HELDER-A	Unocal	1982	6	O	production
Q1-HELDER-A	Unocal	1982	4	O	Wellhead
K12-A	ENGIE	1983	4	--	Jacket
L7-C(PK)	Total	1983	4	G	Compression
Q1-HOORN	Unocal	1983	6	O	Production
Q1-HOORN	Unocal	1983	4	O	wellhead
K12-C	ENGIE	1984	4	G	satellite
K18-KOTTER	Wintershall	1984	8	O	production
K18-KOTTER	Wintershall	1984	6	O	wellhead
K8-FA-3	NAM	1984	6	G	satellite
L10-EE	ENGIE	1984	3	G	wellhead
L10-G	ENGIE	1984	4	G	satellite
L4-B	Total	1984	4	G	wellhead

Platform	Operator	Year installed	No. legs	Gas / Oil	Function
L7-A	Total	1984	4	G	satellite
AWG-1	NAM	1985	3	G	riser
AWG-1P	NAM	1985	6	G	production
AWG-1W	NAM	1985	4	G	wellhead
K12-D	ENGIE	1985	4	G	satellite
K14-FA-1C	NAM	1985	8	G	compression
L16-LOGGER	Wintershall	1985	4	O	production
L16-LOGGER	Wintershall	1985	4	O	wellhead
P15-RIJN-A	TAQA	1985	4	O	wellhead
P15-RIJN-C	TAQA	1985	6	O	production
P6-B	Wintershall	1985	4	G	satellite
L11b-A	Unocal	1986	4	G	integrated
L13-FC-1	NAM	1986	4	G	wellhead
L13-FC-1	NAM	1986	6	G	production
Q8-A	Wintershall	1986	3	G	wellhead
K12-BD	ENGIE	1987	4	G	wellhead
K12-BP	ENGIE	1987	8	G	production
K9ab-A	ENGIE	1987	4	G	integrated
K9c-A	ENGIE	1987	4	G	integrated
L10-AC	ENGIE	1987	4	G	compression
Zuidwal	Total	1987	8	G	wellhead
K12-CC	ENGIE	1988	4	G	compression
L10-L	ENGIE	1988	4	G	satellite
L10-S-1	ENGIE	1988	-	G	subsea completion
L13-FD-1	NAM	1988	4	G	satellite
L7-N	Total	1988	4	G	satellite
L8-A	Wintershall	1988	4	G	satellite
L8-G	Wintershall	1988	6	G	integrated
L8-H	Wintershall	1988	4	G	satellite
K15-FC-1	NAM	1989	4	G	satellite
L13-FE-1	NAM	1989	4	G	satellite
L7-H	Total	1989	4	G	satellite
Q1-HAVEN-A	Unocal	1989	1	O	satellite
K15-FG-1	NAM	1990	4	G	satellite
L11a-A	ENGIE	1990	4	--	jacket
P12-SW	Wintershall	1990	4	G	satellite
AME-2	NAM	1991	4	G	wellhead
AME-2	NAM	1991	4	G	production
K12-S1	ENGIE	1991	-	G	subsea completion
K6-D	Total	1991	4	G	wellhead
K6-P	Total	1991	4	G	production
L2-FA-1	NAM	1991	6	G	integrated
F15-A	Total	1992	6	G	integrated
F3-FB-1P	NAM	1992	3+GBS	G+O	integrated
J6-A	ENI	1992	6	G	integrated
K6-C	Total	1992	4	G	wellhead/riser

Platform	Operator	Year installed	No. legs	Gas / Oil	Function
K6-DN	Total	1992	4	G	satellite
L5-FA-1	NAM	1992	6	G	integrated
P15-10S	TAQA	1992	-	G	subsea completion
P15-12S	TAQA	1992	-	G	subsea completion
P15-14S	TAQA	1992	-	G	subsea completion
F3-FB-AP	NAM	1993	3	G+O	accommodation
F3-OLT	NAM	1993	1	O	offshore loading tower
K6-N	Total	1993	4	G	satellite
L15-FA-1	NAM	1993	6	G	integrated
P15-D	TAQA	1993	6	G	production
P15-E	TAQA	1993	4	G	satellite
P15-F	TAQA	1993	4	G	satellite
P15-G	TAQA	1993	4	G	satellite
P18-A	TAQA	1993	4	G	satellite
P9-Horizon	Unocal	1993	4	O	integrated
P9-Seafox-1	Unocal	1993	4	O	accommodation
K5-A	Total	1994	4	G	wellhead
K5-D	Total	1994	4	G	satellite
K5-P	Total	1994	4	G	production
L8-P	Wintershall	1994	4	G	satellite
Q8-B	Wintershall	1994	4	G	satellite
K5-B	Total	1995	4	G	satellite
L13-FH-1	NAM	1995	-	G	subsea completion
Q1-Halfweg	Unocal	1995	4+GBS	G	satellite
K14-FB-1	NAM	1997	4	G	satellite
K4a-D	Total	1997	-	G	subsea completion
K5-EN/C	Total	1997	4	G	satellite
L10-S-2	ENGIE	1997	-	G	subsea completion
L10-S-3	ENGIE	1997	-	G	subsea completion
L10-S-4	ENGIE	1997	-	G	subsea completion
N7-FA-SP	NAM	1997	1	G	satellite
P2-NE	Wintershall	1997	4	G	satellite
P6-S	Wintershall	1997	4	G	satellite
K4-A	Total	1998	4	G	satellite
K6-GT	Total	1998	4	G	satellite
K7-FD-1	NAM	1998	4	G	satellite
L9-FF-1P	NAM	1998	6	G	production
L9-FF-1W	NAM	1998	4	G	wellhead
Q16-FA-1	NAM	1998	-	G	subsea completion
D15-FA-1	NAM	1999	6	G	integrated
K9ab-B	ENGIE	1999	4	G	satellite
L4-PN	Total	1999	4	G	satellite
F2-A-Hanze	PCN	2000	GBS	G+O	integrated
K4-BE	Total	2000	4	G	satellite
L10-M	ENGIE	2000	4	G	satellite
L8-A-west	Wintershall	2000	-	G	subsea completion

Platform	Operator	Year installed	No. legs	Gas / Oil	Function
L8-P4	Wintershall	2000	4	G	integrated
Q4-A	Wintershall	2000	4	G	satellite
P6-D	Wintershall	2001	4	G	satellite
K12-G	ENGIE	2001	4	G	satellite
G17d-A	ENGIE	2001	4	G	jacket
K8-FA-1P	NAM	2001	4	--	accommodation
K1-A	Total	2001	4	G	satellite
G17d-A	ENGIE	2002	4	G	satellite
K12-S2	ENGIE	2002	-	G	subsea completion
K15-FK-1	NAM	2002	4	G	satellite
K5-PK	Total	2002	4	G	satellite
Q4-B	Wintershall	2002	4	G	satellite
K7-FB-1	NAM	2003	4	G	satellite
K12-S3	ENGIE	2003	0	G	subsea completion
L5-B	Wintershall	2003	4	G	satellite
Q4-C	Wintershall	2003	4	G	satellite
D12-A	Wintershall	2004	4	G	satellite
Q5-A1	Wintershall	2004	-	G	subsea completion
F16-A	Wintershall	2005	6	G	integrated
G14-A	ENGIE	2005	4	G	satellite
G16-A	ENGIE	2005	4	G	satellite
G17a-S1	ENGIE	2005	-	G	subsea completion
G17d-AP	ENGIE	2005	4	G	production
K2b-A	ENGIE	2005	4	G	satellite
K17-FA-1	NAM	2005	1	G	satellite
L4-G	Total	2005	-	G	subsea completion
L6d-2	ATP	2005	-	G	subsea completion
P11-B-DeRuyter	PCN	2006	GBS	O	integrated
J6-C	CH4	2006	4	G	riser/compressor
L5-C	Wintershall	2006	4	G	satellite
K12-K	ENGIE	2006	4	G	wellhead
G14-B	ENGIE	2006	4	G	wellhead
A12-CPP	Chevron	2007	4	G	Integrated
L09-FA-01	NAM	2007	1	G	wellhead
L09-FB-01	NAM	2007	1	G	wellhead
K05-F	Total	2008	-	G	subsea completion
E17-A	ENGIE	2009	4	G	satellite
E18-A	Wintershall	2009	4	G	satellite
M7-A	Cirrus	2009	1	G	satellite
P9-A	Wintershall	2009	-	G	subsea completion
P9-B	Wintershall	2009	-	G	subsea completion
F03-FA	Centrica	2010	4	G	production/compression
K5-CU	Total	2010	4	G	satellite
B13-A	Chevron	2012	4	G	satellite
G16a-B	ENGIE	2012	4	G	satellite
K18-G1	Wintershall	2012	-	G	subsea completion

Platform	Operator	Year installed	No. legs	Gas / Oil	Function
P11-B-Nes	Dana	2012	-	G	subsea completion
P11-C-Van Ghent	Dana	2012	-	O & G	subsea completion
D18a-A	ENGIE	2014	4	G	wellhead
K4-Z	Total	2014	-	G	subsea completion
L5a-D	ENGIE	2014	4	G	wellhead
Q01-D	Wintershall	2014	4	G	wellhead
Q13a-A	ENGIE	2014	4	G	wellhead
L6-B	Wintershall	2015	1	G	monopile
A-18	Petrogas	2015	1	G	Satellite
K18-G2	Wintershall	2015	-	G	subsea completion

GBS = Gravity Based Structure

PIPELINES
Netherlands continental shelf as at 1 January 2016

Operator	From	To	Diameter (inches)	Laid (year)	Length (km)	Carries
ENGIE	L10-C	L10-AP	10.75 * 2.375	1974	1.1	g + m
ENGIE	L10-B	L10-AP	10.75 * 2.375	1974	7.4	g + m
NGT	L10-AR	Uithuizen	36	1975	179.0	g
Wintershall	K13-AP	Callantsoog	36	1975	120.5	g
ENGIE	L10-D	L10-AP	10.75 * 2.375	1977	1.1	g + m
ENGIE	L10-E	L10-AP	10.75 * 2.375	1977	4.0	g + m
NAM	K8-FA-1	K14-FA-1P	24	1977	30.9	g
NAM	K14-FA-1P	WGT-pipe (s)	24	1977	0.1	g + co
TotalFinaElf	L7-B	L7-P	12.75.4.5.3.5	1977	7.9	g + w + g
TotalFinaElf	L7-P	L10-AR	16	1977	15.8	g
Wintershall	K13-B	K13-AP	10 * 2	1977	9.2	aband.
NAM	K11-FA-1	K8-FA-1	6.625	1978	6.0	aband.
NAM	K8-FA-1	K8-FA-2	3	1978	4.0	c
NAM	K8-FA-2	K8-FA-1	10.75	1978	3.8	g + co
NAM	K15-FA-1	WGT-pipe (s)	24	1978	0.1	co
Wintershall	K13-D	K13-C	10 * 2	1978	3.5	aband.
Wintershall	K13-C (Bypass)	K13-AP	20	1978	10.2	g
ENGIE	L10-F	L10-AP	10.75 * 2.375	1980	4.3	g + m
TotalFinaElf	L4-A	L7-P	12.75 .3.5	1981	22.8	g + gl
NAM	K7-FA-1P	K8-FA-1	18	1982	9.4	g + co
Unocal	Q1-Helder-AW	Q1-Helm-AP	20	1982	6.2	o
Unocal	Q1-Helm-AP	IJmuiden	20	1982	56.7	o
Wintershall	K10-C (Bypass)	K10-B	10 * 2	1982	5.2	g + m
Wintershall	K10-B	K13-C (Bypass)	20	1982	7.4	g
ENGIE	K12-A	L10-AP	14 * 2.375	1983	29.2	g + m
NAM	K15-FB-1	Callantsoog	24	1983	74.3	g + co
Unocal	Q1-Hoorn-AP	Q1-Helder-AW	10.75	1983	3.5	o
Wintershall	P6-A	L10-AR	20	1983	78.7	g
ENGIE	L10-G	L10-B / L10-A (s)	10.75 * 2.375	1984	4.7	g + m
ENGIE	L10-K	L10-B / L10-A (s)	10.75 * 2.375	1984	5.8	aband.
ENGIE	L10-B	L10-AD	14	1984	6.8	g
ENGIE	L10-EE	L10-B / L10-A (s)	10	1984	0.2	g
ENGIE	K12-C	K12-A / L10-A (s)	10 * 2	1984	0.4	g + m
Wintershall	K18-Kotter-P	Q1-Helder-A	12	1984	20.2	o
TAQA	P15-C	Hoek v. Holland	10	1985	42.6	o
TAQA	P15-B	P15-C	10	1985	3.4	aband.
TAQA	P15-B	P15-C	6	1985	3.4	aband.
TAQA	P15-C	P15-B	6	1985	3.4	aband.
TAQA	P15-B	P15-C	4	1985	3.4	aband.
ENGIE	K12-D	K12-C	10.75 * 2.375	1985	4.3	g + m
NAM	AWG-1R	NGT-pipe (s)	20	1985	7.1	g + co +ci
NAM	AME-1	AWG-1R	20	1985	4.2	g + co
TotalFinaElf	L4-B	L7-A	10.75 . 3.5	1985	10.1	g + gl

Operator	From	To	Diameter (inches)	Laid (year)	Length (km)	Carries
TotalFinaElf	L7-A	L7-P	10.75. 3.5	1985	10.4	g + gl
Wintershall	L16-Logger-P	K18-Kotter-P	8	1985	18.9	o
Wintershall	K18-Kotter-P	L16-Logger-P	6	1985	18.9	w
Wintershall	P6-B	P6-A	12 * 3	1985	3.9	g + gl
Wintershall	P6-C (toek.plf)	P6-B	12 * 3	1985	2.9	g + gl
ENGIE	K12-A/ L10-A (s)	K12-E	2.375	1986	3.9	aband.
ENGIE	K12-E	K12-C	10.75	1986	6.3	aband.
NAM	L13-FC-1P	K15-FA-1	18	1986	15.4	g + co
NAM	K8-FA-3	K7-FA-1P	12.75	1986	8.9	g
NGT	L11-B	NGT-pipe (s)	14	1986	6.8	g
Unocal	Q1-Helder-B	Q1-Helder-AW	8.625	1986	1.8	aband.
Wintershall	Q8-A	Wijk aan Zee	10	1986	13.7	g
NAM	K15-FA-1	K14-FA-1C	18	1987	24.2	g + co
NGT	K12-BP	L10-AR	18	1987	21.4	g
NGT	K9c-A	L10-AR	16	1987	36.6	g
NGT	K9c-A/L10-AR(s)	K9ab-A	16	1987	0.1	g
TotalFinaElf	Zuidwal	Harlingen TC	20 . 3 . 3	1987	20.3	g + gl + c
ENGIE	K12-A	K12-CC	10.75	1988	8.3	g
ENGIE	L10-L	L10-AP	10.75 * 2.375	1988	2.2	g + m
ENGIE	L10-S1	L10-AP	6.625 * 2.375	1988	11.5	aband.
ENGIE	K12-E	L10-S1	90 mm	1988	4.6	aband.
NGT	L8-G	L11b-A	14	1988	14.4	g
TotalFinaElf	L7-P	L7-N	10.75 * 3.5	1988	4.2	g + gl
Wintershall	L8-H	L8-A / L8-G(s)	8	1988	0.2	g
Wintershall	K13-C (Bypass)	K10-B / K13-A (s)	20	1988	2.5	g
Wintershall	L8-A	L8-G	8	1988	10.0	g
NAM	L13-FD-1	L13-FC-1P	10	1989	3.7	g + co
NAM	L13-FC-1P	L13-FD-1	3.6	1989	3.6	c
NAM	K8-FA-2	K8-FA-1	10.75	1989	4.0	g + co +ci
TotalFinaElf	L7-H	L7-N	10.75 * 3.5	1989	10.4	g + gl
Unocal	Q1-Haven-A	Q1-Helder-AW	8.625	1989	5.8	aband.
ENGIE	L14-S1	L11a-A	6.625 * 2.375	1990	6.0	aband.
ENGIE	K12-B	K12-S1	3.5	1990	4.9	c
NAM	K15-FC-1	K15-FB-1	10.75	1990	7.9	g + co
NAM	K15-FB-1	K15-FC-1	4.03	1990	7.9	c
NAM	K15-FG-1	K15-FA-1	14.3	1990	7.0	g + co
NAM	K15-FA-1	K15-FG-1	4.03	1990	7.0	c
NAM	L13-FE-1	L13-FC-1P	12.98	1990	4.3	g + co
NAM	L13-FC-1P	L13-FE-1	3.76	1990	4.3	c
NGT	L11-A	NGT-pipe (s)	10.75	1990	11.8	aband.
Wintershall	P12-C	P12-SW	8 * 3	1990	6.9	aband.
Wintershall	P12-SW	P6-A	12 * 3	1990	42.0	g + gl
ENGIE	K12-S1	K12-BP	6.625 * 2.375	1991	4.9	aband.
NAM	AME-2	AWG-1R	13.6	1991	5.2	g + co
NAM	AWG-1R	AME-2	4.02	1991	5.2	c
NAM	F3-FB-1P	L2-FA-1	24	1991	108.1	g + co
NAM	L2-FA-1	Callantsoog	36	1991	144.2	g + co

Operator	From	To	Diameter (inches)	Laid (year)	Length (km)	Carries
NAM	L5-FA-1	NOGAT-pipe (s)	16	1991	0.4	g + co
NAM	L15-FA-1	NOGAT-pipe (s)	16	1991	0.4	g + co
NAM	F15-A	NOGAT-pipe (s)	16	1991	0.3	g + co
NGT	K6-C	K9c-A	16	1991	5.2	g
TotalFinaElf	K6-D	K6-C	10.75 * 3.5	1991	3.8	g + gl
TotalFinaElf	K6-DN	K6-C	12.75 * 3.5	1992	5.4	g + gl
Wintershall	J6-A	K13-AW	24	1992	85.8	g
TAQA	P15-D	Maasvlakte	26	1993	40.1	g
TAQA	P15-E	P15-D	10 * 2	1993	13.9	g + m
TAQA	P15-F	P15-D	12 * 3	1993	9.1	g + m
TAQA	P15-G	P15-D	12 * 3	1993	9.1	g + m
TAQA	P15-10S	P15-D	4 * 2	1993	3.9	g + m
TAQA	P15-D	P15-10S	90 mm	1993	3.9	c
TAQA	P15-12S	P15-D	4 * 2	1993	6.1	g + m
TAQA	P15-D	P15-12S	90 mm	1993	6.1	c
TAQA	P15-14S	P15-G	4 * 2	1993	3.7	g + m
TAQA	P15-D	P15-14S	90 mm	1993	8.0	c
TAQA	P18-A	P15-D	16 * 3	1993	20.8	g + m
NAM	F3-FB-1P	F3-OLT	16	1993	2.0	o
NAM	F3-FB-1P	F3-OLT	3.21	1993	2.0	c
TotalFinaElf	K6-N	K6-C	12.75 * 3.5	1993	8.5	g + gl
Unocal	P9-Horizon-A	Q1-Helder-AW	10.75	1993	4.8	o + w
Wintershall	K10-V	K10-C (Bypass)	10 * 2	1993	10.3	g + m
Wintershall	P14-A	P15-D	10 * 2	1993	12.6	aband.
Lasmo	Markham ST1 (UK)	J6-A	12 * 3	1994	5.5	g + m
TotalFinaElf	K5-D	K5-A	12.75 * 3.6	1994	10.6	g + gl
Wintershall	Q8-B	Q8-A	8 * 2	1994	8.3	g + m
Wintershall	K5-A	J6-A / K13-AW (s)	18	1994	0.3	g
Wintershall	L8-P	L8-G	8 * 2	1994	7.5	g + m
ENGIE	K11-B	K12-C	14 * 2.375	1995	16.1	aband.
NAM	L13-FH-1	K15-FA-1	6.625	1995	9.4	g + co + m+ ci
NAM	K15-FA-1	L13-FH-1	2.98	1995	9.4	c
TotalFinaElf	K5-B	K5-A	346 mm	1995	6.4	g
TotalFinaElf	K5-A	K5-B	3.5	1995	6.4	m + c
Unocal	Q1-Halfweg	Q1-Hoorn-AP	12.75 * 2.375	1995	12.4	g + co + m
Unocal	Q1-Hoorn-AP	Q1-Halfweg	70.9 mm	1995	12.4	c
Unocal	Q1-Hoorn-AP	WGT-pipe (s)	12.75	1995	17.2	g + co
Unocal	Q1-Haven-A	Q1-Helder-AW	8.625	1995	5.8	o + w
Wintershall	P2-NE	P6-A	10	1996	38.2	aband.
Wintershall	P6-S	P6-B	203 mm	1996	6.5	g
ENGIE	L10-S2	L10-AP	6.625 * 2.375	1997	6.3	g + m
ENGIE	L10-AP	L10-S2	84 mm	1997	7.0	c
ENGIE	L10-S3	L10-AP	6.625 * 2.375	1997	1.9	g + gl
ENGIE	K12-E	L10-S3	3.5	1997	4.5	c
ENGIE	L10-S4	L10-AP	6.625 * 2.375	1997	8.3	g + m
ENGIE	L10-AP	L10-S4	84 mm	1997	8.4	c

Operator	From	To	Diameter (inches)	Laid (year)	Length (km)	Carries
NAM	K14-FA-1P	K15-FB-1	16	1997	16.6	g
NAM	K14-FB-1	K14-FA-1P	10.75	1997	9.2	g + co
NAM	K14-FA-1P	K14-FB-1	3.65	1997	9.2	c
NAM	L9-FF-1P	NOGAT-pipe (s)	24	1997	19.3	g + co
TotalFinaElf	K4a-D	J6-A	183 mm	1997	7.3	g
TotalFinaElf	J6-A	K4a-D	2.5	1997	7.4	m + c
TotalFinaElf	K5-EN/C	K5-D	303 mm	1997	2.7	aband.
TotalFinaElf	K5-D	K5-EN/C	2.5	1997	2.7	gl
TotalFinaElf	K5-B	K5-EN/C	70 mm	1997	6.2	c
NAM	K7-FD-1	K8-FA-1	12	1998	9.4	g + co
NAM	K7-FD-1	K8-FA-1	3.4	1998	9.4	c
NAM	K8-FA-1	K14-FA-1C	24	1998	30.9	g
NAM	Q16-FA-1	P18-A	8.625	1998	10.3	g + co
NAM	P18-A	Q16-FA-1	2.375	1998	10.3	m
NAM	Q16-FA-1	P18-A	3.4	1998	10.3	c
TotalFinaElf	K4-A	K5-A	12 * 3	1998	6.9	g + gl
TotalFinaElf	K6-GT	L4-B	10 * 3	1998	10.7	g + gl
TotalFinaElf	K4-A	K5-A	2.5	1998	6.7	c
ENGIE	K9ab-B	D15-FA-1/L10-A (s)	10	1999	0.1	g
NGT	D15-FA-1	L10-AC	36	1999	140.7	g
TotalFinaElf	L4-PN	L4-A	10	1999	11.4	aband.
TotalFinaElf	L4-A	L4-PN	4	1999	11.4	gl
ENGIE	L10-M	L10-AP	10.75 * 2.375	2000	11.9	g + m
Petro-Canada	F2-A-Hanze	TMLS	16	2000	1.5	o
TotalFinaElf	K4-BE	K4-A	9.5	2000	8.0	aband.
TotalFinaElf	K4-A	K4-BE	2.5	2000	8.0	gl
Wintershall	Q4-A	P6-A	14	2000	35.2	g + co
Wintershall	Duitsland (A6)	F3-FB-1P	20 . 4	2000	119.0	g + co
Wintershall	L8-A-West	L8-P4	6	2000	10.2	g + co
Wintershall	L8-P4	L8-A-West	82 mm	2000	10.2	c
Wintershall	L8-P	L8-P4	12	2000	2.8	g
Wintershall	L8-P4	NGT-pipe (s)	16	2000	28.0	g + co
ENGIE	K12-G	L10-AP	14 . 2	2001	15.6	g + m
NGT	G17d-A	NGT-pipe (s)	18	2001	64.5	g
Petro-Canada	F2-A-Hanze	A6 / B4 (s)	4	2001	0.1	g
Petro-Canada	F2-A-Hanze	A6 / B4 (s)	62.1 mm	2001	0.1	c
Petro-Canada	F2-A-Hanze	TMLS	62.1 mm	2001	1.5	c
TotalFinaElf	K5-EN/C	K5-D	10.75	2001	2.8	g
TotalFinaElf	K1-A	J6-A	14.75 * 3.5	2001	9.2	g + m
Wintershall	P6-D	P6-B	12	2001	6.8	g
ENGIE	K12-S2	K12-C	6.625	2002	6.9	g
ENGIE	K12-S2	K12-C	95.5 mm	2002	6.9	c
Wintershall	Q4-B	Q4-A	10.75	2002	7.3	g
Wintershall	Q4-C	Q1-Hoorn	16 * 2	2002	14.3	g + gl
ENGIE	K12-S3	K12-BP	6	2003	3.4	g
ENGIE	K12-BP	K12-S3	95.5 mm	2003	3.4	c
Maersk	Denemarken	F3-FB-1P	26	2003	38.0	g

Operator	From	To	Diameter (inches)	Laid (year)	Length (km)	Carries
	(Tyra WE)					
Maersk	F3-FB-1P	subsea valve station	4	2003	0.3	c
NAM	K7-FB-1	K7-FD-1	12	2003	17.0	g
NAM	K8-FA-1	K7-FB-1	4	2003	26.0	c
NAM	K15-FK-1	K15-FB-1	10	2003	8.0	g
NAM	K15-FK-1	K15-FB-1	4	2003	8.0	c
Wintershall	L5-B	L8-P4	10 . 4	2003	6.4	g + c
Total	K4-BE	K4-A	10	2004	8.0	g
Wintershall	D12-A	D15-FA-1	10	2004	4.9	g
Wintershall	D12-A	D15-FA-1	10	2004	4.9	c
Wintershall	Q5-A1	Q8-B	8	2004	13.5	g
Wintershall	Q5-A1	Q8-B	4	2004	13.5	c
Wintershall	F16-A	NGT	24	2005	32.0	g
ENGIE	G14-A	G17d-AP	12 + 2	2005	19.8	g + m
ENGIE	G17a-S1	G17d-AP	6 + 92.5 mm	2005	5.67	g + c
ENGIE	K2b-A	D15-FA-1/L10-A NGT-pipe (s)	12	2005	2.8	
NAM	K17-FA-1	K14-FB-1	16 * 2	2005	14.4	g + m
Total	L4-G	L4-A	6 + 4	2005	9.6	g + c
ATP	L6d-2	G17d-AP	6 + 73 mm	2005	40.0	g + c
Petro-Canada	P11-B-Ruyter	P11-B-TMLS	16	2005	1.5	o
Petro-Canada	P11-B-Ruyter	P12-SW	8	2005	29.0	g
ATP	L6d	G17d-AP	6 * 73 mm	2006	40.0	g + c
CH4 Limited	Chiswick (UK)	J6-CT	10 * 1.5	2006	18.3	g + m
ENGIE	G16A-A	G17d-AP	10 * 2	2006	17.8	g + m
ENGIE	Minke (UK)	D15-FA-1	8 . 90.6 mm	2006	15.1	g + c
Grove	Grove (UK)	J6-CT	10 * 2	2006	13.4	g + m
NAM	K17-FA-1	K14-FB-1	16 * 2	2006	14.4	g + m
Petro-Canada	P11-B-Ruyter	P11-B-TMLS	16	2006	1.5	o
Petro-Canada	P11-B-Ruyter	P12-SW	8	2006	29.0	g
Total	L4G	L4-PA	6 . 92 mm	2006	10.6	g + c
Wintershall	L5-C	L8-P4	10 . 82 mm	2006	8.1	g + c
Chevron	A12 CCP	B10 NOGAT	16	2007	16.0	g
ENGIE	G14-B	G17-D-AP	12	2007	13.4	g + m
Venture	Stamfort (UK)	J6-CT	6	2008	7.0	g
Total	L4PN	L4A	10	2008	11.4	g
NAM	L9FA	via L9FB-1» L9FF-1	16 and 2x2	2008	20.0	g + gl + gi
Total	K5-F	K6N	8	2008	10.0	g
ENGIE	G14-B	G17-D-AP	12 + 2	2008	13.4	g + m
ENGIE	K12-K	K12-BP	14+ 2	2008	10.3	g + m
ENGIE	E17-A	NGT	12	2009	2	g
Wintershall	E18-A	F16-A	10 + 84mm	2009	5.4	g+c
Wintershall	P9B	P6D	8 + 70mm	2009	16.8	g+c
Wintershall	P9A	P9B – P6D	8 + 70mm	2009	-	g+c
Cirrus	M7-A	L09-FF	6 + 2	2009	12	g+c
Wintershall	Wingate (UK)	D15-A	12 + 2	2010	20.6	g
Chevron	B13-A	A12-CPP	16	2011	22	g

Operator	From	To	Diameter (inches)	Laid (year)	Length (km)	Carries
ENGIE	G16a-B	G17d-AP	14	2011	14	g
NAM	K18-G1	K15-FA-1	8	2011	10	g+c
Dana	P11-B-Nes	P11-B-De Ruyter	8	2011	8	g+c
Dana	P11-C-Van Ghent	P11-B-De Ruyter	8	2011	4.5	g+c
Wintershall	Q4C	Q8A	10	2012	8.3	g
Total	K5-B	K5-A	8	2012	13.5	g
Wintershall	K5A	J6A/K13-A	14	2012	13.5	c
ENGIE	D18a-A	D15-A	8. 2	2014	21.5	g, m
Total	K4-Z	K5-A	6	2014	17	g+c
ENGIE	L5a-D	L5-FA-1	8	2014		g
Wintershall	Q01-D	Q1-Hoorn-Q4C (s)	8	2014	2.5	g
ENGIE	Q13a-A	P15-C	8	2014	24.5	o
ONE	L6-B	L8-P4	8	2015	19.2	g
Wintershall	K18-G1	K18-G2	4	2015	0.05	g
Petrogas	A18-A	A12-A	8	2015	33	9

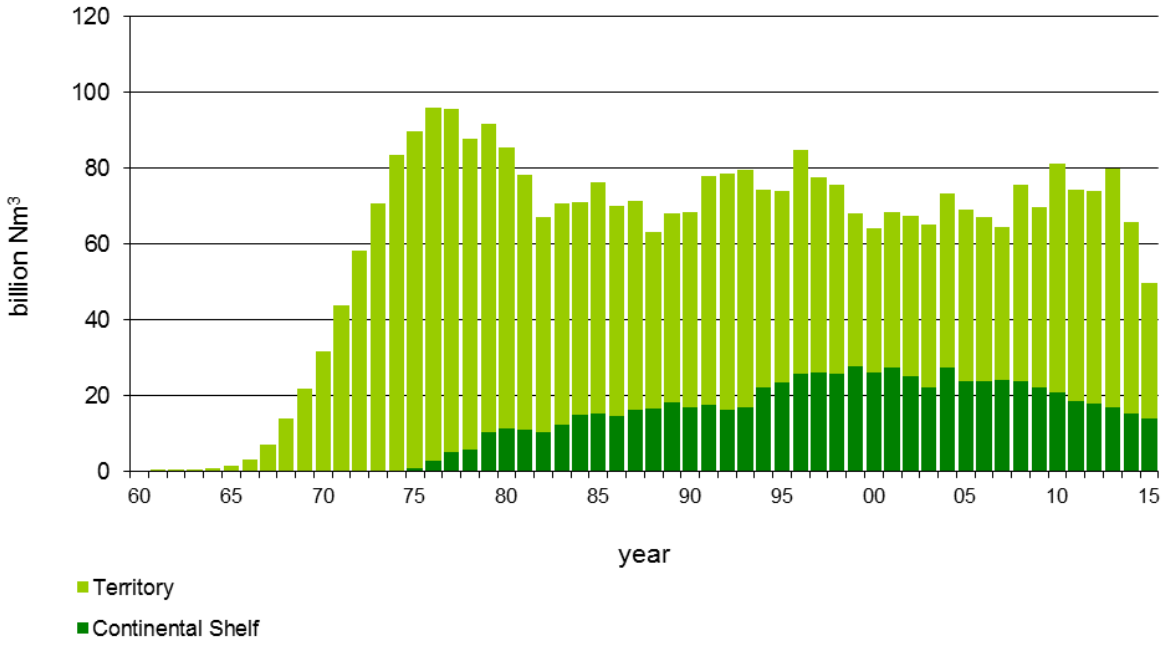
*	= multiple pipeline	gl	= glycol
,	= laid separately	m	= methanol
c	= control cable	ci	= corrosion inhibitor
o	= oil	l	= instrument air
g	= gas	(s)	= side-tap
co	= condensate	aband..	= abandoned

PRODUCTION OF NATURAL GAS (in million Nm^3)

Year	Territory	Continental shelf	Total
1960	363.8	0.0	363.8
61	451.0	0.0	451.0
62	509.8	0.0	509.8
63	571.3	0.0	571.3
64	830.0	0.0	830.0
1965	1722.6	0.0	1722.6
66	3376.9	0.0	3376.9
67	7033.3	0.0	7033.3
68	14107.3	0.0	14107.3
69	21884.4	0.0	21884.4
1970	31663.6	7.5	31671.0
71	43820.0	2.3	43822.3
72	58423.8	1.3	58425.1
73	70840.8	7.4	70848.2
74	83720.2	13.8	83734.0
1975	88993.0	912.7	89905.7
76	93145.9	2930.3	96076.2
77	90583.8	5191.9	95775.8
78	81935.1	5967.8	87902.9
79	81354.2	10351.9	91706.2
1980	74103.0	11466.6	85569.7
81	67204.3	11178.9	78383.2
82	56853.8	10492.0	67345.7
83	58302.5	12480.7	70783.2
84	56236.0	14958.5	71194.5
1985	61182.9	15227.2	76410.1
86	55409.8	14732.7	70142.5
87	55039.3	16364.7	71404.0
88	46514.7	16667.7	63182.3
89	49810.1	18286.8	68096.8
1990	51719.3	16918.6	68637.8
91	60378.5	17705.3	78083.8
92	62252.6	16371.9	78624.5
93	62680.9	16914.2	79595.1
94	51982.7	22301.2	74283.9
1995	50826.7	23409.8	74236.5
96	59024.5	25914.7	84939.2
97	51412.3	26133.0	77545.3
98	49993.9	25716.1	75710.0
99	40574.8	27673.6	68248.4
2000	38203.4	26031.5	64234.9
01	40951.7	27518.3	68470.0
02	42137.6	25364.7	67502.3
03	42881.1	22273.8	65154.9

Year	Territory	Continental shelf	Total
04	45880.1	27592.8	73472.9
2005	45498.2	23779.6	69277.8
06	43169.5	23858.0	67027.5
07	40464.5	24259.0	64723.5
08	51860.7	23900.0	75760.7
09	47696.4	22165.0	69861.4
2010	60475.0	20921.0	81396.0
11	55881.7	18551.2	74432.9
12	56233.1	17899.8	74132.9
13	63043.5	17004.1	80047.5
14	50696,9	15257,6	65954,5
2015	35640,0	14049,0	49689,0
Totaal	2657546,7	736726,2	3394273,0

Production of natural gas 1960-2015



GAS RESERVES AND CUMULATIVE PRODUCTION IN BILLION Nm^3

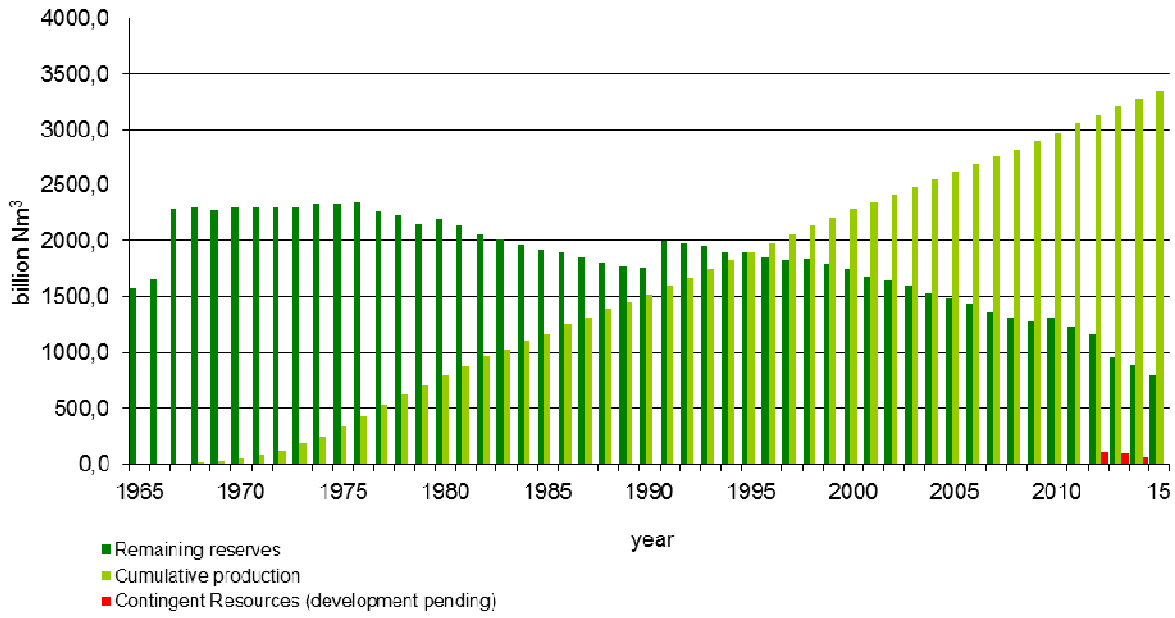
Year	Territory		Continental shelf		Total	
as at 1 Jan.	expected reserves	cumulative production	expected reserves	cumulative production	expected reserves	cumulative production
1974	2125	256	200		2325	256
1975		339			2325	339
76	2025	428	322	1	2347	429
77	1923	522	348	4	2271	525
78	1891	612	344	9	2235	621
79	1827	694	325	15	2152	709
1980	1917	775	288	25	2205	801
81	1850	849	282	37	2133	886
82	1799	917	261	48	2060	965
83	1748	973	258	59	2006	1032
84	1714	1032	257	71	1971	1103
1985	1662	1088	266	86	1928	1174
86	1615	1149	275	101	1889	1250
87	1568	1205	284	116	1852	1321
88	1523	1260	287	132	1810	1392
89	1475	1306	303	149	1778	1455
1990	1444	1356	323	167	1767	1523
91	1687	1408	316	184	2002	1592
92	1648	1468	329	202	1976	1670
93	1615	1530	337	218	1953	1749
94	1571	1593	334	235	1904	1828
1995	1576	1645	316	257	1892	1902
96	1545	1696	304	281	1850	1977
97	1504	1755	325	307	1829	2062
98	1491	1806	353	333	1845	2139
99	1453	1856	341	359	1794	2215
2000	1420	1897	319	386	1740	2283
01	1371	1935	313	412	1684	2347
02	1332	1976	316	440	1647	2416
03	1290	2018	310	465	1600	2483
04	1286	2061	244	487	1530	2548
2005	1236	2107	253	515	1489	2622
06	1218	2152	213	539	1431	2691
07	1168	2196	195	563	1363	2758
08	1129	2236	188	587	1317	2823
09	1101	2288	173	611	1274	2899
2010	1143	2336	174	633	1317	2969
11	1080	2396	155	654	1236	3050
12	1012	2452	153	673	1165	3124

From 2013 onwards the table has been modified, to take account of the introduction of PRMS

Rem Res = remaining reserves
Cont Res = contingent resources (development pending)
Cum Prod = cumulative production

Year	Territory			Continental shelf			Total		
As at 1 January	Rem Res	Cont Res	Cum prod	Rem Res	Cont Res	Cum prod	Rem Res	Cont Res	Cum prod
2013	850	67	2508	105	49	690	955	117	3199
2014	805	60	2571	92	32	707	897	92	3279
2015	705	41	2622	94	24	723	799	65	3345
2016	734	40	2658	92	25	737	825	66	3394

Gas reserves and cumulative production (1 January 2015), 1965 – 2015

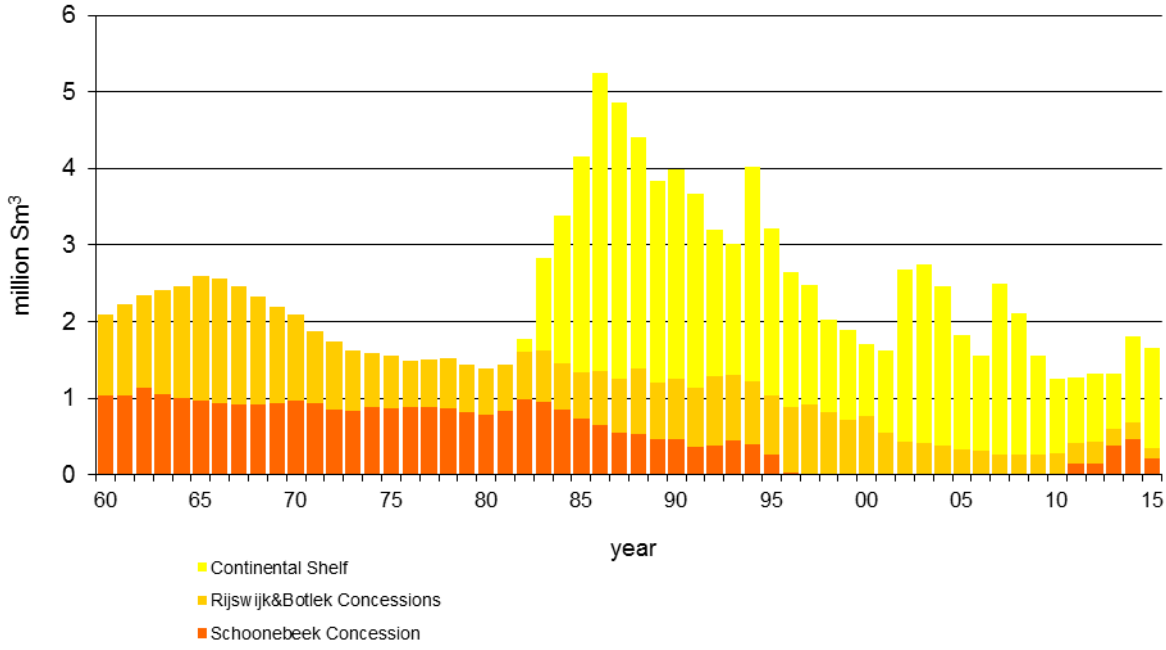


OIL PRODUCTION in 1000 Sm^3

Year	Schoonebeek production licence	Rijswijk & Botlek production licence	Continental shelf	Total
to 1969	21 662.0	13 776 0	--	35 438.0
1970	976.0	1 112.2	--	2 088.2
71	940.7	926.8	--	1 867.5
72	856.3	883.1	--	1 739.4
73	838.2	787.4	--	1 625.6
74	878.0	715.5	--	1 593.5
1975	877.0	671.5	--	1 548.5
76	891.9	605.2	--	1 497.1
77	890.8	617.8	--	1 508.6
78	862.3	667.8	--	1 530.1
79	820.4	615.6	--	1 436.0
1980	778.9	617.7	--	1 396.6
81	839.2	596.5	--	1 435.7
82	987.9	625.3	159.7	1 772.9
83	960.0	655.6	1 209.1	2 824.7
84	846.9	615.6	1 921.7	3 384.2
1985	734.5	602.8	2 825.4	4 162.7
86	658.9	688.8	3 889.7	5 237.4
87	556.4	692.5	3 607.8	4 856.7
88	536.0	844.9	3 032.9	4 413.8
89	464.3	731.6	2 634.5	3 830.4
1990	463.0	784.9	2 744.5	3 992.4
91	366.0	777.3	2 527.9	3 671.2
92	379.3	907.3	1 920.7	3 207.3
93	454.0	849.0	1 709.8	3 012.8
94	406.4	811.4	2 804.8	4 022.6
1995	268.3	760.9	2 182.1	3 209.3
96	23.2	856.5	1 767.2	2 647.0
97	-	917.6	1 556.8	2 474.4
98	-	810.4	1 218.9	2 029.3
99	-	714.6	1 173.2	1 887.8
2000	-	776.1	936.4	1 712.5
01	-	542.2	1 085.4	1 627.6
02	-	439.0	2 236.4	2 675.4
03	-	416.2	2 324.6	2 740.0
04	-	381.3	2 081.7	2 463.0
2005	-	335.4	1 489.7	1 825.1
06	-	322.2	1 238.3	1 560.5
07	-	264.1	2 232.9	2 497.0
08	-	261.3	1 841.1	2 102.4
09	-	260.0	1 295.7	1 559.7

2010	-	280.6	981.7	1 262.3
11	144.5	277.3	847.9	1 269.7
12	149.4	289.5	883.9	1 322.8
13	374.3	229.8	709.6	1 313.7
14	472,7	204,1	1.132,7	1.809,5
2015	214,4	134,8	1.307,0	1.656,2
Totaal	41.572,1	41.658,0	61.511,7	144.741,8

Oil production 1960 – 2015



OIL RESERVES AND CUMULATIVE PRODUCTION IN MILLION Sm^3

Year	Territory		Continental shelf		Total	
as at 1 Jan.	expected reserves	cumulative production	expected reserves	cumulative production	expected reserves	cumulative production
1970		35.4				35.4
71		37.5				37.5
72		39.4				39.4
73		41.1	-	-		41.1
74	27	42.8	-	-		42.8
1975	40	44.4	14	-		44.4
76	51	45.9	14	-	65	45.9
77	49	47.4	16	-	65	47.4
78	46	48.9	7	-	53	48.9
79	44	50.4	9	-	53	50.4
1980	43	51.9	11	-	54	51.9
81	41	53.3	14	-	55	53.3
82	39	54.7	20	-	59	54.7
83	38	56.3	49	0.2	87	56.5
84	37	57.9	41	1.4	78	59.3
1985	41	59.4	34	3.3	75	62.7
86	42	60.7	36	6.1	78	66.8
87	40	62.1	35	10.0	75	72.1
88	41	63.3	33	13.6	74	76.9
89	39	64.7	32	16.6	71	81.4
1990	41	65.9	27	19.3	68	85.2
91	40	67.2	24	22.0	64	89.2
92	38	68.3	26	24.6	64	92.9
93	37	69.6	24	26.5	61	96.1
94	35	70.9	23	28.2	58	99.1
1995	34	72.1	22	31.0	56	103.1
96	33	73.1	17	33.2	50	106.3
97	33	74.0	22	34.9	55	109.0
98	12	74.9	25	36.5	37	111.4
99	8	75.7	26	37.7	34	113.5
2000	7	76.5	25	38.9	32	115.3
01	6	77.2	24	39.8	30	117.1
02	5	77.8	23	40.9	28	118.7
03	5	78.2	23	43.1	28	121.4
04	21	78.6	17	45.5	38	124.1
2005	19	79.0	15	47.6	34	126.6
06	23	79.3	13	49.0	35	128.4
07	24	79.7	14	50.3	38	129.9
08	24	79.9	13	52.5	37	132.4
09	25	80.2	9	54.4	34	134.5

Year	Territory		Continental shelf		Total	
as at 1 Jan.	expected reserves	cumulative production	expected reserves	cumulative production	expected reserves	cumulative production
2010	37	80.5	13	55.6	50	136.0
2011	34	80.7	12	56.6	46	137.4
2012	29	81.2	11	57.5	40	138.6

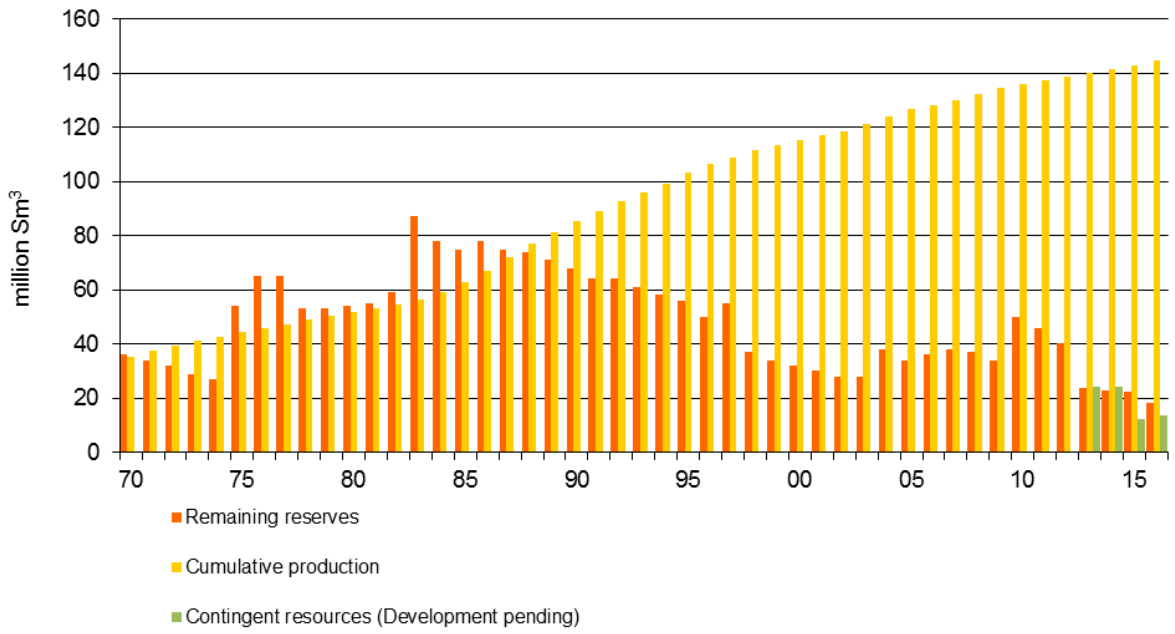
This table has been corrected to take account of the cumulative rounding-off error

From 2015 onwards the table has been modified, to take account of the introduction of PRMS

Rem Res = remaining reserves
Cont Res = contingent resources (development pending)
Cum Prod = cumulative production

Year	Territory			Continental shelf			Total		
as at 1 Jan.	Rem Res	Cont Res	Cum prod	Rem Res	Cont Res	Cum prod	Rem Res	Cont Res	Cum prod
13	17.7	23.7	81.6	6.1	0.6	58.4	23.8	24.3	140.0
14	18.0	18.7	82.2	5.0	5.4	59.1	23.0	24.1	141.3
2015	18.2	9.6	82.9	4.1	2.8	60.2	22.3	12.4	143.1
16	9.0	11.5	83.2	9.1	2.0	61.5	18.0	13.5	144.7

Oil reserves and cumulative production in million Sm^3 1970 – 2015



NATURAL GAS REVENUES

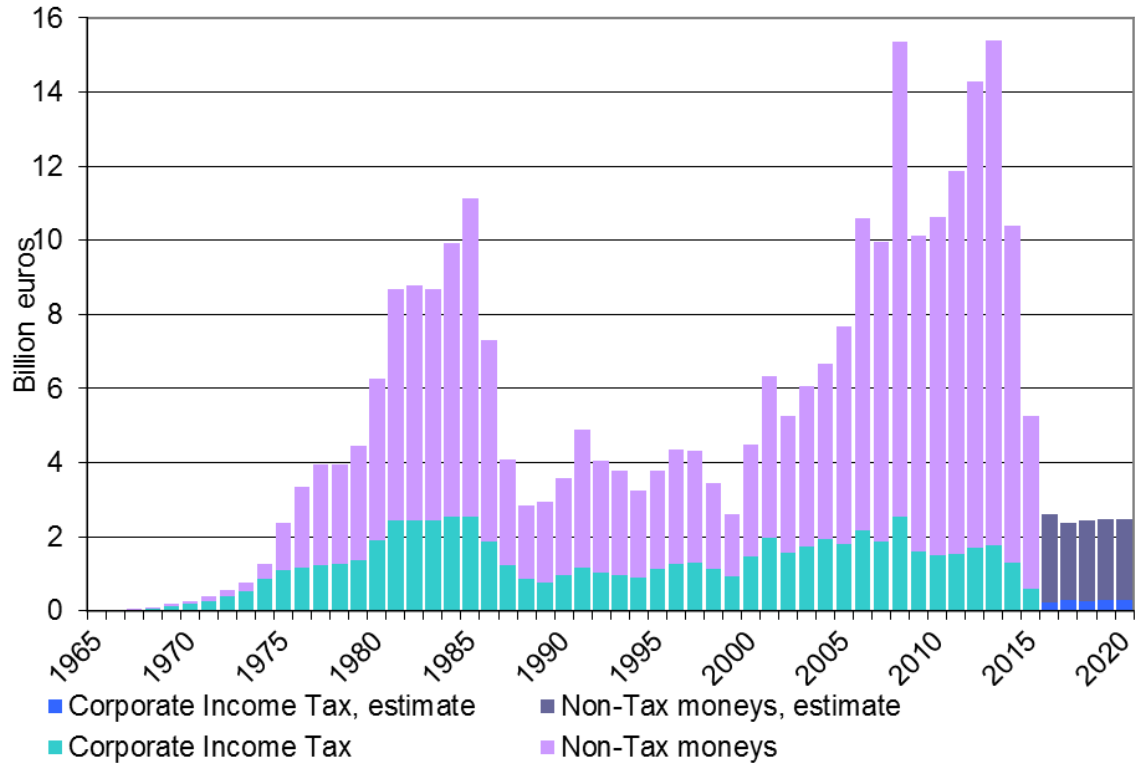
Year	Non-tax revenue ($€10^9$)	Corporation tax ($€10^9$)	Total ($€10^9$)
1965	0	0	0
66	0	0.01	0.01
67	0.01	0.04	0.05
68	0.02	0.07	0.09
69	0.05	0.14	0.19
1970	0.09	0.18	0.27
71	0.14	0.27	0.41
72	0.14	0.41	0.55
73	0.23	0.54	0.77
74	0.41	0.86	1.27
1975	1.27	1.09	2.36
76	2.18	1.18	3.36
77	2.72	1.23	3.95
78	2.68	1.27	3.95
79	3.09	1.36	4.45
1980	4.36	1.91	6.27
81	6.22	2.45	8.67
82	6.35	2.45	8.8
83	6.22	2.45	8.67
84	7.40	2.54	9.94
1985	8.58	2.54	11.12
86	5.45	1.86	7.31
87	2.86	1.23	4.09
88	2.00	0.86	2.86
89	2.18	0.78	2.96
1990	2.61	0.96	3.57
91	3.72	1.17	4.89
92	3.04	1.02	4.06
93	2.83	0.95	3.78
94	2.34	0.91	3.25
1995	2.64	1.13	3.77
96	3.10	1.26	4.36
97	3.01	1.30	4.31
98	2.33	1.12	3.45
99	1.69	0.92	2.61
2000	3.02	1.47	4.49
01	4.37	1.98	6.35
02	3.67	1.58	5.25
03	4.31	1.74	6.05
04	4.74	1.94	6.68
2005	5.88	1.80	7.68
06	8.40	2.18	10.58
07	8.09	1.86	9.95

Year	Non-tax revenue ($€10^9$)	Corporation tax ($€10^9$)	Total ($€10^9$)
08	12.83	2.54	15.37
09	8.51	1.60	10.11
2010	9.14	1.50	10.64
11	10.33	1.55	11.88
12	12.58	1.72	14.30
13	13.60	1.78	15.38
14	9.10	1.29	10.39
2015	4.66	0.60	5.26
Prognosis			
2016	*2.37*	*0.24*	2.61
17	*2.11*	*0.28*	2.39
18	*2.17*	*0.27*	2.44
19	*2.21*	*0.28*	2.49
2020	*2.20*	*0.29*	2.49

The revenues presented here are transaction-based, i.e. they have been allocated to the year in which the production that yielded the revenue took place. (By contrast, revenue recorded on a cash basis is recorded at the time the State actually receives the revenue, which is some time later than the transaction-based revenue).
Non-tax revenue comprises bonus, surface rights, royalties, the State profit shares, the special payments to the State on production from the Groningen field and the profit paid out by EBN B.V. (the State participant in the production).
Tax income for the years 2016 until the end of 2020 is anticipated based on the expected price at gas trading hubs such as TTF. The TTF price per Sm^3 gas used to calculate the estimates is expected at 14 euro cents.The calculations do not take into account modifications in the production from the Groningen field.

The revenues as calulated for the last year are preliminary and may still change (due to, amongst others, information from the tax authority). Therefore the numbers presented here may diverge from numbers presented by e.g. the CBS.

Natural gas revenues 1965 – 2020



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Netherlands Oil and Gas Portal,
www.nlog.nl

The Netherlands Oil and Gas Portal provides information about mineral resources and geothermal energy in Netherlands Territory and the continental shelf 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.

DEFINITIONS OF SELECTED TERMS

Territory/Netherlands Territory:
In this review, Territory and Netherlands Territory refer to the Netherlands mainland and that part of the Netherlands territorial waters located on the landward side of the line referred to in article 1, sub c, of the Mining Act.

Continental shelf:
In this review, continental shelf and Netherlands continental shelf 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 article 1, sub c, of the Mining Act.

Reconnaissance licence:
a licence to carry out a reconnaissance survey on the continental shelf; since 1 January 2003 a reconnaissance survey has only been mandatory for certain areas.

Exploration licence: A licence to explore for the minerals stipulated therein.

Production licence:
A licence to produce the mineral resources specified in the licence, and also to explore for these mineral resources.

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 back 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 a large number of 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: a well to explore a prospective underground accumulation of oil, or gas, or of both;
- Appraisal well: A well drilled to establish the volume and extent of a gas field, or an oilfield, or a combined gas/oilfield;
- Production well: A 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.

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

2 **Expected initial reserves**
the 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.

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

4 **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).

5 **Remaining proven reserves**
the 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.

6 Contingent resources
The 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.

7 Expected contingent resources
The 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.

8 Future reserves
The 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
Database 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 as yet unmapped structures in the ‘proven play’ areas.
e. **Potential futures in as 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. q Petroleum Geology Conferences Ltd. Published by the Geological Society, London.
The most important parameters used to determine the exploration potential (i.e. to perform the economic evaluation of prospects) on the basis of the discounted cash flow model are gas price ((14ct/m3), deduction of costs based on 'Unit Of Production' and the standard GasTerra depletion rules.
Important scenario parameters are the number of exploration wells per year (11) and the incorporation of the construction and dismantling of the infrastructure.

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).

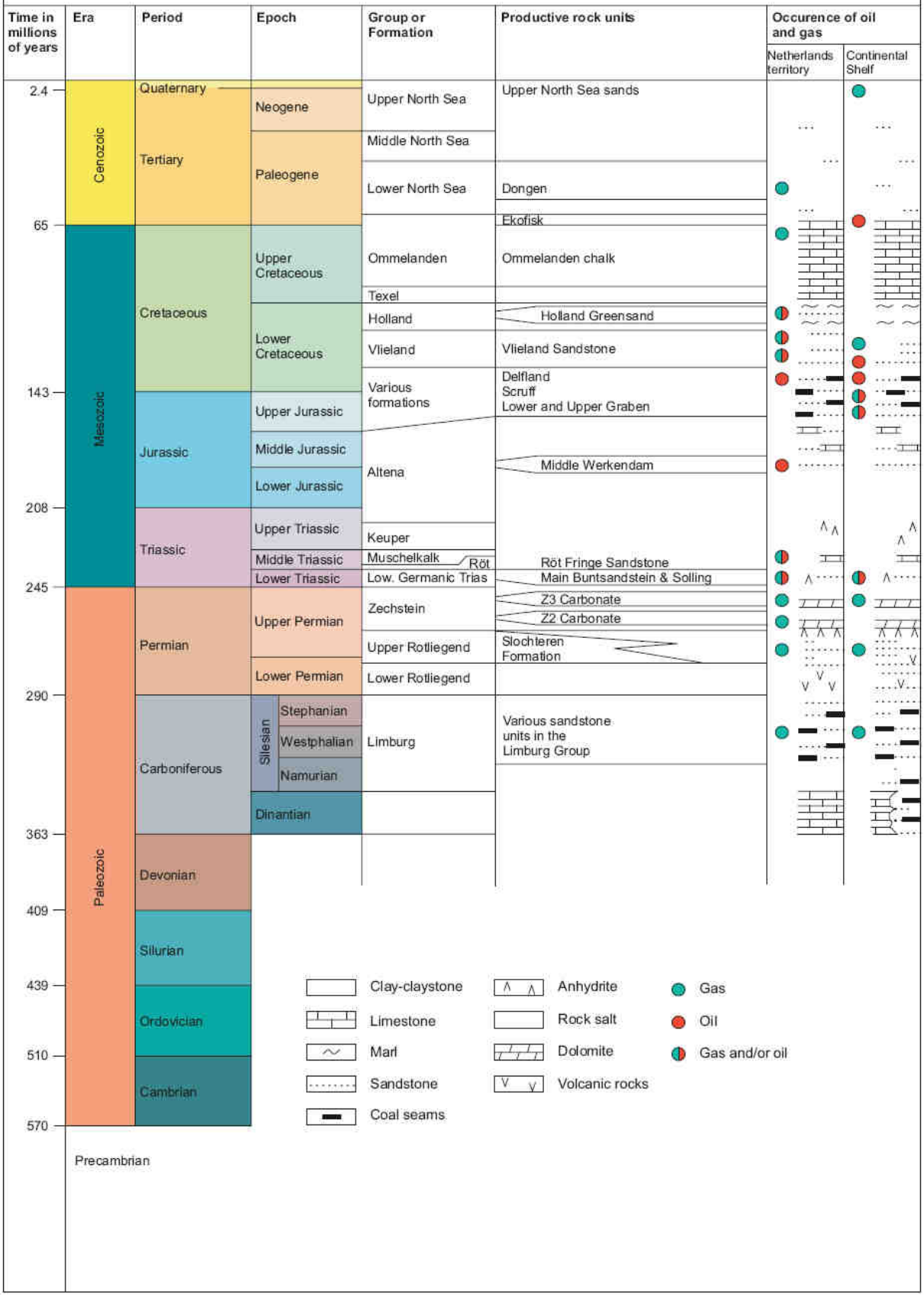
Fuel	Unit	Giga joule	Giga calorie	Oil equiv. tonnes	Oil equiv. barrels	Coal equiv. tonnes	Gas equiv. 1 000 m^3
Fuelwood (dry)	tonnes	13.51	3.23	0.32	2.36	0.46	0.43
Coal	tonnes	29.30	7.00	0.70	5.11	1.00	0.93
Lignite	tonnes	17.00	4.06	0.41	2.96	0.58	0.54
Coke	tonnes	28.50	6.81	0.68	4.97	0.97	0.90
Coke-oven 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.

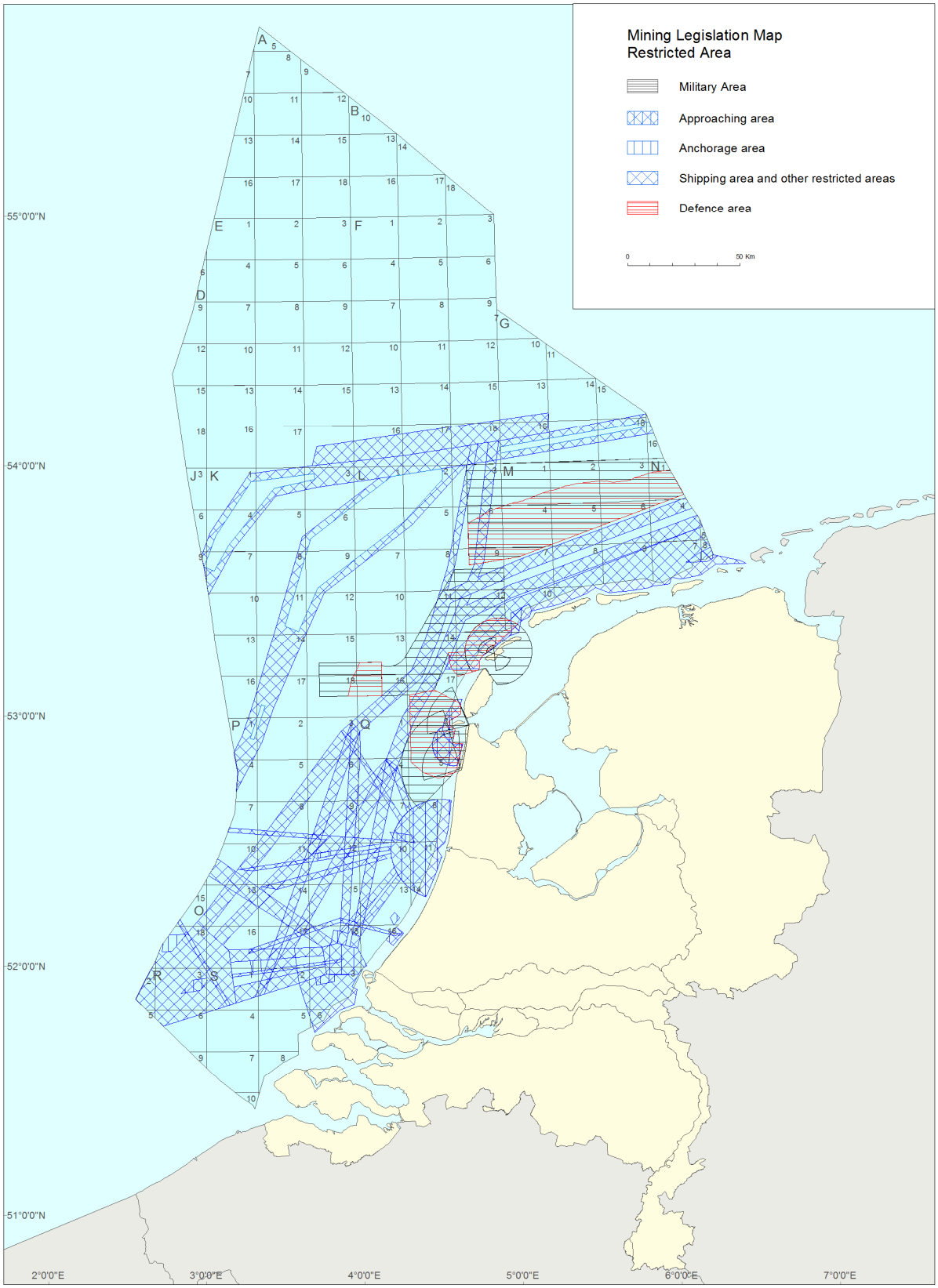
APPENDICES

Geological time scale

with composite stratigraphic column
of the Netherlands and the Continental Shelf



Mining legislation map



Ministry of Economic Affairs
Directorate-General Energy, Telecommunications and Competition
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For more information:
www.nlog.nl