

# Natural resources and geothermal energy in the Netherlands

Annual review 2013



Ministry of Economic Affairs



# **NATURAL RESOURCES AND GEOTHERMAL ENERGY IN THE NETHERLANDS**

**Annual review 2013**

A review of exploration and production activities and underground storage.



## Preface

The annual review on 'Natural resources and geothermal energy in the Netherlands' reports on the activities and results of exploration and production of hydrocarbons, rock salt and geothermal energy in the Netherlands. The underground storage of various substances (e.g. natural gas, nitrogen, CO<sub>2</sub> and brackish water) is included as well. Exploration, production and storage activities in the Netherlands and the Netherlands' part of the Continental shelf, related to the realm of the Mining Act, are combined in this report.

The first section of this annual review deals with developments during the year 2013. The first nine chapters review the developments in the exploration, production and underground storage of hydrocarbons. **Chapters 1 and 2** review changes in natural gas and oil resource estimates in 2013. This section also presents a prognosis for the oil and gas production for the next twenty-five years. The remaining resources of natural gas and oil are reported in accordance with the Petroleum Resource Management System (PRMS).

**Chapters 3 to 8** contain information on developments in exploration and production during 2013 regarding issues such as licencing, seismic surveys, drilling activities, and placement of new platforms or pipelines. **Chapter 9** summarises the volumes of natural gas, condensate and oil produced in 2013. **Chapters 10 to 13** report on exploration and production of coal, salt and geothermal energy and underground storage of substances.

The second section of the annual review comprises a series of annexes representing the situation as at January 1<sup>st</sup> 2014 and historical developments during the past decades.

The appendices contain a series of maps which provide an overview of the situation as at January 1<sup>st</sup> 2014.

This review has been compiled by TNO (Geological Survey of the Netherlands), at the request of the Energy Market Directorate of the Dutch Ministry of Economic Affairs. The review will be presented to both Chambers of Dutch Parliament on behalf of the Minister of Economic Affairs in accordance with the provisions of 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](http://www.nlog.nl)

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The Hague, May 2014.



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In this annual review, natural gas and oil volumes are stated in terms of 'standard' m<sup>3</sup>, usually abbreviated as Sm<sup>3</sup>. 'Standard' relates to the reference conditions: 15° C and 101.325 kPa.

In some cases the natural gas volumes are stated in terms of:

-Normal m<sup>3</sup> (Nm<sup>3</sup>). "Normal" relates to the reference conditions: 0°C and 101.325 kPa.

-Groningen Gas Equivalent, which has a gross calorific value (GHV) of 35.08 MJ/m<sup>3</sup> at 0°C and 101.325 kPa. In either case the pertinent unit is explicitly stated in the text.

## KEY DATA 2013

### Natural gas and oil resources

The natural gas resources discovered as at January 1<sup>st</sup> 2014 are estimated at 1044 billion Sm<sup>3</sup>, 774 billion Sm<sup>3</sup> of which reside in the Groningen gas field, 139 billion Sm<sup>3</sup> in the other onshore fields and 131 billion Sm<sup>3</sup> in fields on the Dutch part of the North Sea Continental Shelf.

Oil resources as at January 1<sup>st</sup> 2014 add up to 47.1 million Sm<sup>3</sup>, 36.7 million Sm<sup>3</sup> of which reside in onshore oil fields and 10.4 million Sm<sup>3</sup> in fields on the Continental Shelf.

### Licences for hydrocarbons

Four applications for an exploration licence were issued for the onshore territory in 2013, three of which were granted. Four exploration licences were extended. There are no changes regarding the production licences on the onshore territory.

Five applications for an exploration licence for the Continental Shelf were issued in 2013. For the Continental Shelf ten exploration licences were prolonged. One exploration licence was restricted. Two exploration licences were relinquished. Furthermore, five production licences were submitted (one for fallow acreage) and two extended. For further details see chapters 3 and 4 and annexes 2, 3, 9 en 10.

### Wells

A total of thirty-three oil/gas wells were drilled in 2013, two less than in 2012. Six exploration wells were drilled, four of which found gas and two were dry. This results in a technical success ratio of 67%. Furthermore, three appraisal wells, eighteen production wells and six wells for gas storage were drilled (onshore and continental shelf). For more details see chapter 9.

### Gas production

The total gas production from Dutch fields in 2013 amounts to 84.5 billion Sm<sup>3</sup>. Onshore gas fields produced 66.5 billion Sm<sup>3</sup>, 9.4 billion Sm<sup>3</sup> of which derive from "small fields" and 57.1 billion Sm<sup>3</sup> from the Groningen gas field. Offshore gas fields produced 17.9 Sm<sup>3</sup>. The overall production in 2013 was 8.0% higher than in 2012. For details see chapter 9.

### Oil production

In 2013, a total of 1.31 million Sm<sup>3</sup> of oil was produced in the Netherlands, which is 0.7% less than in 2012. The onshore fields produced 0.60 million Sm<sup>3</sup>, which represents an increase of 37.6% relative to 2012. Production from offshore oil fields decreased to 0.71 million Sm<sup>3</sup> which is 19.7% less than in 2012. The average oil production throughout 2013 was about 3600 Sm<sup>3</sup>/day. For details further see chapter 9.

### **Underground storage**

In 2013 one onshore storage licence application was issued for brackish water. On the Continental Shelf one storage licence for CO<sub>2</sub> was awarded. In the five existing underground storages for natural gas 6.9 million Sm<sup>3</sup> were injected and 6.5 million Sm<sup>3</sup> withdrawn. In Winschoten II (the Heiligerlee cavern) 2.7 million Nm<sup>3</sup> nitrogen was injected while 0.3 million Nm<sup>3</sup> withdrawn. For more details see chapter 10.

### **Coal**

No changes in licences occurred in 2013. There are five production licences in force. For details see chapter 11.

### **Rock salt**

One exploration licence for rock salt was restricted in 2013 and one production licence was awarded. As at January 1<sup>st</sup> 2014 there were fifteen production licences in force. The production of rock salt in 2013 was 6.5 million tons. For further details see chapter 12, annexes 5 and 6.

### **Geothermal energy**

Six new exploration license applications for geothermal energy were issued in 2013. Six exploration licences were rejected and six awarded. Three exploration licences were restricted, nineteen extended and eleven licences expired or withdrawn.

Six production licence applications were issued.

Four wells for geothermal energy were drilled and completed. For more details see chapter 13 and annexes 7 and 8.

# 1. NATURAL GAS RESOURCES AND FUTURE GAS SUPPLY IN THE NETHERLANDS

## INTRODUCTION

This chapter reports on the natural gas resources in the Netherlands and the Netherlands part of the Continental Shelf. First it presents estimates of the natural gas resources as at January 1<sup>st</sup> 2014 and changes relative to the situation as at January 1<sup>st</sup> 2013. A brief description of the method to determine the natural gas resources is given below. This section also reports prognoses on the Dutch natural gas production for the next 25 years (2014 - 2038).

## Data

In accordance with the Mining Act (Mining decree, article 113) the operators of production licences report their annual estimates on remaining resources for their hydrocarbon accumulations as well as the prognoses for the future annual production. These figures are used to estimate the total Dutch production/supply of natural gas. As per January 1<sup>st</sup> 2013 resources are reported according to the Petroleum Resource Management System (PRMS)<sup>1</sup> 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, projects such as extra (infill or acceleration) wells, the installation of compression and finally the placement of velocity strings or soap injection may be planned. Each of these projects represents an incremental volume of gas that is expected to be produced.

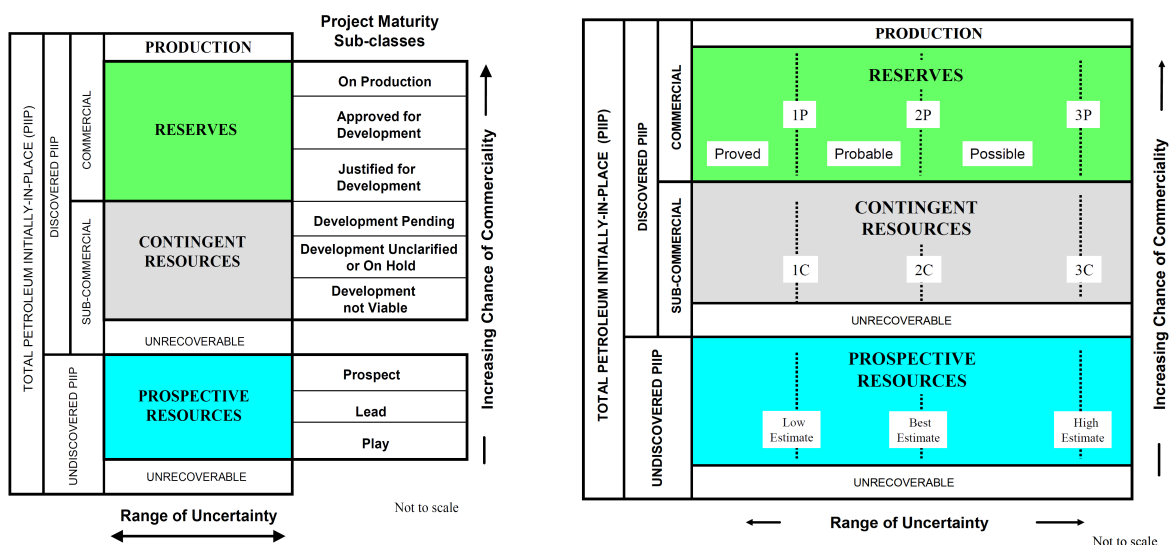


Figure 1. Schematic representation of the PRMS classification<sup>1</sup>

Since oil and natural gas are physically located underground at great depths, estimates on hydrocarbon resources are based on the evaluation of data showing the amounts present. All resource estimates have an intrinsic uncertainty. The PRMS resource classification considers this uncertainty in its central framework where the gas resources for each project are

<sup>1</sup> [Guidelines for application of the PRMS](#), Society of Petroleum Engineers, 2011.

categorised according to the likelihood of recovery. This is pictured along the horizontal axis in the Figure 1. The expectation is expressed in 1P (proved), 2P (probable) and 3P (possible). Similar categories exist for Contingent resources expressed as 1C, 2C and 3C. These volumes are in turn classified in the vertical, based on the probability that the project will be realized (chance of commerciality). The natural gas resources are divided into three main classes; Reserves, Contingent resources and Prospective resources. Within these classes sub-classes have been defined. Reported resources in this review reflect the situation as of 1 January 2014.

The Dutch gas resources, as reported in this chapter, include the total volume of Expected Reserves (2P) and Contingent Resources (2C) insofar as they belong to the subclass 'development pending'. In other words, the Contingent Resources subclasses 'development unclarified or on hold' and 'development not viable' are not included in the resources. The section on the exploration potential describes how the third main class of undiscovered prospective resources (i.e. Prospective Resources) is determined.

For further information on PRMS see [www.spe.org](http://www.spe.org)

## **RESOURCE**

The natural gas resource is defined as the volume of natural gas that can be produced from discovered gas accumulations in the subsurface of the Netherlands. A large part of these initial resources have been developed and are currently 'on production'. The remaining producible volumes of natural gas in the proven accumulations that can economically be produced are defined as the 'reserves'. Discovered volumes of gas which are currently not considered commercially recoverable due to one or more contingencies are called 'contingent resources'.

As at January 1<sup>st</sup> 2014 a total of 466 natural gas accumulations have been discovered in the Netherlands (Table 1). The majority of the accumulations has been developed (265), i.e. they are producing. Besides, four gas fields are currently operational as gas-storage facilities. A fifth storage facility is located in a salt cavern. 28 out of the 113 accumulations not yet developed are expected to start production within five years (i.e. between 2014 and 2018). The development of the remaining 85 accumulations is still unclear. Of all accumulations developed so far, 85 have temporarily/permanently ceased production. Compared to the situation per January 1<sup>st</sup> 2013, the number of accumulations has increased by fourteen. Apart from the four newly discovered gas fields this concerns fields that were formerly regarded uneconomical and therefore not included in the operators portfolios.

Table 1. Number of proven natural gas accumulations sorted by status as at 1 January 2014

Status of accumulations	Onshore Territory	Continental Shelf	Total
<b>I. Developed</b>			
a. Producing	113	150	263
b. Underground gas-storage storage	5	0	5
<b>II. Undeveloped</b>			
a. Start of production 2014-2018	14	14	28
b. Others	33	52	85
<b>III. Production ceased</b>			
a. Closed in	9	7	16
b. Abandoned	28	41	69
<b>Total</b>	<b>202</b>	<b>264</b>	<b>466</b>

Table 2 shows the accumulations with a status change in 2013. Eleven fields came on stream three of which were temporarily shut in. A complete overview of all accumulations is listed in Annex 1. Accumulations are sorted by status with the corresponding operator and license. In accordance with the Mining Act, production plans or storage plans have been submitted for all developed accumulations.

Table 2. Gas accumulations with a status change in 2013.

Accumulation	Operator	Licence	Status 2014	Status 2013
A15-A	Chevron	A15a	NP>5	NP<5
Appelscha	NAM	Drenthe IIb	T	P
B17-A	Chevron	B17b	NP>5	NP<5
Bozum	Vermilion	Oosterend	C	P
Burum-Oost*	NAM	Tietjerksteradeel	NP<5	-
D12 Ilmenite	Wintershall	D12a	NP>5	-
D15-A-104	GDF Suez	D15	C	P
D18a-A	GDF Suez	D18a	P	NP<5
De Klem*	NAM	Beijerland	P	-
Franeker	Vermilion	Leeuwarden	C	T
Geestvaartpolder	NAM	Rijswijk	P	T
K04a-Z	Total	K04a	P	NP<5
K08-FC	NAM	K08 & K11	P	T
K08-FE	NAM	K08 & K11	NP>5	-
K09ab-C	GDF Suez	K09a & K09b	T	P
K12-C	GDF Suez	K12	C	P
K12-K	GDF Suez	K12	T	P
K17-Zechstein	NAM	K17	NP>5	-
K6-GT4	Total	K06 & L07	NP>5	-
L08-I	Wintershall	L08a	NP>5	-
L09-FI	Dana Petroleum	L09	T	P
L10-N	GDF Suez	L10 & L11a	P	NP<5
L13-FG	NAM	L13	T	P
Langezwaag	Vermilion	Gorredijk	P	NP<5

Accumulation	Operator	Licence	Status 2014	Status 2013
M07-B	Oranje-Nassau	M07	P	-
Marum	NAM	Groningen	P	T
Metslawier	NAM	Noord-Friesland	C	P
Middelburen	Vermilion	Leeuwarden	C	P
P10a De Ruyter Western Extension*	Dana Petroleum	P11b	P	-
P11b Witte de With*	Dana Petroleum	P11b	NP<5	-
P12-14	Wintershall	P12	NP>5	-
P12-SW	Wintershall	P12	C	P
P15-10	TAQA	P15C	C	T
P15-12	TAQA	P15a & P15b	T	P
Q14-A	Cirrus	Q14	NP>5	-
Terschelling-Noord	Tulip	Terschelling-Noord	NP<5	NP>5
Valthermond	NAM	Drenthe IIb	NP>5	-
Warga-Wartena**	Vermilion	Leeuwarden	P	-
Zuidwending Aardgasbuffer	Gasunie	Winschoten II	UGS	-

P: Producing

NP<5: Undeveloped gas accumulation, production start expected within 5 years

NP>5: Undeveloped gas accumulation, production start unknown

C: Production ceased temporarily

U: Production ceased

A: Abandoned

\* : New discovery

\*\* : Merged fields.

## RESOURCE ESTIMATES

### Reserves as at 1 January 2014

As at 1 January 2014 the total resources in all developed and undeveloped accumulations amount to 1044 billion Sm<sup>3</sup> (table 3a).

The resource estimates for developed accumulations are based on the information supplied by the operators in their annual reports and submitted in accordance with the Mining Act. As a consequence of the adoption of the PRMS, the resources are from now on subdivided in Reserves and Contingent resources of the subcategory Development pending. To a certain extent this corresponds with the former subdivision in developed and undeveloped fields, and as such it does not result in a change in trend. The use of PRMS as resource classification results in a uniform way of reporting.

### Restricted to conventional gas accumulations

According to the PRMS classification shale gas is classified as prospective resources (a not yet proven play). Hence this annual review only reports the conventional gas resources. The minister of Economic Affairs has, based on the research on the possible risks and consequences of exploration and production of shale gas and coal bed methane for men, nature and the environment, decided to execute a Environmental impact analysis on the



production of shale gas in the Netherlands. This analysis will take place throughout 2014 and the final results are expected early 2015.

### Reserves and Contingent resources

The remaining resources are listed in tables 3a (in billion Sm<sup>3</sup>) and 3b (in m<sup>3</sup> Groningen equivalents, m<sup>3</sup>Geq). These resources may be present in either developed or non-developed accumulations. According to the PRMS a volume of gas may qualify as reserves when it has been discovered and is assumed to be commercially produced according to well defined projects. Contingent resources are those volumes of gas in known accumulations that are potentially producible, but currently not assumed commercial due to one or more contingencies. Of the contingent resources only that part belonging to the subcategory 'development pending' is presented here.

The remaining reserves add up to 928 billion Sm<sup>3</sup> in total, 768 billion Sm<sup>3</sup> for the Groningen field and 160 billion Sm<sup>3</sup> for the other (small) fields. The remaining reserves present in the fields Norg, Grijpskerk and Alkmaar, at the time of their conversion to underground gas storage facilities (together some 19 billion Sm<sup>3</sup> or 20 m<sup>3</sup> Geq) are separately mentioned as UGS cushion gas in table 3a. The Bergermeer accumulation had no remaining reserves at the time of conversion. This 'cushion gas' will only be produced once the fields are no longer used as storage facilities. This is not expected to happen prior to 2040.

The contingent resources (development pending) are present in developed accumulations, but the major part is still undeveloped. According to the PRMS 6 billion Sm<sup>3</sup> of the Groningen field belongs to the category contingent resources (table 3a). The small fields contain a contingent resource of 57 billion Sm<sup>3</sup> on the Dutch territory and 34 billion Sm<sup>3</sup> on the Continental shelf

Table 3a. Gas resources in the Netherlands as at 1 January 2014 in billions of Sm<sup>3</sup>

Accumulations	Reserves		Contingent resources (development pending)	Total
		UGS		
<b>Groningen</b>	768		6	774
<b>Others Territory</b>	63	19	57	139
<b>Continental Shelf</b>	97		34	131
<b>Total</b>	928	19	97	1044

For the purpose of equating volumes of natural gas of different qualities in calculations, these volumes have been converted to Groningen Gas Equivalents (Geq) on the basis of calorific value (table 3b). The Groningen Gas Equivalents is calculated relative to the heating value of 35.17 MJ/Nm<sup>3</sup>, the calorific value of the original content of the Groningen field. However, since 2010 we use the heating value of 35.08 MJ/Nm<sup>3</sup> for the remaining gas in the Groningen field as the gas composition of the gas presently produced from the Groningen field differs from the composition of the originally produced gas.

Table 3b. Gas resources in the Netherlands as at 1 January 2014 in billions of m<sup>3</sup>Geq

Accumulations	Reserves		Contingent resources (development pending)	Total
		UGS		
Groningen	726		6	732
Others Territory	64	20	58	143
Continental Shelf	98		34	133
<b>Total</b>	<b>888</b>	<b>20</b>	<b>99</b>	<b>1007</b>

### Revisions relative to January 1<sup>st</sup> 2013

The table below shows the revisions of the Dutch gas resource, resulting from:

- new discoveries;
- re-evaluations of previously proven accumulations;
- production during 2013.

Table 4. Revisions of expected gas resource relative to January 1<sup>st</sup> 2013, in billion Sm<sup>3</sup>

Area	New discoveries	Re-evaluations	Production	Total
Groningen field	0.0	7.5	-57.2	-49.7
Others Territory	0.2	4.4	-9.4	-4.8
Continental Shelf	0.0	-14.3	-17.9	-32.2
Total	0.2	-2.4	-84.5	-86.7

The net result is a decrease of the resource by 86.7 billion Sm<sup>3</sup> compared to January 1<sup>st</sup> 2013. A brief explanation of these figures follows below.

### New discoveries

The four exploration wells that struck gas seem to contain commercially producible quantities (table 5). For the onshore discoveries a resource figure of 0.2 billion Sm<sup>3</sup> has been estimated, the offshore discoveries are still being evaluated, no estimates are available yet. The locations of the discoveries are indicated by asterisks in figure 2.

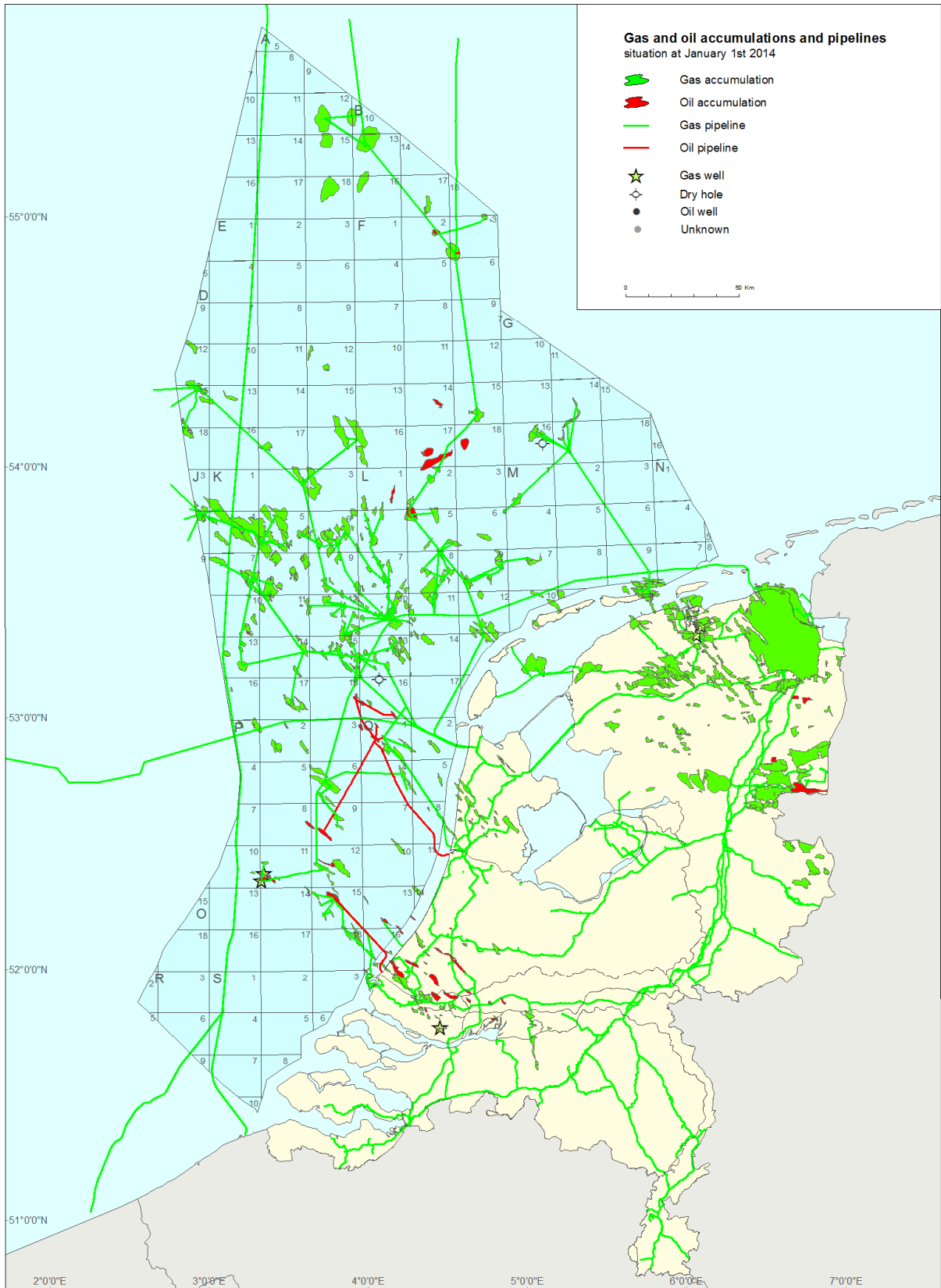


Figure 2. Outline map showing oil and gas accumulations in the Netherlands (as at 1 January 2014). New discoveries are indicated with an asterisk.

Table 5. Gas accumulations discovered in 2013

Name accumulation	Discovery well	Licence area	Operator
De Klem	Numansdorp-02	Beijerland	NAM
Burum East	Warfstermolen-02	Tietjerksteradeel	NAM
P10a De Ruyter	P11-08-Sidetrack1	P10a	DANA
Western Extension*			
Witte de With	P11-09	P11b	DANA

## Revisions

Both producing and non producing gas accumulations are periodically evaluated by their operators to implement economical and technical developments. These evaluations may lead to adjustments of the reserves. In 2013 they resulted in a downward revision of the gas reserves by 2.4 billion Sm<sup>3</sup>. The adjustment of resources in the Groningen accumulation is +7.5 billion Sm<sup>3</sup> (approx. 1% of the remaining reserves), the adjustments on the territory and the Continental shelf are +4.4 and -14.3 billion Sm<sup>3</sup> respectively

The revision of the reserves is related to adjustments based on the production performance of the fields or technical interventions. These interventions comprise the drilling of new wells, and application of new technologies to extend the production life of the field. In all cases the changes in reserves are based on proven technologies such as (extra) compression and deliquification of production wells.

## EXPLORATION POTENTIAL

TNO updates the Dutch prospect portfolio for natural gas annually. This is, amongst others, based on the annual reports submitted by the operators for the licenced areas in accordance to the Mining Decree (article 113). For other areas TNO uses figures from its own database.

### Geological units and prospects

TNO focuses on the evaluation of the so called 'proven plays'. These are geological units for which it is legitimate to assume that they meet the necessary geological conditions to enable the formation of natural gas accumulations. Within those proven plays all mapped and evaluated prospects, based on existing data, will be considered as the prospect portfolio. Hypothetical plays and prospects will not be considered due to their speculative character.

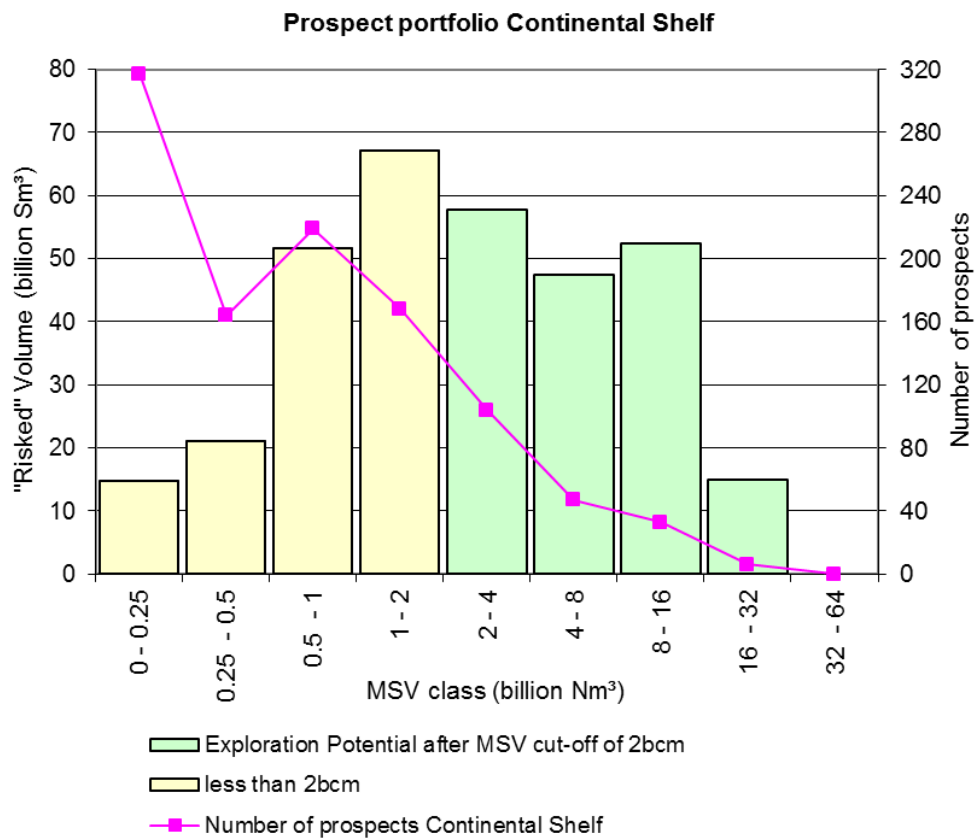
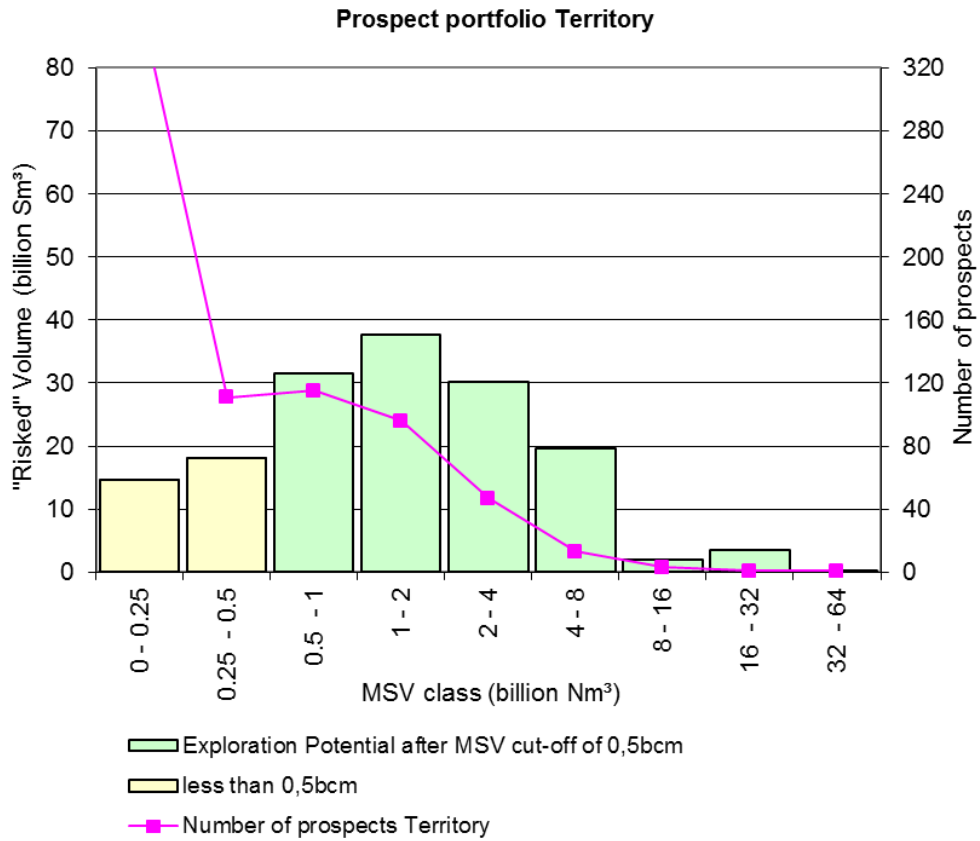


Figure 3: Prospect portfolio characteristics. The exploration potential, after applying a MSV cut-off, is represented by the green columns.

### Portfolio characteristics

The prospect portfolio is characterised by the number of prospects and its associated volume of gas. The volume of a prospect can be expressed in terms of the expected recoverable volume in case of a discovery (the so called *Mean Success Volume*, MSV) or in terms of the *risked volume* (the so called *Expectation*, EXP), which is the product of the MSV and the Possibility of Success (POS).

The prospect portfolio characteristics as of 1 January 2014 are presented in figure 3 for the prospects in the Territory and the Continental shelf. The number of prospects and the *risked volumes* are shown per MSV volume class. The total number of prospects in the portfolio has increased compared to 1 January 2013. In general the *risked volumes* in most MSV classes have been valued slightly higher as compared to the 1 January 2013 portfolio, mainly due to the addition of new prospects. A distinct development, however, is the marked increase in 'risked volume' in the larger classes for both the Territory and Continental Shelf. This increase can be explained by the addition of several large prospects in the 'proven play' areas through the art.113 submission 2014 and a re-evaluation of several older prospects.

### Exploration potential

The exploration potential is that part of the prospect portfolio that meets certain minimum conditions. Since the first report on the exploration potential in 1992 a cut-off was defined for the expected recoverable volume in case of discovery (MSV). This cut-off was set at 0.5 billion cubic meters for prospects in the Territory and at 2 billion cubic meters for prospects on the Continental Shelf. The green columns in figure 2 represent the risked volume of the prospects that meet this MSV cut-off. This volume is called the exploration potential based on the MSV cut-off.

The estimate of the exploration potential (see Table 6) is expressed as a range, to stress the inherent highly uncertain nature.

Table 6. Exploration potential for natural gas based on MSV cut-off as at 1 January 2014.

Area	MSV cut-off [billion Sm <sup>3</sup> ]	Exploration potential [billion Sm <sup>3</sup> ]
Territory	0.5	79 – 182
Continental Shelf	2	104 – 249

The consequence of a minimum MSV based cut-off is that other factors determining the commercial attractiveness of a prospect 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 on generic factors such as expenses and revenues.

An alternative cut-off, for the first time presented in the annual review of 2006, is based on a positive net present value of a prospect. The *Expected Monetary Value* (EMV) for each prospect is derived from the net present value considering the exploration risk using a discounted cash flow model. This model determines the commercial attractiveness of a prospect incorporating the factors mentioned above.

As an example table 7 shows the expectation value for the exploration potential after applying an EMV cut-off (prospects with a positive EMV at a gas price scenario of 24 cents per cubic meter). Compared to the figures in table 6 the EMV > 0 cut-off results are close to the middle of the range of the exploration potential based on the MSV cut-off. This is a notable increase as compared to January 1<sup>st</sup> 2013. The increase is mainly caused by the increase in 'risky volume' in the prospect portfolio (see above) and especially in the large (and therefore more attractive) MSV-classes.

Table 7. Exploration potential natural gas as at 1 January 2014. Commercial conditions: (EMV >0), and a gas price for 24 cents per cubic meter.

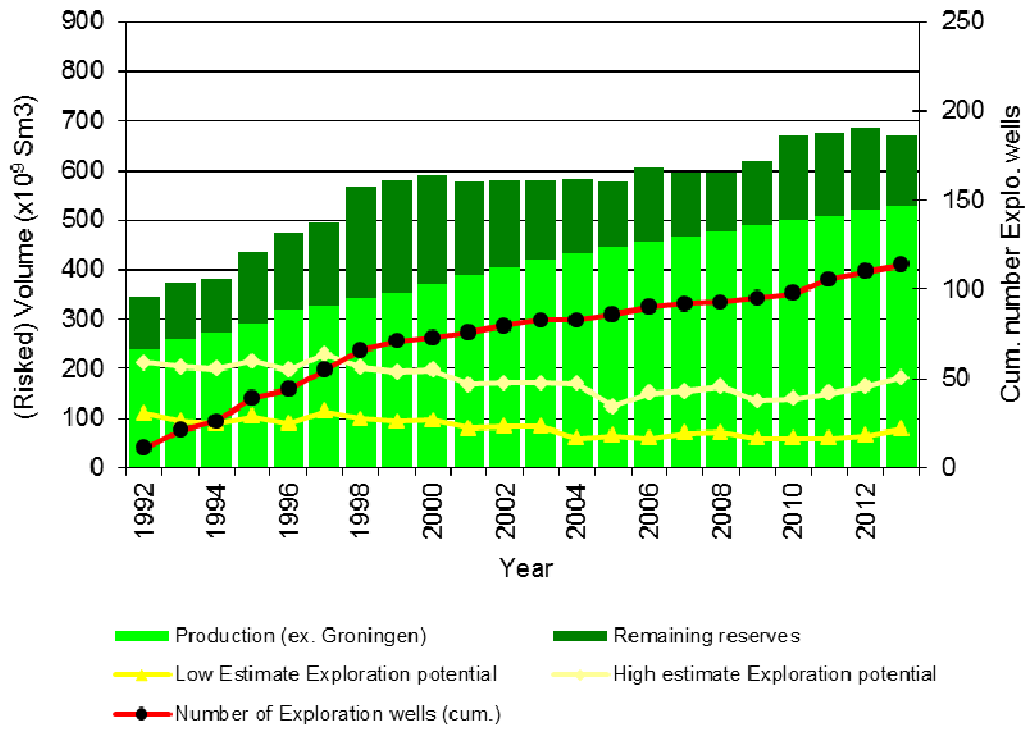
Area	Expectation Exploration Potential [Billion Sm <sup>3</sup> ]
Territory	143
Continental Shelf	126

### Exploration potential trend/history

Figure 4 shows the development of the exploration potential in the Netherlands. The graph for the Dutch territory shows a gradual decline for both the high and the low estimate until present. The graph of the Continental Shelf shows an increase for the high estimate in particular around 2004, followed by a decline to a present day level similar to that in the 90's.

Over time, part of the exploration potential has been drilled successfully, thereby converting the potential volumes into actual reserves. This is expressed in the increased height of the green columns (cumulative production and remaining reserves) in figure 3. The exploration potential of 100 billion cubic meters for the Territory as reported in 1992 had already been added to the reserves in 1996. The fact that nonetheless the exploration potential remains stable is due to the dynamics in the prospect portfolio on which the estimations of the exploration potential are based. Each year prospects are removed from the portfolio after the drilling of exploration wells, and new prospects are added. Evaluations of prospects may also lead to changes in the values of the prospect portfolio (see paragraph Portfolio Characteristics).

### Volume Trend Territory



### Volume Trend Continental Shelf

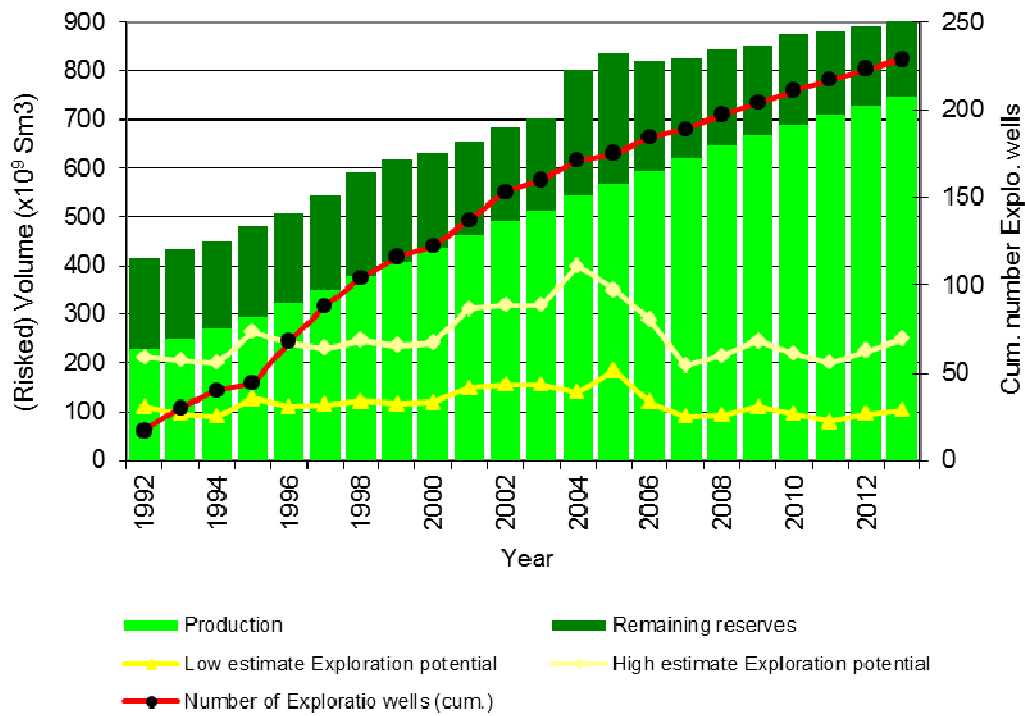


Figure 4: Reserves from 1992 to present (excluding the Groningen gas field).



## **INCENTIVES**

The Decree on investment deduction for marginal gas accumulations on the Continental Shelf (*Regeling investeringsaftrek marginale gasvoorkomens continentaal plat*) became in force on 16<sup>th</sup> of September 2010. This measure aims to encourage the mining industry to develop marginal gas fields on the Dutch Continental shelf which otherwise would not have been drilled. Licensees and co-licences may charge 25% of the amount of investment for the appointed marginal fields or prospects against the result subject to legal payment of the State Profit Share under the Mining Act. The applications for marginal fields will be reviewed against the following three parameters: Technically producible volume of gas, well productivity and transport distance to a platform.

Since the Decree became in force 35 applications have been filed of which 24 have been granted. This resulted in 12 field developments by the end of 2013.

At the same time and with the same purpose as the decree an agreement became into force between the Minister of Economic Affairs and the mining companies active on the Continental Shelf. This covenant includes a voluntarily procedure to stimulate mining companies holding permits for gas production on the Continental shelf to either actively use the permit areas (and parts thereof) within a reasonable time for exploration and exploitation operations, or make them available to others (Fallow areas).

Since July 1st 2011 the minister of Economic Affairs determines which (parts of) offshore production licences will classify as fallow. This classification will be updated annually (but if new data becomes available this classification may be adjusted in between). The most recent classification is published on NLOG.

If an area is declared fallow, the main licence holder (or operator) will be notified by the Ministry of Economic Affairs. The operator has nine months to submit an activity plan that is in compliance with the Mining act (article 32). When the operator does not use this opportunity, the partners have the three subsequent months to submit their activity plan. Eventually the acreage is open for third party plans.

In 2012 a third party submitted an activity plan for the fallow part of the F3b production licence of GDF-Suez. This application was published on NLOG in 2013. One competing application was submitted, both are under evaluation at the Ministry of Economic Affairs.

At the end of 2013 a third party submitted an activity plan for the fallow part of the production licence N07b of GDF Suez. This application was published on NLOG in 2014. Other parties have 13 weeks to submit competing applications.

The actual status of production licence areas, based on the above mentioned covenant, is published on [www.nlog.nl](http://www.nlog.nl). On this web site the activity level in onshore licence areas are published as well. This onshore classification is according to article 32a of the Mining Act.

## GAS SUPPLY FROM WITHIN THE NETHERLANDS

This section of the annual review deals with volumes of gas that can reasonably be expected to be produced in the next 25 years (2014 to 2038). Estimates are based on data submitted by operators. The reference date for the present review is January 1<sup>st</sup> 2014. All volumes here are quoted in billions of m<sup>3</sup> Groningen Gas Equivalent (heating value of 35.08 MJ/Nm<sup>3</sup>) abbreviated as m<sup>3</sup>Geq.

The estimated Dutch natural gas supply is presented in figure 5, and it is divided into production from the Groningen field (upper part of the diagram) and production from other accumulations (small fields). The figure shows both the realised Dutch natural gas production for the period 2001 – 2013 as the production estimates for the next 25 years (2014 – 2038).

Due to the recurrent seismic activity in the Groningen field the estimated supply from this field has been derived on a different way than in previous years. As yet no final decision has been taken on the updated production plan (winningsplan) for the Groningen field, a production cap of 42 billion m<sup>3</sup>Geq in 2014 and 2015 and 40 billion m<sup>3</sup>Geq in 2016 is proposed. After these three years the situation will be evaluated to decide on further measures concerning production restrictions. Waiting on these results a provisional production profile is based on the following: For the years 2017 until 2038 a continuation of the maximum annual production of 40 billion m<sup>3</sup>Geq is assumed. This annual production may be achieved until pressure depletion does not allow this anymore. This implies the production rate will decrease starting in 2026.

Once again it is stressed that due to the uncertainty of the allowed production rate for the Groningen field the proposed production forecast is based on a number of arbitrary assumptions. Depending on the final decisions this forecast will be adjusted.

The estimated supply from the small fields are based on the following data:

- the summation of the production profiles of the **reserves**. These profiles were submitted by the operators as part of their annual reports (Mining Decree, article 113).
- the summation of the **contingent resources (production pending)**. These resources are not profiled by the operators. Therefore an arbitrary production profile is based on the assumption that this category (contingent resources/development pending) will be brought on stream within 10 years, the main part being produced at the beginning of this period.
- the summation of the production profiles of the **accumulations to be discovered**. These profiles are prepared by using a simulation model; taking into account the number of wells that are expected to be drilled (10 exploration wells per year and a minimum risked value to investment ratio (RVIR) of 0.1), the expected producible volumes, the expected productivity per well and the probability of success.

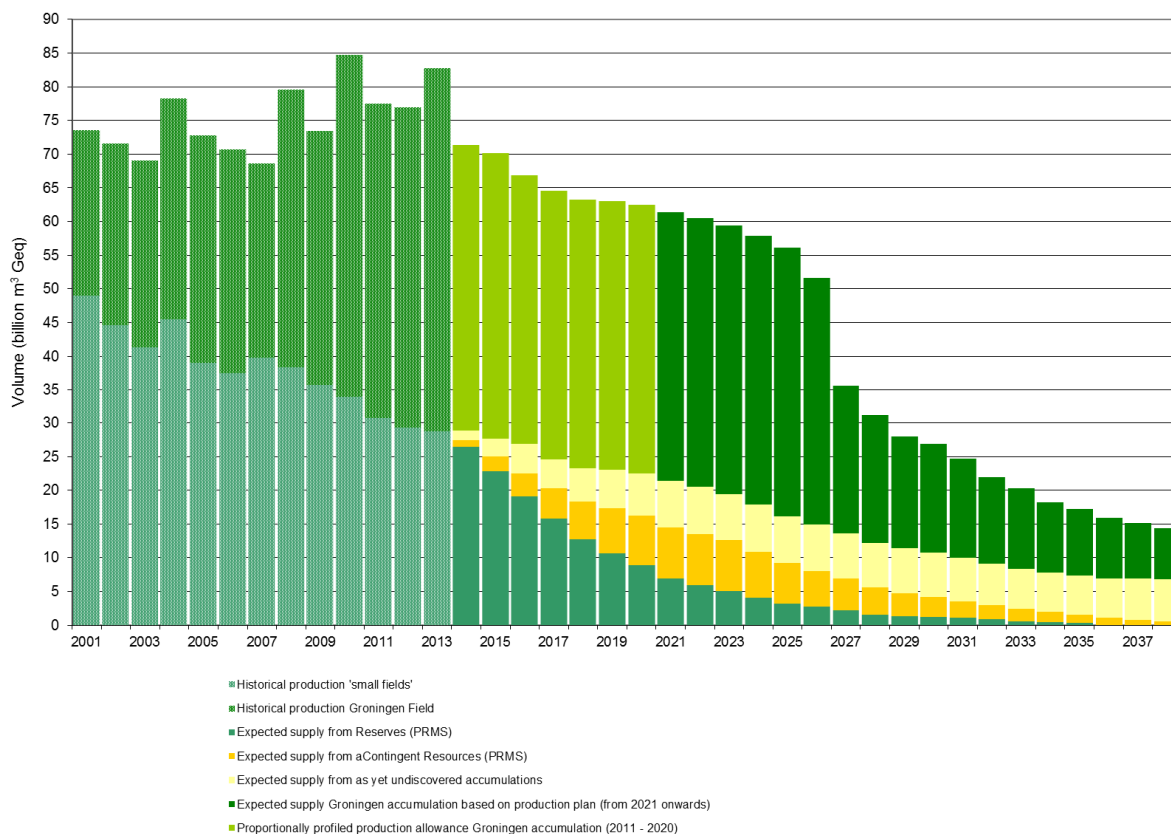


Figure 5. Actual production of natural gas in the Netherlands from 2001 - 2013 and production prognosis for the period 2014 - 2038.

### Small fields

Production from small fields in 2013 took place according to prognosis. Production from the current portfolio of “small fields” is expected to gradually decline to around 6.8 m<sup>3</sup>Geq in 2038.

### Total production from proven fields

The Dutch natural gas production for the next 10 years -as presented here- mostly depends on developments in the Groningen field. Based on the production forecast, and as described above, the total gas production will amount to 643 billion m<sup>3</sup>Geq. Estimates indicate that 238 billion m<sup>3</sup>Geq will be produced from the “small fields” and a maximum of 405 billion m<sup>3</sup>Geq from the Groningen field.

Table 8. Dutch natural gas production for the next 10 and 25 years in billion m<sup>3</sup>Geq

Production	2014 – 2023	2014 – 2038
Small fields		
Reserves	134	155
Contingent resources (dev. pending)	54	98
Still to be discovered	50	146
Subtotal Small fields	238	399
Groningen accumulation	405	680
Total production in the Netherlands	643	1079

## 2. OIL RESOURCES

As at January 1<sup>st</sup> 2014 there are 48 proven natural oil accumulations in the Netherlands, 15 of these accumulations are producing.

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

Table 9. Number of proven oil accumulations as at January 1<sup>st</sup> 2014

Status of oil accumulations	Onshore	Continental Shelf	Total
<b>I. Developed</b>			
Producing	4	11	15
<b>II. Undeveloped</b>			0
a. start of production 2014-2017	1	3	4
b. others	9	12	21
<b>III. Production ceased</b>			
a. Closed in	0	0	0
b. Ceased	8	0	8
<b>Total</b>	<b>22</b>	<b>26</b>	<b>48</b>

Table 10 Oil accumulations with a status change in 2013

Accumulation	Operator	Licence	Status 2014	Status 2013
Denekamp	NAM	Tubbergen	NP>5	-
L05a-E	GDF Suez	L05a	NP<5	-

### Oil resources as at 1 January 2014

The reserve estimates for developed accumulations are based on the figures and information submitted in accordance with the Mining Act. Starting this year the resource reporting is according to the Petroleum Resources Management System (PRMS, see chapter 1 for further explanation). Below the reserves (that part of resources which is commercially recoverable and has been justified for development by the operators) and the contingent resources (these are resources that are potentially recoverable but not yet considered mature enough for commercial development) are reported. Because the resource classification is project based, both reserves and contingent reserves can be present within one accumulation.

Table 11. Dutch oil reserves in million Sm<sup>3</sup> as at January 1<sup>st</sup> 2014

Area	Reserves	Contingent resources (development pending)	Total
Territory	18.0	18.7	36.7
Continental Shelf	5.0	5.4	10.4
Total	23.0	24.1	47.1

The total resources add up to 47.1 million Sm<sup>3</sup> consisting of 23.0 million Sm<sup>3</sup> oil reserves and 24.1 million Sm<sup>3</sup> contingent resources (table 11).

### Revisions compared to 1 January 2013

Table 12 lists the revisions to the Dutch oil resource, resulting from

- re-evaluations of previously proven accumulations;
- production during 2013.

The increase of oil resources on the Continental shelf is mainly the result of the F17 discovery in 2012. Preliminary resource estimates result in a positive adjustment relative to 2013. The actual volume will be appraised by wells planned in 2014 or 2015. The oil resources onshore have been reduced significantly. This is related to the negative outcome of the evaluation to redevelop formerly abandoned oil fields. The net result is a decrease of the oil resource by 1.0 million Sm<sup>3</sup> relative to January 1<sup>st</sup> 2013.

Table 11. Revisions of expected gas resource compared to January 1<sup>st</sup> 2013, in million Sm<sup>3</sup>

Area	Change as a result of:		
	(re-)evaluation	production	total
Territory	-4.1	-0.6	-4.7
Continental Shelf	4.4	-0.7	3.7
Total	0.3	-1.3	-1.0

Figure 6 shows the oil production since 2001 and the prognoses of oil production for the next 25 years. This prognosis is based on the annual reports of the operators. Compared to last years forecast the peak in 2014 and 2015 has been levelled due to a more evenly production forecast per individual field (without a significant change in ultimate recovery) and the postponed start of production from Q13-A in 2014. From 2014 onwards production will show an overall decline towards 2038. In the current profile the production from the fields in F17 and L5 are not yet incorporated.

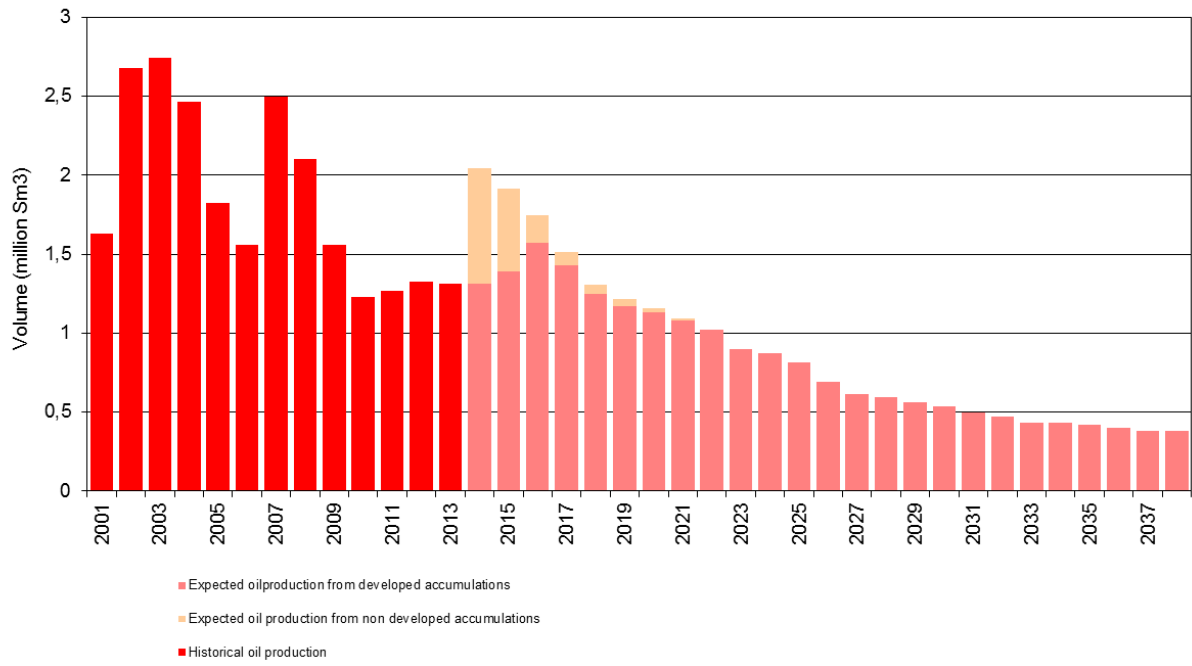


Figure 6. Oil production since 2001 and prognoses of the oil production until 2038.

### 3. HYDROCARBON LICENCES, Netherlands Territory in 2013

Changes in the licences for hydrocarbon exploration and production, which took place during 2013 in the onshore Territory as well as all current licence applications, are listed in the tables below.

Total area	Under licence
41 785 km <sup>2</sup>	20 890 (50.0%)

#### EXPLORATION LICENCES, Netherlands Territory

##### Applied for

Licence	Publication	Date	Closing date	Applicant(s)
IJsselmuiden *	Official Journal C 93 Govern. Gazette 6 645	25-03-2011	24-06-2011	Northern Petroleum, Vermillion
De Kempen *	Official Journal C 174 Govern. Gazette 11 021	15-06-2011	14-09-2011	Basgas Energia, Brabant Resources
Breda-Maas *	Official Journal C 178 Govern. Gazette 11 810	18-06-2011	19-09-2011	Brabant Resources, Gallic Energy
Midden-Nederland *	Official Journal C 79 Govern. Gazette 9 820	17-03-2012	18-06-2012	BNK

\* Current application, formerly published in Annual Report

##### Awarded

Licence holder	Licence	In force	km <sup>2</sup>
Vermilion Oil & Gas Netherlands B.V.	Akkrum	14-03-2013	210
GDF Suez E&P Nederland B.V.	Schiermonnikoog-Noord	05-06-2013	62
Ascent Resources Netherlands B.V.	Terschelling-Noord	30-07-2013	23
Total			295

## Prolonged

Licence holder	Licence	In force	km <sup>2</sup>
Northern Petroleum Nederland B.V.	Engelen	24-11-2013	97
Northern Petroleum Nederland B.V.	Oosterwolde	24-11-2013	127
Northern Petroleum Nederland B.V.	Utrecht	24-11-2013	1 144
Hexagon Energy B.V.	Peel	28-12-2013	365
			Total 1 733

## PRODUCTION LICENCES, Netherlands Territory

No changes.



#### 4. HYDROCARBON LICENCES, Netherlands Continental Shelf in 2013

Changes in the licences for hydrocarbon exploration and production, which took place during 2013 on the Continental Shelf as well as all current licence applications, are listed in the tables below.

Total area	Under licence
56 814 km <sup>2</sup>	29 994 (52.8%)

#### EXPLORATION LICENCES, Continental Shelf

##### Applied for

Licence	Publication	Date	Closing date	Applicant(s)
J9	Official Journal C 145 Govern. Gazette 15 985	25-05-2013	26-08-2013	NAM cs
F10	Official Journal C 302 Govern. Gazette 30 481	18-10-2013	17-01-2014	
F11	Official Journal C 302 Govern. Gazette 30 487	18-10-2013	17-01-2014	
F12	Official Journal, C 302 Govern. Gazette 30 485	18-10-2013	17-01-2014	
F14-ondiep	Official Journal C 302 Govern. Gazette 30 491	18-10-2013	17-01-2014	

##### Prolonged

Licence holder	Licence	In force	km <sup>2</sup>
Sterling Resources Netherlands B.V. cs	F18-ondiep	22-05-2013	404
Sterling Resources Netherlands B.V. cs	F17a-ondiep	28-05-2013	386
GDF Suez E&P Nederland B.V.	Q13b-ondiep	07-06-2013	369
GDF Suez E&P Nederland B.V.	Q16b&c-ondiep	07-06-2013	80
Ascent Resources Netherlands B.V.	M10a & M11	29-06-2013	110
Wintershall Noordzee B.V. cs	F14-diep	30-08-2013	403
Wintershall Noordzee B.V. cs	F17a-diep	30-08-2013	386
Wintershall Noordzee B.V. cs	F18-diep	30-08-2013	404
Wintershall Noordzee B.V. cs	K3e	30-08-2013	30
GDF Suez E&P Nederland B.V. cs	E17c	23-11-2013	171
			Total 2 743

##### Restricted

Licence holder	Licence	In force	km <sup>2</sup>
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Wintershall Noordzee B.V. cs	K3e	30-08-2013	30
Total			30

### Lapsed/Relinquished

Licence holder	Licence	In force	km <sup>2</sup>
Chevron Exploration and Production Netherlands B.V. cs	P1a	01-10-2013	209
Wintershall Noordzee B.V. cs	L1b-diep	21-11-2013	339
Total			548

### PRODUCTION LICENCES, Continental Shelf

#### Applied for

Licence	Publication	Date	Closing date	Applicant(s)
A12b & B10a *	Govern. Gazette 22	30-12-1999	-	Chevron cs
B16a *	Govern. Gazette 105	06-05-1993	-	Chevron cs
B17a *	Govern. Gazette 106	30-05-1997	-	Chevron cs
B17b *	-	29-07-2010	-	Chevron cs

\* Current application, formerly published in Annual Report

#### Applied for fallow area

Licence	Publication	Date	Closing date	Applicant(s)
F3b	<a href="http://www.nlog.nl">www.nlog.nl</a>	07-05-2013	-	

### Prolonged

Licence holder	Licence	In force	km <sup>2</sup>
ATP Oil and Gas Netherlands B.V.	L6d	18-04-2013	16
ATP Oil and Gas Netherlands B.V.	L6d	18-10-2013	
Total			16

## 5. HYDROCARBON LICENCES, company changes, name changes and legal mergers in 2013

The tables below list changes in chronological order which took place during 2013, 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
E10	Tullow Netherlands B.V.	-	28-05-2013	18 315
E11	Tullow Netherlands B.V.	Tullow Exploration & Production Netherlands B.V.	28-05-2013	18 317
E14	Tullow Netherlands B.V.	-	28-05-2013	18 320
E18b	Tullow Netherlands B.V.	-	28-05-2013	18 324
E15c	Tullow Netherlands B.V.	-	28-05-2013	18 326
M10a & M11	Ascent Resources Netherlands B.V.	Tulip Oil Netherlands B.V.	31-07-2013	22 212
Terschelling-Noord	Ascent Resources Netherlands B.V.	Tulip Oil Netherlands B.V.	31-07-2013	22 214
B17a	Centrica Production Nederland B.V.	Chevron Exploration and Production Netherlands B.V.	25-10-2013	30 593
D12b	EWE Energie AG	Oranje-Nassau Energie B.V.	31-10-2013	31 199
P2	TAQA Offshore B.V.	-	16-11-2013	32 711

## Company changes in production licences

Licence	Relinquishing company	Acquiring company	In force	Govern. Gazette
F16	Petro Ventures Netherlands B.V. Sterling Resources Netherlands B.V.	-	20-02-2013	5 460
P8a	Grove Energy Ltd.	Van Dyke Energy Company	28-05-2013	14 560
P6	-	Gas-Union GmbH	07-06-2013	18 365
A15a	Centrica Production Nederland B.V.	Chevron Exploration and Production Netherlands B.V.	25-10-2013	30 592
K9a & K9b	EWE ENERGIE AG	Oranje-Nassau Energie B.V.	31-10-2013	31 200
K12	EWE ENERGIE AG	Oranje-Nassau Energie B.V.	31-10-2013	31 201
K9c	EWE ENERGIE AG	Oranje-Nassau Energie B.V.	31-10-2013	31 202
L8a	EWE ENERGIE AG	Oranje-Nassau Energie B.V.	31-10-2013	31 203
L10 & L11a	EWE ENERGIE AG	Oranje-Nassau Energie B.V.	31-10-2013	31 205
F2a	Oranje-Nassau Energie Hanze (UK) Ltd	Oranje-Nassau Energie Hanze B.V.	20-11-2013	33 328
F2a	Oranje-Nassau Energie Hanze B.V.	Oranje-Nassau Energie B.V.	20-11-2013	33 328
L6d	ATP Oil and Gas Netherlands B.V.	Oranje-Nassau Energie B.V.	26-11-2013	34 025
D18a	TAQA Offshore B.V.	-	20-12-2013	117

## Name changes

Previous company name	New company name
Brabant Resources B.V.	Cuadrilla Brabant B.V.
Hardenberg Resources B.V.	Cuadrilla Hardenberg B.V.
Noble Energy (Europe) Ltd.	Oranje-Nassau Energie Hanze (UK) Limited

## Legal mergers

Merging companies	New company name
Oranje-Nassau Energie B.V. Oranje-Nassau Energie Hanze B.V.	Oranje-Nassau Energie B.V.

## 6. SEISMIC ACQUISITION

### TERRITORY

In 2013 neither 2D nor 3D seismic data has been acquired on the Netherlands Territory.

### CONTINENTAL SHELF

On the Continental Shelf no 2D survey has been acquired in 2013. The 3D survey of Wintershall is primarily aimed at K18 and L16 with a small extension into L13, P03 and Q01. The NAM survey covered the K15-Papa area.

### 3D seismic surveys

Area	Company	Status	Area km <sup>2</sup>
K18, L16	Wintershall	Completed	825
K15-Papa	NAM	Completed	100
		Total	925

## 7. OIL AND GAS WELLS, completed in 2013

The tables below list all wells drilled and ended during 2013, sorted by drilling location: either on the Territory or on the Continental Shelf. Subsequently they are sorted by exploration, appraisal or production wells. The tables list the name, licence, operator and result for each well. The last table summarizes the drilling activities of 2013. Four out of six exploration wells encountered gas, a success ratio of 67%. Three appraisal wells (one on the Territory and two on the Continental Shelf) confirmed previously discovered reservoirs. Eighteen production wells were drilled in 2013.

Five wells were drilled for the gas storage facility Bergermeer and one formation water injection well was drilled. These wells are listed as 'other wells'.

### NETHERLANDS TERRITORY

#### Exploration wells

	Well name	Licence	Operator	Result
1	Numansdorp-02	Beijerland	NAM	Gas
2	Warfstermolen-02	Tietjerksteradeel	NAM	Gas

#### Appraisal wells

	Well name	Licence	Operator	Result
1	Munnekezijl-07	Noord-Friesland, De Marne, Groningen	NAM	Gas

#### Production wells

	Well name	Licence	Operator	Result
1	Annerveen-Veendam-04	Groningen	NAM	Gas
2	Bedum-05	Groningen	NAM	Gas
3	Blijham-07-Sidetrack1	Groningen	NAM	Gas shows
4	Engwierum-01-Sidetrack1	Noord-Friesland	NAM	Gas
5	Hemrik-01-Sidetrack1	Akkrum 11	Tulip Oil	Gas
6	Kollumerpomp-04	Tietjerksteradeel	NAM	Gas
7	De Tibben-02	Noord-Friesland	NAM	Gas
8	De Tibben-03	Noord-Friesland	NAM	Gas

#### Other wells

	Well name	Licence	Operator	Result
1	Borgsweer-05	Groningen	NAM	Injection
2	Bergermeer-24	Bergermeer	TAQA	Gas storage
3	Bergermeer-25	Bergermeer	TAQA	Gas storage
4	Bergermeer-27	Bergermeer	TAQA	Gas storage
5	Bergermeer-28	Bergermeer	TAQA	Gas storage
6	Bergermeer-29	Bergermeer	TAQA	Gas storage

## CONTINENTAL SHELF

### Exploration wells

	Well name	Licence	Operator	Result
1	G16-11	G16a	GDF Suez	Dry
2	L16-16A	L13, L16a, L16b	ONE	Dry
3	P11-08-Sidetrack1	P10a	Dana	Gas
4	P11-09	P11b	Dana	Gas

### Appraisal wells

	Well name	Licence	Operator	Result
1	L05-13	L02, L04c, L05a	GDF Suez	Oil
2	L05-14	L02, L04c, L05a	GDF Suez	Oil

### Production wells

	Well name	Licence	Operator	Result
1	D18-A-01-Sidetrack1	D18a	GDF Suez	Gas
2	D18-A-02	D18a	GDF Suez	Gas
3	F02-A-06-Sidetrack3	F02a	Dana	Oil
4	F15-A-02-Sidetrack6	F15a	Total	Gas shows
5	K04-Z-01	K04a	Total	Gas
6	K12-B-11	K12, K15	GDF Suez	Gas
7	K12-D-05	K12	GDF Suez	Gas
8	L11B-A-08	L08d, L11b	ONE	Gas
9	P06-A-07	P06	Wintershall	Gas
10	Q13-A-03	Q13a	GDF Suez	Oil

## SUMMARY DRILLING OPERATIONS during 2013

	Well type	Results				Total	
		Gas	Oil	Oil+Gas	Dry		Others
<b>Territory</b>	Exploration	2				2	
	Evaluation	1				1	
	Production	8				8	
	Other					6	
	Subtotal	11				6	17
<b>Continental Shelf</b>	Exploration	2			2	4	
	Evaluation		2			2	
	Production	8	2			10	
	Subtotal	10	4		2	16	
<b>Total</b>		21	4		2	6	33



## 8. PLATFORMS AND PIPELINES, Netherlands Continental Shelf

In 2013 three new platforms or subsea completions have been installed on the Netherlands Continental Shelf. One platform has been removed.

During 2013 five new pipelines have been laid.

Annexes 16 and 17 present a complete list of all platforms and pipelines. Data on the pipelines is supplied by Rijkswaterstaat Directie Noordzee.

### Platforms, installed in 2013

Platform	Operator	Number of legs	Gas/Oil	Function
D18a-A	GDF Suez	4	Gas	Wellhead
K4-Z	Total		Gas	Subsea
L5a-D	GDF Suez	4	Gas	Wellhead
Q01-D	Wintershall	4	Gas	Wellhead
Q13a-A	GDF Suez	4	Olie	Wellhead

### Platforms, removed in 2013

Platform	Operator	Number of legs	Gas/Oil	Function
D18a-A	GDF Suez	4	Gas	Wellhead

### New pipelines in 2013

Operator	From	To	Diameter (inch)	Length (km)	Carries*
GDF Suez	D18a-A	D15-A	8, 2	20	g, m
Total	K4-Z	K5-A	6 + umbil	17	g, m
GDF Suez	L5a-D	L5-FA-1	10" + 2"	10,7	g, m
Wintershall	Q01-D	Q4-Q8 (side-tap)	8	2,5	g
GDF Suez	Q13a-A	P15-D	8	23,6	o

\* g = gas, m = methanol, o = oil

## 9. GAS AND OIL PRODUCTION

The tables below list the aggregated production figures for natural gas, oil and condensate for 2013. Condensate is generally considered as a by-product from oil or gas production. Changes in comparison to 2012 are listed in absolute terms and in terms of percentage.

The information in the following tables is based on data supplied by the production operators.

### Total production of gas, oil and condensate in 2013 and changes compared to 2012

Gas	Production 2013		Changes compared to 2012	
	$10^6 \text{ Nm}^3$	$10^6 \text{ Sm}^3$	$10^6 \text{ Sm}^3$	%
Netherlands Territory	63043	66537	7188	12.1
Groningen accumulation	54164	57165	6744	13.4
Territory other fields	8880	9372	444	5.0
Continental Shelf	17004	17946	-945	-5.0
Total	80048	84483	6242	8.0

Oil	Production 2013		Changes compared to 2012	
		$10^3 \text{ Sm}^3$	$10^3 \text{ Sm}^3$	%
Netherlands Territory		604	165	37.6
Continental Shelf		710	-174	-19.7
Total		1314	-9	-0.7
Average daily oil production		3599	$\text{Sm}^3/\text{day}$	

Condensate	Production 2013		Changes compared to 2012	
		$10^3 \text{ Sm}^3$	$10^3 \text{ Sm}^3$	%
Netherlands Territory		256.7	40.2	18.6
Continental Shelf		273.2	10.2	3.9
Total		530.0	50.4	10.5

The tables on the following pages present the monthly production figures for each production licence. Figures are presented Standard cubic meters ( $\text{Sm}^3$ ).

Annexes 18 up to and including 20 present historical gas and oil production figures. Due to the round off of monthly production figures, slight differences in the summations per year may exist.

## GAS PRODUCTION. Netherlands Territory in 2013 (in million Sm<sup>3</sup>)

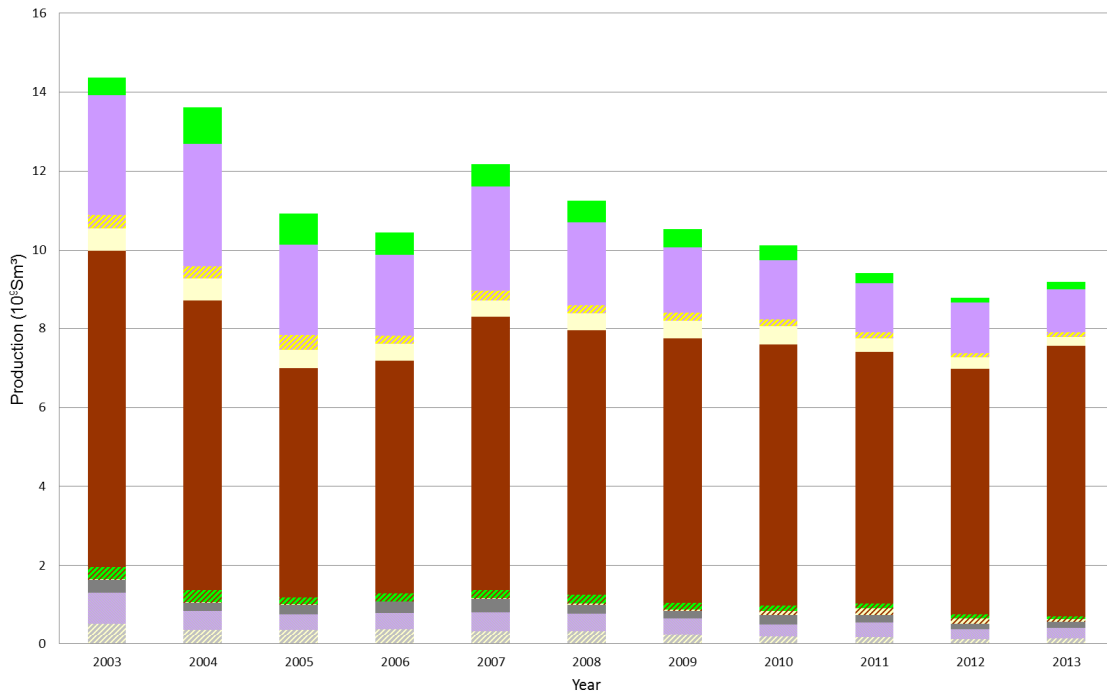
The production per licence is a summation of the production of all producing wells of which the wellhead is located within the licence area. These figures have been supplied by the operating companies.

Licence	Operator	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Andel V	Vermilion	26.1	1.1	2.2	1.7	1.2	3.6	3.3	2.9	3.3	2.7	2.0	1.9	0.1
Beijerland	NAM	194.0	19.3	16.8	17.6	15.0	16.3	12.3	16.0	15.2	13.9	7.9	20.5	23.0
Bergen II	TAQA	169.6	16.7	14.7	15.7	15.2	15.1	14.8	14.8	14.8	7.5	15.7	12.7	12.1
Botlek	NAM	455.3	40.4	34.0	38.1	29.3	41.1	23.1	37.2	49.0	44.5	37.8	38.4	42.5
Drenthe IIIb	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 IIIb	Vermilion	35.4	3.2	3.0	3.2	2.8	3.3	3.0	3.2	3.0	2.6	2.7	2.7	2.7
Drenthe IIIb	NAM	491.8	53.5	54.2	53.5	44.4	39.5	33.9	35.6	32.7	28.5	37.1	39.4	39.6
Drenthe IV	Vermilion	15.8	1.5	1.5	1.6	1.5	1.1	1.5	1.4	1.1	1.0	1.0	1.3	1.3
Gorredijk	Vermilion	356.6	27.9	19.9	25.2	26.4	27.9	25.4	15.6	29.5	41.7	42.0	40.1	35.2
Groningen	NAM	58913.3	6324.4	5824.8	6501.6	5763.8	4551.5	3553.5	3403.8	3171.8	3286.3	3956.1	5842.0	6733.7
Hardenberg	NAM	22.3	2.4	2.1	2.1	1.5	1.8	1.5	2.0	1.8	1.9	1.8	1.8	1.6
Leeuwarden	Vermilion	93.2	11.8	8.1	9.4	9.3	9.5	8.7	4.0	7.0	6.7	8.4	6.3	3.9
Middelie	NAM	328.2	30.5	27.9	29.7	30.7	29.0	27.9	30.1	29.6	14.7	17.0	30.4	30.7
Noord-Friesland	NAM	3946.3	365.9	330.3	343.1	312.3	369.2	289.3	358.3	321.5	301.4	313.4	320.3	321.4
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	467.5	44.2	40.1	50.2	43.2	41.0	22.1	29.4	40.5	37.9	36.6	40.7	41.5
Rossum-De Lutte	NAM	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
Schoonebeek	NAM	642.9	59.2	53.4	61.7	55.9	54.0	47.2	55.0	51.3	49.4	51.5	51.9	52.3
Slootdorp	Vermilion	106.6	7.2	9.9	12.3	15.9	10.4	9.8	9.6	8.3	0.0	5.8	7.0	10.4
Steenwijk	Vermilion	18.1	3.2	2.3	2.3	3.4	3.0	1.8	0.3	0.4	1.4	0.0	0.1	0.0
Tietjerksteradeel	NAM	193.4	21.1	17.7	18.1	17.8	15.4	13.1	17.5	16.5	16.0	13.7	13.2	13.3
Tubbergen	NAM	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
Waalwijk	Vermilion	27.3	2.6	2.5	2.6	2.4	2.6	2.4	2.3	2.3	0.0	2.3	2.6	2.6
Zuidwal	Vermilion	32.7	2.5	1.8	2.0	2.3	1.6	3.1	3.2	3.4	3.2	3.0	3.2	3.4
<b>Total</b>		<b>66536.6</b>	<b>7038.5</b>	<b>6467.4</b>	<b>7191.8</b>	<b>6394.4</b>	<b>5236.8</b>	<b>4097.6</b>	<b>4042.3</b>	<b>3803.0</b>	<b>3861.3</b>	<b>4555.8</b>	<b>6476.3</b>	<b>7371.1</b>

### Onshore natural gas production per stratigraphic reservoir level

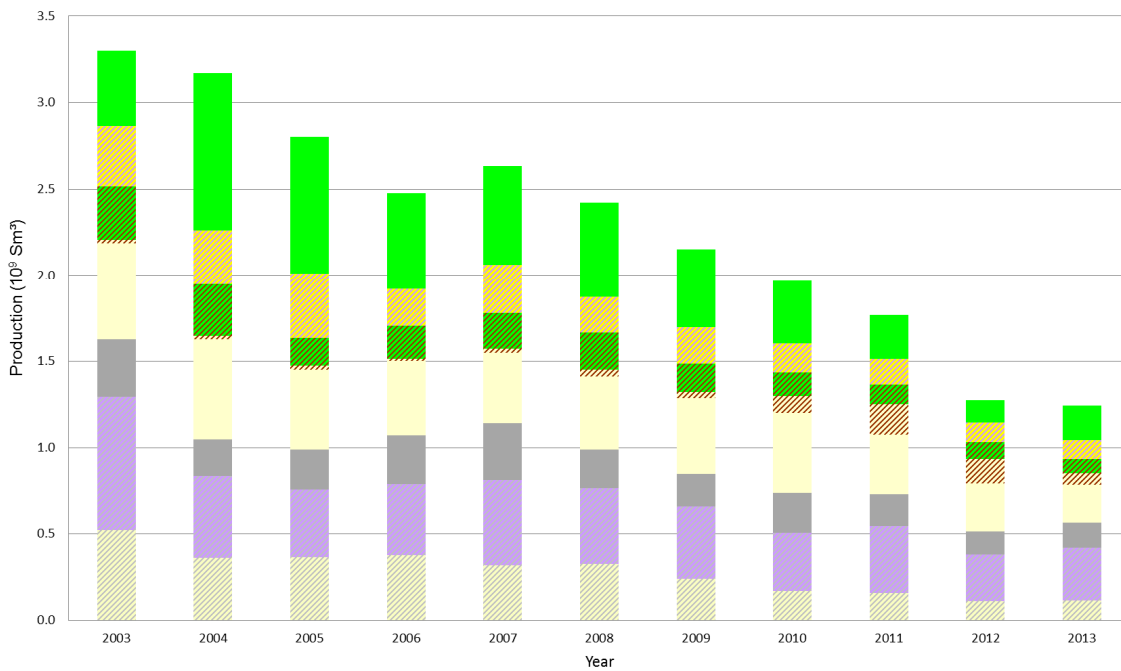
The following figures show the contribution of each stratigraphic reservoir level to the total produced volume of gas from the Territory. This is excluding the contribution of the Groningen field (Rotliegend). Contributions from fields with multiple reservoirs are shown in hatched colours. The figures clearly show that the main contribution from the small fields is from the Rotliegend and Triassic reservoirs. The decline during the period 2003 – 2006 (around 10% per year) decreases since 2007 to rates of around 5% per year. This is due to production from fields below the Waddenzee. Currently, the total annual production decreases with approximately 5%. In the next graph, the production from Rotliegend and Triassic reservoirs has been removed to reveal the contribution of the Cretaceous, Zechstein and Carboniferous reservoirs to the overall production. Last year the production from these reservoirs decreased more than before. There is no production from onshore Jurassic reservoirs.

**Production Territory per reservoir (excluding the Groningen field)**



- Carboniferous/Zechstein
- Carboniferous
- Rotliegend/Cretaceous
- Zechstein
- Triassic
- Carboniferous/Zechstein/Triassic
- Rotliegend/Zechstein
- Rotliegend
- Triassic/Tertiary
- Cretaceous

**Production Territory per reservoir (excluding the Groningen field and the Rotliegend and Triassic reservoirs)**



## GAS PRODUCTION. Continental Shelf in 2013 (in million Sm<sup>3</sup>)

The production per licence is a summation of the production of all producing wells of which the wellhead is located within the licence area. These figures have been supplied by the operating companies.

Licence	Operator	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
A12a	Chevron	429.9	45.9	38.1	38.4	36.9	39.4	24.2	33.3	37.3	30.4	28.6	36.5	40.8
B10c & B13a	Chevron	821.7	69.2	63.1	71.3	68.8	76.7	43.0	71.6	78.5	69.7	58.2	75.3	76.4
D12a	Wintershall	13.1	2.6	3.9	4.0	2.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D15	GDF Suez	11.0	0.0	3.1	0.5	1.4	2.9	0.7	0.7	0.3	0.1	1.4	0.0	0.0
D18a	GDF Suez	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4
E17a & E17b	GDF Suez	1132.5	97.8	90.4	99.8	90.3	96.9	89.8	83.2	98.7	93.4	97.2	95.7	99.3
E18a	Wintershall	112.5	12.8	10.8	11.8	4.7	11.0	10.1	9.6	9.0	7.8	9.0	7.7	8.2
F02a	Dana	80.6	8.4	7.5	7.9	7.5	8.0	3.8	3.0	7.7	7.2	6.5	7.4	5.5
F03a	Centrica	510.6	49.2	43.0	43.6	33.3	50.6	27.9	40.3	47.0	49.4	47.6	39.8	39.1
F03b	GDF Suez	317.1	34.9	30.7	27.3	31.4	31.5	16.5	16.3	28.7	27.1	23.0	26.4	23.3
F15a	Total	151.3	16.0	14.7	7.7	11.0	12.5	8.9	11.8	12.2	13.0	14.2	14.7	14.8
F16	Wintershall	230.8	23.6	20.6	22.8	8.9	16.6	20.3	22.3	20.0	17.0	20.4	19.1	19.3
G14 & G17b	GDF Suez	863.4	83.6	66.4	50.3	79.6	57.1	57.9	65.8	85.9	78.7	73.2	80.7	84.1
G16a	GDF Suez	1236.1	117.0	106.7	83.5	126.4	86.1	85.6	99.5	120.3	101.3	94.8	105.3	109.5
G17c & G17d	GDF Suez	78.9	17.3	14.4	8.0	0.0	0.0	0.0	2.4	5.7	8.7	6.4	8.2	7.8
J03b & J06	Total	109.6	10.4	9.7	10.0	7.3	9.4	9.9	10.1	8.4	8.2	8.7	8.7	9.0
J03b & J06	Centrica	51.2	4.2	3.7	3.7	1.8	2.4	4.1	3.9	3.8	7.4	5.1	5.6	5.7
K01a	Total	377.0	42.7	37.9	36.5	29.4	37.1	39.0	36.5	31.4	19.0	17.4	23.4	26.7
K02b	GDF Suez	435.6	45.8	37.0	38.5	44.2	44.2	27.0	37.7	24.8	37.3	38.5	33.1	27.4
K04a	Total	922.3	66.7	62.5	60.3	45.9	71.5	67.1	43.4	78.3	98.0	111.7	109.4	107.4
K04b & K05a	Total	1191.9	122.4	105.8	104.8	87.8	109.8	114.8	66.3	88.2	98.2	99.8	96.6	97.3
K05b	Total	195.1	18.9	17.3	18.6	13.3	18.3	16.7	14.6	15.8	15.0	15.9	15.3	15.5
K06 & L07	Total	540.4	54.0	48.0	47.5	46.9	31.5	37.7	50.0	48.3	39.9	47.2	43.9	45.5
K07	NAM	47.7	11.0	7.7	4.7	2.2	4.3	3.8	2.5	0.4	1.0	1.9	0.0	8.1
K08 & K11	NAM	663.5	52.6	49.6	51.2	39.8	62.8	62.5	56.3	52.7	62.3	60.1	59.2	54.5
K09a & K09b	Total	10.6	1.1	1.7	1.4	0.9	0.8	0.9	1.1	0.7	0.5	0.5	0.5	0.5
K09a & K09b	GDF Suez	141.7	13.8	12.8	12.2	11.4	12.0	13.1	9.4	12.2	11.9	11.7	10.2	11.0
K09c	GDF Suez	18.2	1.7	1.1	1.6	1.7	1.7	1.6	1.5	1.7	1.1	1.5	1.3	1.7
K12	GDF Suez	849.4	72.2	68.7	67.0	48.0	84.4	71.6	71.0	69.1	76.9	72.5	76.8	71.3
K14	NAM	60.2	0.5	6.7	5.0	2.4	6.9	5.1	5.4	4.6	4.6	4.6	6.2	8.3
K15	NAM	1040.4	96.2	100.7	106.0	91.2	115.0	96.1	97.6	81.0	38.8	73.4	71.1	73.4
K15	Wintershall	116.1	11.0	13.0	9.0	3.1	8.5	9.0	13.2	9.9	10.0	9.2	9.6	10.5
K17	NAM	92.2	9.9	9.0	9.4	5.5	10.5	9.5	9.5	8.1	8.8	8.9	3.0	0.0
K18b	Wintershall	262.2	14.1	23.3	15.8	6.3	22.3	20.4	27.7	24.6	26.3	28.5	28.5	24.6
L02	NAM	466.0	48.2	46.1	44.4	42.0	45.1	25.2	13.0	42.9	39.6	33.9	41.9	43.9
L04a	Total	508.6	53.0	47.6	51.0	48.0	48.9	43.9	42.0	39.3	38.5	21.1	38.3	37.0
L05a	GDF Suez	61.4	17.8	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.7	21.9
L05b	Wintershall	301.2	33.0	27.9	29.6	27.0	25.5	23.6	26.7	25.8	22.0	25.5	17.7	16.9
L08a	Wintershall	62.2	5.1	4.6	5.4	5.8	6.7	6.5	4.4	5.0	3.6	3.8	6.5	4.7
L08b	Wintershall	123.1	11.2	10.6	12.1	11.2	12.4	11.2	9.6	11.2	5.4	6.2	12.4	9.6
L09	NAM	476.1	64.0	54.9	49.6	44.0	24.3	0.1	10.7	50.8	47.1	42.4	42.3	46.1
L09a	NAM	28.8	10.5	9.2	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L09b	NAM	100.2	0.0	0.0	0.0	18.2	9.5	0.0	0.2	17.9	15.0	10.5	13.6	15.2

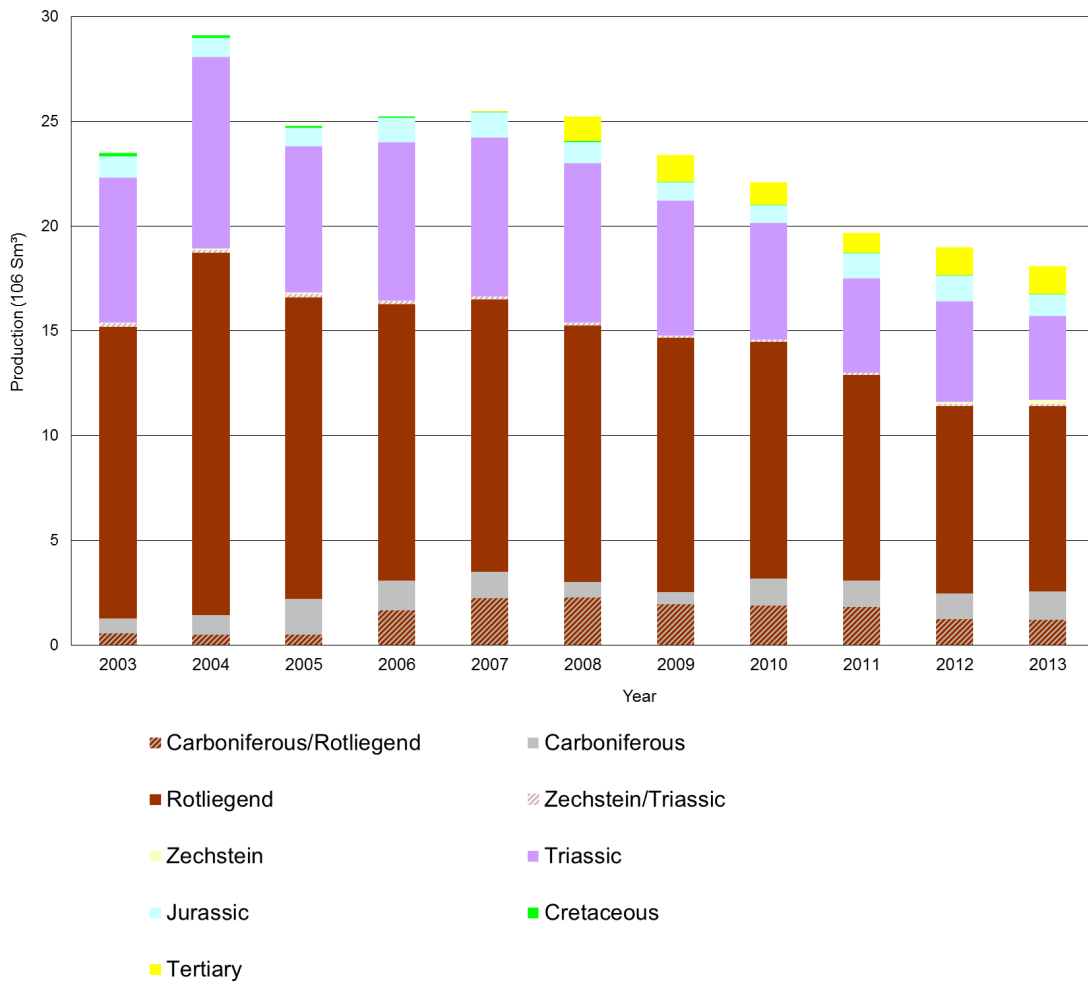
Licence	Operator	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
L10 & L11a	GDF Suez	608.8	21.9	39.4	60.1	39.8	55.3	56.8	60.2	51.3	54.9	57.1	54.7	57.3
L11b	ONE	18.3	7.7	0.9	1.1	0.5	1.3	0.8	1.3	1.6	1.4	0.8	0.6	0.4
L11b	ONE	98.1	0.0	19.8	13.7	10.5	8.4	8.3	8.0	7.6	7.0	4.6	3.2	6.9
L12b & L15b	GDF Suez	368.7	36.7	34.4	34.0	34.7	37.7	21.4	29.2	32.2	21.5	29.6	27.9	29.2
L13	NAM	152.6	12.6	12.9	11.2	4.8	12.4	13.8	13.5	15.4	14.0	15.0	13.7	13.2
M07	ONE	114.7	13.9	12.4	12.2	9.1	4.7	0.0	0.0	5.6	13.8	12.0	14.8	16.2
P06	Wintershall	148.8	12.3	14.0	12.5	13.3	12.3	14.1	10.8	14.7	6.1	13.7	12.8	12.3
P09a & P09b	Wintershall	28.2	3.8	2.9	2.5	2.4	2.5	2.4	1.9	2.2	0.8	2.9	2.0	1.9
P09c	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
P09c	Chevron	2.8	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.2
P11b	Dana	325.6	27.1	30.2	27.4	24.3	30.6	29.0	26.0	29.3	16.3	25.7	29.9	29.8
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	112.5	8.8	9.2	9.9	12.6	14.0	4.6	8.7	10.9	9.4	8.3	9.6	6.6
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	173.5	17.3	14.4	16.6	15.9	17.1	6.8	12.6	15.8	14.5	13.9	14.8	13.6
Q01	Chevron	3.9	0.4	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4
Q04	Wintershall	409.5	38.2	37.2	39.7	32.6	34.6	25.3	33.4	36.3	27.9	33.9	35.4	35.0
Q16a	ONE	132.5	12.5	11.3	11.8	12.3	12.4	4.2	9.8	12.3	11.4	11.4	10.5	12.5
Total		17946.3	1683.9	1574.2	1534.4	1401.2	1559.2	1297.0	1340.1	1543.8	1439.6	1470.2	1539.7	1562.8

## Offshore natural gas production per stratigraphic reservoir level

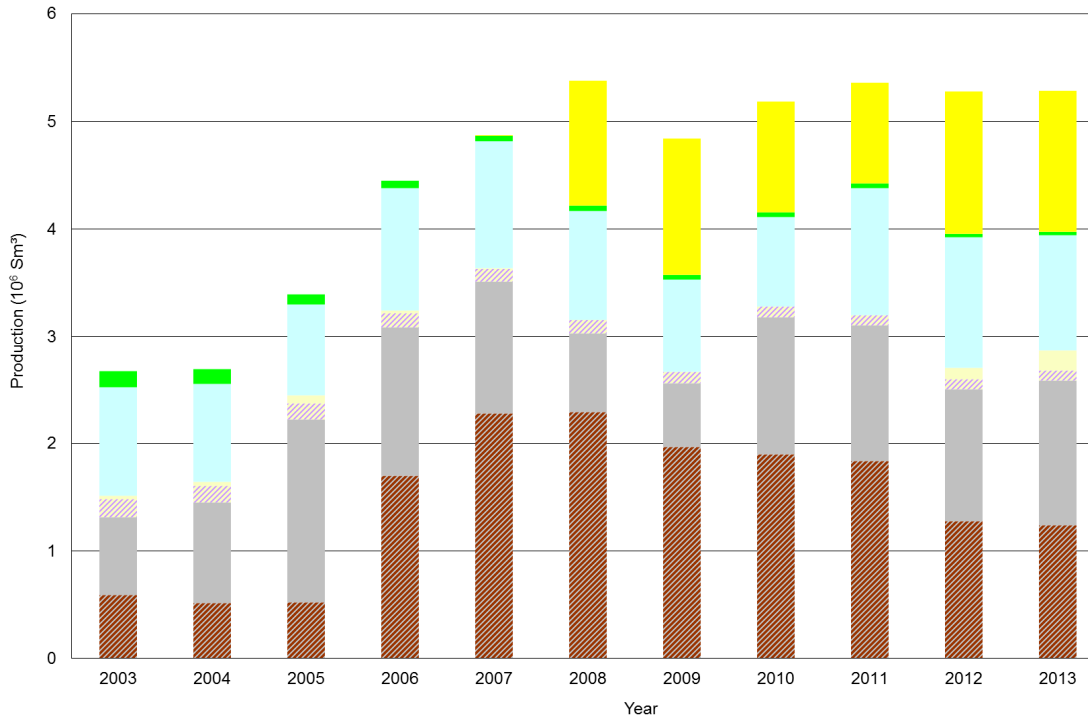
The graphs below present the contribution of the various reservoirs to the offshore gas production. Similar to the onshore, most of the produced gas from the offshore gas fields comes from Rotliegend and Triassic reservoirs. The annual offshore production was rather stable during the period 2003 – 2008, well above the 20 Nm<sup>3</sup> per year. During the more recent years production shows a clear decline. In 2011 the annual production fell below 20 billion Nm<sup>3</sup>.

In the second graph the Rotliegend and Trias production have been excluded to highlight the production from other reservoir levels. Since 2005 the contribution of combined Carboniferous – Rotliegend reservoirs tripled reaching a maximum in 2007. Since 2008 the production gradually decreases again. Conspicuous is the start of the production from the Tertiary (North Sea Group) shallow gas play in 2008. This Tertiary production remains rather stable due to the start of the production from B13-A.

Production Continental Shelf per reservoir



Production Continental Shelf per reservoir (excluding Triassic and Rotliegend)



## OIL PRODUCTION in 2013 (x 1000 Sm<sup>3</sup>)

The production per licence is a summation of the production of all producing wells of which the wellhead is located within the licence area. These figures have been supplied by the operating companies.

Licence	Operator	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Botlek	NAM	29.1	0.0	3.0	4.8	3.7	4.3	2.1	2.4	0.0	3.2	1.7	1.8	2.3
Rijswijk	NAM	200.6	16.8	18.6	19.3	17.0	16.6	17.2	13.1	16.8	18.5	16.5	15.0	15.2
Schoonebeek	NAM	374.3	28.5	24.3	39.4	37.0	32.6	31.1	27.7	27.4	31.4	31.0	29.2	34.6
F02A	Dana	190.4	18.6	16.3	17.9	15.4	13.4	3.4	9.2	16.9	16.7	25.8	22.3	14.6
F03B	GDF Suez	64.7	7.0	6.1	5.7	6.5	6.4	3.5	3.4	5.7	5.4	4.5	5.4	5.2
K18B	Wintershall	32.5	2.3	2.3	3.2	2.9	2.9	2.7	2.8	2.5	2.5	2.7	2.7	3.1
L16A	Wintershall	33.6	2.8	2.7	2.9	2.7	3.0	2.9	2.9	2.8	2.7	2.7	2.7	2.9
P09C	Chevron	29.6	2.4	2.5	2.6	2.0	2.2	2.8	2.8	2.9	2.9	2.5	1.2	2.8
P11B	Dana	219.0	22.2	22.0	22.0	16.4	21.8	19.0	17.7	19.9	10.4	16.9	16.1	14.7
P15A & P15B	TAQA	43.1	5.7	4.0	3.9	4.2	3.6	0.4	3.8	3.8	3.4	3.4	3.4	3.5
Q01	Chevron	96.8	9.1	8.3	9.0	5.3	9.1	9.1	8.4	8.5	5.0	7.1	8.8	9.2
<b>Total</b>		<b>1313.7</b>	<b>115.4</b>	<b>110.1</b>	<b>130.7</b>	<b>113.1</b>	<b>115.8</b>	<b>94.1</b>	<b>94.1</b>	<b>107.1</b>	<b>102.1</b>	<b>114.8</b>	<b>108.6</b>	<b>107.8</b>

## CONDENSATE\* PRODUCTION in 2013 (x 1000 Sm<sup>3</sup>)

These figures have been supplied by the operating companies.

Licence	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Gas fields Territory	256.7	26.9	30.0	30.7	18.1	28.0	16.8	19.1	20.3	15.3	11.9	19.4	20.3
Gas fields Continental Shelf	273.2	22.9	21.8	22.0	18.6	48.4	16.8	18.7	21.8	20.0	21.7	20.5	20.1
<b>Total</b>	<b>530.0</b>	<b>49.8</b>	<b>51.8</b>	<b>52.7</b>	<b>36.7</b>	<b>76.4</b>	<b>33.6</b>	<b>37.8</b>	<b>42.1</b>	<b>35.2</b>	<b>33.7</b>	<b>39.9</b>	<b>40.5</b>

\* Condensate is a liquid that is recovered as a by-product during the production of natural gas. This liquid is also referred to as natural gasoline or natural gas liquids (NGL).



## 10. UNDERGROUND STORAGE

As of 1 January 2014 a total of eleven storage licences are in force; five storage licences for natural gas (Alkmaar, Bergermeer, Grijpskerk, Norg en Zuidwending), two storage licences for nitrogen (Winschoten II and Winschoten III), one for gas oil (Twenthe-Rijn De Marssteden), two storage licences for saline water and one for CO<sub>2</sub>.

The storage licence for CO<sub>2</sub>, P18-4, has been awarded to TAQA. It is the first CO<sub>2</sub> storage licence of its kind in Europe. The licence implies a start of the injection of CO<sub>2</sub> not later than January 1st 2018. Eventually, the injection may continue for 8 years.

The storage of nitrogen has hardly been used in 2013. Only in the month of June nitrogen has been produced/injected.

In 2013 no company changes or name changes have occurred with the licencees.

Appendix 1 contains a map showing the locations of all storage licence areas as at 1 January 2014.

### STORAGE LICENCES, Netherlands Territory and Continental Shelf changes in 2013

#### Applied for

Licence	Publication	Date	Closing date	Storage of	Applicant(s)
Luttelgeest	Staatscourant 5395	04-03-2013	03-06-2013	Saline water	Leo Hoogweg B.V.

#### Awarded

Licence holder	Licence	Storage of	In force	km <sup>2</sup>
TAQA Offshore B.V.	P18-4	Carbon dioxide	01-01-2015	11
			Total	11

## STORAGE OF GAS IN 2013

In 2013 both natural gas and nitrogen have been stored in underground facilities. The following tables show the monthly quantities of gas and nitrogen injected respectively discharged per storage facility. The information was submitted by the licence holders.

### INJECTION NATURAL GAS (in million Sm<sup>3</sup>)

Licence	Operator	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Alkmaar	TAQA	192	0	0	0	0	0	0	112	80	0	0	0	0
Bergermeer	TAQA	289	0	0	0	0	67	66	28	65	42	0	8	14
Grijpskerk	NAM	1,827	0	0	0	216	434	301	373	282	221	0	0	0
Norg	NAM	3,730	0	0	0	645	738	753	687	654	253	0	0	0
Zuidwending	Gasunie	833	23	33	55	75	49	86	110	152	75	79	32	63
Total		6,870	23	33	55	935	1,287	1,207	1,309	1,233	591	79	40	77

### DISCHARGE NATURAL GAS (in million Sm<sup>3</sup>)

Licence	Operator	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Alkmaar	TAQA	127	28	6	56	0	0	0	0	0	0	0	32	4
Bergermeer	TAQA	42	0	0	0	42	0	0	0	0	0	0	0	0
Grijpskerk	NAM	2,330	718	878	67	0	0	0	0	0	0	54	259	355
Norg	NAM	3,300	1,218	997	744	5	0	0	0	0	0	29	130	177
Zuidwending	Gasunie	714	101	105	66	56	60	39	24	43	70	33	68	50
Total		6,514	2,065	1,987	933	103	60	39	24	43	70	116	489	586

### INJECTION NITROGEN (in million Nm<sup>3</sup>)

Licence	Operator	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Winschoten II	Gasunie	2.7	0	0	0	0	0	2.7	0	0	0	0	0	0

### DISCHARGE NITROGEN (in million Nm<sup>3</sup>)

Licence	Operator	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Winschoten II	Gasunie	0.3	0	0	0	0	0	0.3	0	0	0	0	0	0

## 11. COAL

Coal mining in the Netherlands has ceased in 1974. In total almost 570 million tons of coal have been mined over the years. Conventional mining is not expected to be profitable anymore, but recent interest to produce coal bed methane (CBM) has become evident. Although research has indicated that a large resource of CBM may be present, the feasibility of these types of projects is still very uncertain.

As at 1 January 2014 five production licences for coal were in force. In 2013 no mining activities have been developed within the licenced acreage. Appendix 6 contains a map showing the locations of the licence areas.

### PRODUCTION LICENCES, NETHERLANDS TERRITORY, on 1 January 2014

Licence holder	Licence	In force	km <sup>2</sup>
DSM	Staatsmijn Beatrix	27-09-1920	130
DSM	Staatsmijn Emma	26-10-1906	73
DSM	Staatsmijn Hendrik	08-08-1910	24
DSM	Staatsmijn Maurits	12-03-1915	51
DSM	Staatsmijn Wilhelmina	08-01-1903	6
		Total	284

## 12. ROCK SALT

In 2013 one production licence for rock salt has been restricted. One production licence was awarded. As at January 1<sup>st</sup> 2014, fifteen production licences were in force. The licence areas are (for geological reasons) all located in the North and East of the country. In those areas thick layers of Zechstein and Triassic aged evaporites have been deposited.

Appendix 6 contains a map showing the production licence areas.

Besides the overview for all the licences and its changes, the monthly rock salt production during 2013 is presented for each production site as well as the annual production since 2003.

In 2013 no company changes or name changes have occurred with the licencees.

### EXPLORATION LICENCES, Netherlands territory changes in 2013

#### Restricted

Licence holder	Licence	In force	km <sup>2</sup>
Akzo Nobel Salt B.V.	Zuidoost-Twente	01-06-2013	30
Total			30

### PRODUCTION LICENCES, Netherlands territory changes in 2013

#### Applied for

Licence	Government Gazette	Date	Closing date	Applicant(s)
Barradeel-oost *	Staatscourant 249	19-12-07	24-03-08	Frisia
Zuidoost-Enschede *	Staatscourant 20 915	22-11-11	21-02-12	Westfalen

\*Pending application, published in previous Annual Review

#### Awarded

Licence holder	Licence	In force	km <sup>2</sup>
Akzo Nobel Salt B.V.	Twenthe-Rijn Oude Maten	01-06-2013	1
Total			1

## WELLS DRILLED FOR ROCK SALT completed in 2013

	Name well	Licence	Operator	Type of well
1	TWR-516	Twenthe-Rijn	AkzoNobel	Production
2	TWR-521	Twenthe-Rijn	AkzoNobel	Production
3	TWR-523	Twenthe-Rijn	AkzoNobel	Production
4	TWR-524	Twenthe-Rijn	AkzoNobel	Production
5	TWR-525	Twenthe-Rijn	AkzoNobel	Production
6	TWR-534	Twenthe-Rijn	AkzoNobel	Production

## ROCK SALT PRODUCTION, 2013 (in 1000 ton)

Production	Operator	Total	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Adolf van Nassau	AKZO	1290	119	105	110	106	114	100	58	123	115	112	112	115
Adolf van Nassau*	AKZO	1497	124	109	129	128	126	116	131	126	114	128	130	135
Barradeel	Frisia	2	0	0	0	0	0	0	0	0	0	0	0	0
Barradeel II	Frisia	668	60	46	53	8	29	66	69	74	40	67	76	81
Twenthe-Rijn	AKZO	1918	192	161	151	142	155	135	140	165	165	167	167	178
Twenthe-Rijn**	AKZO	352	15	25	31	28	27	26	33	35	34	34	31	32
Twenthe-Rijn***	AKZO	556	56	44	55	44	39	55	71	42	34	43	32	41
Veendam	Nedmag	235	24	24	25	14	14	22	21	19	18	12	21	21
Total		6517	590	514	554	470	504	521	523	585	520	563	570	603

\* Uitbreiding Adolf van Nassau

\*\* Uitbreiding Twentth-Rijn Helmerzijde

\*\*\* Uitbreiding Twenthe-Rijn

## ROCK SALT PRODUCTION 2003 – 2013



\* Including extension Adolf van Nassau

\*\* Including extension Twenthe – Rijn

## 13. GEOTHERMAL ENERGY

In 2013 six new exploration licences for geothermal energy were applied for. Six exploration licences for geothermal energy were awarded. Nineteen exploration licences were prolonged, three were restricted and six were rejected. Furthermore eleven exploration licences lapsed/relinquished or were withdrawn. Six production licences were applied for. Changes in the exploration and production licences for geothermal energy, which took place during 2013, are listed in the tables below. Pending applications are also listed.

### EXPLORATION LICENCES, Netherlands Territory changes in 2013

#### Applied for

Licence	Government Gazette	Date	Closing date	Applicant(s)
Zuidoost-Drenthe *	Staatscourant 1 520	04-02-2010	06-05-2010	Geo Thermie Nederland Holding B.V.
's-Hertogenbosch **	Staatscourant 7 746	26-05-2010	25-08-2010	Gemeente 's-Hertogenbosch
Wervershoof *	Staatscourant 9 259	17-06-2010	16-09-2010	VD Holland C.V.
Lingewaard *	Staatscourant 12 820	18-08-2010	17-11-2010	Energiecoöperatie Greenhouse Energy u.a.
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
Baarn ***	Staatscourant 21 517	31-12-2010	01-04-2011	Maarten A. van Dijk Beheer B.V.
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 Enden Rozen
Luttelgeest *	Staatscourant 2 805	17-02-2011	19-05-2011	ECL Netwerk B.V. cs
Nieuwkoop *	Staatscourant 15 915	06-09-2011	06-12-2011	Gemeente Nieuwkoop
Harmelerwaard*	Staatscourant 1 591	27-01-2012	27-04-2012	Van Dijk Bedrijven Holding B.V.
Delfzijl *	Staatscourant 1 657	30-01-2012	30-04-2012	Akzo Nobel Salt B.V.
Helmond 2 *	Staatscourant 23 905	22-11-2012	21-02-2013	Hydreco GeoMEC B.V.
Tilburg-Geertruidenberg *	Staatscourant 23 922	22-11-2012	21-02-2013	Hydreco GeoMEC B.V.
Bommelerwaard *	Staatscourant 26 056	18-12-2012	19-03-2013	Projectbureau Herstructurering Tuinbouw Bommelerwaard
Lansingerland 4	Staatscourant 10 714	24-04-2013	24-07-2013	A+G van den Bosch B.V.
Honselersdijk 4	Staatscourant 26 858	30-09-2013	30-12-2013	Zuidgeest Growers B.V.
Peel en Maas	Staatscourant 29 088	21-10-2013	20-01-2014	
Leeuwarden	Staatscourant 29 090	21-10-2013	20-01-2014	
Heerenveen	Staatscourant 29 091	21-10-2013	20-01-2014	
Oostland	Staatscourant 30 092	30-10-2013	29-01-2014	

\* Pending application, published in previous Annual Review

\*\* Application withdrawn, October 5th 2012

\*\*\* Application withdrawn, May 24th 2013

## Rejected

Applicant(s)	Area	Per	km <sup>2</sup>
Vastgoed Batenburg B.V.	Lansingerland 3	12-07-2013	18
Gemeente Eemsmond	Eemsmond 2	05-12-2013	314
Gemeente Amsterdam	Amsterdam	05-12-2013	148
Greenlight Energy B.V.	's-Gravenzande	05-12-2013	9
Holland Malt B.V.	Eemsmond	07-12-2013	20
Schiphol Real Estate B.V.	Haarlemmermeer 2	18-12-2013	257
		Total	766

## Awarded

Licence holder	Licence	In force	km <sup>2</sup>
TomSelect B.V.	Kwintsheul	29-03-2013	5
Transmark Renewable Products B.V.	Friesland	11-09-2013	4 125
Transmark Renewable Products B.V.	Utrecht - Noord- Brabant	11-09-2013	3 694
Ce-Ren Beheer B.V.	Heemskerk 2	27-09-2013	1
Vopak Terminal Vlaardingen B.V.	Rotterdam-Vlaardingen	22-11-2013	13
GeoWeb B.V.	Egchel	26-11-2013	62
		Total	7 900

## Restricted

Licence holder	Licence	In force	km <sup>2</sup>
A+G van den Bosch B.V.	Bleiswijk	06-09-2011	2
Gemeente Den Haag	Den Haag	16-05-2013	10
A+G van den Bosch B.V.	Bleiswijk 3	04-08-2013	<1
		Total	12

## Prolonged

Licence holder	Licence	In force	km <sup>2</sup>
S.S. Beheer B.V.	Middenmeer	08-03-2013	24
AC Hartman Beheer B.V. cs	Sexbierum	08-03-2013	11
Plantenkwekerij Leo Ammerlaan B.V.	Bleiswijk 2	08-03-2013	5
Hollandplant Vastgoed B.V.	Lansingerland	13-06-2013	7
Gedeputeerde Staten van Overijssel	Koekoekspolder II	28-06-2013	31
Jamuflor B.V.	De Kwakel	17-07-2013	18
A.P.M. Ammerlaan cs	Bleiswijk 4	31-07-2013	7
Coöperatieve Bloemenveiling FloraHolland U.A.	Naaldwijk 2	27-09-2013	4
Wayland Nova B.V.	Maasbree	02-10-2013	22
Hydreco GeoMEC B.V.	Pijnacker-Nootdorp 6	02-10-2013	9
Directeur Facilitair Management en Vastgoed, TU Delft	Delft IV	08-10-2013	40
A.P.M. Zuidgeest cs	Maasdijk	18-10-2013	6
A.P.M. Zuidgeest cs	Honselersdijk 2	18-10-2013	4
Houdstermaatschappij Oosterom B.V.	Waddinxveen	25-10-2013	14
GeoMEC-4P Realisatie & Exploitatie B.V. cs	Brielle 2	19-11-2013	29
GeoMEC-4P Realisatie & Exploitatie B.V. cs	Vierpolders	19-11-2013	7
Tuinbouwbedrijf Wijnen B.V.	Californië I	23-11-2013	7
N.W. Duijvestijn cs	Honselersdijk 3	23-11-2013	7
ECW Geoholding B.V.	Middenmeer 2	07-12-2013	15
Total			267

## Lapsed/Relinquished/Withdrawn

Licence holder	Licence	In force	km <sup>2</sup>
Gemeente Pijnacker-Nootdorp	Pijnacker-Nootdorp	27-03-2013	8
P.N.A. van Dijk Beheer B.V.	Brielle	23-05-2013	7
De Bleiswijkse Zoom 1 B.V.	Bleiswijk 5	04-08-2013	5
R.H.M. Scheffers	Monster	05-08-2013	4
D.T.M. Grootscholten	Naaldwijk	07-08-2013	4
Van den Berg Energie B.V.	Est	17-09-2013	36
De Klotterkuil B.V.	Horst	17-09-2013	8
Harting-Vollebregt Beheer B.V.	De Lier 4	09-10-2013	3
Tuinbouwontwikkelingsmaatschappij B.V.	Dinteloord	24-11-2013	21
W.P.K. Beheer B.V.	Made	24-11-2013	33
Themato Productie B.V.	Berkel en Rodenrijs I	31-12-2013	6
Total			135



## PRODUCTION LICENCES, Netherlands Territory

### Applied for

Licence	Publication	Date	Closing date	Applicant(s)
Bleiswijk 1b *	-	20-06-2011	-	A+G van den Bosch B.V.
Den Haag *	-	21-09-2011	-	Gemeente Den Haag
Honselersdijk	-	15-01-2013	-	J.W.M. Scheffers, G. Verkade B.V.
Pijnacker-Nootdorp 5	-	31-01-2013	-	Duijvestijn Energie B.V.
Pijnacker-Nootdorp 4	-	06-02-2013	-	Ammerlaan Real Estate B.V.
Kampen	-	27-02-2013	-	Aardwarmtecluster 1 KKP B.V.
Middenmeer	-	21-03-2013	-	ECW Geowarmte B.V.
Heemskerk	-	20-11-2013	-	Ce-Ren Beheer B.V.

\* Pending application. Previously published in annual review

## COMPANY CHANGES in 2013

### Company changes in exploitation licences

Vergunning	Maatschappij afstand	Maatschappij toetreding	In werking	Staats courant
Middenmeer	S.S. Beheer B.V.	ECW Geoholding B.V.	14-03-2013	11 199
Middenmeer 2	Van Kester-Grootscholten Beheer B.V.	ECW Geoholding B.V.	14-03-2013	11 200
Pijnacker-Nootdorp 6	Eneco New Energy B.V.	Hydreco GeoMEC B.V.	26-06-2013	18 570
Pijnacker-Nootdorp 5	Gebroeders Duijvestijn Beheer B.V.	Gebroeders Duijvestijn Energie B.V.	26-06-2013	18 577

## GEOHERMAL WELLS completed in 2013

Name well	Licence geothermal energy	Operator
1 Californië-GT-03	Californië-1 & -2	Californië Wijnen Geothermie B.V.
2 Heemskerk-GT-01-Sidetrack2	Heemskerk	Ce-Ren Beheer
3 Middenmeer-GT-01	Middenmeer	ECW Geoholding
4 Middenmeer-GT-02-Sidetrack2	Middenmeer	ECW Geoholding



## ANNEXES



## NATURAL GAS AND OIL ACCUMULATIONS BY STATUS as at 1 January 2014

### NATURAL GAS ACCUMULATIONS

I. DEVELOPED ACCUMULATIONS				
Acumulation*	Company	Licence name***	Licence type****	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	G&O
Assen	NAM	Drenthe IIb	pl	G
Barendrecht-Ziedewij	NAM	Rijswijk	pl	G
Bedum	NAM	Groningen	pl	G
Bergen	TAQA	Bergen II	pl	G
Blesdijke	Vermillion	Steenwijk	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	pl	G
Brakel	Vermillion	Andel III	pl	G
Coevorden	NAM	Schoonebeek	pl	G
Collendoorn	NAM	Hardenberg	pl	G
Collendoornerveen	NAM	Schoonebeek	pl	G
Dalen	NAM	Drenthe IIb	pl	G
De Blesse	Vermillion	Steenwijk	pl	G
De Hoeve	Vermillion	Gorredijk	pl	G
De Lier	NAM	Rijswijk	pl	G
De Klem	NAM	Beijerland	pl	G
De Wijk	NAM	Schoonebeek	pl	G
Den Velde	NAM	Hardenberg	pl	G
Eernewoude	Vermillion	Leeuwarden	pl	G
Eleveld	NAM	Drenthe IIb	pl	G
Emmen	NAM	Drenthe IIb	pl	G
Emmen-Nieuw	NAM	Drenthe IIb	pl	G
Amsterdam				
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	Vermillion	Drenthe IIIb	pl	G
Geestvaartpolder	NAM	Rijswijk	pl	G
Groet	TAQA	Bergen II	pl	G

Acumulation*	Company	Licence name***	Licence type****	Gas/Oil
Groet-Oost	TAQA	Bergen II	pl	G
Grolloo	Vermillion	Drenthe IV	pl	G
Groningen	NAM	Groningen	pl	G
Grootegast	NAM	Groningen	pl	G
Grouw	Vermillion	Leeuwarden	pl	G
Hardenberg	NAM	Schoonebeek	pl	G
Hardenberg-Oost	NAM	Schoonebeek	pl	G
Harkema	NAM	Tietjerksteradeel	pl	G
Hekelingen	NAM	Botlek	pl	G
Kiel-Windeweer	NAM	Groningen	pl	G
Kollum	NAM	Tietjerksteradeel	pl	G
Kollumerland	NAM	Tietjerksteradeel	pl	G
Kollum-Noord	NAM	Noord-Friesland	pl	G
Kommerzijl	NAM	Noord-Friesland	pl	G
Langezwaag	Vermillion	Gorredijk	pl	G
Lauwersoog	NAM	Noord-Friesland	pl	G
Leens	NAM	Groningen	pl	G
Leeuwarden en Nijega	Vermillion	Leeuwarden	pl	G
Loon op Zand	Vermillion	Waalwijk	pl	G
Loon op Zand-Zuid	Vermillion	Waalwijk	pl	G
Maasdijk	NAM	Rijswijk	pl	G
Marum	NAM	Groningen	pl	G
Metslawier-Zuid	NAM	Noord-Friesland	pl	G
Middelie	NAM	Middelie	pl	G
Middenmeer	Vermillion	Slootdorp	pl	G
Moddergat	NAM	Noord-Friesland	pl	G
Molenpolder	NAM	Groningen	pl	G
Monster	NAM	Rijswijk	pl	G
Munnekezijl	NAM	Noord-Friesland	pl	G
Nes	NAM	Noord-Friesland	pl	G
Noorderdam	NAM	Rijswijk	pl	G
Noordwolde	Vermillion	Gorredijk	pl	G
Oldelamer	Vermillion	Gorredijk	pl	G
Oosterhesselen	NAM	Drenthe IIb	pl	G
Oostrum	NAM	Noord-Friesland	pl	G
Opeinde	Vermillion	Leeuwarden	pl	G
Opeinde-Zuid	Vermillion	Leeuwarden	pl	G
Opende-Oost	NAM	Groningen	pl	G
Oud-Beijerland Zuid	NAM	Botlek	pl	G
Oude Pekela	NAM	Groningen	pl	G
Oudeland	NAM	Beijerland	pl	G
Pasop	NAM	Groningen	pl	G
Pernis	NAM	Rijswijk	pl	G
Pernis-West	NAM	Rijswijk	pl	G
Rauwerd	Vermillion	Oosterend	pl	G
Reedijk	NAM	Botlek	pl	G
Ried	Vermillion	Leeuwarden	pl	G

Acumulation*	Company	Licence name***	Licence type****	Gas/Oil
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	Vermillion	Slootdorp	pl	G
Spijkenisse-Oost	NAM	Botlek	pl	G
Spijkenisse-West	NAM	Beijerland	pl	G
Sprang	Vermillion	Waalwijk	pl	G
Suawoude	NAM	Tietjerksteradeel	pl	G
Surhuisterveen	NAM	Tietjerksteradeel	pl	G
Tietjerksteradeel	NAM	Tietjerksteradeel	pl	G
Ureterp	NAM	Tietjerksteradeel	pl	G
Vierhuizen	NAM	Groningen	pl	G
Vinkega	Vermillion	Gorredijk	pl	G
Vries	NAM	Drenthe IIb	pl	G
Waalwijk-Noord	Vermillion	Waalwijk	pl	G
Wanneperveen	NAM	Schoonebeek	pl	G
Warffum	NAM	Groningen	pl	G
Warga-Wartena	Vermillion	Leeuwarden	pl	G
Westbeemster	NAM	Middelie	pl	G
Wieringa	NAM	Noord-Friesland	pl	G
Wijk en Aalburg	Vermillion	Andel V	pl	G
Witterdiep	NAM	Drenthe lib	pl	G
Zevenhuizen	NAM	Groningen	pl	G
Zuidwal	Vermillion	Zuidwal	pl	G
Zuidwending-Oost	NAM	Groningen	pl	G
A12-FA	Chevron	A12a	pl	G
B13-FA	Chevron	B10c & B13a	pl	G
D12-A	Wintershall	D12a	pl	G
D15-A	GDF Suez	D12a	pl	G
D18a-A	GDF Suez	D18a	pl	G
E17a-A	GDF Suez	E17a & E17b	pl	G
E18-A	Wintershall	E18a	pl	G
F02-A Pliocene	Dana Petroleum	F02a	pl	G
F03-FA	Centrica	F03a	pl	G
F03-FB	GDF Suez	F03b	pl	G&O
F15a-A	Total	F15a	pl	G
F15a-B	Total	F15a	pl	G
F16-E	Wintershall	F16	pl	G
G14-A/B	GDF Suez	G14 & G17b	pl	G
G14-C	GDF Suez	G14 & G17b	pl	G
G16a-A	GDF Suez	G16a	pl	G
G16a-B	GDF Suez	G16a	pl	G
G16a-C	GDF Suez	G16a	pl	G
G16a-D	GDF Suez	G16a	pl	G

Acumulation*	Company	Licence name***	Licence type****	Gas/Oil
G17a-S1	GDF Suez	G17c & G17d	pl	G
G17cd-A	GDF Suez	G17c & G17d	pl	G
Halfweg	Chevron	Q01	pl	G
J03-C Unit	Total	J03b & J06	pl	G
K01-A Unit	Total	J03a	pl	G
K02b-A	GDF Suez	K03a	pl	G
K04-A	Total	K04a	pl	G
K04a-B	Total	K04a	pl	G
K04a-D	Total	K04a	pl	G
K04a-Z	Total	K04a	pl	G
K04-E	Total	K04a	pl	G
K04-N	Total	K04b & K05a	pl	G
K05a-A	Total	K04b & K05a	pl	G
K05a-B	Total	K04b & K05a	pl	G
K05a-D	Total	K04b & K05a	pl	G
K05a-En	Total	K04b & K05a	pl	G
K05-C North	Total	K05b	pl	G
K05-C Unit	Total	K05b	pl	G
K05-F	Total	K04b & K05a	pl	G
K05-U	Total	K05b	pl	G
K06-A	Total	K06 & L07	pl	G
K06-C	Total	K06 & L07	pl	G
K06-D	Total	K06 & L07	pl	G
K06-DN	Total	K06 & L07	pl	G
K06-G	Total	K06 & L07	pl	G
K07-FA	NAM	K07	pl	G
K07-FB	NAM	K07	pl	G
K07-FC	NAM	K07	pl	G
K07-FD	NAM	K07	pl	G
K08-FA	NAM	K08 & K11	pl	G
K08-FC	NAM	K08 & K11	pl	G
K09ab-A	GDF Suez	K09a & K09b	pl	G
K09ab-B	GDF Suez	K09a & K09b	pl	G
K09ab-D	GDF Suez	K09a & K09b	pl	G
K09c-A	GDF Suez	K09c	pl	G
K12-B	GDF Suez	K12	pl	G
K12-B9	GDF Suez	K12	pl	G
K12-D	GDF Suez	K12	pl	G
K12-G	GDF Suez	K12	pl	G
K12-L	GDF Suez	K12	pl	G
K12-M	GDF Suez	K12	pl	G
K12-S2	GDF Suez	K12	pl	G
K12-S3	GDF Suez	K12	pl	G
K14-FA	NAM	K14	pl	G
K14-FB	NAM	K14	pl	G
K15-FA	NAM	K15	pl	G
K15-FB	NAM	K15	pl	G



Acumulation*	Company	Licence name***	Licence type****	Gas/Oil
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-FJ	NAM	K15	pl	G
K15-FK	NAM	K15	pl	G
K15-FL	NAM	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
K15-FQ	NAM	K15	pl	G
K17-FA	NAM	K17	pl	G
K18-Golf	Wintershall	K18b	pl	G
L01-A	Total	L01a	pl	G
L02-FA	NAM	L02	pl	G
L02-FB	NAM	L02	pl	G
L04-A	Total	L04a	pl	G
L04-B	Total	K06 & L07	pl	G
L04-D	Total	L04a	pl	G
L04-F	Total	L04a	pl	G
L04-G	Total	L04a	pl	G
L04-I	Total	L04a	pl	G
L05a-A	GDF Suez	L05a	pl	G
L05-B	Wintershall	L05b	pl	G
L05-C	Wintershall	L05b	pl	G
L07-B	Total	K06 & L07	pl	G
L07-C	Total	K06 & L07	pl	G
L07-G	Total	K06 & L07	pl	G
L07-H	Total	K06 & L07	pl	G
L07-H South-East	Total	K06 & L07	pl	G
L07-N	Total	K06 & L07	pl	G
L08-A	Wintershall	L08a	pl	G
L08-A-West	Wintershall	L08b	pl	G
L08-D	ONE	L08a	pl	G
L08-G	Wintershall	L08a	pl	G
L08-H	Wintershall	L08a	pl	G
L08-P	Wintershall	L08b	pl	G
L09-FA	NAM	L09	pl	G
L09-FB	NAM	L09	pl	G
L09-FC	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

Acumulation*	Company	Licence name***	Licence type****	Gas/ Oil
L09-FK	NAM	L09	pl	G
L09-FL	NAM	L09	pl	G
L10-CDA	GDF Suez	L10 & L11a	pl	G
L10-G	GDF Suez	L10 & L11a	pl	G
L10-M	GDF Suez	L10 & L11a	pl	G
L10-N	GDF Suez	L10 & L11a	pl	G
L12a-B	GDF Suez	L12a	pl	G
L12b-C	GDF Suez	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	GDF Suez	L12b & L15b	pl	G
M07-A	ONE	M07	pl	G
M07-B	ONE	M07	pl	G
Markham	Centrica	J03b & J06	pl	G
N07-FA	NAM	N07a	pl	G
P06-D	Wintershall	P06	pl	G
P06-Main	Wintershall	P06	pl	G
P09-A	Wintershall	P09a & P09b	pl	G
P09-B	Wintershall	P09c	pl	G
P10a De Ruyter Western Extension	Dana Petroleum	P11b	pl	G
P11b Van Nes	Dana Petroleum	P11b	pl	G
P15-09	TAQA	P15a & P15b	pl	G
P15-11	TAQA	P15a & P15b	pl	G
P15-13	TAQA	P15a & P15b	pl	G
P15-14	TAQA	P15c	pl	G
P15-15	TAQA	P15a & P15b	pl	G
P15-16	TAQA	P15a & P15b	pl	G
P15-17	TAQA	P15a & P15b	pl	G
P18-2	TAQA	P18a	pl	G
P18-4	TAQA	P18a	pl	G
P18-6	TAQA	P18a	pl	G
Q01-B	Wintershall	Q04	pl	G
Q04-A	Wintershall	Q04	pl	G
Q04-B	Wintershall	Q04	pl	G
Q16-FA	ONE	Q16a	pl	G
<b>b) Underground Gas Storage</b>				
Alkmaar	TAQA	Alkmaar	pl/sl	G
Bergermeer	TAQA	Bergermeer	pl/sl	G
Grijpskerk	NAM	Groningen	pl/sl	G
Norg	NAM	Drenthe IIb	pl/sl	G
Zuidwending Aardgasbuffer	Gasunie	Zuidwending	pl/sl	G

## II. UNDEVELOPED ACCUMULATIONS

Accumulation*	Company	Licence name***	Licence type ****	Gas/Oil
<b>a) Start of production expected between 2014 t/m 2018 (NP&lt;5)</b>				
Burum-Oost	NAM	Tietjerksteradeel	pl	G
Donkerbroek - Main	Tulip	Donkerbroek	pl	G
Donkerbroek - West	Tulip	Donkerbroek	pl	G
Eesveen	Vermillion	Steenwijk	pl	G
Heinenoord	NAM	Botlek	pl	G
Marknesse	Tulip	Marknesse	pl	G
Marumerlage	NAM	Groningen	pl	G
Nes-Noord	NAM	Noord-Friesland	pl	G
Papekop	Vermillion	Papekop	pl	G&O
Rodewolt	NAM	Groningen	pl	G
Ternaard	NAM	Noord-Friesland	pl	G
Terschelling-Noord	Tulip	Terschelling-Noord	el	G
Usquert	NAM	Groningen	pl	G
Zevenhuizen-West	NAM	Groningen	pl	G
A18-FA	Chevron	A18a	pl	G
K09c-B	GDF Suez	K09c	pl	G
L05a-D	GDF Suez	L05a	pl	G
L06-B	Wintershall	L06a	pl	G
L13-FA	NAM	L13	pl	G
L13-FI	NAM	L13	pl	G
L13-FJ	NAM	L13	pl	G
M01-A	ONE	M01a	pl	G
M09-FA	NAM	M09a	pl	G
P11b Van Ghent East	Dana Petroleum	P11b	pl	G&O
P11b Witte de With	Dana Petroleum	P11b	pl	G
Q01-D	Wintershall	Q01	pl	G
Q07-FA	Tulip	Q07	el	G
Q16-Maas	ONE	Botlek	pl	G
<b>b) start of production after 2018 (NP&gt;5)</b>				
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

Accumulation*	Company	Licence name***	Licence type ****	Gas/Oil
Heiloo	TAQA	Bergen II	pl	G
Hollum-Ameland	NAM	Noord-Friesland	pl	G
Kerkwijk	NAM	Andel V	pl	G
Kijkduin-Zee	NAM	Rijswijk	pl	G
Langebrug	NAM	Groningen	pl	G
Lankhorst	NAM	Schoonebeek	pl	G
Maasgeul	NAM	Botlek	pl	G
Midlaren	NAM	Drenthe IIb	pl	G&O
Molenaarsgraaf	NAM	Andel V	pl	G
Nieuwehorne	Vermillion	Gorredijk	pl	G
Nieuweschans	NAM	Groningen	pl	G
Oosterwolde		open	open	G
Oppenhuizen	Vermillion	Zuid-Friesland III	pl	G
Oude Leede	NAM	Rijswijk	pl	G
Rammelbeek	NAM	Twenthe	pl	G
Schiermonnikoog-Wad	NAM	Noord-Friesland	pl	G
Sonnega Weststellingwerf	Vermillion	Gorredijk	pl	G
Terschelling-West	NAM	open	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
Woudsend	Vermillion	Zuid-Friesland III	pl	G
Zuidwijk	TAQA	Bergen II	pl	G
A15-A	Chevron	A15a	pl	G
B10-FA	Chevron	A12b & B10a	pla	G
B16-FA	Chevron	B16a	pla	G
B17-A	Chevron	B17b	pla	G
D12 Ilmenite	Wintershall	D12a	pl	G
D15 Tourmaline	GDF Suez	D15	pl	G
E12 Lelie		open	open	G
E12 Tulp East		open	open	G
E13 Epidoot		open	open	G
F16-P	Wintershall	F16	pl	G
K08-FB	NAM	K08 & K11	pl	G
K08-FD	NAM	K08 & K11	pl	G
K08-FE	NAM	K08	pl	G
K08-FF	NAM	K08 & K11	pl	G
K14-FC	NAM	K14	pl	G
K15-FF	NAM	K15	pl	G
K15-FH	NAM	K15	pl	G
K15-FI	NAM	K15	pl	G
K16-5		open	open	G
K17-FB	NAM	K17	pl	G
K17-Zechstein	NAM	K17	pl	G

Accumulation*	Company	Licence name***	Licence type****	Gas/Oil
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
L07-F	Total	K06 & L07	pl	G
L08-I	Wintershall	L08a	pl	G
L10-19	GDF Suez	L10 & L11a	pl	G
L10-6	GDF Suez	L10 & L11a	pl	G
L11-1	GDF Suez	L10 & L11a	pl	G
L11-7	GDF Suez	L10 & L11a	pl	G
L12-FA	GDF Suez	L12a	pl	G
L12-FD	Tullow	L12d	pl	G
L13-FK	NAM	L13	pl	G
L14-FB	GDF Suez	open	open	G
L16-Alpha	Wintershall	L16a	pl	G
L16-Bravo	Wintershall	L16a	pl	G
L16-FA	Wintershall	L16a	pl	G
M09-FB	NAM	N07a	pl	G
M10-FA	Tulip	M10a & M11	el	G
M11-FA	Tulip	M10a & M11	el	G
P01-FA	Chevron	P01a	open	G
P01-FB	Chevron	P01a	open	G
P02-Delta	Chevron	P02	el	G
P02-E	Chevron	P02	el	G
P06-Northwest	Wintershall	P06	pl	G
P10b Van Brakel	Dana Petroleum	P10b	pl	G
P12-14	Wintershall	P12	pl	G
Q02-A		open	open	G
Q13-FC	ONE	open	el	G
Q14-A	Cirrus	open	open	G

### III. PRODUCTION CEASED

Accumulation*	Status**	Company	Licence name***	Licence type****	Gas/Oil
Akkrum 1	A	Chevron USA	Akkrum	el	G
Akkrum 13	A	Chevron USA	Akkrum	el	G
Akkrum 3	A	Chevron USA	Akkrum	el	G
Akkrum 9	A	Chevron USA	Akkrum	el	G
Ameland-Noord	T	NAM	Noord-Friesland	pl	G
Appelscha	T	NAM	Drenthe IIb	pl	G
Barendrecht	T	NAM	Rijswijk	pl	G
Boekel	U	TAQA	Alkmaar	pl	G
Bozum	U	Vermillion	Oosterend	pl	G
Castricum-Zee	A	Wintershall	Middelie	pl	G
De Lutte	U	NAM	Rossum-De Lutte	pl	G

Accumulation*	Status**	Company	Licence name***	Licence type****	Gas/Oil
Een	T	NAM	Drenthe IIb	pl	G
Emshoern	A	NAM	Groningen	pl	G
Engwierum	U	NAM	Noord-Friesland	pl	G
Franeker	U	Vermillion	Leeuwarden	pl	G
Harlingen Lower Cretaceous	A	Vermillion	Leeuwarden	pl	G
Harlingen Upper Cretaceous	T	Vermillion	Leeuwarden	pl	G
Hemrik (Akkrum 11)	T	Tulip	Akkrum 11	pl	G
Hoogenweg	U	NAM	Hardenberg	pl	G
Houwerzijl	T	NAM	Noord-Friesland	pl	G
Leeuwarden 101 Rotliegend	U	Vermillion	Leeuwarden	pl	G
Leidschendam	A	NAM	Rijswijk	pl	G
Metslawier	U	NAM	Noord-Friesland	pl	G
Middelburen	U	Vermillion	Leeuwarden	pl	G
Nijensleek	U	Vermillion	Drenthe IIa	pl	G
Norg-Zuid	U	NAM	Drenthe IIb	pl	G
Oldenzaal	U	NAM	Rossum-De Lutte	pl	G
Roden	T	NAM	Drenthe IIb	pl	G
Rossum-Weerselo	U	NAM	Rossum-De Lutte	pl	G
Roswinkel	T	NAM	Drenthe IIb	pl	G
Sleen	U	NAM	Drenthe IIb	pl	G
Starnmeer	U	TAQA	Bergen II	pl	G
Tubbergen	U	NAM	Tubbergen	pl	G
Tubbergen-Mander	U	NAM	Tubbergen	pl	G
Weststellingwerf	U	Vermillion	Gorredijk	pl	G
Wimmenum-Egmond	A	NAM	Middelie	pl	G
Zuid-Schermer	U	TAQA	Bergen II	pl	G
D15-A-104	U	GDF Suez	D15	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
K07-FE	T	NAM	K07	pl	G
K09ab-C	T	GDF Suez	K09a & K09b	pl	G
K10-B (gas)	A	Wintershall	open	open	G
K10-C	A	Wintershall	open	open	G
K10-V	A	Wintershall	open	open	G
K11-FA	A	NAM	K08 & K11	pl	G
K11-FB	A	GDF Suez	K08 & K11	pl	G
K11-FC	A	GDF Suez	K08 & K11	pl	G
K12-A	A	GDF Suez	K12	pl	G
K12-C	U	GDF Suez	K12	pl	G
K12-E	A	GDF Suez	K12	pl	G

Accumulation*	Status**	Company	Licence name***	Licence type****	Gas/Oil
K12-K	T	GDF Suez	K12	pl	G
K12-S1	A	GDF Suez	K12	pl	G
K13-A	A	Wintershall	open	open	G
K13-B	A	Wintershall	open	open	G
K13-CF	A	Wintershall	open	open	G
K13-DE	A	Wintershall	open	open	G
L06d-S1	T	ONE	L06d	pl	G
L07-A	A	Total	K06 & L07	pl	G
L09-FI	T	NAM	L09	pl	G
L10-K	A	GDF Suez	L10 & L11a	pl	G
L10-S1	U	GDF Suez	L10 & L11a	pl	G
L10-S2	U	GDF Suez	L10 & L11a	pl	G
L10-S3	A	GDF Suez	L10 & L11a	pl	G
L10-S4	U	GDF Suez	L10 & L11a	pl	G
L11a-A	A	GDF Suez	L10 & L11a	pl	G
L11b-A	U	Cirrus	L11b	pl	G
L11-Lark	A	GDF Suez	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	open	G
P02-NE	A	Clyde	P02	el	G
P02-SE	A	Clyde	P02	el	G
P06-South	A	Wintershall	P06	pl	G
P12-C	A	Wintershall	P12	pl	G
P12-SW	U	Wintershall	P12	pl	G
P14-A	A	Wintershall	open	open	G
P15-10	U	TAQA	P15c	pl	G
P15-12	T	TAQA	P15a & P15b	pl	G
Q05-A	A	Wintershall	open	open	G
Q08-A	A	Wintershall	open	open	G
Q08-B	A	Wintershall	open	open	G

\* Name of the accumulation is according to the name used in the production licence application.

\*\* T = production ceased temporarily, U = production ceased, A = abandoned

\*\*\* Licence stands for the licence effective at the time the accumulation was discovered. however. an accumulation can straddle more than one licence (these are not indicated in this table).

\*\*\*\* el = exploration licence. pla = production licence application. pl = production licence ; open = open area open a = open area licence applied., sl = storage licence.

## OIL ACCUMULATIONS

### I. DEVELOPED ACCUMULATIONS

Accumulation*	Company	Licence name***	Licence type****	Gas/ Oil
<b>a) Producerend</b>				
Berkel	NAM	Rijswijk	pl	O&G
Oud-Beijerland Noord	NAM	Botlek	pl	O&G
Rotterdam	NAM	Rijswijk	pl	O
Schoonebeek (olie)	NAM	Schoonebeek	pl	O
F02a Hanze	Dana Petroleum	F02a	pl	O
Haven	Chevron	Q01	pl	O
Helder	Chevron	Q01	pl	O
Helm	Chevron	Q01	pl	O
Hoorn	Chevron	Q01	pl	O
Horizon	Chevron	P09c	pl	O
Kotter	Wintershall	K18b	pl	O
Logger	Wintershall	L16a	pl	O
P11b De Ruyter	Dana Petroleum	P11b	pl	O
P11b Van Ghent	Dana Petroleum	P11b	pl	O&G
P15 Rijn	TAQA	P15a & P15b	pl	O&G

### II. UNDEVELOPED ACCUMULATIONS

Accumulation*	Company	Licence name***	Licence type****	Gas/ Oil
<b>a) Start of production expected between 2014 t/m 2018 (NP&lt; 5)</b>				
Ottoland	Vermillion	Andel V	pl	O&G
L05a-E	GDF Suez	L05a	pl	O
P08-A Horizon-West	Grove Energy	P08a	pl	O
Q13a-Amstel	GDF Suez	Q13a	pl	O
<b>b) Start of production after 2018 (NP&gt;5)</b>				
Alblasserdam	NAM	Rijswijk	pl	O
Denekamp	NAM	Tubbergen	pl	O
Gieterveen	NAM	Drenthe IIb	pl	O
Lekkerkerk/blg	NAM	Rijswijk	pl	O
Noordwijk	NAM	Rijswijk	pl	O
Stadskanaal	NAM	Groningen	pl	O&G
Wassenaar-Zee	NAM	Rijswijk	pl	O
Woubrugge	NAM	Rijswijk	pl	O
Zweelo	NAM	Drenthe IIb	pl	O



Accumulation*	Company	Licence name***	Licence type****	Gas/ Oil
B18-FA	Centrica	B18a	pl	O
F03-FC	Centrica	F03a	pl	O
F14-FA		open	open-a	O
F17-Brigantijn (F17-FB)	Sterling	F17a-ondiep	el	O
F17-FC	Wintershall	F17a-diep	el	O
F17-Korvet (F17-FA)	Sterling	F17a-ondiep	el	O
F18-Fregat (F18-FA)	Sterling	F18-ondiep	el	O
K10-B (oil)	Wintershall	open	open	O
L01-FB		open	open	O
P12-3	Wintershall	P12	pl	O
Q01-Northwest	Chevron	open	open	O
Q13-FB	NAM	open	el	O

### III. PRODUCTION CEASED

Accumulation*	Status**	Company	Licence name***	Licence type	Gas/ Oil
De Lier	A	NAM	Rijswijk	pl	O
IJsselmonde	U	NAM	Rijswijk	pl	O&G
Moerkapelle	A	NAM	Rijswijk	pl	O
Pijnacker	U	NAM	Rijswijk	pl	O
Rijswijk	A	NAM	Rijswijk	pl	O&G
Wassenaar	A	NAM	Rijswijk	pl	O
Werkendam	A	NAM	Rijswijk	pl	O
Zoetermeer	A	NAM	Rijswijk	pl	O

\* Name of the accumulation is according to the name used in the production licence application.

\*\* T = production ceased temporarily, U = production ceased, A = abandoned

\*\*\* Licence stands for the licence effective at the time the accumulation was discovered. however. an accumulation can straddle more than one licence (these are not indicated in this table).

\*\*\*\* el = exploration licence. pla = production licence application. pl = production licence ; open = open area open a = open area licence applied., sl = storage licence.

## EXPLORATION LICENCES, Hydrocarbons Netherlands Territory as at 1 January 2014

	Licence holder	Licence	km <sup>2</sup>	Awarded	Date of expiry	Government Gazette
1	<b>Cuadrilla Brabant B.V.</b>	Noord-Brabant	1929	14-10-2009	24-11-2014	16 000
2	<b>Cuadrilla Hardenberg B.V.</b>	Noordoostpolder	819	15-06-2010	26-07-2015	9 431
3	<b>GDF Suez E&amp;P Nederland B.V.</b>	Schiermonnikoog-Noord	62	05-06-2013	16-07-2017	16 234
4	<b>Hexagon Energy B.V.</b>	Peel	365	17-11-2009		17 675
5	<b>Northern Petroleum Nederland B.V.</b>	Engelen	97	14-10-2009		16 878
6	<b>Northern Petroleum Nederland B.V.</b>	Oosterwolde	127	20-04-2007		83
7	<b>Northern Petroleum Nederland B.V.</b>	Utrecht	1144	26-04-2007		85
8	<b>Tulip Oil Netherlands B.V.</b> PA Resources UK Ltd.	Schagen	355	20-06-2009	31-07-2014	118
9	<b>Tulip Oil Netherlands B.V.</b>	Terschelling-Noord	23	30-07-2013	09-09-2015	22 215
10	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b>	Akkrum	210	14-03-2013	24-4-2017	10 461
11	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b> Lundin Netherlands B.V.	Follega	3	15-06-2010	26-07-2014	9 426
12	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b>	Hemelum	450	17-01-2012	27-02-2016	1 490
13	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b> Lundin Netherlands B.V.	Lemsterland	111	15-06-2010	26-07-2014	9 427
14	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b>	Opmeer	229	19-12-2012	29-01-2017	205
		Total	5925	km <sup>2</sup>		

## PRODUCTION LICENCES, Hydrocarbon Netherlands Territory as at 1 January 2014

	Licence holder	Licence	km <sup>2</sup>	Awarded	Date of expiry	Government Gazette
1	Nederlandse Aardolie Maatschappij B.V.	Beijerland	140	14-02-1997	14-02-2027	243
2	Nederlandse Aardolie Maatschappij B.V.	Botlek	235	18-02-1992	18-02-2027	141
3	Nederlandse Aardolie Maatschappij B.V. ExxonMobil Producing Netherlands B.V.	De Marne	7	04-10-1994	04-10-2034	189
4	Nederlandse Aardolie Maatschappij B.V.	Drenthe II	1881	17-03-2012		6 883
5	Nederlandse Aardolie Maatschappij B.V.	Groningen	2970	30-05-1963		126
6	Nederlandse Aardolie Maatschappij B.V.	Hardenberg	161	22-10-1990	22-10-2035	149
7	Nederlandse Aardolie Maatschappij B.V.	Middelie	946	12-05-1969		94
8	Nederlandse Aardolie Maatschappij B.V. ExxonMobil Producing Netherlands B.V.	Noord-Friesland	1593	27-02-1969		47
9	Nederlandse Aardolie Maatschappij B.V.	Rijswijk	2090	03-01-1955		21
10	Nederlandse Aardolie Maatschappij B.V.	Rossum-de Lutte	46	12-05-1961		116
11	Nederlandse Aardolie Maatschappij B.V.	Schoonebeek	930	03-05-1948		110
12	Nederlandse Aardolie Maatschappij B.V.	Tietjerksteradeel	411	27-02-1969		47
13	Nederlandse Aardolie Maatschappij B.V.	Tubbergen	177	11-03-1953		80
14	Nederlandse Aardolie Maatschappij B.V.	Twenthe	276	01-04-1977		26
15	Northern Petroleum Nederland B.V. Nederlandse Aardolie Maatschappij B.V. Parkmead (E&P) Ltd.	Andel V	225	06-07-2011	30-12-2038	12 480
16	Northern Petroleum Nederland B.V. Nederlandse Aardolie Maatschappij B.V. Parkmead (E&P) Ltd.	Drenthe IIIb	388	17-03-2012		6 885
17	Northern Petroleum Nederland B.V. Parkmead (E&P) Ltd.	Drenthe IV	7	18-07-2007		140
18	Northern Petroleum Nederland B.V. Parkmead (E&P) Ltd.	Papekop	63	08-06-2006	19-07-2031	113
19	Northern Petroleum Nederland B.V. Essent Energy Gas Storage B.V. Gas Storage Ltd. Overseas Gas Storage Ltd.	Waalwijk	186	17-08-1989	17-08-2024	154
20	Northern Petroleum Nederland B.V.	Zuid-Friesland II	105	09-03-2010	19-04-2030	4 016

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Government Gazette</b>
	Dana Petroleum Netherlands B.V. Dyas B.V. Total E&P Nederland B.V.					
21	<b>TAQA Onshore B.V.</b> Dana Petroleum Netherlands B.V. Dyas B.V.	Bergen II	221	23-12-2006		232
22	<b>TAQA Onshore B.V.</b>	Bergermeer	19	23-12-2006		232
23	<b>TAQA Piek Gas B.V.</b> Dana Petroleum Netherlands B.V. Dyas B.V.	Alkmaar	12	23-12-2006		232
24	<b>Tulip Oil Netherlands B.V.</b>	Akkrum 11	6	26-07-2012	04-04-2025	6 909
25	<b>Tulip Oil Netherlands B.V.</b>	Donkerbroek	22	04-04-1995	04-04-2025	66
26	<b>Tulip Oil Netherlands B.V.</b>	Donkerbroek-West	2	16-03-2011	04-04-2025	4 902
27	<b>Tulip Oil Netherlands B.V.</b>	Marknesse	19	26-01-2010	09-03-2030	1 446
28	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b>	Drenthe IIa	7	17-03-2012		6 883
29	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b>	Drenthe IIIa	1	17-03-2012		6 885
30	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b> Lundin Netherlands B.V.	Gorredijk	629	29-07-1989	29-07-2024	145
31	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b> Lundin Netherlands B.V.	Leeuwarden	614	27-02-1969		46
32	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b> Lundin Netherlands B.V.	Oosterend	92	05-09-1985		84
33	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b> Lundin Netherlands B.V.	Slootdorp	162	01-05-1969		94
34	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b>	Steenwijk	99	16-09-1994	16-09-2029	177
35	<b>Vermilion Oil &amp; Gas Netherlands B.V.</b> Lundin Netherlands B.V.	Zuidwal	225	07-11-1984		190
			<b>Total</b>	<b>14966</b>	<b>km<sup>2</sup></b>	

## STORAGE LICENCES, Netherlands Territory as at 1 January 2014

	Licence holder	Licence	km <sup>2</sup>	Awarded	Date of expiry	Gov.ment Gazette	Substances
1	<b>Akzo Nobel Salt B.V.</b>	Twenthe-Rijn de Marssteden	2	02-10-2010	12-11-2040	15 650	Fuel oil
2	<b>Akzo Nobel Salt B.V.</b>	Winschoten III	28	15-11-2010	13-05-2079	18 321	Nitrogen
3	<b>N.V. Nederlandse Gasunie</b>	Winschoten II	<1	15-11-2010	13-05-2079	18 321	Nitrogen
4	<b>N.V. Nederlandse Gasunie</b> 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	Gas
5	<b>Nederlandse Aardolie Mij. B.V.</b>	Grijpskerk	27	01-04-2003		67	Gas
6	<b>Nederlandse Aardolie Mij. B.V.</b>	Norg	81	01-04-2003		68	Gas
7	<b>Oasen N.V.</b>	Ridderkerk	1	19-12-2012	29-01-2018	7 641	Saline water
8	<b>TAQA Onshore B.V.</b>	Bergermeer	19	08-01-2007	30-06-2050	7	Gas
9	<b>TAQA Offshore B.V.</b>	P18-4	11	01-01-2015	01-01-2023	21 233	CO <sub>2</sub>
10	<b>TAQA Piek Gas B.V.</b> Dana Petroleum Netherlands B.V. Dyas B.V.	Alkmaar	12	01-04-2003		68	Gas
11	<b>Vitens Friesland</b>	Noardburgum	1	24-03-2012	04-05-2015	7 641	Saline water
		Total	184	km <sup>2</sup>			

**EXPLORATION LICENCES, Rock Salt  
Netherlands Territory as at 1 January 2014**

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Gov.ment Gazette</b>
1	<b>Akzo Nobel Salt B.V.</b>	Zuidoost-Twente	30	16-03-2010	26-04-2015	4 311
		Total	30	Km <sup>2</sup>		

## PRODUCTION LICENCES, Rock Salt Netherlands Territory as at 1 January 2014

	Licence holder	Licence	km <sup>2</sup>	In force	Date of expiry	Government Gazette
1	<b>Akzo Nobel Salt B.V.</b>	Adolf van Nassau II	28	16-11-2010		18 324
2	<b>Akzo Nobel Salt B.V.</b>	Buurse	30	18-06-1918		421
3	<b>Akzo Nobel Salt B.V.</b>	Isidorushoeve	20	08-06-2012	19-07-2052	14 668
4	<b>Akzo Nobel Salt B.V.</b>	Twenthe-Rijn	48	20-10-1933		207
5	<b>Akzo Nobel Salt B.V.</b>	Twenthe-Rijn Helmerzijde	1	29-10-2008	09-12-2048	216
6	<b>Akzo Nobel Salt B.V.</b>	Twenthe-Rijn Oude Maten	1	01-06-2013	12-07-2053	18 332
7	<b>Akzo Nobel Salt B.V.</b> N.V. Nederlandse Gasunie Gasunie Zuidwending B.V. Gasunie Underground Storage B.V. Nuon Storage B.V.	Uitbreiding Adolf van Nassau ii	1	21-12-2009		81
8	<b>Akzo Nobel Salt B.V.</b>	Uitbreiding Adolf van Nassau iii	77	21-12-2009		81
9	<b>Akzo Nobel Salt B.V.</b>	Uitbreiding Twenthe- Rijn	9	01-12-1994		249
10	<b>Akzo Nobel Salt B.V.</b>	Weerselo	80	13-03-1967		76
11	<b>Frisia Zout B.V.</b>	Barradeel	3	22-08-1998	22-08-2054	157
12	<b>Frisia Zout B.V.</b>	Barradeel ii	17	12-06-2004	26-04-2062	110
13	<b>Frisia Zout B.V.</b>	Havenmond	32	03-01-2012	13-02-2052	405
14	<b>N.V. Nederlandse Gasunie</b>	Adolf van Nassau II	<1	16-11-2010		18 324
15	<b>Nedmag Industries Mining &amp; Manufacturing B.V.</b>	Veendam	171	01-08-1980		148
Total			519	Km <sup>2</sup>		

## EXPLORATION LICENCES, Geothermal energy, Netherlands Territory as at 1 January 2014

	Licence holder	Licence	km <sup>2</sup>	Awarded	Date of expiry	Government Gazette	Rem.
1	<b>Akzo Nobel Salt B.V.</b>	Hengelo	58	18-12-2012	28-01-2016	200	
2	<b>A.P.M. Ammerlaan</b> G.J.M. Kleijweg	Bleiswijk 4	7	23-06-2009	31-12-2014	9 944	
3	<b>Plantenkwekerij Leo Ammerlaan B.V.</b>	Bleiswijk 2	5	23-06-2009	31-05-2014	9 444	
4	<b>Ammerlaan Real Estate B.V.</b>	Pijnacker- Nootdorp 4	4	28-12-2009		73	wva
5	<b>D.J. Bac</b>  G.A. Bac	Zevenhuizen- Moerkapelle	13	03-03-2010	13-04-2014	3 561	
6	<b>Gietwater Berlikum B.V.</b>	Berlikum	19	09-03-2010	19-04-2014	4 018	
7	<b>A+G van den Bosch B.V.</b>	Bleiswijk	2	26-07-2006		143	wva
8	<b>A+G van den Bosch B.V.</b>	Bleiswijk 3	<1	23-06-2009		9 445	wva
9	<b>Grondexploitatie­maatschappij Californie B.V.</b>	Californie 2	71	16-03-2010	26-04-2014	4 313	
10	<b>Ce-Ren Beheer B.V.</b>	Heemskerk	11	09-12-2009		19 198	wva
11	<b>Ce-Ren Beheer B.V.</b>	Heemskerk 2	1	27-09-2013		27 660	wva
12	<b>P.N.A. van Dijk Beheer B.V.</b>	Oostvoorne	17	09-03-2010	19-04-2014	4 013	
13	<b>Gebroeders Duijvestijn Energie B.V.</b>	Pijnacker- Nootdorp 5	4	21-04-2010		7 407	wva
14	<b>N.W. Duijvestijn</b> B.A.A. Duijvestijn-van der Hoeven	Honselersdijk 3	7	14-10-2009	31-10-2014	15 962	
15	<b>E.ON Benelux N.V.</b>	Rotterdam 4	20	18-12-2012	28-01-2017	208	
16	<b>E.ON Benelux N.V.</b>	Rotterdam 5	39	18-12-2012	28-01-2017	733	
17	<b>ECW Geoholding B.V.</b>	Middenmeer 2	15	13-10-2009	23-11-2015	15 999	
18	<b>ECW Geoholding B.V.</b>	Middenmeer	24	16-07-2009		11 070	wva
19	<b>Eneco Solar, Bio &amp; Hydro B.V.</b>	Den Haag 2	62	06-03-2012	16-04-2016	5 165	
20	<b>Eneco Solar, Bio &amp; Hydro B.V.</b>	Rotterdam 2	26	18-12-2012	28-01-2017	206	
21	<b>Eneco Solar, Bio &amp; Hydro B.V.</b>	Rotterdam 3	2	18-12-2012	28-01-2017	203	



	Licence holder	Licence	km <sup>2</sup>	Awarded	Date of expiry	Government Gazette	Rem.
22	<b>Eneco Solar, Bio &amp; Hydro B.V.</b>	Rotterdam 6-trias	13	04-07-2012	14-08-2016	18357	
23	<b>Coöperatieve Bloemenveiling FloraHolland U.A.</b>	Aalsmeer	39	16-04-2011	27-05-2015	7 136	
24	<b>Coöperatieve Bloemenveiling FloraHolland U.A.</b>	Naaldwijk 2	4	14-10-2009	31-10-2014	15 960	
25	<b>Gedeputeerde Staten van Overijssel</b>	Koekoeks-polder ii	31	28-08-2010	30-12-2014	13 646	
26	<b>Gemeente Amstelveen</b>	Amstelveen	40	16-04-2011	27-05-2015	7 135	
27	<b>Gemeente Den Haag</b>	Den Haag	10	03-04-2009		69	
28	<b>Gemeente Groningen</b>	Groningen 2	18	16-04-2011	27-05-2015	7 134	
29	<b>Gemeente Westland</b>	Westland	47	26-05-2010	06-07-2014	8 236	
30	<b>GeoMEC-4P Realisatie &amp; Exploitatie B.V.</b> Gemeente Brielle Hydreco GeoMEC B.V. T4P Project B.V.	Brielle 2	29	13-10-2009	30-01-2015	15 990	
31	<b>GeoMEC-4P Realisatie &amp; Exploitatie B.V.</b> Gemeente Brielle Hydreco GeoMEC B.V. T4P Project B.V.	Vierpolders	7	10-02-2010	30-01-2015	2 211	
32	<b>GeoWeb B.V.</b>	Egchel	62	26-11-2013	06-01-2018	34 027	
33	<b>Van Gog Asten B.V.</b>	Asten	18	09-03-2010	19-04-2014	4 021	
34	<b>Landbouwbedrijf Van Gog B.V.</b>	Helmond	24	09-03-2010	19-04-2014	4 737	
35	<b>Grootslag Holding B.V.</b>	Andijk	12	05-03-2010	15-04-2014	3 831	
36	<b>Harting-Vollebregt Beheer B.V.</b>	De Lier	23	09-12-2009	19-01-2014	19 190	
37	<b>Harting-Vollebregt Beheer B.V.</b>	De Lier 3	11	09-12-2009	19-01-2014	19 203	
38	<b>AC Hartman Beheer B.V.</b> Gemeente Franekeradeel	Sexbierum	11	17-07-2009	31-05-2014	11 805	
39	<b>Hollandplant Vastgoed B.V.</b>	Lansingerland	7	04-12-2008	31-05-2014	240	
40	<b>Hydreco GeoMEC B.V.</b>	Pijnacker-Nootdorp 6	9	04-08-2010	30-06-2014	16 713	
41	<b>Hydreco GeoMEC B.V.</b> Brabant Water N.V.	Rotterdam	23	18-12-2012	28-01-2017	204	

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Government Gazette</b>	<b>Rem.</b>
	VolkerWessels DEC B.V.						
42	<b>Hydreco GeoMEC B.V.</b>	Rozenburg	45	26-06-2012	06-08-2016	18 216	
43	<b>Hydreco GeoMEC B.V.</b>	Werkendam	28	19-12-2012	29-01-2017	202	
44	<b>Jamuflo B.V.</b>	De Kwakel	18	26-06-2009	30-01-2015	11 803	
45	<b>SC Johnson Europlant B.V.</b>	Mijdrecht	41	01-02-2012	13-03-2016	2556	
46	<b>Aardwarmtecluster 1 KKP B.V.</b>	Kampen	2	28-08-2010		13 646	
47	<b>NHN Projecten B.V.</b> Coöperatie Texel Energie Gemeente Texel	Texel	256	06-04-2011	17-05-2015	6 649	
48	<b>Houdstermaatschappij Oosterom B.V.</b>	Waddinxveen	14	16-07-2009	31-03-2014	11 061	
49	<b>Vereniging van Eigenaren Oude Campspolder</b>	Maasland 2	5	15-10-2010	25-11-2014	16 611	
50	<b>Provincie Drenthe</b> Gemeente Emmen	Emmen	94	16-02-2011	29-03-2015	3 290	
51	<b>Provincie Drenthe</b> Gemeente Emmen	Erica	72	27-10-2010	07-12-2014	17 250	
52	<b>Provincie Drenthe</b> Gemeente Emmen	Klazienaveen	61	27-10-2010	07-12-2014	17 245	
53	<b>G.J. van de Sande</b>  P.G.H. van de Sande J.M. van de Sande Kwekerij van Schie B.V. V.E. Orchidee B.V.	Pijnacker- Nootdorp 3	17	14-04-2010	25-05-2014	5 950	
54	<b>J.W.M. Scheffers</b> G. Verkade B.V.	Honselersdijk	5	20-06-2009		118	
55	<b>Stadsverwarming Purmerend B.V.</b>	Purmerend	59	18-12-2010	28-01-2015	21 088	
56	<b>Stallingsbedrijf Glastuinbouw Nederland B.V.</b>	Haarlemmer- meer	44	11-05-2011	21-06-2015	8 463	
57	<b>W.G.M. Tas</b> J.C.M. Tas-van Klink	Zevenhuizen	9	05-03-2010	15-04-2014	3 774	
58	<b>TomSelect B.V.</b>	Kwintsheul	5	29-03-2013	10-05-2017	9 330	
59	<b>Transmark Renewable Products B.V.</b>	Friesland	4125	11-09-2013	22-10-2018	26 004	

	Licence holder	Licence	km <sup>2</sup>	Awarded	Date of expiry	Government Gazette	Rem.
60	<b>Transmark Renewable Products B.V.</b>	Utrecht - Noord-Brabant	3694	11-09-2013	22-10-2018	26 009	
61	<b>Directeur Facilitair Management en Vastgoed, TU Delft</b>	Delft iv	40	04-08-2010	08-04-2014	16 713	
62	<b>Vopak Terminal Vlaardingen B.V.</b>	Rotterdam-Vlaardingen	13	22-11-2013	02-01-2018	33 332	
63	<b>Wayland Developments B.V.</b>	Waddinxveen 2	7	05-03-2010	15-04-2014	3 829	
64	<b>Wayland Nova B.V.</b>	Maasbree	22	13-10-2009	30-11-2014	15 975	
65	<b>Kwekerij de Westhoek B.V.</b> Van Geest Groep B.V.	Maasland	9	18-12-2009	28-01-2014	79	
66	<b>Tuinbouwbedrijf Wijnen B.V.</b>	Californie i	7	13-10-2009	23-11-2015	15 966	
67	<b>A.P.M. Zuidgeest</b> 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	31-05-2014	15 957	
68	<b>A.P.M. Zuidgeest</b> 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	31-05-2014	16 041	
Total			9 545	km <sup>2</sup>			

**PRODUCTION LICENCES, Geothermal energy,  
Netherlands Territory as at 1 January 2014**

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Government Gazette</b>
1	<b>A+G van den Bosch</b>	Bleiswijk	4	28-11-2008	28-01-2016	200
2	<b>Gemeente Heerlen</b>	Heerlen	41	13-10-2009	31-12-2014	9 944
		<b>Total</b>	<b>45</b>	<b>km<sup>2</sup></b>		

## EXPLORATION LICENCES, Hydrocarbons Netherlands Continental Shelf as at January 2014

	Licence holder	Licence	km <sup>2</sup>	Awarded	Date of expiry	Governm Gazette	Rem .
1	<b>Centrica Production Nederland B.V.</b> Volantis Netherlands B.V.	E01	374	22-11-2011	02-01-2016	21 395	
2	<b>Centrica Production Nederland B.V.</b> Volantis Netherlands B.V.	E02	396	22-11-2011	02-01-2016	21 396	
3	<b>Centrica Production Nederland B.V.</b> Volantis Netherlands B.V.	E04	398	22-11-2011	02-01-2016	21 398	
4	<b>Centrica Production Nederland B.V.</b> Volantis Netherlands B.V.	E05	398	22-11-2011	02-01-2016	21 401	
5	<b>Chevron Exploration and Production Netherlands B.V.</b> Dyas B.V. TAQA Offshore B.V.	A12b & B10a	79	16-04-2005		77	pla
6	<b>Chevron Exploration and Production Netherlands B.V.</b> Dyas B.V. TAQA Offshore B.V.	B16a	67	11-05-1987		70	pla
7	<b>Chevron Exploration and Production Netherlands B.V.</b> Dana Petroleum Netherlands B.V. TAQA Offshore B.V.	B17a	80	02-06-1987		70	pla
8	<b>Chevron Exploration and Production Netherlands B.V.</b>	P02	416	22-02-2008	03-04-2014	42	
9	<b>Dana Petroleum Netherlands B.V.</b> Dyas B.V. Tulip Oil Netherlands B.V.	F06b	390	07-04-2009	19-05-2014	70	
10	<b>Dana Petroleum Netherlands B.V.</b> Dyas B.V.	F13b	399	21-09-2010	01-11-2014	14 904	
11	<b>GDF Suez E&amp;P Nederland B.V.</b> Lundin Netherlands B.V. Total E&P Nederland B.V.	E17c	171	22-02-2008	03-04-2015	42	
12	<b>GDF Suez E&amp;P Nederland B.V.</b> Total E&P Nederland B.V.	K01c	274	22-11-2011	02-01-2016	21 372	
13	<b>GDF Suez E&amp;P Nederland B.V.</b>	Q13b-ondiep	369	23-12-2008	30-04-2015	5	
14	<b>GDF Suez E&amp;P Nederland B.V.</b>	Q16b & Q16c-ondiep	80	17-02-2009	04-08-2015	37	

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Governm Gazette</b>	<b>Rem .</b>
15	<b>Hansa Hydrocarbons Limited</b>	G18	405	18-09-2012	29-10-2018	23 464	
16	<b>Hansa Hydrocarbons Limited</b>	H16	73	18-09-2012	29-10-2018	23 463	
17	<b>Hansa Hydrocarbons Limited</b>	M03	406	18-09-2012	29-10-2018	23 462	
18	<b>Hansa Hydrocarbons Limited</b>	N01	217	18-09-2012	29-10-2018	23 460	
19	<b>Oranje-Nassau Energie B.V.</b>	F09	400	22-11-2011	02-01-2016	784	
20	<b>Oranje-Nassau Energie B.V.</b> GDF Suez E&P Nederland B.V.	L11c	179	23-11-2010	03-01-2015	18 884	
21	<b>Oranje-Nassau Energie B.V.</b> Dyas B.V.	L16b	176	02-02-2006	15-03-2014	38	
22	<b>Oranje-Nassau Energie B.V.</b>	M02	406	22-11-2011	02-01-2016	1 486	
23	<b>Oranje-Nassau Energie B.V.</b>	M04	408	21-09-2010	01-11-2014	14 900	
24	<b>Oranje-Nassau Energie B.V.</b>	P11a	210	22-06-2012	02-08-2016	12 941	
25	<b>Oranje-Nassau Energie B.V.</b> TAQA Offshore B.V.	P18b	311	24-03-2012	04-01-2015	6 865	
26	<b>Sterling Resources Netherlands B.V.</b> Petro Ventures Netherlands B.V.	F17a-ondiep	386	30-12-2009	24-08-2014	154	
27	<b>Sterling Resources Netherlands B.V.</b> Petro Ventures Netherlands B.V.	F18-ondiep	404	30-12-2009	24-08-2014	152	
28	<b>Tulip Oil Netherlands B.V.</b>	M10a & M11	110	28-07-2007	30-06-2015	152	
29	<b>Tulip Oil Netherlands B.V.</b> PA Resources UK Ltd.	Q07	419	16-01-2008	26-02-2014	13	
30	<b>Tulip Oil Netherlands B.V.</b> PA Resources UK Ltd.	Q10a	53	06-08-2008	26-02-2014	155	
31	<b>Tullow Exploration &amp; Production Netherlands B.V.</b>	E10	401	16-01-2008	26-02-2014	13	
32	<b>Tullow Exploration &amp; Production Netherlands B.V.</b>	E11	401	22-04-2009	03-06-2014	84	
33	<b>Tullow Exploration &amp; Production Netherlands B.V.</b>	E14	403	15-01-2008	25-02-2014	12	
34	<b>Tullow Exploration &amp; Production Netherlands B.V.</b> Gas Plus Netherlands B.V.	E15c	343	22-04-2008	02-06-2014	78	

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Governm Gazette</b>	<b>Rem .</b>
35	<b>Tullow Exploration &amp; Production Netherlands B.V.</b>	E18b	192	11-01-2008	21-02-2014	10	
36	<b>Wintershall Noordzee B.V.</b> GAZPROM Germania GmbH GDF Suez E&P Nederland B.V. Oranje-Nassau Energie B.V.	D12b	41	25-02-2011	07-04-2015	5 287	
37	<b>Wintershall Noordzee B.V.</b> Sterling Resources Netherlands B.V.	E03	396	22-11-2011	02-01-2016	21 402	
38	<b>Wintershall Noordzee B.V.</b> Sterling Resources Netherlands B.V.	F01	396	22-11-2011	02-01-2016	21 394	
39	<b>Wintershall Noordzee B.V.</b> GDF Suez E&P Nederland B.V. Rosewood Exploration Ltd. TAQA Offshore B.V.	F14-diep	403	30-12-2009	20-11-2015	153	
40	<b>Wintershall Noordzee B.V.</b> GDF Suez E&P Nederland B.V. Rosewood Exploration Ltd. TAQA Offshore B.V.	F17a-diep	386	30-12-2009	24-08-2015	154	
41	<b>Wintershall Noordzee B.V.</b> GDF Suez E&P Nederland B.V. Rosewood Exploration Ltd.	F18-diep	404	30-12-2009	20-11-2015	152	
42	<b>Wintershall Noordzee B.V.</b> GDF Suez E&P Nederland B.V.	K03e	30	22-04-2009	03-06-2015	80	
<b>Total</b>			<b>12251</b>	<b>km<sup>2</sup></b>			

\*pla: Licence holder has filed an application for a production licence.

## PRODUCTION LICENCES, Hydrocarbons Netherlands Continental Shelf as at 1 January 2014

	Licence holder	Licence	km <sup>2</sup>	Awarded	Date of expiry	Governm Gazette
1	<b>Centrica Production Nederland B.V.</b>	B18a	40	10-10-1985	10-10-2025	182
2	<b>Centrica Production Nederland B.V.</b>	F03a	62	13-12-2007	09-09-2022	245
3	<b>Centrica Production Nederland B.V.</b> Dyas B.V. Total E&P Nederland B.V.	J03b & J06	126	06-11-1992	06-11-2032	219
4	<b>Chevron Exploration and Production Netherlands B.V.</b> Dyas B.V. TAQA Offshore B.V.	A12a	195	01-07-2005	11-08-2025	129
5	<b>Chevron Exploration and Production Netherlands B.V.</b> Dyas B.V. TAQA Offshore B.V.	A12d	33	01-07-2005	11-08-2025	129
6	<b>Chevron Exploration and Production Netherlands B.V.</b> Dana Petroleum Netherlands B.V. Oranje-Nassau Energie B.V.	A15a	67	27-12-2011	03-02-2027	746
7	<b>Chevron Exploration and Production Netherlands B.V.</b> Dyas B.V. TAQA Offshore B.V.	A18a	229	01-07-2005	11-08-2025	129
8	<b>Chevron Exploration and Production Netherlands B.V.</b> Dyas B.V.	A18c	47	01-07-2005	11-08-2025	125
9	<b>Chevron Exploration and Production Netherlands B.V.</b> Dyas B.V. TAQA Offshore B.V.	B10c & B13a	252	01-07-2005	11-08-2025	129
10	<b>Chevron Exploration and Production Netherlands B.V.</b> 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
11	<b>Chevron Exploration and Production Netherlands B.V.</b> Dyas B.V. TAQA Offshore B.V. Wintershall Noordzee B.V.	P09c	267	16-08-1993	16-08-2033	126



	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Governm Gazette</b>
12	<b>Chevron Exploration and Production Netherlands B.V.</b> TAQA Offshore B.V. Wintershall Noordzee B.V.	Q01	416	11-07-1980	11-07-2020	110
13	<b>Chevron Exploration and Production Netherlands B.V.</b> Dyas B.V. TAQA Offshore B.V.	Q02c	32	14-07-1994	14-07-2034	18
14	<b>Dana Petroleum Netherlands B.V.</b> Dyas B.V. Oranje-Nassau Energie B.V. TAQA Offshore B.V.	F02a	307	24-08-1982	24-08-2022	139
15	<b>Dana Petroleum Netherlands B.V.</b>	P10a	5	31-05-2005	11-07-2020	102
16	<b>Dana Petroleum Netherlands B.V.</b>	P10b	100	07-04-2009	19-05-2019	70
17	<b>Dana Petroleum Netherlands B.V.</b>	P11b	210	03-04-2004	14-05-2019	67
18	<b>Dana Petroleum Netherlands B.V.</b> Tulip Oil Netherlands B.V.	P14a	50	23-06-1992	23-06-2032	99
19	<b>GDF Suez E&amp;P Nederland B.V.</b> Faroe Petroleum (UK) Ltd. Wintershall Noordzee B.V.	D15	247	06-09-1996	06-09-2021	138
20	<b>GDF SUEZ E&amp;P Nederland B.V.</b> Faroe Petroleum (UK) Ltd. Wintershall Noordzee B.V.	D18a	58	29-08-2012	09-10-2032	19 757
21	<b>GDF Suez E&amp;P Nederland B.V.</b> Lundin Netherlands B.V. Total E&P Nederland B.V.	E16a	29	29-06-2007	09-08-2021	128
22	<b>GDF Suez E&amp;P Nederland B.V.</b> Lundin Netherlands B.V. Total E&P Nederland B.V.	E17a & E17b	114	28-06-2007	08-08-2021	128
23	<b>GDF Suez E&amp;P Nederland B.V.</b> TAQA Offshore B.V.	F03b	335	13-12-2007	09-09-2022	245
24	<b>GDF Suez E&amp;P Nederland B.V.</b> Nederlandse Aardolie Maatschappij B.V. TAQA Offshore B.V.	G14 & G17b	441	15-12-2006	14-12-2019	248
25	<b>GDF Suez E&amp;P Nederland B.V.</b>	G16a	224	06-01-1992	06-01-2032	245
26	<b>GDF Suez E&amp;P Nederland B.V.</b>	G16b	5	11-10-2003	06-01-2032	198
27	<b>GDF Suez E&amp;P Nederland B.V.</b>	G17a	237	19-07-2006	14-12-2019	143
28	<b>GDF Suez E&amp;P Nederland B.V.</b>	G17c & G17d	130	10-11-2000	10-11-2025	188

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Governm Gazette</b>
	Wintershall Noordzee B.V.					
29	<b>GDF Suez E&amp;P Nederland B.V.</b>	K02b	110	20-01-2004	24-08-2023	16
30	<b>GDF Suez E&amp;P Nederland B.V.</b>	K03a	83	24-08-1998	24-08-2023	122
31	<b>GDF Suez E&amp;P Nederland B.V.</b>	K03c	32	26-11-2005	06-01-2021	233
32	<b>GDF Suez E&amp;P Nederland B.V.</b> Oranje-Nassau Energie B.V. Rosewood Exploration Ltd. XTO Netherlands Ltd.	K09a & K09b	211	11-08-1986	11-08-2026	129
33	<b>GDF Suez E&amp;P Nederland B.V.</b> Oranje-Nassau Energie B.V. Rosewood Exploration Ltd. XTO Netherlands Ltd.	K09c	199	18-12-1987	18-12-2027	229
34	<b>GDF Suez E&amp;P Nederland B.V.</b> Oranje-Nassau Energie B.V. Production North Sea Netherlands Ltd. Rosewood Exploration Ltd. XTO Netherlands Ltd.	K12	411	18-02-1983	18-02-2023	11
35	<b>GDF Suez E&amp;P Nederland B.V.</b>	L04c	12	07-01-1994	07-01-2034	2
36	<b>GDF Suez E&amp;P Nederland B.V.</b>	L05a	163	15-03-1991	15-03-2031	55
37	<b>GDF Suez E&amp;P Nederland B.V.</b> GDF Suez 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
38	<b>GDF SUEZ E&amp;P Nederland B.V.</b> Oranje-Nassau Energie B.V. Tullow Exploration & Production Netherlands B.V. Wintershall Noordzee B.V.	L12a	119	25-09-2008	14-03-2030	189
39	<b>GDF SUEZ E&amp;P Nederland B.V.</b> Tullow Exploration & Production Netherlands B.V. Wintershall Noordzee B.V.	L12b & L15b	92	06-08-2008	12-03-2030	155
40	<b>GDF Suez E&amp;P Nederland B.V.</b>	L15c	4	07-09-1990	07-09-2030	172
41	<b>GDF Suez E&amp;P Nederland B.V.</b> Rosewood Exploration Ltd. XTO Netherlands Ltd.	N07b	174	23-12-2003	10-03-2034	252
42	<b>GDF Suez E&amp;P Nederland B.V.</b> Aceiro Energy B.V. TAQA Offshore B.V.	Q13a	30	28-11-2006	28-12-2021	231

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Governm Gazette</b>
43	<b>Nederlandse Aardolie Maatschappij B.V.</b>	F17c	18	04-12-1996	04-12-2024	207
44	<b>Nederlandse Aardolie Maatschappij B.V.</b>	K07	408	08-07-1981	08-07-2021	120
45	<b>Nederlandse Aardolie Maatschappij B.V.</b> 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
46	<b>Nederlandse Aardolie Maatschappij B.V.</b>	K14	412	16-01-1975	16-01-2015	6
47	<b>Nederlandse Aardolie Maatschappij B.V.</b>	K15	412	14-10-1977	14-10-2017	197
48	<b>Nederlandse Aardolie Maatschappij B.V.</b>	K17	414	19-01-1989	19-01-2029	12
49	<b>Nederlandse Aardolie Maatschappij B.V.</b> Wintershall Noordzee B.V.	K18a	36	15-03-2007	09-05-2023	57
50	<b>Nederlandse Aardolie Maatschappij B.V.</b>	L02	406	15-03-1991	15-03-2031	55
51	<b>Nederlandse Aardolie Maatschappij B.V.</b>	L09	409	18-09-2010	09-05-2035	14 911
52	<b>Nederlandse Aardolie Maatschappij B.V.</b> Oranje-Nassau Energie B.V. Tullow Exploration & Production Netherlands B.V. Wintershall Noordzee B.V.	L13	413	26-10-1977	26-10-2017	197
53	<b>Nederlandse Aardolie Maatschappij B.V.</b> ExxonMobil Producing Netherlands B.V.	M09a	213	10-04-1990	10-04-2030	56
54	<b>Nederlandse Aardolie Maatschappij B.V.</b>	N07a	141	23-12-2003	10-03-2034	252
55	<b>Oranje-Nassau Energie B.V.</b>	L06d	16	07-03-2003	17-01-2014	48
56	<b>Oranje-Nassau Energie B.V.</b> Energy06 Investments B.V. TAQA Offshore B.V.	L11b	47	15-06-1984	15-06-2024	110
57	<b>Oranje-Nassau Energie B.V.</b> Energy06 Investments B.V.	M01a	213	28-06-2007	08-08-2022	128
58	<b>Oranje-Nassau Energie B.V.</b> Energy06 Investments B.V. TAQA Offshore B.V.	M07	409	22-03-2001	22-03-2021	19
59	<b>Oranje-Nassau Energie B.V.</b> Energy06 Investments B.V. TAQA Offshore B.V.	P18d	2	20-09-2012	31-10-2027	23 457
60	<b>Oranje-Nassau Energie B.V.</b> Lundin Netherlands B.V. Total E&P Nederland B.V.	Q16a	85	29-12-1992	29-12-2032	227

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Governm Gazette</b>
61	<b>Oranje-Nassau Energie B.V.</b> Energy06 Investments B.V. TAQA Offshore B.V.	Q16b & Q16c- diep	80	20-09-2012	31-10-2027	23 465
62	<b>Oranje-Nassau Energie B.V.</b> Energy06 Investments B.V. TAQA Offshore B.V.	S03a	2	20-09-2012	31-10-2027	23 466
63	<b>Oranje-Nassau Energie B.V.</b> Energy06 Investments B.V. TAQA Offshore B.V.	T01	1	20-09-2012	31-10-2027	23 467
64	<b>TAQA Offshore B.V.</b> 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
65	<b>TAQA Offshore B.V.</b> 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
66	<b>TAQA Offshore B.V.</b>	P18a	105	30-04-1992	30-04-2032	99
67	<b>TAQA Offshore B.V.</b> Dana Petroleum Netherlands B.V. Dyas B.V.	P18c	6	02-06-1992	02-06-2032	99
68	<b>Total E&amp;P Nederland B.V.</b> Lundin Netherlands B.V. TAQA Offshore B.V.	F06a	8	09-09-1982	09-09-2022	139
69	<b>Total E&amp;P Nederland B.V.</b> Dyas B.V. First Oil Expro Ltd. Lundin Netherlands B.V.	F15a	233	06-05-1991	06-05-2031	52
70	<b>Total E&amp;P Nederland B.V.</b> Dyas B.V. First Oil Expro Ltd. Lundin Netherlands B.V.	F15d	4	15-06-1992	15-06-2032	97
71	<b>Total E&amp;P Nederland B.V.</b> Nederlandse Aardolie Maatschappij B.V.	J03a	72	12-01-1996	12-01-2036	22
72	<b>Total E&amp;P Nederland B.V.</b> Nederlandse Aardolie Maatschappij B.V.	K01a	83	10-02-1997	10-02-2022	46
73	<b>Total E&amp;P Nederland B.V.</b> Rosewood Exploration Ltd.	K01b & K02a	75	20-06-2009	31-07-2022	11 801

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Governm Gazette</b>
74	<b>Total E&amp;P Nederland B.V.</b> Rosewood Exploration Ltd.	K02c	46	21-01-2004	07-11-2021	16
75	<b>Total E&amp;P Nederland B.V.</b> Lundin Netherlands B.V.	K03b	7	30-01-2001	30-01-2021	19
76	<b>Total E&amp;P Nederland B.V.</b> Lundin Netherlands B.V.	K03d	26	01-04-1999	01-04-2024	58
77	<b>Total E&amp;P Nederland B.V.</b>	K04a	307	29-12-1993	29-12-2033	220
78	<b>Total E&amp;P Nederland B.V.</b> Dyas B.V. Lundin Netherlands B.V.	K04b & K05a	305	01-06-1993	01-06-2033	87
79	<b>Total E&amp;P Nederland B.V.</b> Rosewood Exploration Ltd.	K05b	204	07-11-1996	07-11-2021	207
80	<b>Total E&amp;P Nederland B.V.</b> Lundin Netherlands B.V.	K06 & L07	817	20-06-1975	20-06-2015	112
81	<b>Total E&amp;P Nederland B.V.</b> Van Dyke Netherlands Inc.	L01a	31	12-09-1996	12-09-2016	135
82	<b>Total E&amp;P Nederland B.V.</b>	L01d	7	13-11-1996	13-11-2016	207
83	<b>Total E&amp;P Nederland B.V.</b> Lundin Netherlands B.V.	L01e	12	13-11-1996	13-11-2018	207
84	<b>Total E&amp;P Nederland B.V.</b> Lundin Netherlands B.V.	L01f	17	14-01-2003	14-01-2033	235
85	<b>Total E&amp;P Nederland B.V.</b> Lundin Netherlands B.V.	L04a	313	30-12-1981	30-12-2021	230
86	<b>Tullow Netherlands B.V.</b> Tullow Exploration & Production Netherlands B.V. Wintershall Noordzee B.V.	L12c	30	06-08-2008	12-03-2030	155
87	<b>Tullow Netherlands B.V.</b> Oranje-Nassau Energie B.V. Tullow Exploration & Production Netherlands B.V. Wintershall Noordzee B.V.	L12d	225	25-09-2008	14-03-2030	189
88	<b>Tullow Netherlands B.V.</b> Tullow Exploration & Production Netherlands B.V. Wintershall Noordzee B.V.	L15d	62	06-08-2008	12-03-2030	155
89	<b>Van Dyke Energy Company</b>	P08a	26	21-10-2006	01-12-2021	214
90	<b>Wintershall Noordzee B.V.</b> GDF Suez E&P Participation Ned. B.V.	D12a	214	06-09-1996	06-09-2021	138

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Governm Gazette</b>
91	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V. GDF Suez E&P Nederland B.V. Tullow Exploration & Production Netherlands B.V.	E15a	39	04-10-2002	21-10-2032	175
92	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V. Tullow Exploration & Production Netherlands B.V.	E15b	21	20-02-2008	01-04-2033	38
93	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V. GDF Suez E&P Nederland B.V. Tullow Exploration & Production Netherlands B.V.	E18a	212	04-10-2002	21-10-2032	175
94	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V. GDF Suez E&P Nederland B.V. Tullow Exploration & Production Netherlands B.V.	F13a	4	04-10-2002	21-10-2032	175
95	<b>Wintershall Noordzee B.V.</b> GDF SUEZ E&P Nederland B.V.	F16	404	04-10-2002	21-10-2032	175
96	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V. Dyas B.V. Nederlandse Aardolie Maatschappij B.V.	K18b	155	15-03-2007	09-05-2023	57
97	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V.	L05b	237	28-06-2003	09-08-2038	134
98	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V.	L05c	8	03-12-1996	03-12-2016	209
99	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V.	L06a	332	24-11-2010	04-01-2031	18 910
100	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V.	L06b	60	01-07-2003	11-08-2038	134
101	<b>Wintershall Noordzee B.V.</b> Oranje-Nassau Energie B.V. TAQA Offshore B.V.	L08a	213	18-08-1988	18-08-2028	146
102	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V. Oranje-Nassau Energie B.V.	L08b	181	17-05-1993	17-05-2033	78
103	<b>Wintershall Noordzee B.V.</b> Dana Petroleum Netherlands B.V. Dyas B.V.	L16a	238	12-06-1984	12-06-2024	84

	<b>Licence holder</b>	<b>Licence</b>	<b>km<sup>2</sup></b>	<b>Awarded</b>	<b>Date of expiry</b>	<b>Governm Gazette</b>
	Nederlandse Aardolie Maatschappij B.V.					
104	<b>Wintershall Noordzee B.V.</b> Dyas B.V. Gas-Union GmbH	P06	417	14-04-1982	14-04-2022	54
105	<b>Wintershall Noordzee B.V.</b> Dyas B.V. Northern Petroleum Nederland B.V.	P12	421	08-03-1990	08-03-2030	27
106	<b>Wintershall Noordzee B.V.</b> Dyas B.V. Tullow Exploration & Production Netherlands B.V.	Q04	417	02-12-1999	02-12-2019	228
107	<b>Wintershall Noordzee B.V.</b> Dyas B.V. Tullow Exploration & Production Netherlands B.V.	Q05d	20	15-02-2001	15-02-2021	19
		<b>Total</b>	<b>18613</b>	<b>km<sup>2</sup></b>		

**LIST OF BLOCKS,  
Netherlands Continental Shelf as at 1 January 2014**

Block (part of block)	Open Area (km <sup>2</sup> )	Operator	Licence (km <sup>2</sup> )	
			Exploration	Production
A04	0			
A05	91			
A07	47			
A08	382			
A09	141			
A10	129			
A11	392			
A12a		Chevron		195
A12b		Chevron	31	
A12c	130			
A12d		Chevron		33
A13	211			
A14	393			
A15a		Chevron		67
A15b	326			
A16	293			
A17	395			
A18a		Chevron		229
A18b	119			
A18c		Chevron		47
B10a		Chevron	48	
B10b	85			
B10c		Chevron		46
B13a		Chevron		206
B13b	187			
B14	198			
B16a		Chevron	67	
B16b	327			
B17a		Chevron	80	
B17b	36			
B17c	279			
B18a		Centrica		40
B18b	160			
D03	2			
D06	60			
D09	149			
D12a		Wintershall		214
D12b		Wintershall	41	
D15		GDF Suez		247



Block (part of block)	Open Area (km <sup>2</sup> )	Operator	Licence (km <sup>2</sup> )	
			Exploration	Production
D18a		GDF Suez		58
D18b	139			
E01		Centrica	374	
E02		Centrica	396	
E03		Wintershall	396	
E04		Centrica	398	
E05		Centrica	398	
E06	398			
E07	400			
E08	400			
E09	400			
E10		Tullow	401	
E11		Tullow	401	
E12	401			
E13	403			
E14		Tullow	403	
E15a		Wintershall		39
E15b		Wintershall		21
E15c		Tullow	343	
E16a		GDF Suez		29
E16b	375			
E17a		GDF Suez		87
E17b		GDF Suez		27
E17c		GDF Suez	171	
E17d	119			
E18a		Wintershall		212
E18b		Tullow	192	
F01		Wintershall	396	
F02a		Dana		307
F02b	89			
F03a		Centrica		62
F03b		GDF Suez		335
F04	398			
F05	398			
F06a		Total		8
F06b		Dana	390	
F07	400			
F08	400			
F09		Oranje-Nassau	400	
F10	401			
F11	401			
F12	401			
F13a		Wintershall		4

Block (part of block)	Open Area (km <sup>2</sup> )	Operator	Licence (km <sup>2</sup> )	
			Exploration	Production
F13b		Dana	399	
F14		Wintershall	403	
F15a		Total		233
F15b	73			
F15c	93			
F15d		Total		4
F16				404
F17a		Sterling / Wintershall	386	
F17c		NAM		18
F18		Sterling / Wintershall	404	
G07	122			
G10	397			
G11	169			
G13	403			
G14		GDF Suez		403
G15	226			
G16a		GDF Suez		224
G16b		GDF Suez		5
G16c	176			
G17a		GDF Suez		237
G17b		GDF Suez		38
G17c		GDF Suez		34
G17d		GDF Suez		96
G18		Hansa	405	
H13	1			
H16		Hansa	73	
J03a		Total		72
J03b		Centrica		42
J03c	30			
J06		Centrica		83
J09	18			
K01a		Total		83
K01b		Total		50
K01c		GDF Suez	274	
K02a				25
K02b		GDF Suez		110
K02c		Total		46
K02d	225			
K03a		GDF Suez		83
K03b		Total		7
K03c		GDF Suez		32

Block (part of block)	Open Area (km <sup>2</sup> )	Operator	Licence (km <sup>2</sup> )	
			Exploration	Production
K03d		Total		26
K03e		Wintershall	30	
K03f	228			
K04a		Total		307
K04b		Total		101
K05a		Total		204
K05b		Total		204
K06		Total		408
K07		NAM		408
K08		NAM		409
K09a		GDF Suez		150
K09b		GDF Suez		61
K09c		GDF Suez		199
K10	374			
K11		NAM		411
K12		GDF Suez		411
K13	324			
K14		NAM		412
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		GDF Suez		12
L05a		GDF Suez		163
L05b		Wintershall		237
L05c		Wintershall		8
L06a		Wintershall		332
L06b		Wintershall		60
L06d		Oranje-Nassau		16
L07		Total		409
L08a		Wintershall		213
L08b		Wintershall		181
L08c	16			

Block (part of block)	Open Area (km <sup>2</sup> )	Operator	Licence (km <sup>2</sup> )	
			Exploration	Production
L09		NAM		409
L10		GDF Suez		411
L11a		GDF Suez		185
L11b		Oranje-Nassau		47
L11c		Oranje-Nassau	179	
L12a		GDF Suez		119
L12b		GDF Suez		37
L12c		Tullow		30
L12d		Tullow		225
L13		NAM		413
L14	413			
L15a	81			
L15b		GDF Suez		55
L15c		GDF Suez		4
L15d		Tullow		62
L16a		Wintershall		238
L16b		Oranje-Nassau	176	
L17	394			
L18	14			
M01a		Oranje-Nassau		213
M01b	193			
M02		Oranje-Nassau	406	
M03		Hansa	406	
M04		Oranje-Nassau	408	
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	381			
N05	14			
N07a		NAM		141
N07b		GDF Suez		174
N08	35			
O12	2			
O15	142			
O17	3			

Block (part of block)	Open Area (km <sup>2</sup> )	Operator	Licence (km <sup>2</sup> )	
			Exploration	Production
O18	367			
P01	209			
P02		Chevron	416	
P03	416			
P04	170			
P05	417			
P06		Wintershall		417
P07	222			
P08a		Van Dyke		26
P08b	393			
P09a		Chevron		59
P09b		Chevron		67
P09c		Chevron		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		Chevron		416
Q02a	333			
Q02c		Chevron		32
Q04		Wintershall		417
Q05a	0			
Q05b	277			
Q05d		Wintershall		20
Q05i	0			
Q07		Tulip	419	
Q08	247			
Q10a		Tulip	53	

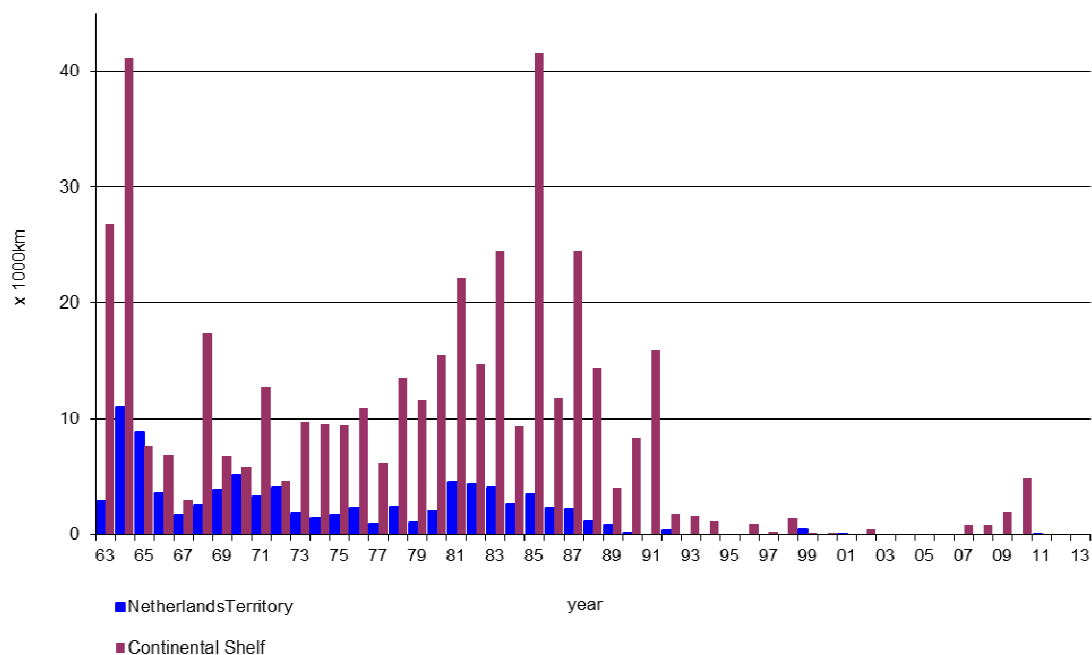
Block (part of block)	Open Area (km <sup>2</sup> )	Operator	Licence (km <sup>2</sup> )	
			Exploration	Production
Q10b	367			
Q11	162			
Q13a		GDF Suez		30
Q13b		GDF Suez	369	
Q14	25			
Q16a		Oranje-Nassau		85
Q16b		GDF Suez / Oranje-Nassau	59	59
Q16c		GDF Suez / Oranje-Nassau	21	21
R02	103			
R03	425			
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
<b>Total</b>	<b>26797</b>		<b>11461</b>	<b>18613</b>

## SEISMIC SURVEYS

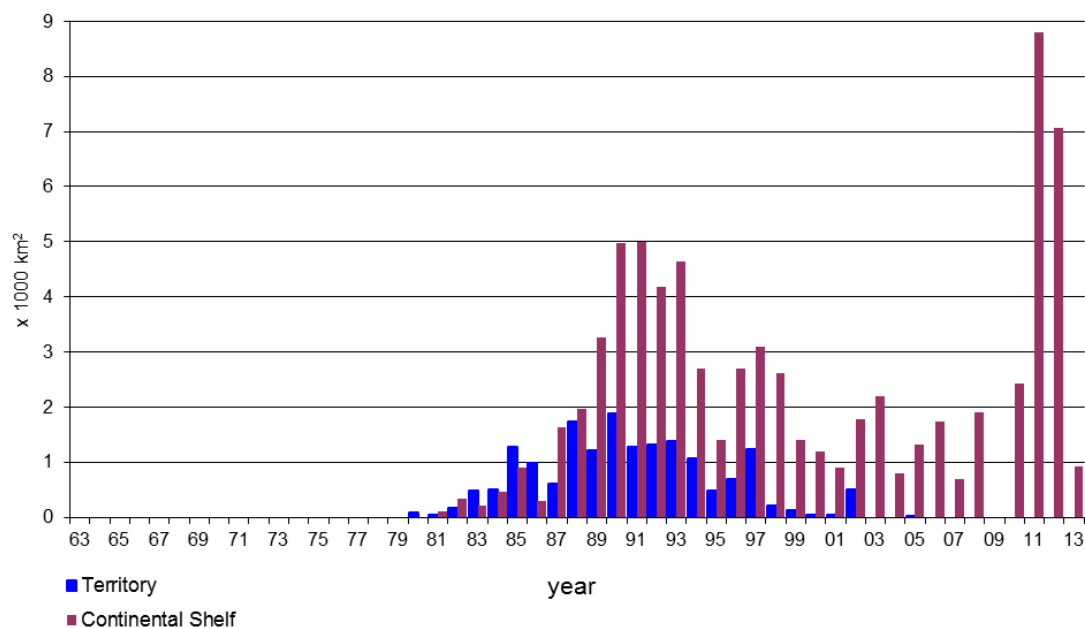
Year	Netherlands Territory		Continental Shelf	
	2 D (km)	3 D (km <sup>2</sup> )	2 D (km)	3 D (km <sup>2</sup> )
63	2 860	-	26 778	-
64	10 992	-	41 136	-
1965	8 885	-	7 707	-
66	3 510	-	6 939	-
67	1 673	-	3 034	-
68	2 541	-	17 349	-
69	3 857	-	6 846	-
1970	5 113	-	5 780	-
71	3 252	-	12 849	-
72	4 034	-	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
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	-	-	1 849	-
2010	-	-	4 898	2 431

Year	Netherlands Territory		Continental Shelf	
	2 D (km)	3 D (km <sup>2</sup> )	2 D (km)	3 D (km <sup>2</sup> )
11	14	-	-	8 800
12	-	-	37	7 060
13	-	-	-	925

### 2D Seismic surveys 1963 – 2013



### 3D Seismic surveys 1963 – 2013





## 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
Up to 1967	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
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	7
<b>Total:</b>	<b>7</b>	<b>166</b>	<b>9</b>	<b>243</b>	<b>425</b>	<b>25</b>	<b>196</b>	<b>2</b>	<b>36</b>	<b>259</b>	<b>1243</b>

D = dry, O = oil, G&O = gas and oil, G = gas, Σ = total

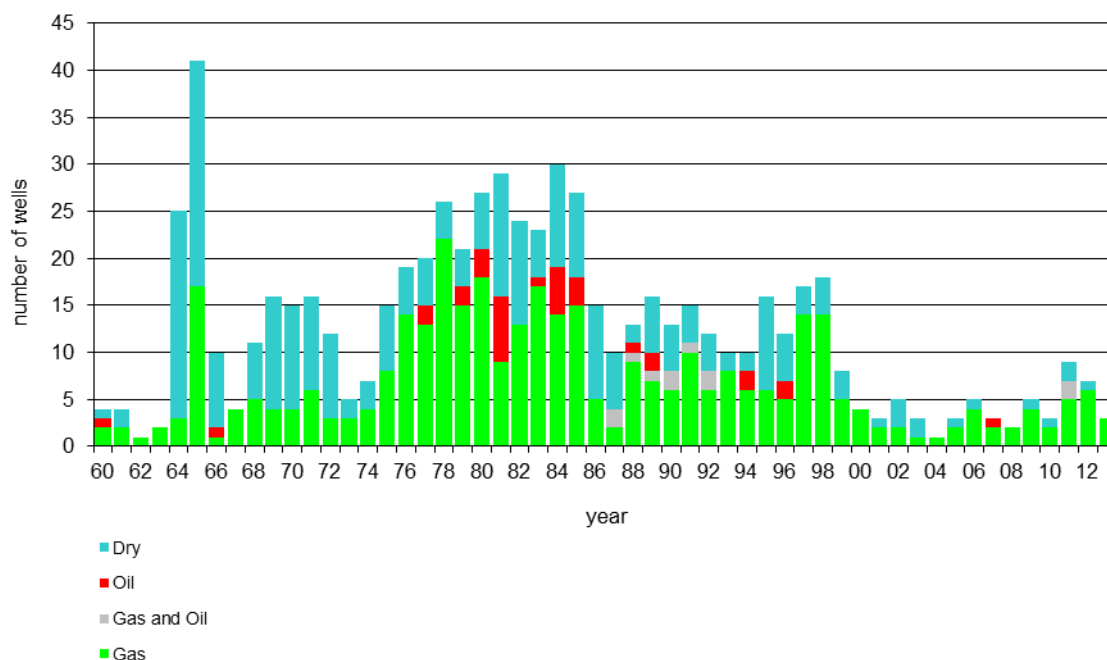
## OIL AND GAS WELLS, Number of wells Netherlands Continental shelf

Year	Exploration					Appraisal					Production	
	O	G	G&O	D	Σ	O	G	G&O	D	Σ	Σ	
Up to 1967	-	-	-	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	2
74	-	7	-	8	16	-	1	-	-	1	9	9
1975	1	6	-	9	15	-	1	-	2	3	12	12
76	-	5	-	11	16	1	2	-	-	3	14	14
77	-	3	-	20	23	1	3	-	1	5	18	18
78	-	4	-	14	18	1	2	-	2	5	14	14
79	-	7	-	9	17	-	3	-	1	4	9	9
1980	1	6	-	16	26	2	2	-	1	5	7	7
81	4	3	-	11	15	6	5	-	6	17	5	5
82	1	6	-	22	35	1	6	-	3	10	20	20
83	7	3	-	27	31	1	2	-	9	12	15	15
84	1	6	-	19	26	3	1	-	3	7	24	24
1985	1	9	-	24	36	2	4	-	1	7	35	35
86	3	9	-	14	25	2	2	-	1	5	15	15
87	2	9	1	12	22	1	2	1	1	5	13	13
88	-	12	1	8	21	-	4	-	1	5	21	21
89	-	10	-	13	23	-	4	-	1	5	17	17
1990	-	8	-	21	29	-	6	-	-	6	14	14
91	-	15	-	26	43	-	2	-	-	2	18	18
92	2	8	-	11	19	-	-	-	1	1	15	15
93	-	3	-	10	13	-	1	-	-	1	17	17
94	-	4	-	5	10	1	1	-	-	2	10	10
1995	1	2	-	3	5	-	1	1	1	3	16	16
96	-	10	1	12	24	-	5	-	-	5	6	6
97	1	7	-	13	21	1	8	-	1	10	13	13
98	1	9	-	8	17	1	1	-	1	3	13	13
99	-	7	-	5	12	-	1	-	1	2	6	6
2000	-	4	-	2	6	-	6	-	-	6	9	9
01	-	9	-	6	15	-	2	-	2	4	12	12
02	-	6	-	10	16	-	1	-	2	3	13	13
03	-	6	-	1	7	-	3	-	1	4	13	13
04	-	7	-	4	11	-	2	-	-	2	6	6
2005	-	3	-	1	4	-	1	-	-	1	8	8
06	-	3	-	6	9	1	2	-	-	3	16	16
07	-	3	-	2	5	-	2	-	-	2	12	12
08	-	4	1	3	8	-	3	-	-	3	13	13
09	-	4	-	3	7	-	3	-	-	3	11	11
2010	-	4	-	3	7	-	2	-	-	2	12	12
11	-	1	1	4	6	1	2	-	-	3	15	15
12	1	5	-	1	7	1	1	-	-	2	11	11
13	-	2	-	2	4	2	-	-	-	2	10	10
<b>Total:</b>	<b>28</b>	<b>266</b>	<b>5</b>	<b>461</b>	<b>760</b>	<b>30</b>	<b>101</b>	<b>2</b>	<b>46</b>	<b>179</b>	<b>539</b>	

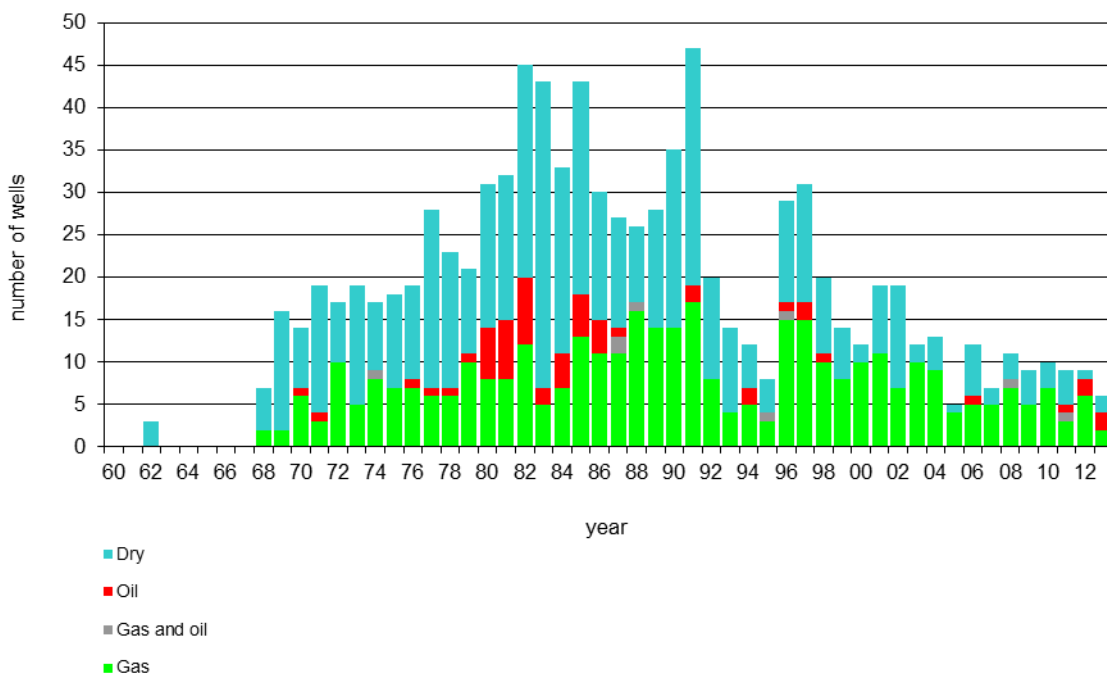
D = dry, O = oil, G&O = gas and oil, G = gas, Σ = total

## NUMBER OF WELLS, Netherlands Territory and Continental Shelf as of 1960

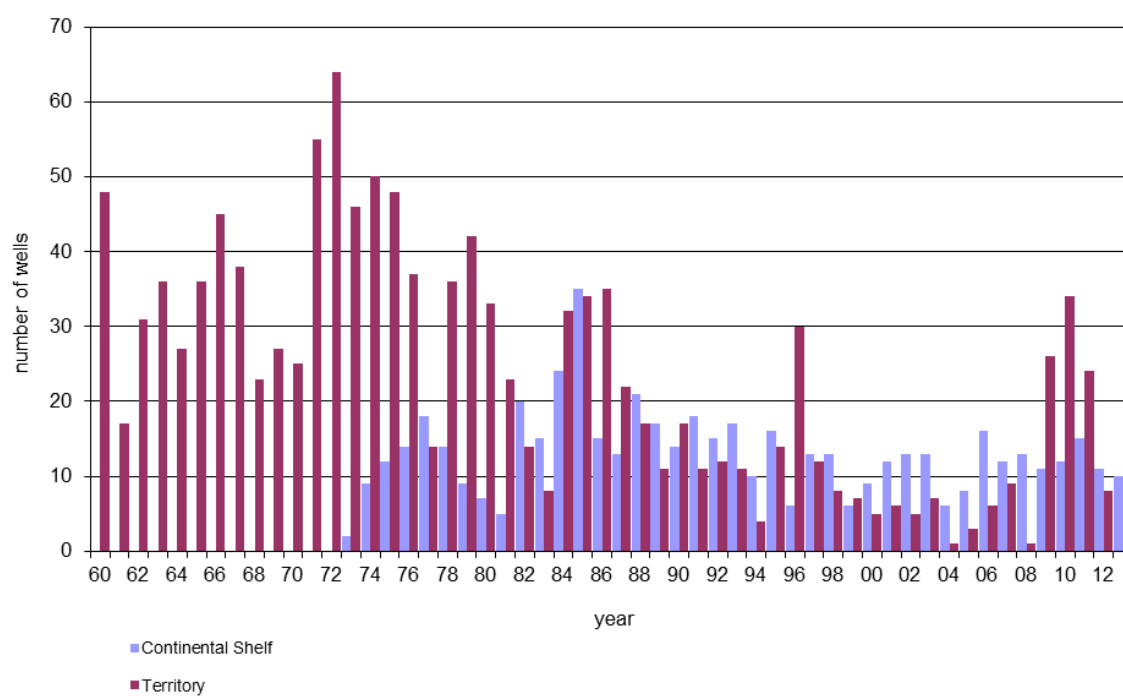
### Exploration and appraisal wells. Netherlands Territory 1960 – 2013



### Exploration and appraisal wells. Continental Shelf 1960 – 2013



## Production wells 1960 – 2013



**PLATFORMS,  
Netherlands Continental Shelf as at January 1<sup>st</sup> 2013**

Platform	Operator	Year of installation	Number of legs	G* - O*	Function
K13-A	Wintershall	1974	8	G	production-compression
K13-A	Wintershall	1974	4	G	wellhead
L10-A	Gaz de France	1974	8	G	production
L10-A	Gaz de France	1974	10	G	wellhead-compression
L10-A	Gaz de France	1974	4	G	riser
L10-B	Gaz de France	1974	4	G	satellite
L10-C	Gaz de France	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	Gaz de France	1977	4	G	satellite
L10-E	Gaz de France	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	Gaz de France	1980	3	G	wellhead
L10-F	Gaz de France	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	Gaz de France	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	Gaz de France	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	Gaz de France	1984	3	G	wellhead
L10-G	Gaz de France	1984	4	G	satellite
L4-B	Total	1984	4	G	wellhead

Platform	Operator	Year of installation	Number of legs	G* - O*	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	Gaz de France	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	Gaz de France	1987	4	G	wellhead
K12-BP	Gaz de France	1987	8	G	production
K9ab-A	Gaz de France	1987	4	G	integrated
K9c-A	Gaz de France	1987	4	G	integrated
L10-AC	Gaz de France	1987	4	G	compression
Zuidwal	Total	1987	8	G	wellhead
K12-CC	Gaz de France	1988	4	G	compression
L10-L	Gaz de France	1988	4	G	satellite
L10-S-1	Gaz de France	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	Gaz de France	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	Gaz de France	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 of installation	Number of legs	G* - O*	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	Gaz de France	1997	-	G	subsea completion
L10-S-3	Gaz de France	1997	-	G	subsea completion
L10-S-4	Gaz de France	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	Gaz de France	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	Gaz de France	2000	4	G	satellite
L8-A-west	Wintershall	2000	-	G	subsea completion

Platform	Operator	Year of installation	Number of legs	G* - O*	Function
L8-P4	Wintershall	2000	4	G	integrated
Q4-A	Wintershall	2000	4	G	satellite
P6-D	Wintershall	2001	4	G	satellite
K12-G	Gaz de France	2001	4	G	satellite
G17d-A	Gaz de France	2001	4	G	jacket
K8-FA-1P	NAM	2001	4	--	accommodation
K1-A	Total	2001	4	G	satellite
G17d-A	Gaz de France	2002	4	G	satellite
K12-S2	Gaz de France	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	Gaz de France	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	Gaz de France	2005	4	G	satellite
G16-A	Gaz de France	2005	4	G	satellite
G17a-S1	Gaz de France	2005	-	G	subsea completion
G17d-AP	Gaz de France	2005	4	G	production
K2b-A	Gaz de France	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	Gaz de France	2006	4	G	wellhead
G14-B	Gaz de France	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	GDFSuez	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	2011	4	G	satellite
G16a-B	GDF Suez	2011	4	G	satellite
K18-G1	Wintershall	2011	-	G	subsea completion



Platform	Operator	Year of installation	Number of legs	G* - O*	Function
P11-B-Nes	Dana	2011	-	G	subsea completion
P11-C-Van Ghent	Dana	2011	-	G & O	subsea completion
D18a-A	GDF Suez	2013	4	G	wellhead
K4-Z	Total	2013	-	G	subsea completion
L5a-D	GDF Suez	2013	4	G	wellhead
Q01-D	Wintershall	2013	4	G	wellhead
Q13a-A	GDF Suez	2013	4	G	wellhead

G\* = Gas

O\* = Oil

GBS = Gravity Based Structure

## PIPELINES, Netherlands Continental Shelf as at 1 January 2014

Operator	From	To	Diameter (inches)	Laid (year)	Length (km)	Carries
Gaz de France	L10-C	L10-AP	10,75 * 2,375	1974	1.1	g + m
Gaz de France	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	Callantssoog	36	1975	120.5	g
Gaz de France	L10-D	L10-AP	10,75 * 2,375	1977	1.1	g + m
Gaz de France	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
Gaz de France	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
Gaz de France	K12-A	L10-AP	14 * 2,375	1983	29.2	g + m
NAM	K15-FB-1	Callantssoog	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
Gaz de France	L10-G	L10-B - L10-A (s)	10,75 * 2,375	1984	4.7	g + m
Gaz de France	L10-K	L10-B - L10-A (s)	10,75 * 2,375	1984	5.8	aband.
Gaz de France	L10-B	L10-AD	14	1984	6.8	g
Gaz de France	L10-EE	L10-B - L10-A (s)	10	1984	0.2	g
Gaz de France	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.
Gaz de France	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
Gaz de France	K12-A- L10-A (s)	K12-E	2,375	1986	3.9	aband.
Gaz de France	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
Gaz de France	K12-A	K12-CC	10,75	1988	8.3	g
Gaz de France	L10-L	L10-AP	10,75 * 2,375	1988	2.2	g + m
Gaz de France	L10-S1	L10-AP	6,625 * 2,375	1988	11.5	aband.
Gaz de France	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.
Gaz de France	L14-S1	L11a-A	6,625 * 2,375	1990	6.0	aband.
Gaz de France	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
Gaz de France	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 ST-I (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
Gaz de France	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
Gaz de France	L10-S2	L10-AP	6,625 * 2,375	1997	6.3	g + m
Gaz de France	L10-AP	L10-S2	84 mm	1997	7.0	c
Gaz de France	L10-S3	L10-AP	6,625 * 2,375	1997	1.9	g + gl
Gaz de France	K12-E	L10-S3	3,5	1997	4.5	c
Gaz de France	L10-S4	L10-AP	6,625 * 2,375	1997	8.3	g + m
Gaz de France	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
Gaz de France	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
Gaz de France	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
Gaz de France	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
Gaz de France	K12-S2	K12-C	6,625	2002	6.9	g
Gaz de France	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
Gaz de France	K12-S3	K12-BP	6	2003	3.4	g
Gaz de France	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
Gaz de France	G14-A	G17d-AP	12 + 2	2005	19.8	g + m
Gaz de France	G17a-S1	G17d-AP	6 + 92,5 mm	2005	5.67	g + c
Gaz de France	K2b-A	D15-FA-1-L10-A	12	2005	2.8	
		NGT-pipe (s)				
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
Gaz de France	G16A-A	G17d-AP	10 * 2	2006	17.8	g + m
Gaz de France	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
Gaz de France	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
Gaz de France	G14-B	G17-D-AP	12 + 2	2008	13.4	g + m
Gaz de France	K12-K	K12-BP	14+ 2	2008	10.3	g + m
GDF Suez	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	D15-FA-1	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
GDF Suez	G16a-B	G17d-AP	14	2011	14	g
NAM	K18-G1	K15-FA-1		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
GDF Suez	D18a-A	D15-A	8, 2	2013	20	g, m
Total	K4-Z	K5-A	6	2013	17	g+c
GDF Suez	L5a-D	L5-FA-1	8	2013		g
Wintershall	Q01-D	Q4-Q8 (s)	8	2013	2,5	g
GDF Suez	Q13a-A	P15-D	8	2013	23,6	o

\* = multiple pipeline

+ = laid separately

c = control cable

o = oil

g = gas

co = condensate

gl = glycol

m = methanol

ci = corrosion inhibitor

l = instrument air

(s) = side-tap

aband. = abandoned

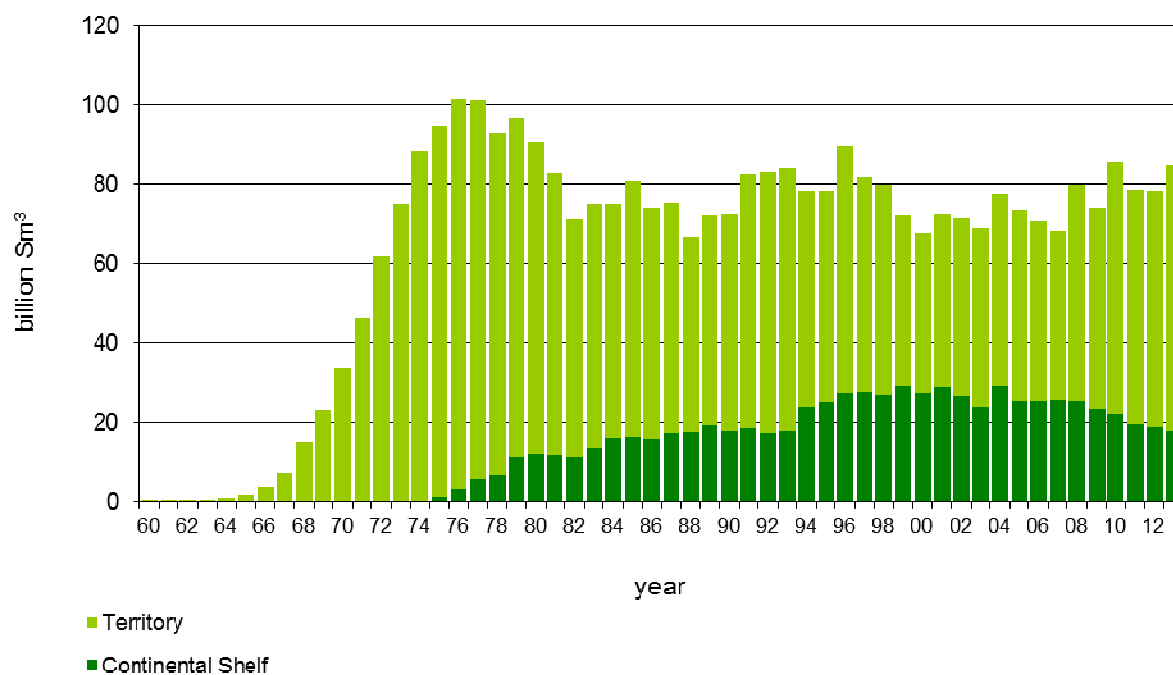
**GAS PRODUCTION** in million Sm<sup>3</sup>

Year	Territory	Continental Shelf	Total
1960	384.0	0.0	384.0
61	476.0	0.0	476.0
62	538.0	0.0	538.0
63	603.0	0.0	603.0
64	876.0	0.0	876.0
1965	1818.0	0.0	1818.0
66	3564.0	0.0	3564.0
67	7423.0	0.0	7423.0
68	14889.0	0.0	14889.0
69	23097.0	0.0	23097.0
1970	33418.0	7.9	33425.9
71	46248.0	2.4	46250.4
72	61661.0	1.4	61662.4
73	74766.0	7.8	74773.8
74	88359.0	14.6	88373.6
1975	93924.0	963.3	94887.3
76	98307.0	3092.7	101399.7
77	95603.0	5479.6	101082.6
78	86475.0	6298.5	92773.5
79	85862.0	10925.5	96787.5
1980	78209.0	12102.0	90311.0
81	70928.0	11798.3	82726.3
82	60004.0	11073.3	71077.3
83	61533.0	13172.2	74705.2
84	59352.0	15787.3	75139.3
1985	64573.0	16070.9	80643.9
86	58480.0	15549.0	74029.0
87	58089.0	17271.4	75360.4
88	49092.0	17591.2	66683.2
89	52570.0	19300.0	71870.0
1990	54585.0	17856.0	72441.0
91	63724.0	18686.3	82410.3
92	65702.0	17279.0	82981.0
93	66154.0	17851.4	84005.4
94	54863.0	23536.9	78399.9
1995	53643.0	24706.9	78349.9
96	62295.0	27350.6	89645.6
97	54261.0	27581.0	81842.0
98	52764.0	27141.0	79905.0
99	42823.0	29207.0	72030.0
2000	40320.2	27473.9	67794.1
01	43220.8	29043.1	72263.9
02	44472.4	26770.1	71242.5
03	45257.1	23508.0	68765.1



Year	Territory	Continental Shelf	Total
04	48422.3	29121.7	77544.0
2005	48019.2	25097.2	73116.4
06	45561.5	25179.9	70741.4
07	42706.6	25603.2	68309.8
08	54734.2	25224.3	79958.5
09	50339.2	23393.1	73732.3
2010	63825.9	22080.2	85906.1
11	58978.0	19579.1	78557.1
12	59212.8	19027.7	78240.6
13	66536.6	17946.3	84482.9
Total	2 713541.8	746753.2	3 460295.1

### Gas production 1960-2013



**GAS RESERVES AND CUMULATIVE PRODUCTION** in billion Sm<sup>3</sup>

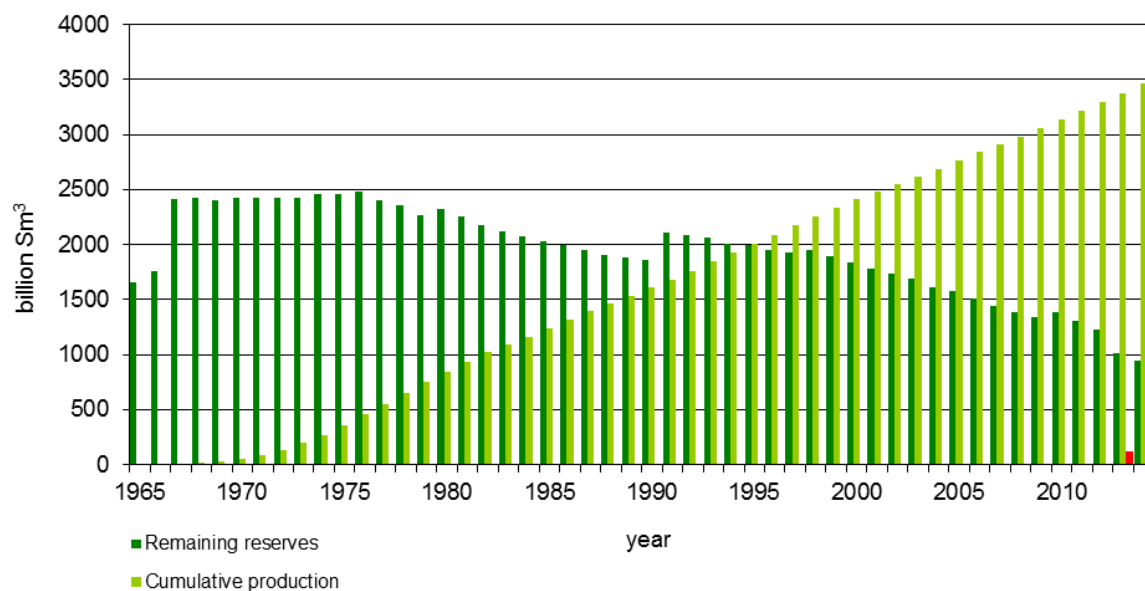
Year as at 1 January	Territory		Continental Shelf		Total	
	expected reserves	cumulative production	expected reserves	cumulative production	expected reserves	cumulative production
1974	2243	269.8	211	0.0	2454	269.8
1975		358.1		0.0	2454	358.2
76	2137	452.0	340	1.0	2477	453.0
77	2030	550.4	367	4.1	2397	554.4
78	1996	646.0	363	9.6	2359	655.5
79	1928	732.4	343	15.9	2271	748.3
1980	2023	818.3	304	26.8	2327	845.1
81	1953	896.5	298	38.9	2251	935.4
82	1899	967.4	275	50.7	2174	1018.1
83	1845	1027.4	272	61.8	2117	1089.2
84	1809	1089.0	271	74.9	2080	1163.9
1985	1754	1148.3	281	90.7	2035	1239.0
86	1704	1212.9	290	106.8	1994	1319.7
87	1655	1271.4	300	122.3	1955	1393.7
88	1607	1329.5	303	139.6	1910	1469.1
89	1557	1378.6	320	157.2	1877	1535.8
1990	1524	1431.1	341	176.5	1865	1607.6
91	1780	1485.7	333	194.4	2113	1680.1
92	1739	1549.4	347	213.1	2086	1762.5
93	1705	1615.1	356	230.3	2061	1845.5
94	1658	1681.3	352	248.2	2010	1929.5
1995	1663	1736.1	334	271.7	1997	2007.9
96	1631	1789.8	321	296.4	1952	2086.2
97	1587	1852.1	343	323.8	1930	2175.9
98	1574	1906.3	373	351.4	1947	2257.7
99	1533	1959.1	360	378.5	1893	2337.6
2000	1499	2001.9	337	407.7	1836	2409.6
01	1447	2042.3	330	435.2	1777	2477.4
02	1406	2085.5	333	464.2	1738	2549.7
03	1362	2129.9	327	491.0	1689	2620.9
04	1357	2175.2	258	514.5	1615	2689.7
2005	1305	2223.6	267	543.6	1572	2767.3
06	1285	2271.6	225	568.7	1510	2840.4
07	1233	2317.2	206	593.9	1439	2911.1
08	1192	2359.9	198	619.5	1390	2979.4
09	1162	2414.6	183	644.7	1345	3059.4
2010	1206	2465.0	184	668.1	1390	3133.1
11	1140	2528.8	164	690.2	1304	3219.0
12	1068	2587.8	162	709.8	1230	3297.6

## As at 2013; table modified due to 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
2013		897	71	2647.1	111	52	728.7	1008	123	3375.8
2014		850	63	2713.7	97	34	746.6	947	97	3460.3

## Gas reserves and cumulative production (1 January 2014), 1965 – 2014

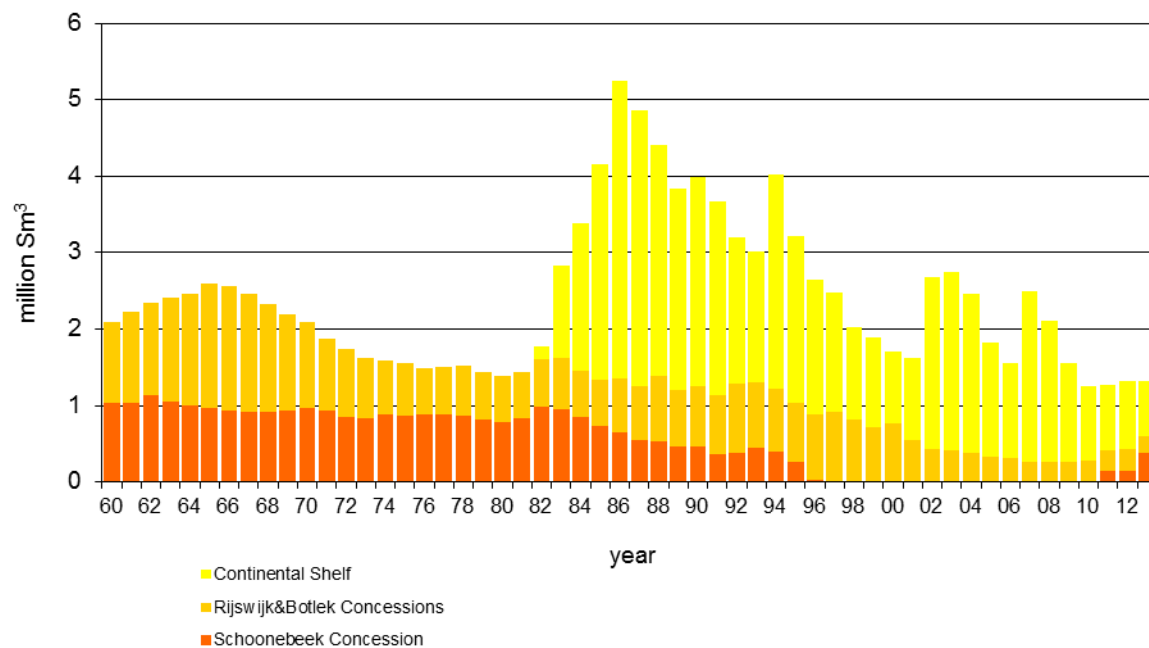


**OIL PRODUCTION** in 1 000 Sm<sup>3</sup>

<b>Year</b>	<b>Production licence Schoonebeek</b>	<b>Production licence Rijswijk &amp; Botlek</b>	<b>Continental Shelf</b>	<b>Total</b>
Till 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

Year	Production licence Schoonebeek	Production licence Rijswijk & Botlek	Continental Shelf	Total
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
Total	40 885.0	41 319.1	59 072.0	141 276.1

### Oil production 1960 – 2013



**OIL RESERVES AND CUMULATIVE PRODUCTION** in million Sm<sup>3</sup>

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

Year	Territory		Continental Shelf		Total		
	as at January 1 <sup>st</sup>	expected reserves	cumulative production	expected reserves	cumulative production	expected reserves	cumulative production
2010		37	80.5	13	55.6	50	136.0
2011		33.7	80.7	12	56.6	45.7	137.4
2012		28.6	81.2	11.8	57.5	40.4	138.6

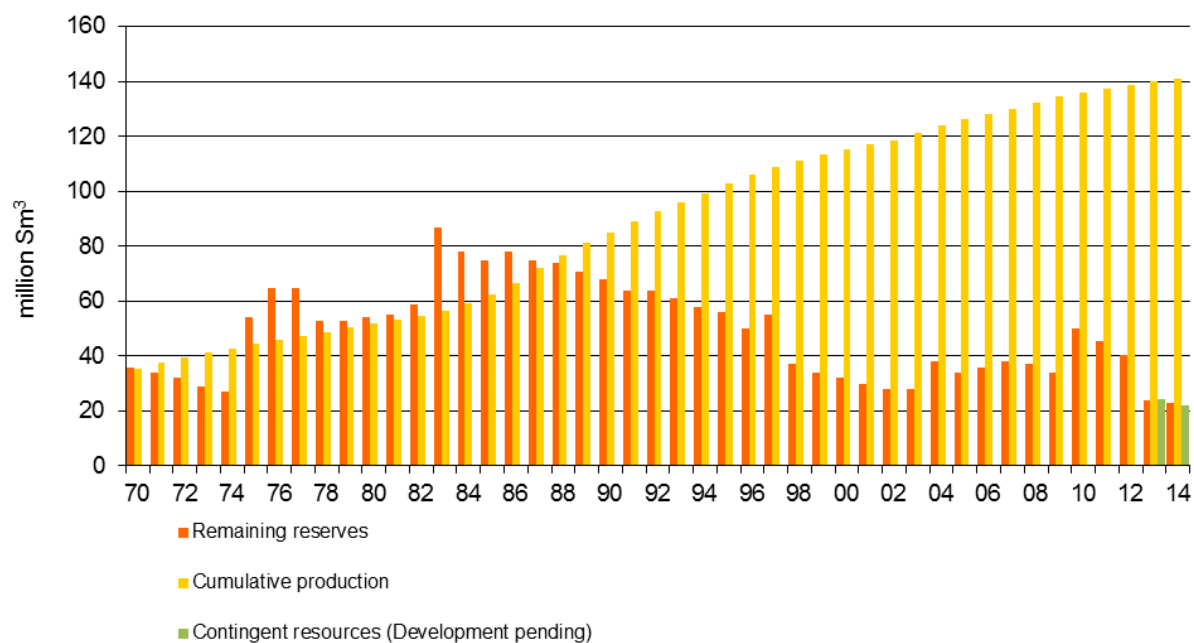
This table has been corrected for a cumulative error due to the rounding off of the annual figures.

### As at 2013; table modified due to 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
2013		17.7	23.7	81.6	6.1	0.6	58.4	23.8	24.3	140.0
2014		18.0	18.7	82.2	5.0	5.4	59.1	23.0	24.1	141.3

### Oil reserves and cumulative production in million Sm<sup>3</sup> 1970 – 2013



## NATURAL GAS REVENUES

Year	Non-tax moneys* (10 <sup>9</sup> €)	Corporate income tax (10 <sup>9</sup> €)	Total (10 <sup>9</sup> €)
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
08	12.83	2.54	15.37



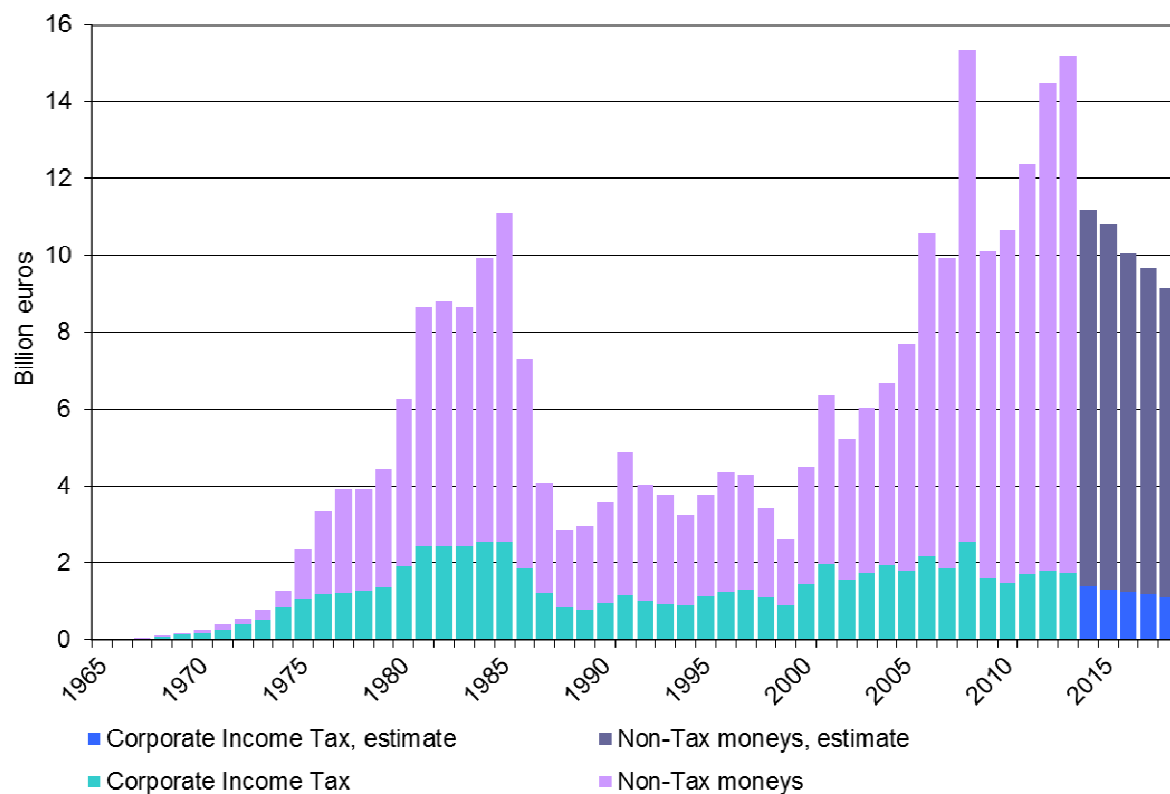
Year	Non-tax moneys* (10 <sup>9</sup> €)	Corporate income tax (10 <sup>9</sup> €)	Total (10 <sup>9</sup> €)
09	8.50	1.60	10.10
2010	9.15	1.50	10.65
11	10.66	1.73	12.39
12	12.70	1.80	14.50
13	13.44	1.74	15.18
<b>Prognosis</b>			
14	9.80	1.40	11.20
2015	9.50	1.30	10.80
16	8.80	1.25	10.05
17	8.50	1.20	9.70
18	8.05	1.10	9.15

The natural gas revenues are presented on a so called 'trans based'. This means that the revenues are allocated in the year in which the transaction actually took place. The actual receiving of the revenues by the state (cash based) takes place with a certain delay.

Non-tax moneys consist of: bonus, surface rentals, royalties, the State profit share, the special payments to the State on production from the Groningen accumulation and the profit distributed by EBN B.V., the participant in the production on behalf of the State.

The estimation for the years 2014 up to and including 2018 are amongst others based on oil price scenarios of the TTF. The forecast for the period 2014-2018 is based on TTF-prices, which descend from 26 eurocent per cubic meter in 2014 to 24 eurocent in 2018.

### Natural gas revenues. 1965 – 2018



## AUTHORITIES CONCERNED WITH MINING OPERATIONS

### Ministry of Economic Affairs

#### Energy Market Directorate

Address: Directoraat-Generaal voor Energie, Telecom en Mededinging  
Directie Energiemarkt

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Telephone : +31 70 3798911  
[www.rijksoverheid.nl](http://www.rijksoverheid.nl)

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### State Supervision of Mines (Staatstoezicht op de Mijnen) (a department of the Ministry of Economic Affairs)

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[www.sodm.nl](http://www.sodm.nl)

### Netherlands Oil and Gas Portal. [www.nlog.nl](http://www.nlog.nl)

The Netherlands Oil and Gas Portal provides information about natural resources and geothermal energy in the Netherlands and the Dutch sector of the North Sea Continental Shelf. It aims to help users to access information furnished by the Dutch government in an easy, comprehensible fashion. The portal is produced at the request of the Dutch Ministry of Economic Affairs and is being managed by TNO, *Geological Survey of the Netherlands*.

## DEFINITIONS OF SELECTED TERMS

### **Territory or Netherlands territory:**

in this review, territory and Netherlands territory denotes: 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 denotes: 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; as from the 1 January 2003 a reconnaissance survey is only required for certain areas.

### **Exploration licence:**

a licence to carry out exploration for the mineral resources specified in the licence.

### **Production licence:**

a licence to produce the mineral resources specified in the licence, and also to carry out exploration for these mineral resources.

### **Seismic surveying:**

this review differentiates between 2D and 3D seismic techniques. Two-dimensional seismic surveying has a long tradition in the oil industry. This seismic technique is based on vibrations that are generated along a line on the earth's surface. These vibrations penetrate the earth's crust and are reflected by the layers within the crust. Geophones or hydrophones record the reflections. Because the vibrations do not always propagate solely in the vertical plane underneath the recording line, the representations of geological structures in 2D seismic sections only approximate the real situation. This approximation is far better for a 3D seismic survey, in which a large number of recording lines are positioned close together in a relatively small surface 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, and thus permits generating an accurate model of the geological structures at any desired location.

### **Wells:**

- exploration well (or wildcat): a well to explore a prospective underground accumulation of oil and-or gas
- appraisal well: a well drilled in order to establish the volume and extent of a reservoir after an exploration well has found hydrocarbons;
- development well: a well drilled in order to produce the reservoir;

**Gas field-oil field:**

a natural, isolated accumulation of gas and-or oil in a subsurface reservoir consisting of a porous rock that is capped or enclosed by an impermeable rock. In this review, the terms reservoir, field and accumulation are used as synonyms.

**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)**

the total volume of hydrocarbons in a reservoir that is initially (originally) present in a reservoir. This volume is 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 that is estimated to be ultimately, commercially recoverable. This volume is 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 that is estimated to be ultimately, commercially recoverable, with an expectation-curve probability of 90%.

**4 Remaining Expected Reserves**

that part of the expected initial reserves remaining after subtraction of the cumulative production, i.e. the total volume of hydrocarbons produced from the reservoir concerned by the end of the year under review. This volume is calculated on the basis of the mean values of the parameters used in the calculations.

**5 Remaining Proven Reserves**

the volume - based on the 90% expectation-curve value - of hydrocarbons that can still be extracted from a reservoir. This volume is calculated by subtracting the cumulative production from the Proven Initial Reserves.

**6 Proven Contingent Resources**

the volume of hydrocarbons in a reservoir with an expectation-curve probability of 90% that is estimated to be potentially recoverable, but are not currently considered commercially recoverable due to one or more contingencies.

**7 Expected Contingent Resources**

the volume of hydrocarbons in a reservoir that is estimated to be potentially recoverable, but are not currently considered commercially recoverable due to one or more contingencies. This volume is calculated on the basis of the mean values of the parameters used in the calculations.

**8 Future reserves**

Future reserves are the volume of hydrocarbons that have not yet been drilled by a well, but which have a certain possibility of success to contribute to the reserves in future times. The following datasets and definitions have been used to estimate the 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). Source of information to this database are the annual reports as submitted by the operating companies according to article 113 of the Mining act.
- b. Prospect Portfolio**  
The selection of prospects from the Prospect database located within a “Proven Play” area.
- c. Exploration potential**  
Cumulated “risked volumes” of all prospects in the prospect portfolio that meet certain selection criteria. In the series of reports on the exploration potential (published since 1992) the Prospect portfolio it was chosen to apply a threshold for the expected reserves volume per prospect. In certain reports the term “Firm Futures” has been used. This is in general synonymous to Exploration potential.
- d. Potential futures in proven plays**  
Volume of gas expected to be present in not yet mapped structures in a proven play area.
- e. Potential futures in not yet proven plays**  
Volume of gas expected to be present in valid, but not yet proven plays in the Netherlands.
- f. Potential futures in hypothetical plays**  
Volume of gas in plays of which one or more of the basic play elements such as reservoir, seal and source rock are not yet known.

The term ‘expected’ in the definitions above should be interpreted in the statistical sense of the word. The stated figure represents the expected value. The following explanation may be useful. All data that are 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 these values will be achieved or exceeded. As production from a hydrocarbon reservoir progresses, several 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 available of the volume of hydrocarbons actually 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 reporting date, 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. This way, the uncertainties inherent to all reserve estimates are accounted for. The result of applying the probabilistic summation method is that the total figure obtained for the proven reserves according to the definition, now indeed represents the proven proportion of total Dutch reserves in a statistically more reliable manner. In other words, there is a 90% probability that reserves will actually exceed the value stated.

## Exploration Potential

Calculating the exploration potential using a discounted cash flow model requires a set of parameters. The most imported parameters for the economic prospect evaluation are: Oil price (99\$), Euro-dollar exchange rate (1.2), 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 (10) and the incorporation of the growth and decline of the infrastructure.

The model ExploSim is used to calculate the exploration potential. A detailed description can be found 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.

### Units:

**Standard m<sup>3</sup>:** Natural gas and oil reserves are expressed in m<sup>3</sup> at a pressure of 101.325 kPa (or 1.01325 bar) and 15°C. This m<sup>3</sup> is defined as Standard m<sup>3</sup> in Standard no. 5024-1976(E) of the International Organization for Standardization (ISO), and is normally abbreviated to Sm<sup>3</sup>.

**Normal m<sup>3</sup>:** Natural gas and oil reserves are expressed in m<sup>3</sup> at a pressure of 101.325 kPa (or 1.01325 bar) and 0°C. This m<sup>3</sup> is defined as Normal m<sup>3</sup> in Standard no. 5024-1976(E) of the International Organization for Standardization (ISO), and is normally abbreviated to Nm<sup>3</sup>.

**Groningen gas equivalent:** For the purpose of performing calculations with volumes of natural gas of varying qualities, these are converted to a Groningen gas equivalent. This is achieved by converting a volume of gas from an accumulation that produces a different quality of gas, to a (fictitious) volume of gas of the quality of the Groningen accumulation (35.08 Mega joules upper value per m<sup>3</sup> of 0°C and 101.325 kPa. or 1.01325 bar). One Nm<sup>3</sup> gas that has a calorific value of 36.5 MJ equals 36.5/35.08 Nm<sup>3</sup> Groningen gas equivalent (Geq)

The term Groningen gas equivalent is also commonly used by the N.V. Nederlandse Gasunie.

Figures stated in Groningen gas equivalent can be converted simply into equivalents for other fuels, such as Tons Oil Equivalent (TOE) and Coal Equivalent (CE).

Fuel name	Expressed in	Giga Joules	Giga calories	Oil equiv. tonnes	Oil equiv. barrels	Coal equivalent tonnes	Natural Gas equivalent 1.000 m <sup>3</sup>
Firewood (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
Cokes	tonnes	28.50	6.81	0.68	4.97	0.97	0.90
Cokes oven gas	1,000 m <sup>3</sup>	17.60	4.20	0.42	3.07	0.60	0.56
Blast furnace gas	1,000 m <sup>3</sup>	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	1,000 m <sup>3</sup>	46.10	11.01	1.10	8.04	1.57	1.46
LPG	1,000 m <sup>3</sup>	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
Jet fuel	tonnes	43.49	10.39	1.04	7.58	1.48	1.37
Gasoline	tonnes	44.00	10.51	1.05	7.67	1.50	1.39
Kerosene	tonnes	43.11	10.29	1.03	7.52	1.47	1.36
Light 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 cokes	tonnes	35.20	8.41	0.84	6.14	1.20	1.11
Natural gas	1,000 m <sup>3</sup>	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 an 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 of energy required depends on the efficiency of the conversion.

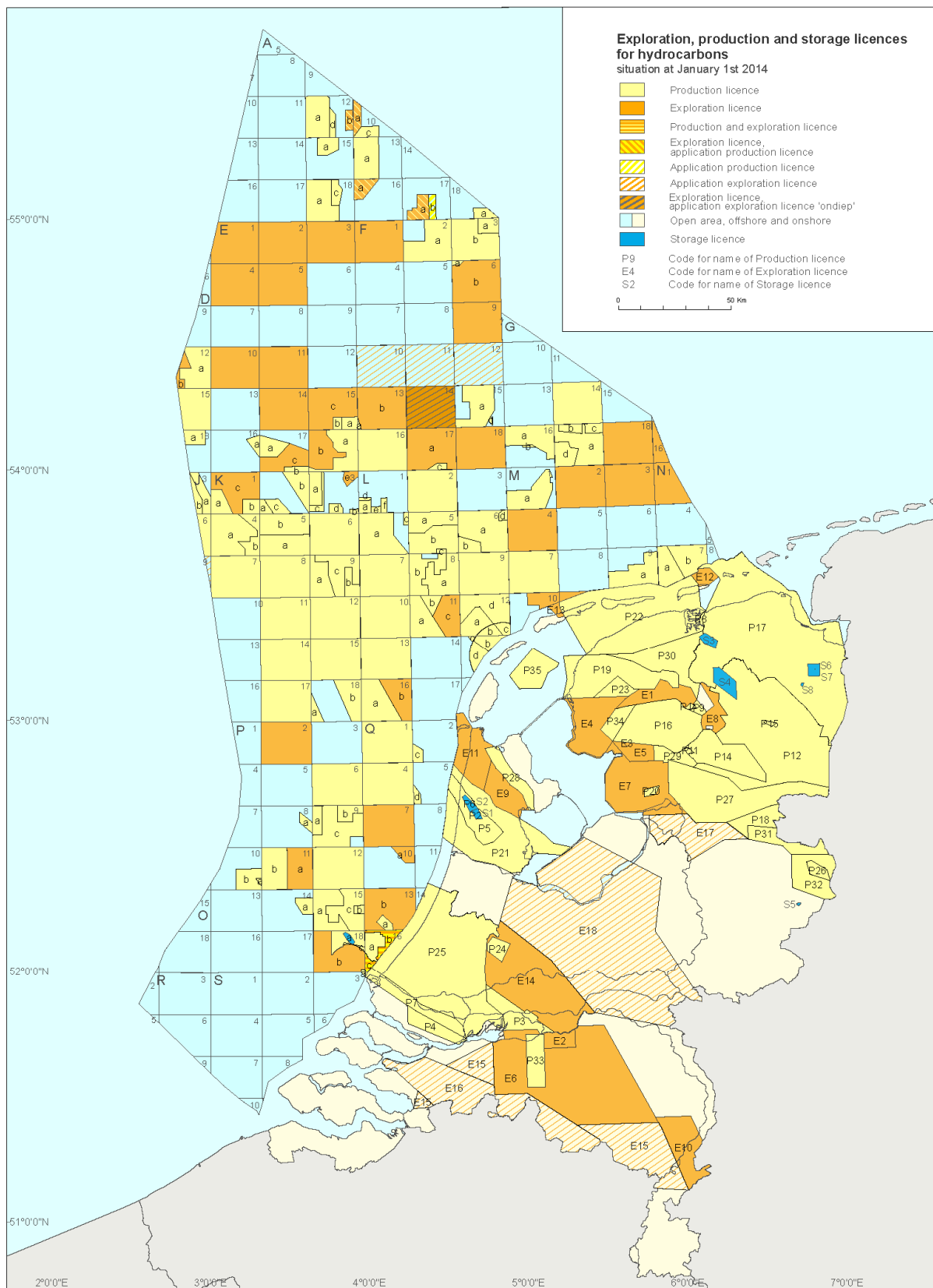


## APPENDICES

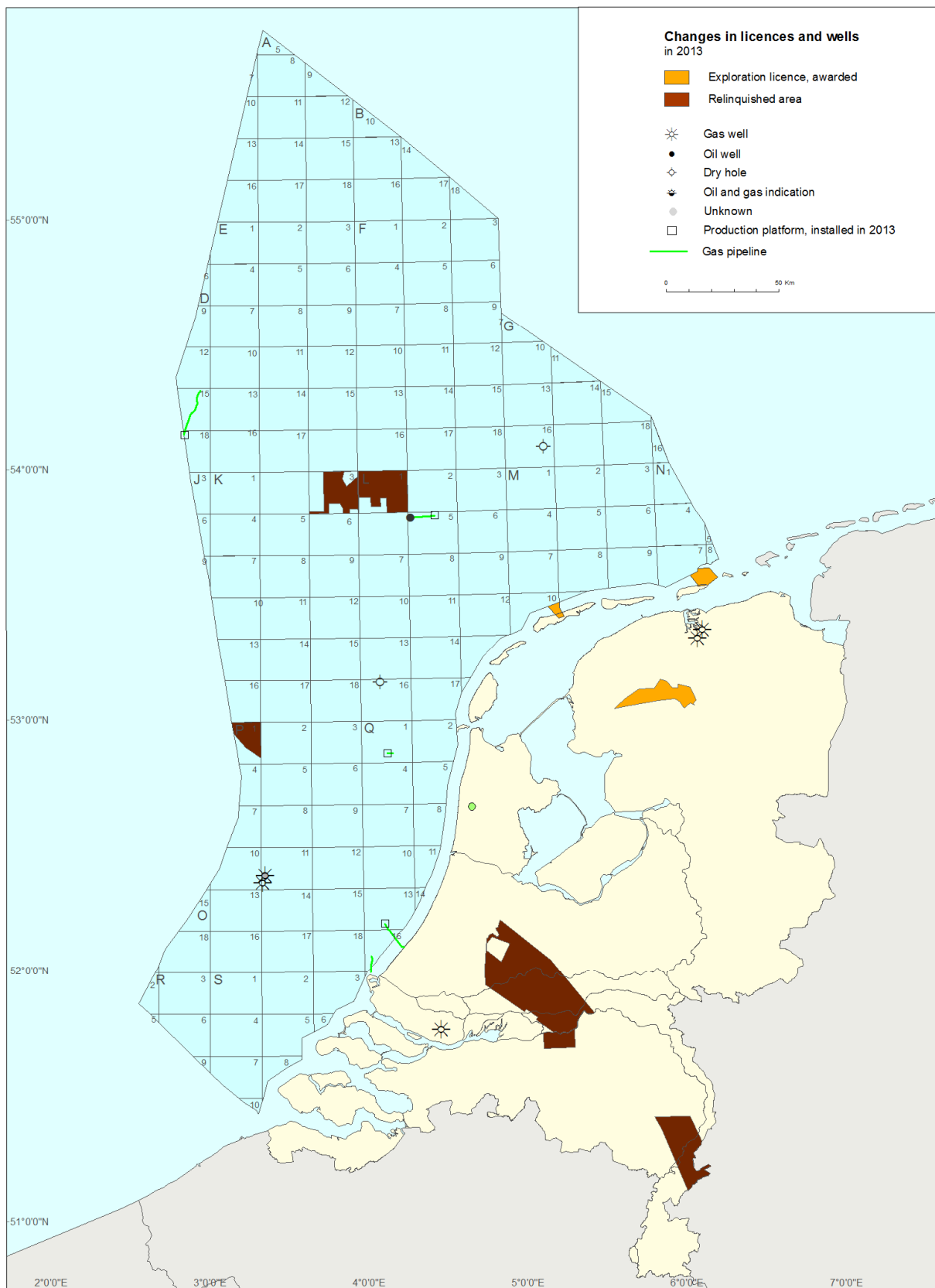
## Exploration, production and storage licences as at 1 January 2014

Names of the exploration, production and storage licences, Netherlands Territory, as indicated on opposite page.

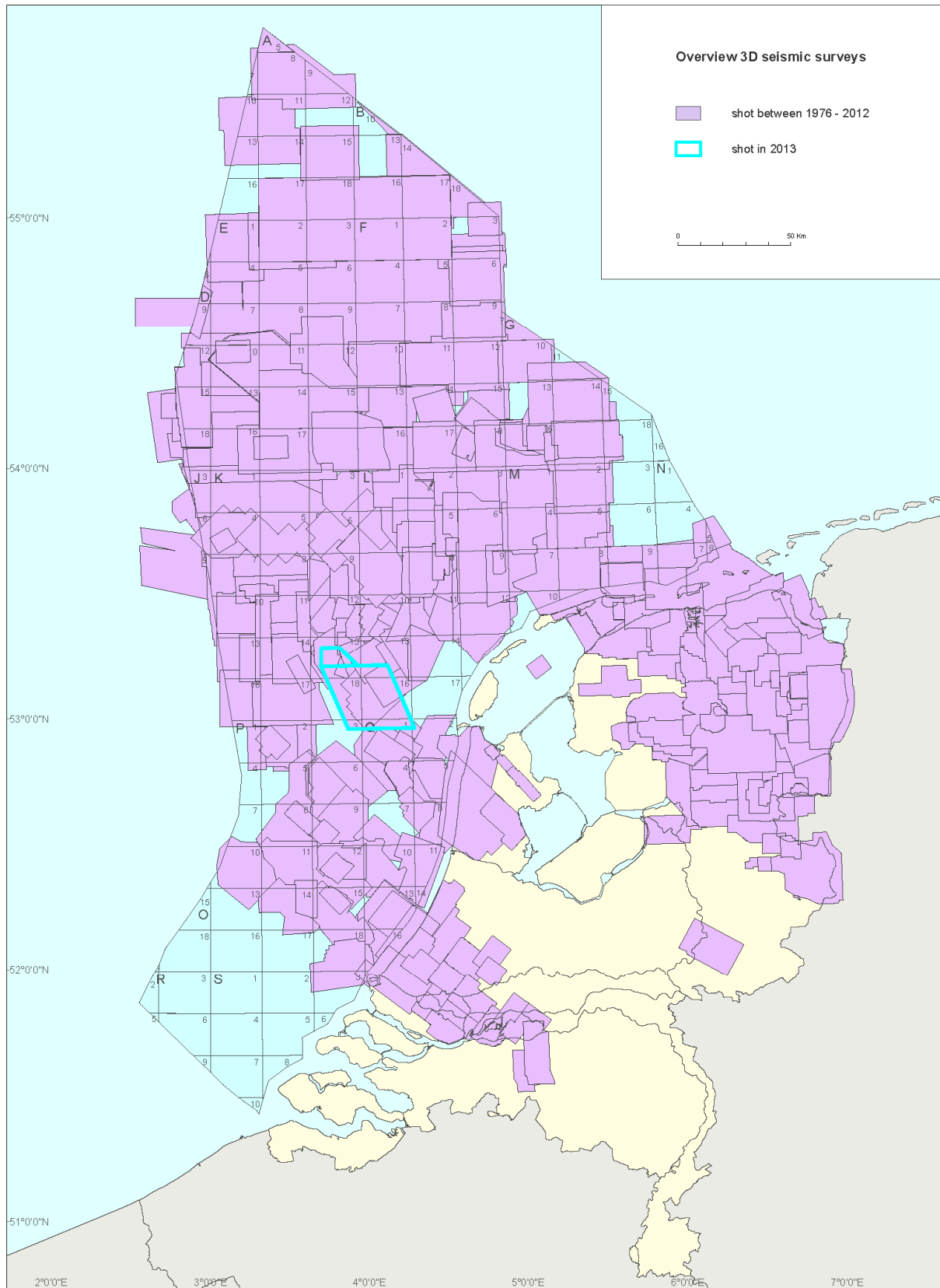
<b>Exploration licences</b>			
E1	Akkrum	E8	Oosterwolde
E2	Engelen	E9	Opmeer
E3	Follega	E10	Peel
E4	Hemelum	E11	Schagen
E5	Lemsterland	E12	Schiermonnikoog-Noord
E6	Noord-Brabant	E13	Terschelling-Noord
E7	Noordoostpolder	E14	Utrecht
<b>Applications for exploration licence</b>			
E15	Breda-Maas	E17	IJsselmuiden
E16	De Kempen	E18	Midden-Nederland
<b>Production licences</b>			
P1	Akkrum 11	P19	Leeuwarden
P2	Alkmaar	P20	Marknesse
P3	Andel V	P21	Middelie
P4	Beijerland	P22	Noord-Friesland
P5	Bergen II	P23	Oosterend
P6	Bergermeer	P24	Papekop
P7	Botlek	P25	Rijswijk
P8	De Marne	P26	Rossum-De Lutte
P9	Donkerbroek	P27	Schoonebeek
P10	Donkerbroek-West	P28	Slootdorp
P11	Drenthe IIA	P29	Steenwijk
P12	Drenthe IIB	P30	Tietjerksteradeel
P13	Drenthe IIIA	P31	Tubbergen
P14	Drenthe IIIB	P32	Twenthe
P15	Drenthe IV	P33	Waalwijk
P16	Gorredijk	P34	Zuid-Friesland III
P17	Groningen	P35	Zuidwal
P18	Hardenberg		
<b>Storage licence</b>			
S1	Alkmaar	S5	Twenthe-Rijn De Marssteden
S2	Bergermeer	S6	Winschoten II
S3	Grijpskerk	S7	Winschoten III
S4	Norg	S8	Zuidwending



## **Wells and changes in licence situation in 2013**

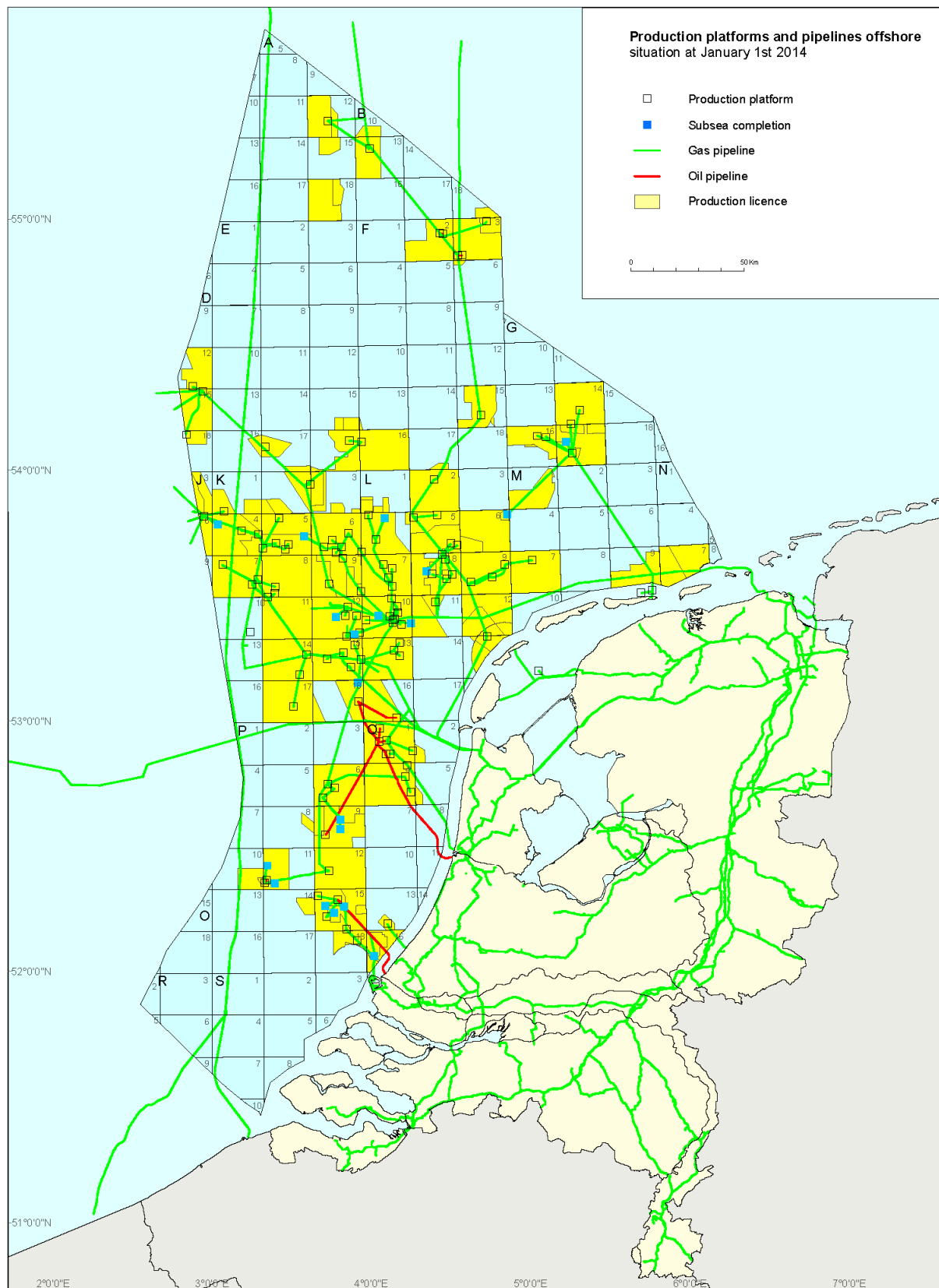


## Summary of 3D seismic surveys

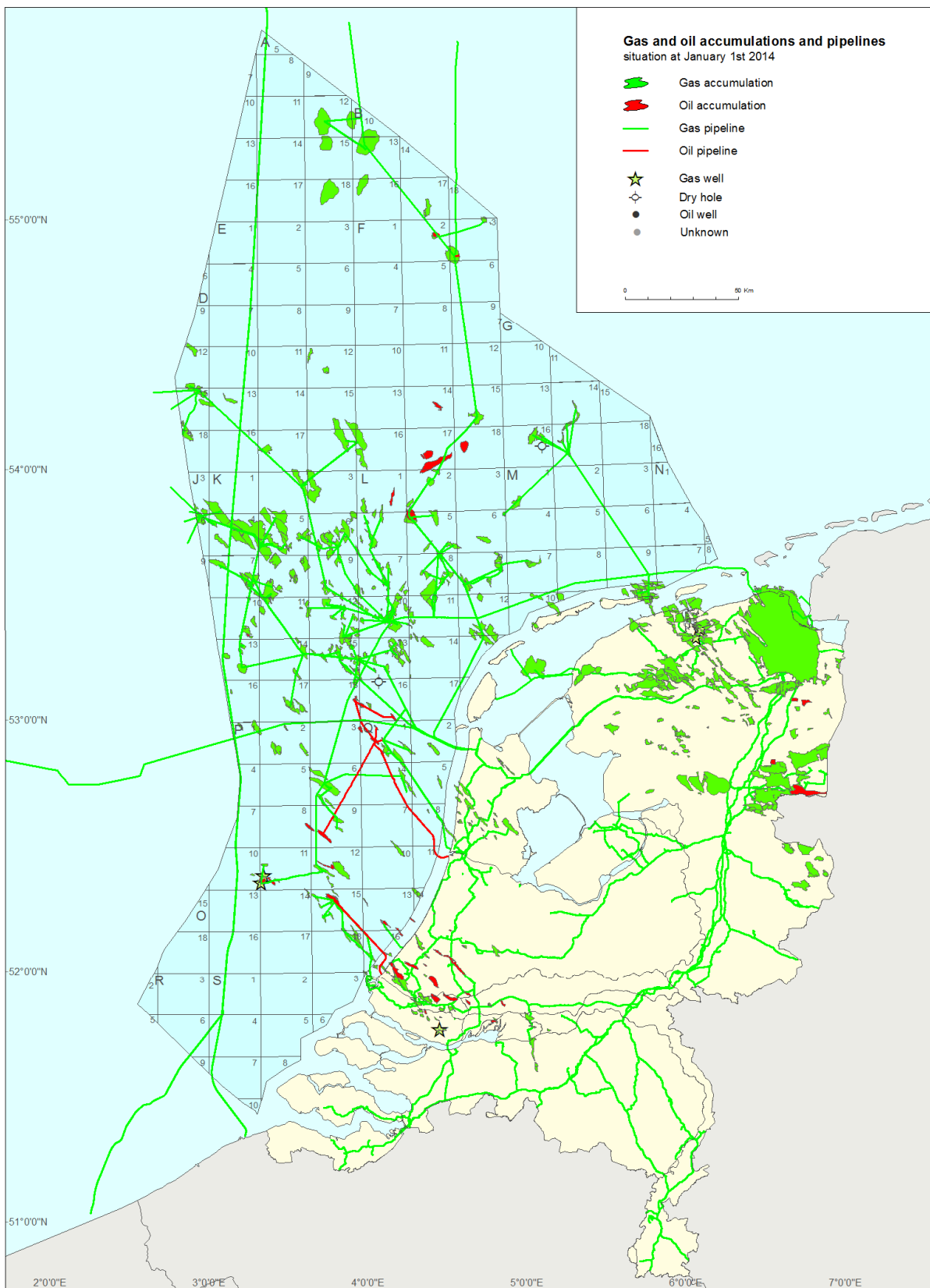


## **Production platforms and pipelines**





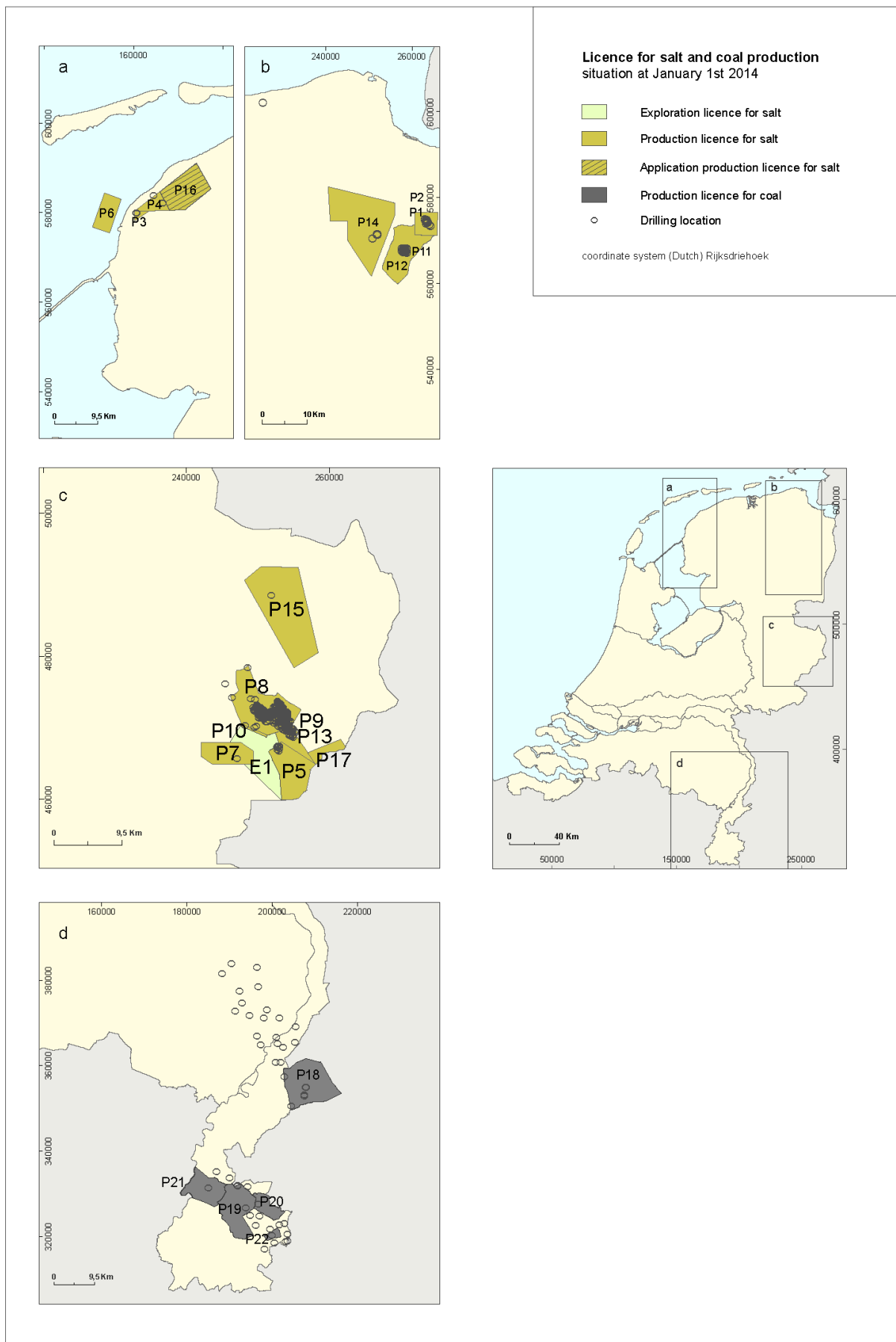
## **Gas and oil accumulations and pipelines as at 1 January 2014**



## Coal and rocksalt licences as at 1 January 2014

Onshore exploration and production licence names for rocksalt and coal as indicated on the map on the next page:

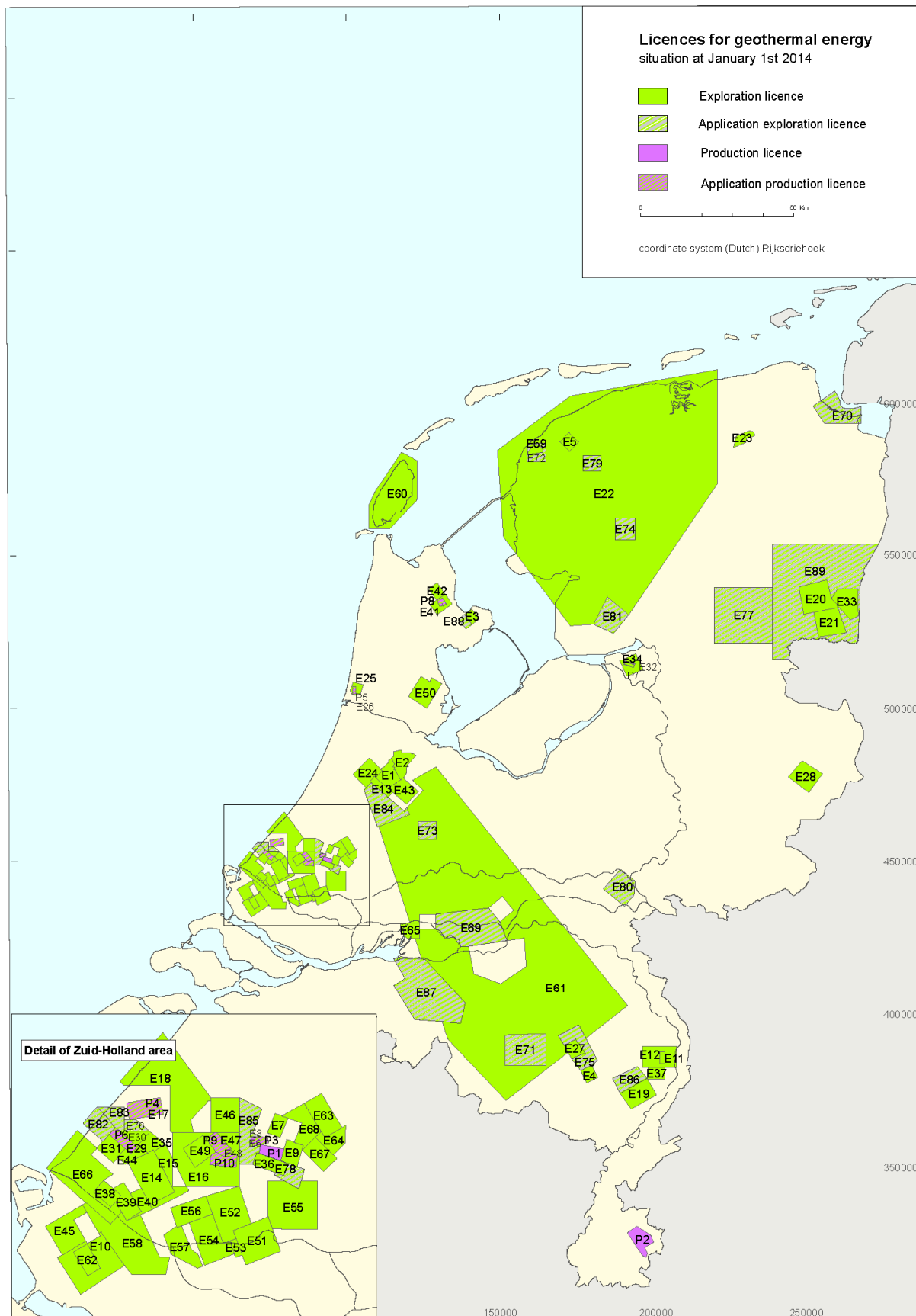
<b>Exploration licences for rocksalt</b>	
E1	Zuidoost-Twente
<b>Production licences for rocksalt</b>	
P1	Adolf van Nassau II
P2	Adolf van Nassau III
P3	Barradeel
P4	Barradeel II
P5	Burse
P6	Havenmond
P7	Isidorushoeve
P8	Twenthe-Rijn
P9	Twenthe-Rijn Helmerzijde
P10	Twenthe-Rijn Oude Maten
P11	Uitbreiding Adolf van Nassau II
P12	Uitbreiding Adolf van Nassau III
P13	Uitbreiding Twenthe-Rijn
P14	Veendam
P15	Weerselo
<b>Production licence applications for rocksalt</b>	
P16	Barradeel-Oost
P17	Zuidoost-Enschede
<b>Production licences for coal</b>	
P18	Staatsmijn Beatrix
P19	Staatsmijn Emma
P20	Staatsmijn Hendrik
P21	Staatsmijn Maurits
P22	Staatsmijn Wilhelmina



## Geothermal energy licences as at 1 January 2014

Exploration and production licence names for geothermal energy as indicated on the map on the next page:

<b>Exploration licences</b>					
E1	Aalsmeer	E24	Haarlemmermeer	E47	Pijnacker-Nootdorp 4
E2	Amstelveen	E25	Heemskerk	E48	Pijnacker-Nootdorp 5
E3	Andijk	E26	Heemskerk 2	E49	Pijnacker-Nootdorp 6
E4	Asten	E27	Helmond	E50	Purmerend
E5	Berlikum	E28	Hengelo	E51	Rotterdam
E6	Bleiswijk	E29	Honselersdijk	E52	Rotterdam 2
E7	Bleiswijk 2	E30	Honselersdijk 2	E53	Rotterdam 3
E8	Bleiswijk 3	E31	Honselersdijk 3	E54	Rotterdam 4
E9	Bleiswijk 4	E32	Kampen	E55	Rotterdam 5
E10	Brielle 2	E33	Klazienaveen	E56	Rotterdam 6-Trias
E11	Californie I	E34	Koekoekspolder II	E57	Rotterdam-Vlaardingeng
E12	Californie 2	E35	Kwintsheul	E58	Rozenburg
E13	De Kwakel	E36	Lansingerland	E59	Sexbierum
E14	De Lier	E37	Maasbree	E60	Texel
E15	De Lier 3	E38	Maasdijk	E61	Utrecht-Noord Brabant
E16	Delft IV	E39	Maasland	E62	Vierpolders
E17	Den Haag	E40	Maasland 2	E63	Waddinxveen
E18	Den Haag 2	E41	Middenmeer	E64	Waddinxveen 2
E19	Egchel	E42	Middenmeer 2	E65	Werkendam
E20	Emmen	E43	Mijdrecht	E66	Westland
E21	Erica	E44	Naaldwijk 2	E67	Zevenhuizen
E22	Friesland	E45	Oostvoorne	E68	Zevenhuizen-Moerkapelle
E23	Groningen 2	E46	Pijnacker-Nootdorp 3		
<b>Exploration licence applications</b>					
E69	Bommelerwaard	E76	Honselersdijk 4	E83	Monster 3
E70	Delfzijl	E77	Hoogeveen	E84	Nieuwkoop
E71	Eindhoven	E78	Lansingerland 4	E85	Oostland
E72	Franekeradeel	E79	Leeuwarden	E86	Peel en Maas
E73	Harmelerwaard	E80	Lingewaard	E87	Tilburg-Geertruidenberg
E74	Heerenveen	E81	Luttelgeest	E88	Wervershoof
E75	Helmond 2	E82	Monster 2	E89	Zuidoost-Drenthe
<b>Production licences</b>					
P1	Bleiswijk	P2	Heerlen		
<b>Production licence applications</b>					
P3	Bleiswijk 1b	P6	Honselersdijk	P9	Pijnacker-Nootdorp 4
P4	Den Haag	P7	Kampen	P10	Pijnacker-Nootdorp 5
P5	Heemskerk	P8	Middenmeer		

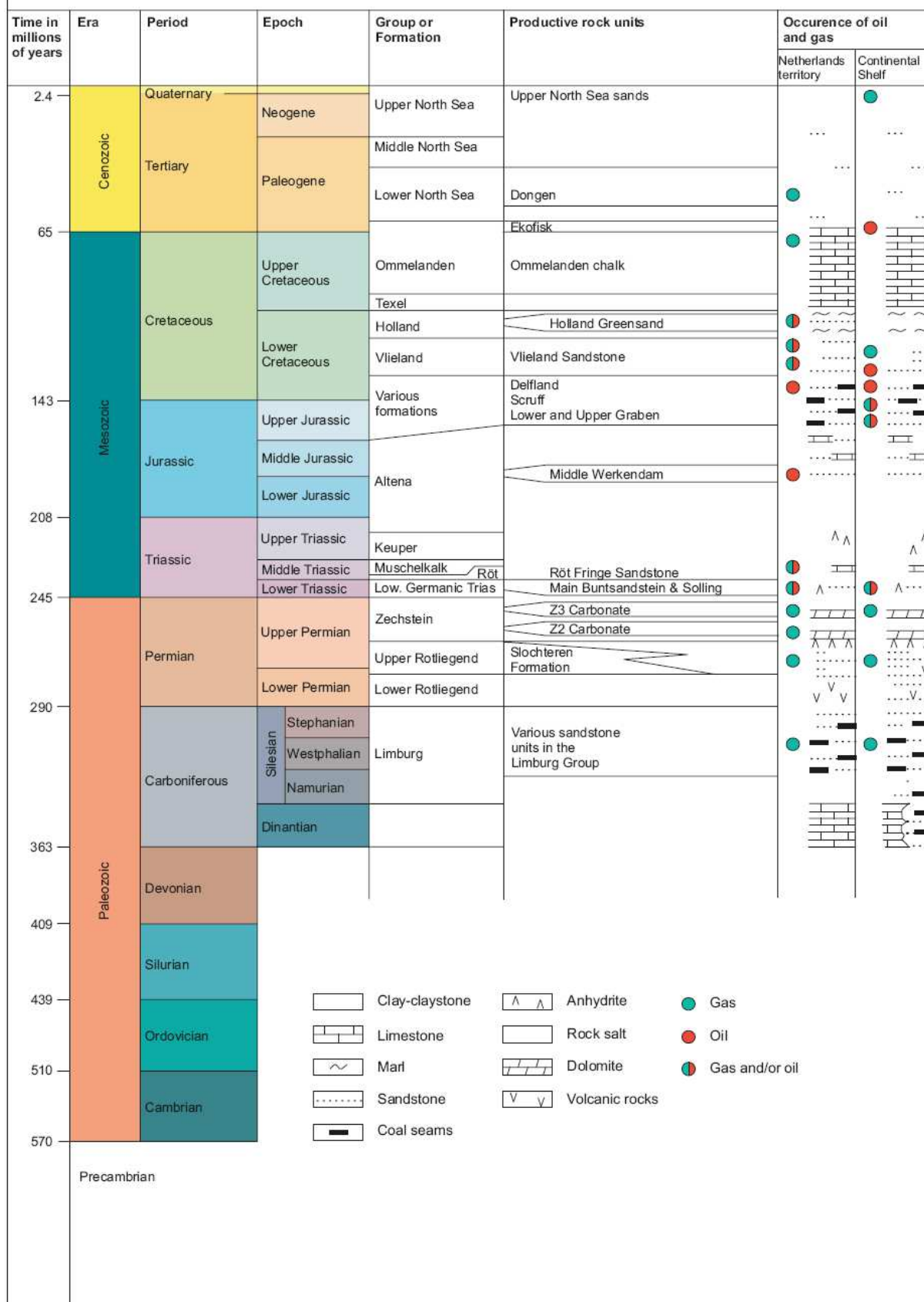


## Geological time scale

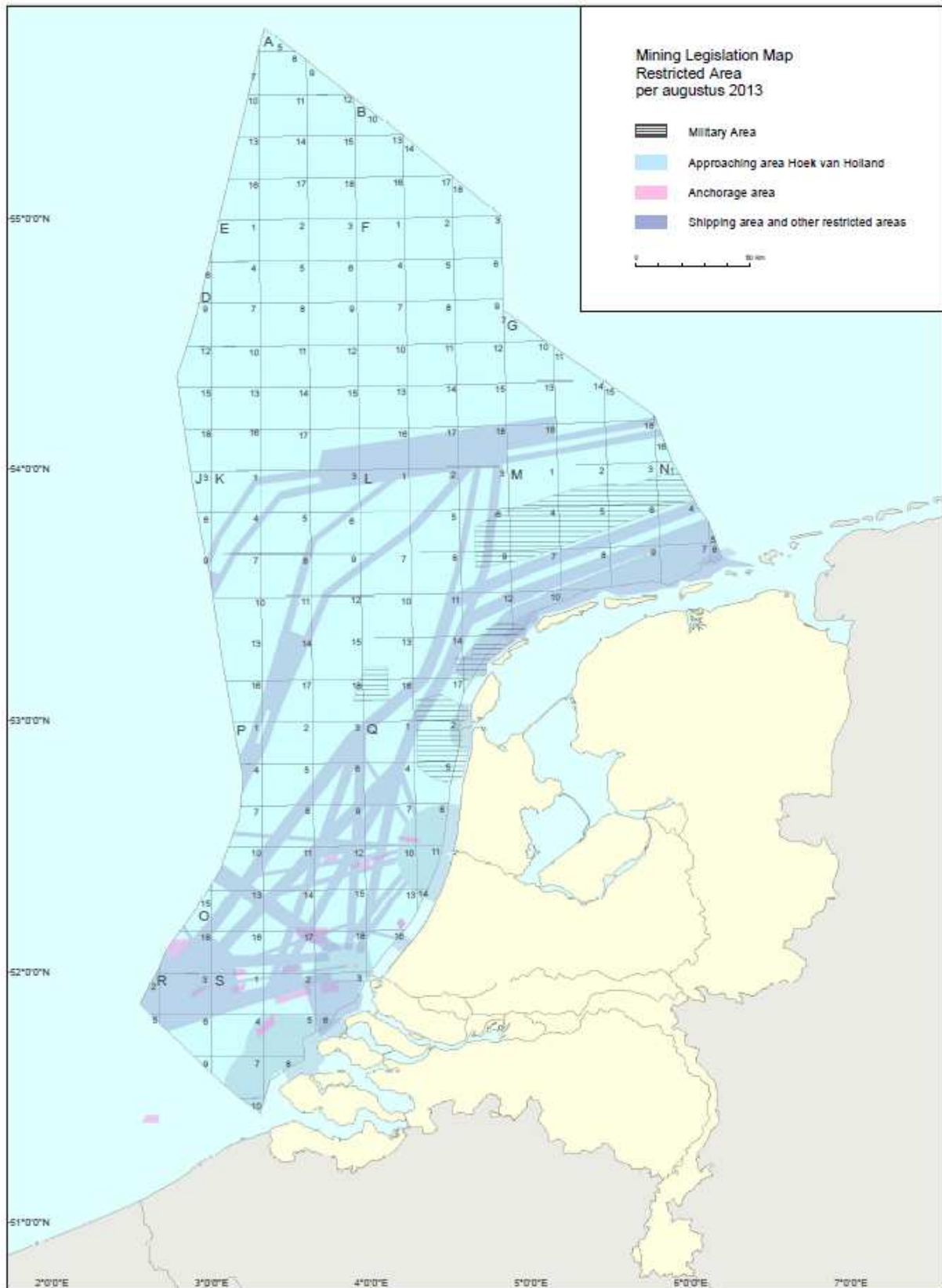


# Geological time scale

with composite stratigraphic column  
of the Netherlands and the Continental Shelf



## Mining Legislation Map

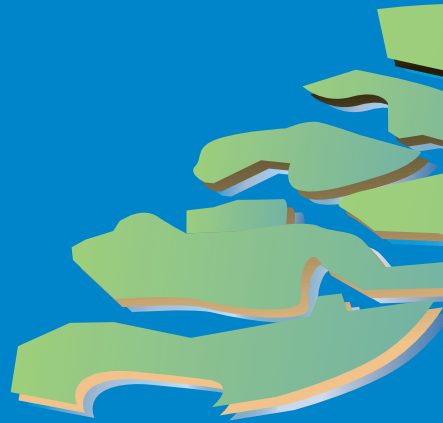








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