

Security of supply overview for the 2027/2028 gas year

October 2026



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Summary

With the Security of Supply Overview, GTS fulfils its statutory task of providing insight into the extent to which the security of natural gas supply in the Netherlands is safeguarded.

Security of supply has been defined by the government as a situation in which “final gas customers are supplied at the right time, in the right quality (low-calorific or high-calorific) and in the required quantity, including during periods of high gas demand”.

GTS bases its assessment of security of supply on this definition and analyses various scenarios for gas demand and gas supply. The scenarios do not take prolonged supply disruptions into account. The annual Security of Supply Overview concerns security of supply in the event of a particularly cold winter and therefore does not cover situations involving limited gas supply due to geopolitical developments or the prolonged unavailability of relevant gas infrastructure, for example as a result of sabotage.

Consultation process

This GTS overview concerns gas year 2027/2028 (October 2027 through September 2028) and includes an outlook up to and including gas year 2031/2032. GTS bases this overview on a set of assumptions and variants that were submitted for consultation to representative organisations from 9 July 2026 to 6 August 2026. GTS thanks the representative organisations for the feedback they submitted.

Change in gas flows

Since 2022, there has been a structural shift from east-to-west gas flows to west-to-east gas flows. This was prompted by the substantial reduction in gas imports from Russia. European gas transport infrastructure has been adapted accordingly through the development of additional transport and LNG import capacity.

Dependence on imports remains persistently high

Following the termination of gas production from the Groningen field, the Netherlands, like Northwest Europe, has become structurally dependent on imports. With the sharp decline in Russian gas imports and the forthcoming European ban on Russian gas imports, dependence on LNG and Norwegian pipelines is increasing. Around 90% of gas consumption in the European Union is now imported.

Key findings

Volume and capacity sufficient

The analysis shows that the annual volume balance is positive in all gas years considered. The capacity balance at peak moments is also positive in all gas years considered. As a result, the Netherlands complies with the EU infrastructure standard in winter 2027/2028. This means that sufficient gas and infrastructure are available in all analysed gas years to meet demand, including in a cold year with high demand.

¹ Explanatory memorandum, section 2.1; <https://zoek.officielebekendmakingen.nl/kst-34957-3.html>

The role of gas storage facilities remains crucial

Gas storage facilities continue to be relied upon extensively for seasonal flexibility. For winter 2027/2028, GTS advises a storage filling target of 93 TWh.

Uncertainties and points for attention

Geopolitical situation

Dependence on international gas flows, combined with geopolitical instability, makes the European gas market, including the Dutch market, vulnerable to prolonged and large-scale supply disruptions. This analysis focuses on safeguarding sufficient supply in the event of a cold winter, without taking such situations into account. To be better prepared for prolonged and large-scale supply disruptions, GTS has long advocated the establishment of strategic gas reserves.

Provision of flexibility

The provision of seasonal flexibility in gas demand remains highly dependent on gas storage facilities. LNG supply with a seasonal profile may potentially contribute to meeting the demand for seasonal flexibility. Although additional LNG is expected to become available on the global market, its availability for Northwest Europe is uncertain because it depends on market developments, international LNG flows and commercial decisions by market participants.

Policy and market functioning of gas storage

The current combination of regulation, such as storage obligations, and market conditions affects the use of gas storage facilities. As a result, the commercial incentive to fill storage facilities in summer is not always present.

Conclusion

Assuming that (i) gas storage facilities are sufficiently filled and (ii) international supply chains continue to function, security of supply in the Netherlands remains safeguarded for gas year 2027/2028.

The Netherlands is increasingly dependent on gas imports. Sufficient filling of gas storage facilities, maintaining adequate interconnection capacity with neighbouring countries and diversifying the supply of natural gas are crucial measures for stable gas supply in the coming years.

Given geopolitical instability and the high import dependence on LNG and Norwegian gas, the gas market remains vulnerable to prolonged disruptions. GTS therefore continues to advocate structural measures, such as the establishment of a strategic reserve.

Contents

1	Introduction	8
2	Market description	10
2.1	Review of the previous gas year	10
2.2	Security of supply	11
2.3	Development of gas demand and supply	12
2.3.1	Demand	12
2.3.2	Supply	15
2.4	Infrastructure	19
2.4.1	EU LNG import terminals	19
2.4.2	Interconnection with neighbouring countries	19
2.4.3	Gas storage facilities	20
2.5	Seasonal flexibility	20
2.5.1	Seasonal flexibility: gas demand is leading	20
2.5.2	Seasonal flexibility in gas demand and supply	22
2.6	Quality-neutral gas market	26
2.6.1	GTS's statutory task	26
2.6.2	Development of gas quality	27
3	Assumptions for the Gas Security of Supply Overview	29
3.1	Assumptions following from the legal framework	29
3.1.1	Gas Security of Supply Overview: a statutory task for GTS	29
3.1.2	European infrastructure standard (capacity)	30
3.1.3	European gas supply standard (volume)	31
3.1.4	European storage filling target for gas storage facilities	32
3.2	Temperature-dependent gas demand	33
3.2.1	The definition for determining temperature profiles has been adjusted	34
3.2.2	Temperature profiles used	34
3.2.3	Definition of a 'gas day with high demand'	35
3.3	Seasonal flexibility from gas storage facilities	35
3.4	Nitrogen capacity	35
3.5	Demand and supply: capacity	36
3.6	Demand and supply: volume	37
3.6.1	Scenarios	37
3.6.2	Netherlands	38
3.6.3	Norway	39
3.6.4	LNG	39
3.6.5	Belgium H-gas	40
3.6.6	United Kingdom H-gas	40
3.6.7	Germany H-gas	41
3.6.8	Export of L-gas to Germany and France (via Belgium)	42
3.7	Gas storage facilities in the Netherlands	43
3.7.1	LNG peak shaver	43
3.7.2	Seasonal gas storage facilities	43
3.7.3	L-gas caverns for the Dutch market	45
3.7.4	H-gas caverns for the Dutch market	45

4	Results	46
4.1	Annual volumes	46
4.2	Capacity balance on a peak-demand day at -14 °C	49
4.3	EU gas supply standard: sufficient gas for protected customers	50
4.4	Storage filling target for Dutch seasonal gas storage facilities	52
4.4.1	Overview of the scenarios	53
4.4.2	Recommended filling target	54

1 Introduction

Pursuant to the Energy Act, GTS has the statutory task of preparing an annual overview of the security of supply of natural gas in the Netherlands. The 2026 edition of this overview focuses on gas year 2027/2028 and the four subsequent gas years. Among other elements, the Security of Supply Overview contains four core components:

- ▶ an annual volume balance for a cold, average and warm gas year;
- ▶ a capacity balance for the coldest gas day, in which GTS assumes the loss of capacity equivalent to the largest source of supply (infrastructure standard);
- ▶ the required supply volume that must be available for three situations during the winter period in order to guarantee gas demand for protected customers (gas supply standard);
- ▶ the storage filling target for seasonal gas storage facilities to ensure sufficient supply, including in the event of a cold gas year.

On the basis of these core components, the overview provides insight into whether security of supply for the Netherlands is sufficiently safeguarded. Security of supply means that final gas customers are supplied at the right time, in the right quality (low-calorific or high-calorific) and in the required quantity, including during periods of high gas demand. GTS assesses security of supply in an international context, in which supply security and availability of supply go hand in hand with cross-border trade, non-discriminatory access to infrastructure and sufficient system and network development. Security of supply is therefore not an absolute guarantee that every conceivable disruption can be absorbed, but an assessment of the extent to which the gas system is sufficiently robust.

For the analysis, GTS uses assumptions and starting points, the most important of which are explained in this document. This results in scenarios that reflect the most likely development. Uncertainties in the analysis have been addressed by calculating sensitivities in addition to the base scenarios.

Now that Northwest Europe, including the Netherlands, has become highly dependent on gas imports from outside the region, and this dependence is only increasing, an international perspective is becoming increasingly important when assessing security of supply. From this perspective, the Netherlands plays a relevant role as a transit country. Assumptions regarding the availability of LNG and the level of transit flows to (in particular) Germany are important parameters.

The risks resulting from increased geopolitical uncertainty are difficult to quantify. Various threats are conceivable that could have a prolonged and significant impact on the security of natural gas supply in Europe. The current instruments are insufficient to absorb such prolonged import disruptions, as GTS concludes in its 2026 Resilience Analysis, published earlier this year². The potential threats form part of the political debate and may lead to additional measures, such as the establishment of a strategic reserve. This Security of Supply Overview does not take into account large-scale and/or prolonged interruptions in gas supply.

The report is structured as follows. Chapter 2 explains the market outlook that GTS applies when preparing the Security of Supply Overview. In this context, the international perspective is often leading. Chapter 3 discusses the assumptions used by GTS for the 2026 Security of Supply Overview. The results of the analyses are included and explained in Chapter 4. This includes attention to supply security, the EU infrastructure standard, the EU gas supply standard and the minimum EU storage filling target for gas storage facilities.

² <https://www.gasunietransportservices.nl/gasmarkt/leveringszekerheid-gas/weerbaarheidsanalyse-2026>

2 Market description

2.1 Review of the previous gas year

Following the extreme disruptions in 2022 caused by the loss of a large share of natural gas supply from Russia to Europe, the gas market has found a new equilibrium in recent years. Within the European Union (EU), the 2025/2026 winter period began under relatively favourable conditions, due to well-filled gas storage facilities and a substantial expansion of LNG import capacity. In the Netherlands, the national filling target of 110 TWh was not achieved; the maximum fill level around 1 November 2025 was approximately 106 TWh.

Although January 2026 was colder than average³ in the Netherlands, the winter period as a whole was relatively mild, with 1,982 heating degree days. By comparison, only three winters in the past twenty years were milder. Despite the relatively mild winter of 2025/2026, withdrawals from Dutch seasonal gas storage facilities were higher than could have been expected based on temperature developments. This was due to a combination of factors. One important factor was the termination of GasTerra’s activities as of 1 October 2026, as a result of which the Norg and Grijskerk gas storage facilities were fully depleted by 1 April 2026. In addition, periods of low renewable electricity generation combined with high electricity demand (so-called *kalte Dunkelflaute*) played a role, causing gas-fired power plants to be used more frequently. Increased transit flows to neighbouring countries and market incentives, such as the summer/winter spread, also contributed to higher withdrawals.

Because gas storage facilities ended the winter with a low fill level, the task for market participants in the 2026 filling season (April through October 2026) is considerably greater than in the previous year.

The EU-mandated filling level of 90%, which has applied since 2022, remains in force until 31 December 2027. It is still uncertain whether the filling-level obligation will be extended. In combination with regulated gas storage facilities, designated filling agents and the expected growth in LNG supply, the mandatory filling level affects market functioning. The chosen design of the role of filling agents and the duration of contracts for storage capacity also influence the use of gas storage facilities. Under current market conditions, this may create incentives that promote withdrawals from storage facilities in winter and make filling in summer commercially less attractive.

In addition, the war that broke out in the Middle East in February 2026 has had major consequences for global oil and gas supply. The closure of the Strait of Hormuz has led to disruptions in LNG supply. Attacks on the Ras Laffan LNG production facilities in Qatar are leading to lower production potential in the coming years. As a result, competition between Europe and Asia for flexible LNG has increased. This was accompanied by a sharp rise in the TTF gas price to above €80/MWh in September 2026. Although these developments have so far not led to physical interruptions within the EU, they have affected LNG import flows. Partly due to lower LNG imports during the summer of 2026, European gas storage facilities are less full than in previous years. At the same time, the commissioning of new LNG production capacity, particularly in the United States, has partially mitigated the impact of these disruptions.

³ With 427 heating degree days, January 2026 was the coldest month since February 2018, which had 444 heating degree days.

Developments in recent years show that the European gas market has adapted to the sharply reduced role of Russian gas, with LNG playing an increasingly important role in gas supply. At the same time, security of supply remains dependent on sufficient available flexibility from gas storage facilities. Developments in 2025 and 2026 show that the filling and use of these storage facilities are increasingly influenced by market incentives, regulation and geopolitical developments. These factors therefore remain an important point of attention for future security of natural gas supply.

2.2 Security of supply

In the Netherlands, security of supply is described as the situation in which final customers have access to gas at the right time, in the required quantity and quality, including under periods of high demand and during the winter period. This is assessed on the basis of three EU standards with which Member States must comply. These standards are discussed in more detail later in this annual overview. An important precondition for this security of supply is that supply security is also safeguarded. Supply security exists when the full demand and supply chain functions properly. This presupposes that a number of conditions are met and that the market is resilient to both short-term and prolonged disruptions:

- ▶ There is sufficient gas supply in and for the EU;
- ▶ There is sufficient import capacity via pipelines and LNG terminals;
- ▶ There is sufficient storage capacity;
- ▶ There is sufficient transport capacity, including in the GTS network.

If these conditions are met, market demand can be served and supply security is ensured.



During the 2022 gas crisis, supply security came under pressure. The loss of Russian gas supplies coincided with limited availability of alternative supply on the global market and relatively low gas storage levels. At the same time, available LNG import capacity and transport capacity were insufficient to fully absorb the changed gas flows. This led to extreme price increases, resulting in demand destruction.

Since then, producers, traders, storage operators, LNG terminal operators and transmission system operators have invested in strengthening supply and infrastructure. Production capacity was expanded, LNG import capacity was increased and transport networks were adapted. These developments have contributed to greater flexibility and connectivity in the European gas system.

At the same time, factors remain that may affect the functioning of the demand and supply chain. In recent years, several disruptions have occurred with a substantial impact on the market. This underlines the importance of understanding the resilience of the system. The current framework for security of supply focuses primarily on the availability of infrastructure and, to a lesser extent, on the availability of physical volumes in prolonged supply disruptions.

The Security of Supply Overview addresses the role of gas storage facilities and their possible use in the event of supply disruptions lasting up to 30 days. There is also attention to market functioning in relation to policy instruments. For example, storage filling obligations have contributed to increasing fill levels after 2022, but under current market conditions they may also affect price formation and commercial incentives for filling gas storage facilities.

These developments place the design of the security of supply policy framework in a broader context. It is important to encourage market functioning under normal circumstances, while also being able to address exceptional situations. The forthcoming revision of the European gas security of supply regulation provides an opportunity to assess these aspects in conjunction.

2.3 Development of gas demand and supply

The following section discusses developments in gas demand and supply. This overview contributes to the assumptions used in the analysis.

2.3.1 Demand

2.3.1.1 Global

Global gas demand showed slight growth in 2025 compared with 2024, with clear regional differences. After a relatively strong recovery in 2024 of around 3% — partly following the COVID period and the demand reduction in Europe in 2022 — growth slowed to less than 1% in 2025.

The regional differences were caused by varying market conditions. In Europe, gas-fired electricity generation increased⁴ in situations where less renewable, coal-fired or nuclear capacity was available. In the United States, higher demand was mainly temperature-driven⁵. Demand growth in Asia remained below earlier expectations, partly due to relatively high LNG prices and the availability of alternative energy sources. From a European perspective, this contributed to some easing of competition on the LNG spot market.

Natural gas continues to play a relevant role in many regions. Despite developments in energy savings, electrification and the growth of renewable energy sources, global gas consumption is expected to increase (Figure 1).

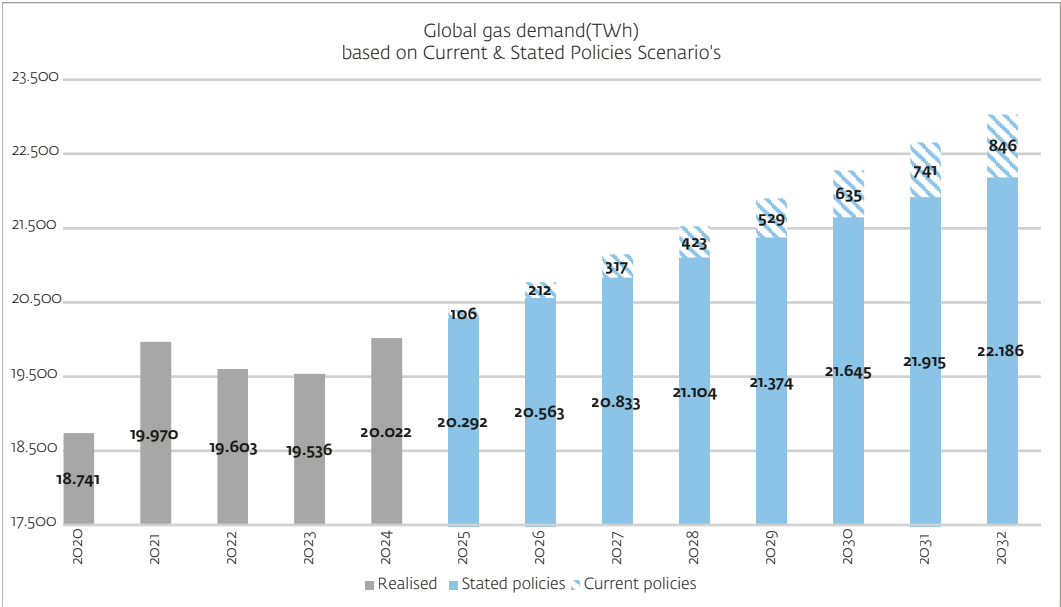


FIGURE 1 Expected development of global gas demand up to 2032⁶. Depending on the scenario used, gas demand is expected to increase by approximately 1,300 to 1,800 TWh.

2.3.1.2 European Union

Natural gas consumption in the European Union increased slightly on balance in the past gas year, following the significant demand reductions during the energy crisis in 2022–2023 (from around 4,300 TWh to approximately 3,500 TWh⁷). In the first months of 2026, consumption was higher than one year earlier. Despite this increase, gas consumption in Northwest Europe remains approximately 20% lower than before the energy crisis.

Energy savings, relatively high gas prices and changes in industrial production patterns play a role in this development. At the same time, natural gas continues to fulfil an important function in the electricity system. Due to the further growth of weather-dependent renewable electricity generation, gas-fired power plants are increasingly needed as a flexible complement when wind and solar generation are limited. In 2025, this contributed to higher gas consumption by gas-fired power plants.

Looking ahead, scenarios generally show a further decline in European gas consumption towards 2030, with the scale of this development varying depending on economic and climatic conditions, among other factors.

4 <https://www.acer.europa.eu/sites/default/files/documents/Publications/2026-ACER-Gas-Key-Developments-winter.pdf>
5 <https://www.eia.gov/todayinenergy/detail.php?id=67365>

6 IEA World Energy Balances 2025 <https://www.iea.org/data-and-statistics/data-product/world-energy-balances>
7 See Eurostat, IEA, ACER.

Future EU gas consumption remains subject to significant uncertainties. Important variables include:

- ▶ Policy intensity: The extent to which national and European measures are actually implemented may affect demand development. Examples include isolation in the built environment and making industry more sustainable through alternatives other than green gas.
- ▶ Technological substitution: The pace of electrification and the availability of alternatives such as green gas and hydrogen determine the extent to which natural gas is replaced.
- ▶ Economic development and industry: Changes in gas-intensive sectors such as chemicals and steel, including possible shifts in production or economic growth, may either reduce or increase demand.
- ▶ Weather effects: Cold winters or periods with less wind may temporarily drive up gas demand. Scenarios often assume average climate conditions; deviations from this — extreme cold or, conversely, record warmth — create uncertainty in annual consumption.
- ▶ Supply and price dynamics: Developments in global gas supply and price levels influence demand. More abundant gas supply may lead to lower prices and therefore higher consumption in certain sectors, while supply constraints and geopolitical factors may lead to higher prices. This affects both consumption patterns and investment decisions.

In summary, EU gas consumption is currently at a lower level than before 2021 and appears to be on a downward trajectory in the coming years, although with a considerable range. The development of consumption ultimately depends on the interaction between policy choices, technological progress and market conditions.

2.3.1.3 Netherlands

As a basis for estimating gas demand within the Netherlands, GTS used the prognosis established by the Netherlands Environmental Assessment Agency (PBL) in the Climate and Energy Outlook 2025 (KEV2025)⁸. GTS used the prognosis for calendar year 2030⁹, which is based on existing and proposed policy.

When comparing the KEV figures with the GTS report, the following differences should be taken into account:

- ▶ The KEV reports on calendar years, running from 1 January through 31 December. GTS uses gas years, which run from 1 October through 30 September.
- ▶ The KEV reports volumes and capacities on the basis of the lower calorific value ($H_i = 31.65 \text{ MJ/m}^3$), while GTS reports on the basis of the higher calorific value ($H_s = 35.17 \text{ MJ/m}^3$).

⁸ <https://www.pbl.nl/publicaties/klimaat-en-energieverkenning-2024> <https://www.pbl.nl/publicaties/klimaat-en-energieverkenning-2025>

⁹ The KEV2024 also included values for 2035. For the current analysis, the relative difference in gas demand for 2030 between KEV2024 and KEV2025 was applied to the KEV2024 value for 2035. The intervening years were linearly interpolated.

Based on the KEV2025 prognosis, gas demand in 2027/2028 is approximately 278 TWh (Figure 2). Compared with the 2025 Security of Supply Overview, which was based on the KEV2024 prognosis, domestic gas demand in the current base scenario is 21 TWh lower for gas year 2027/2028.

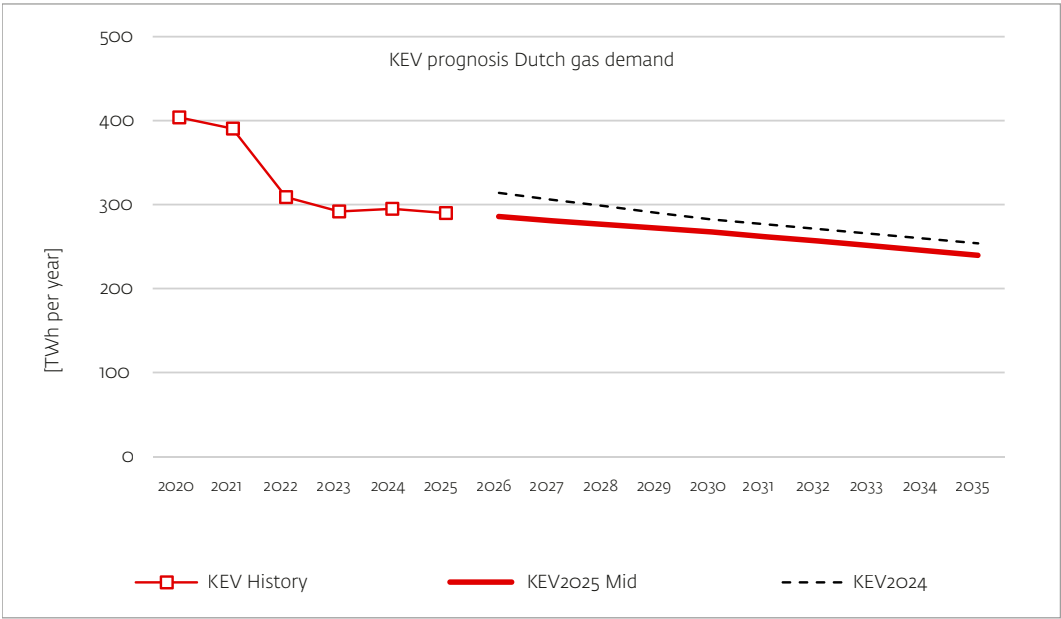


FIGURE 2
Historical and prognosis domestic gas demand in the Netherlands, in line with KEV2025.

2.3.2 Supply

2.3.2.1 Global

Global gas production has gradually increased in recent years. Since 2022, several new LNG projects have been developed worldwide, particularly in the United States and Qatar. For the period 2027–2032, global LNG production capacity is expected to increase by approximately 3,000 TWh per year. This expansion increases the availability of LNG on the global market and contributes to a further increase of global gas supply.

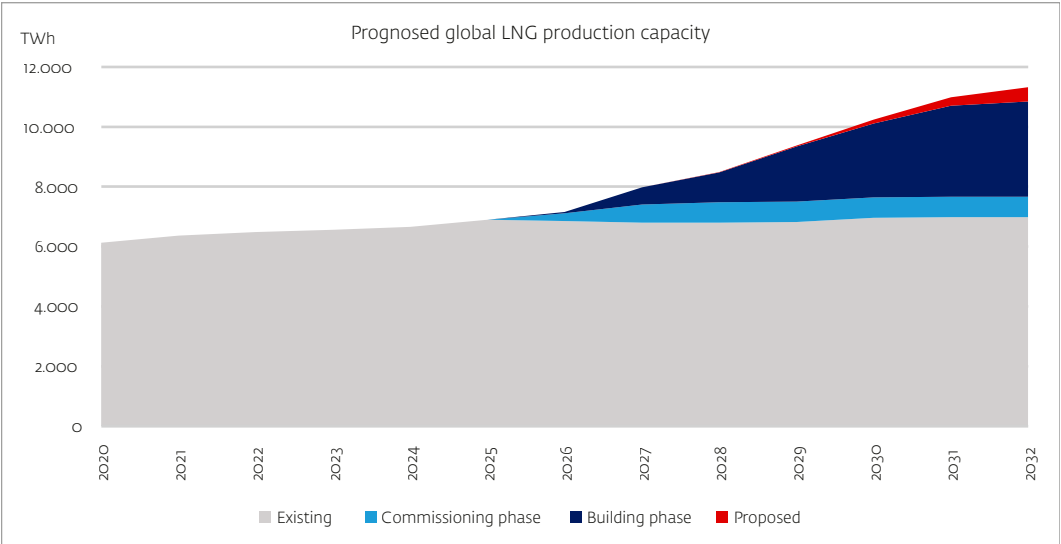


FIGURE 3
Development of global LNG production capacity¹⁰.

As LNG is a globally traded commodity, its availability and price are largely determined by international market conditions. Demand developments in major consumer markets, particularly Europe and Asia, play a central role in this.

Geopolitical uncertainty

Uncertainties and tensions in the geopolitical landscape have increased in recent years. Examples include the conflicts in Ukraine and in the Middle East. This creates a risk of reduced availability of natural gas supply, for example due to:

- ▶ the unavailability of shipping routes for LNG;
- ▶ the extent to which EU-sanctioned Russian LNG will be purchased elsewhere;
- ▶ trade tariffs and the use of energy supply as a political instrument;
- ▶ an increased threat of disruption to energy infrastructure, such as offshore pipelines, potentially resulting in a prolonged interruption of gas supply.

2.3.2.2 European Union

For the EU, the source of natural gas supply has changed significantly in recent years. Gas production within the European Union is gradually declining, including production from small fields in the Netherlands (Figure 4). GTS does not expect gas production within the European Union to increase.

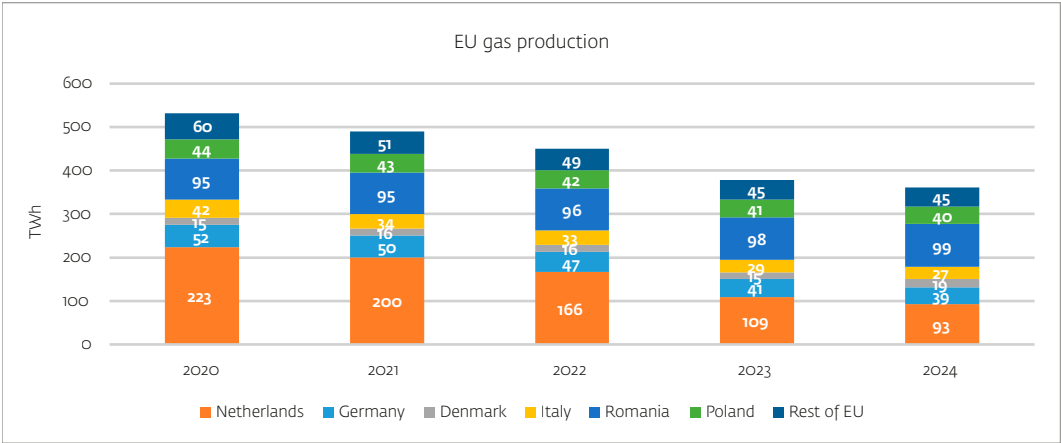


FIGURE 4
Development of gas production in the EU¹¹.

The sharp decline in pipeline supplies from Russia has led to a shift in the composition of supply. Nevertheless, the share of Russian gas in European imports in 2025 was still around 14% (approximately 460 TWh out of total imports of around 3,250 TWh; Figure 6). Based on adopted EU policy, this share is expected to decline further to zero by 2027¹². Norwegian production is expected to decline gradually¹³. If demand remains unchanged or declines less rapidly, this implies a further need for alternative import flows, mainly via LNG¹⁴.

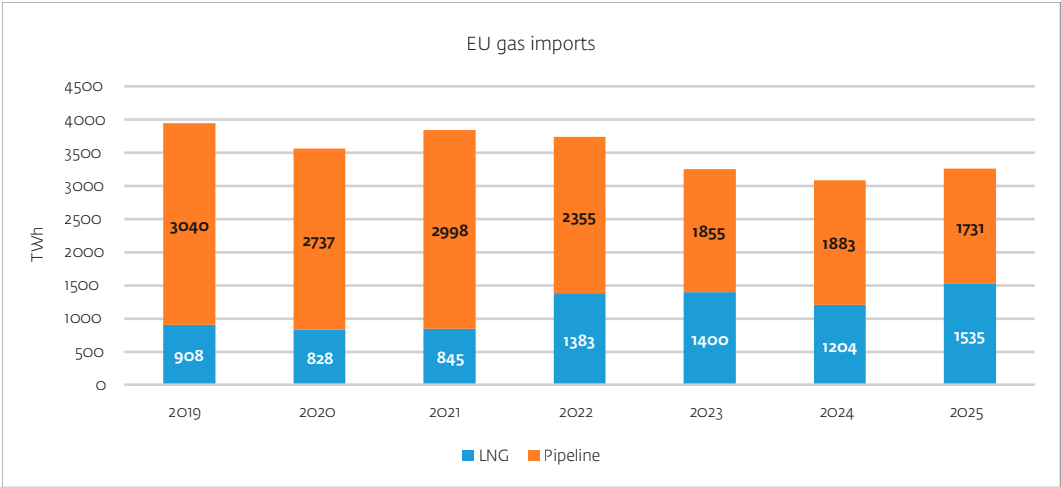


FIGURE 5
Gas imports of the European Union¹⁵.

¹⁰ Platts.

¹¹ Source: Eurostat; 2025 data nog niet beschikbaar.
¹² <https://www.consilium.europa.eu/en/press/press-releases/2026/01/26/russian-gas-imports-council-gives-final-greenlight-to-a-stepwise-ban/>
¹³ <https://www.norskepetroleum.no/en/production-and-exports/production-forecasts/>
¹⁴ <https://www.acer.europa.eu/key-developments-european-gas-wholesale-markets-winter-2025-2026>
¹⁵ ACER <https://www.acer.europa.eu/sites/default/files/documents/Publications/ACER-LNG-Monitoring-Report-2026.pdf> - conversion factor 1 bcm = 10,5 TWh

Overall, Northwest Europe, including the Netherlands, has become highly dependent on gas imports. A substantial part of the lost supply has been compensated by additional supplies via Norwegian pipelines and increased LNG imports. Imports consist of slightly more than half pipeline gas, with the remainder consisting of LNG.

A large share of the LNG imported by the European Union comes from the United States (Figure 5), creating a new dependency. With the forthcoming ban on the purchase and resale of Russian gas, European dependence on LNG is expected to increase further.

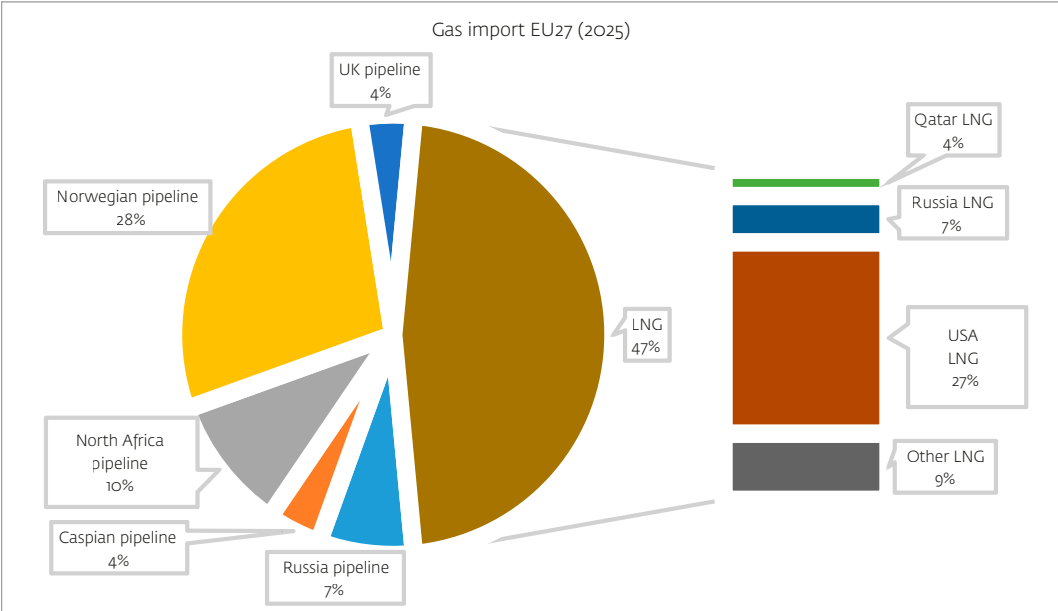


FIGURE 6
Distribution of gas imports at EU level¹⁶.

2.3.2.3 Netherlands

Since April 2024, following the termination of production from the Groningen field, Dutch gas is produced from small onshore and offshore fields. This production amounted to approximately 100 TWh in 2025. This is slightly higher than previously estimated in the Climate and Energy Outlook, but production shows a declining trend over the longer term. As a result, the Netherlands is also becoming increasingly dependent on gas imports.

¹⁶ ACER <https://www.acer.europa.eu/sites/default/files/documents/Publications/ACER-LNG-Monitoring-Report-2026.pdf>

2.4 Infrastructure

2.4.1 EU LNG import terminals

European import infrastructure for natural gas has been expanded in recent years in response to changing market conditions and increased import dependence. LNG import infrastructure in particular has been strengthened considerably in a relatively short period of time. The Netherlands currently has two operational LNG import terminals: Gate in Rotterdam and EemsEnergyTerminal in Eemshaven. New LNG import terminals have also been realised or planned in other European countries, increasing total import capacity within Europe to more than 4,000 TWh per year in 2028 (Figure 7).

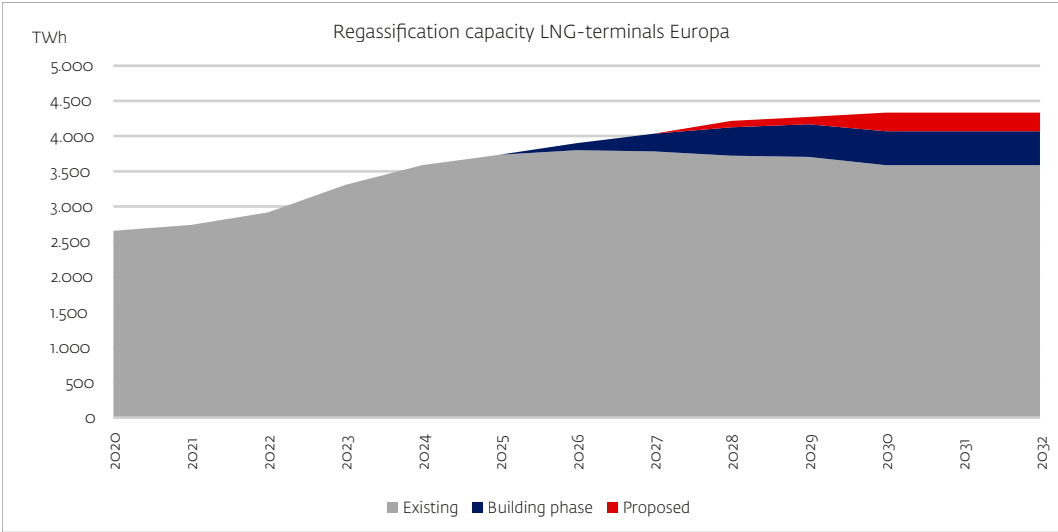


FIGURE 7
Development of LNG import infrastructure in the EU¹⁷.

These expansions have led to greater availability of import capacity and increased flexibility within the Northwest European gas system. The import capacity constraints that became visible during the 2022 gas crisis have therefore been reduced. At the same time, the effective use of this infrastructure depends on global market conditions and the availability of LNG supply.

2.4.2 Interconnection with neighbouring countries

The Dutch gas transmission network is connected to surrounding gas systems through several cross-border interconnections. These interconnections facilitate both the import and export of natural gas. Important connections include the BBL interconnector with the United Kingdom and several interconnection points with both Germany and Belgium.

The high degree of interconnectivity contributes to flexibility in the gas system. Since 2022, a clear shift has been visible in the dominant flow directions within Northwest Europe. Whereas gas flows traditionally mainly ran from east to west, they now run primarily from west to east.

¹⁷ Platts.

Within the Northwest European gas system, the Netherlands therefore acts as a transit country and storage location, supported by its infrastructure, interconnections with surrounding markets and the liquidity of TTF. This role is important in relation to international seasonal flexibility, which is discussed further in section 2.5.

2.4.3 Gas storage facilities

The role of underground gas storage for security of supply has increased since production from the Groningen field ended. The Groningen field previously played an important role in meeting peak demand and seasonal variations; nowadays, that function is fulfilled by gas storage facilities. The Netherlands has four large seasonal storage facilities with a combined working volume of approximately 138 TWh: Bergermeer (high-calorific), and Norg, Grijpskerk and Alkmaar (low-calorific). Among neighbouring countries, Belgium and the United Kingdom have no significant seasonal storage facilities, whereas Germany has substantial gas storage capacity with a working volume of 247 TWh.

Seasonal storage facilities serve to bridge differences between demand and supply, particularly between summer and winter. They can also contribute to covering temporary demand peaks. The fill level at the start of the winter period affects security of supply.

In addition to seasonal storage facilities, the Netherlands has gas storage facilities in salt caverns. Although these storage facilities have limited working volume, their flexibility and speed make an important contribution to the system by absorbing within-day fluctuations. While these storage facilities may also display a seasonal pattern, their contribution to seasonal flexibility is limited due to their relatively small working volume.

2.5 Seasonal flexibility

2.5.1 Seasonal flexibility: gas demand is leading

Gas demand in the Netherlands and the EU has a clear seasonal pattern. Demand is significantly higher in the winter months (October through March) than in the summer months (April through September)¹⁸. Based on historical data, total gas consumption by final consumers in the winter period can be said to account for around two-thirds of annual consumption, approximately twice as much as in the summer period, which accounts for around one-third.

¹⁸ https://ec.europa.eu/eurostat/databrowser/view/nrg_cb_gasm/default/table?lang=en&category=nrg.nrg_quant.nrg_quantm.nrg_cb_m

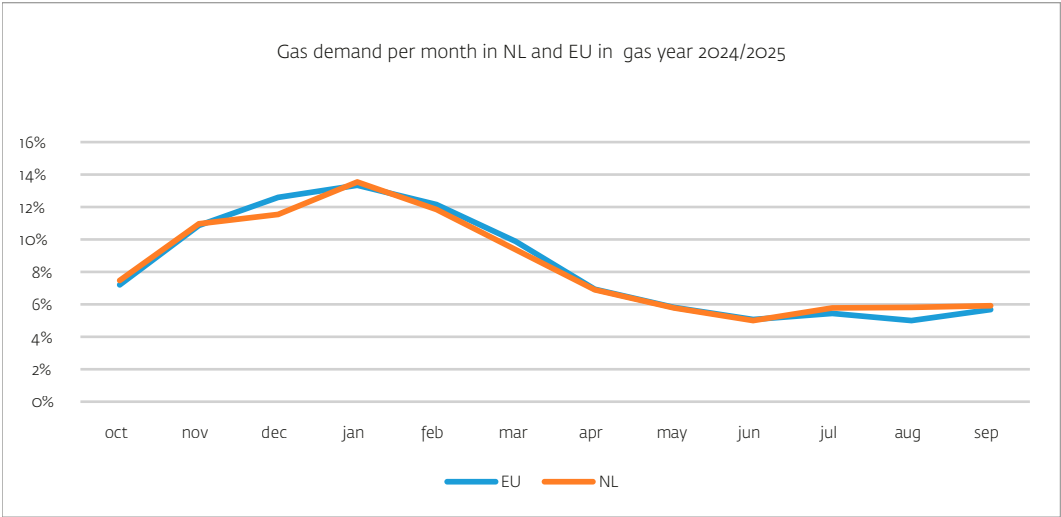


FIGURE 8
Seasonal profile of Dutch and European gas consumption.

Natural gas demand depends to a significant extent on the outdoor temperature. This is mainly caused by the use of natural gas for heating. Temperature sensitivity is greatest among households, while industrial gas demand responds only to a limited extent, or not at all, to changes in temperature.

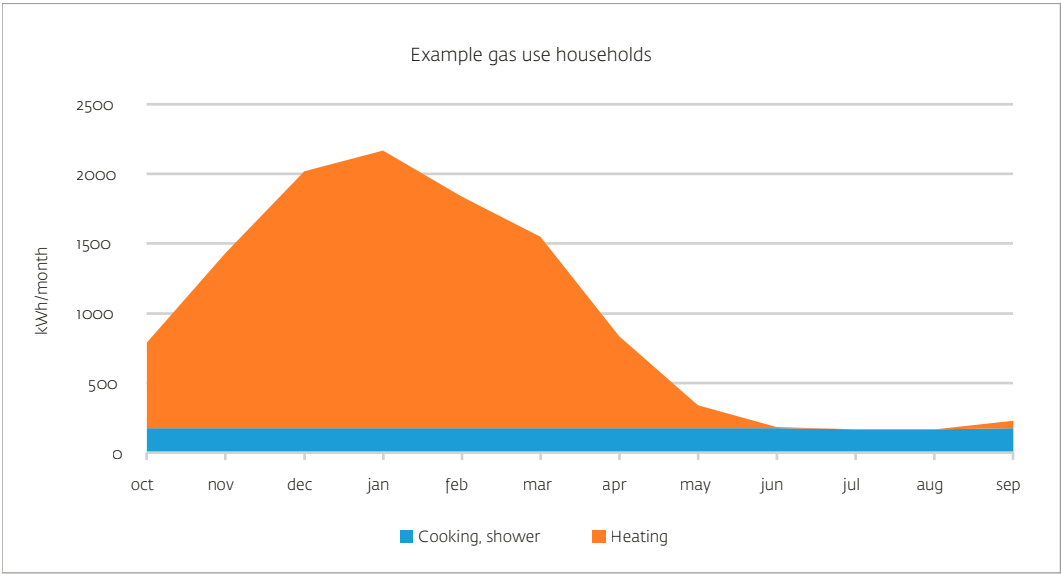


FIGURE 9
Seasonal profile of household gas consumption¹⁹.

Some flexibility is available within the buffer of the gas transmission system, but for assessing seasonal variations GTS assumes that demand and supply must be balanced. Given the seasonal pattern in gas demand, supply must be able to accommodate higher demand in winter and lower demand in summer. The required flexibility in supply is referred to as seasonal flexibility.

¹⁹ Eurostat.

This concept covers both the availability of sufficient volume and sufficient transport and supply capacity.

GTS assesses seasonal flexibility from the various sources of supply from an international perspective. An assessment conducted solely at the national level may lead to an overestimation of the available seasonal flexibility, as multiple countries may assume access to the same flexibility from supply routes. To avoid such double counting, GTS evaluates seasonal flexibility from supply routes within an international context.

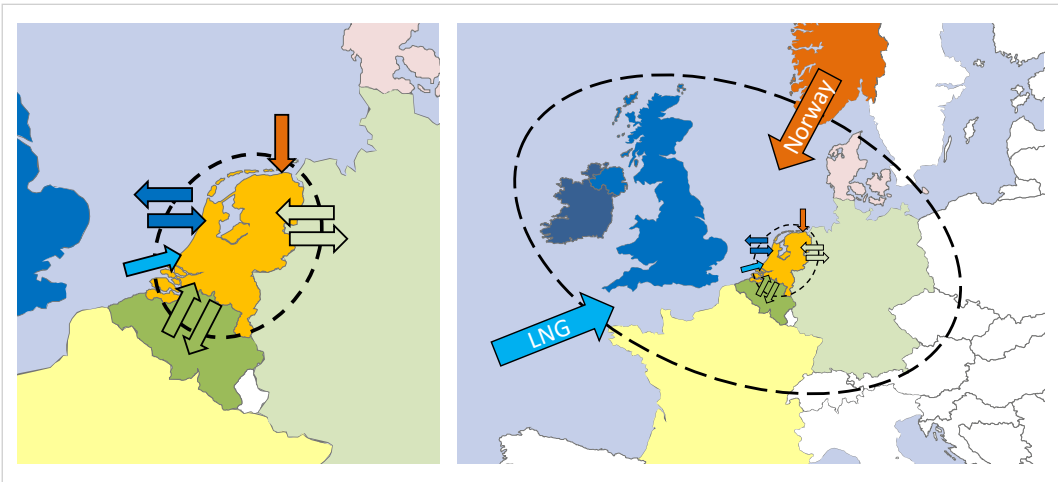


FIGURE 10
Patterns of seasonal flexibility at Dutch border points may differ from year to year. At Northwest European level, the supply of seasonal flexibility is stable.

The next section discusses the available means of providing the required seasonal flexibility.

2.5.2 Seasonal flexibility in gas demand and supply

The demand for seasonal flexibility can be met by various means. These means differ both in the degree of flexibility they can provide and in the available capacity and volume.

- ▶ Seasonal gas storage facilities, which produce gas in winter and are filled in summer;
- ▶ Demand reduction during periods of high gas demand;
- ▶ Seasonal variation in gas supply, such as
 - ▶ local gas production,
 - ▶ pipeline imports,
 - ▶ LNG imports.

These means are discussed below.

2.5.2.1 Seasonal flexibility through seasonal gas storage facilities

Seasonal flexibility is mainly provided by seasonal gas storage facilities. These are former gas production fields that have been converted into storage facilities. Seasonal gas storage facilities are filled in summer in order to contribute to the relatively high winter demand. To meet higher winter demand in a cold gas year, seasonal gas storage facilities must be filled to the required volume at the start of winter. Gas storage facilities in salt caverns also provide an additional, but relatively limited, contribution to seasonal flexibility.

When determining the required fill level, GTS does not take into account the use of gas storage facilities for commercial optimisation, such as portfolio optimisation or price-driven production behaviour. In practice, this may cause withdrawals from gas storage facilities to deviate from the pattern that would be expected on the basis of temperature developments. An example is the winter of 2025/2026, when the Norg and Grijpskerk gas storage facilities were emptied completely as a result of contractual obligations, leading to higher withdrawals than would have been expected based on weather conditions²⁰.

Role of the location of seasonal storage facilities

The availability of seasonal gas storage facilities differs by country, meaning that not every country has gas storage facilities to the same extent. As noted earlier, Belgium and the United Kingdom do not have seasonal gas storage facilities of any significance. Countries with sufficient seasonal gas storage are able to receive more gas in summer than is consumed at that time and store it for use in winter. Because the European Union has an integrated gas system, seasonal flexibility from gas storage facilities can also become available in countries without gas storage. Globally, seasonal storage capacity is largely concentrated in the United States, Russia and Europe²¹ (Figure 11). Whereas the United States and Russia are LNG exporters, Europe is the only LNG-importing region with substantial seasonal storage capacity.

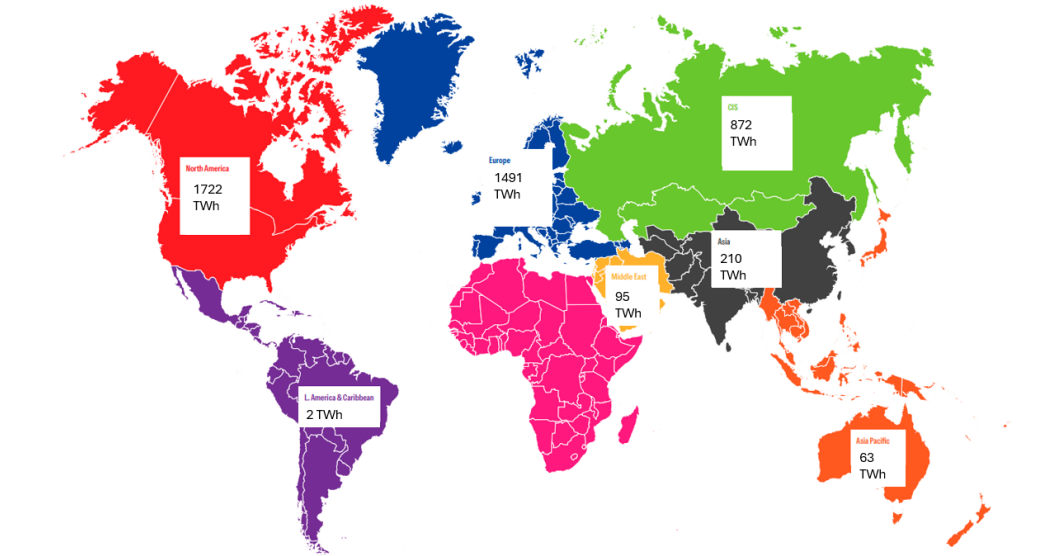


FIGURE 11
Global distribution of gas storage capacity (IGU).

²⁰ Letter to the parliament: <https://open.overheid.nl/documenten/83933e4c-f488-4c2c-b733-01ff3aeb1b39/file>
²¹ <https://www.igu.org/igu-reports/underground-gas-storage> - 1 bcm = 10,5 TWh

2.5.2.2 Seasonal flexibility through demand reduction

When preparing the Security of Supply Overview, GTS assumed gas demand within the Netherlands that is determined by temperature and a general trend in annual volume, in line with KEV2025.

This means that GTS has assumed gas demand without potential demand reduction as a result of temporary supply tightness and/or relatively high energy prices.

2.5.2.3 Seasonal flexibility through local gas production

Gas production generally takes place at the highest possible operating time. This means that gas production is maximised at every moment of the year. Only necessary maintenance, which usually takes place in summer, interrupts production.

Production from these fields does provide winter volume, but does not provide flexibility to match higher winter demand because production takes place at maximum level throughout the year.

2.5.2.4 Seasonal flexibility through pipeline imports

Supply from Russia

There is no direct supply of pipeline gas from Russia to Northwest Europe. In addition, a full ban on imports of Russian gas into the EU will apply from autumn 2027. GTS does not expect supply from Russia to resume within the time horizon of this report.

Supply from Norway

As with gas production in the EU, variation in Norwegian gas supply to the European market is relatively limited. As a result, the direct contribution of Norwegian production to seasonal flexibility in the European gas market as a whole is relatively small.

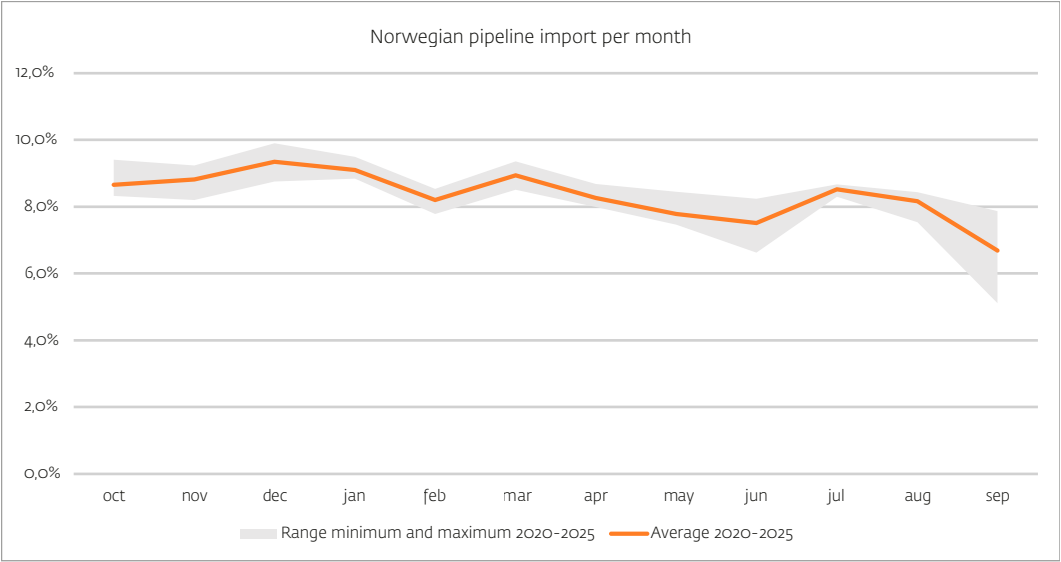


FIGURE 12

Profile of Norwegian gas production²².

²² Eurostat.

2.5.2.5 Seasonal flexibility through LNG supply

As described in section 2.3.2, global LNG production capacity is expected to increase in the coming years.

The high investment costs involved in building LNG production facilities mean that the LNG production profile is almost flat. Planned maintenance in summer and marginally higher production capacity in winter result in limited production flexibility in practice, amounting to approximately 5% of annual volume. With current global production capacity of around 7,000 TWh per year, this means that the additional winter volume on the production side for the global LNG market currently amounts to approximately 350 TWh. With the forthcoming expansion of LNG production capacity, the additional winter volume will increase further, but seasonal flexibility from LNG production will remain limited.

Seasonal LNG flexibility through destination switching

Globally, LNG receiving capacity is approximately three times greater than production capacity. Although flexibility in LNG production is limited, LNG can contribute to seasonal flexibility because available volumes can be redirected between demand markets.

However, opportunities for arbitrage between seasons are limited because gas demand and LNG imports are concentrated in the northern hemisphere, where the winter season occurs simultaneously.

Other arbitrage opportunities, for example with countries that have high electricity demand caused by air conditioning, may add seasonal flexibility to LNG supply to Europe. For example, demand for air conditioning generally leads to higher gas demand in Asian gas markets each year in Q3. Price differences then cause LNG supply to be diverted from Europe to Asian gas markets, enabling LNG supply to better follow seasonal variation in European gas demand.

Another factor that may lead to a shift in LNG flows is demand reduction in LNG-importing countries. This demand reduction arises partly because countries may switch to other energy sources (*fuel switching*), as in China, Japan and South Korea. In addition, gas demand is reduced when industrial production is scaled back or halted because LNG prices become too high for economically viable operation, as in India, Pakistan and Bangladesh.

Seasonal flexibility in LNG supply for Europe

At global level, LNG is allocated between regions, such as Europe and Asia, on the basis of market conditions. Within Europe, further distribution then takes place across individual countries.

In recent years, Europe has on average received more LNG in the winter period than in summer, although there are significant differences between individual countries. For example, the United Kingdom generally receives higher LNG volumes in winter, while the Netherlands and Germany on average received higher volumes in summer in the period 2023–2025, as shown in Figure 13.

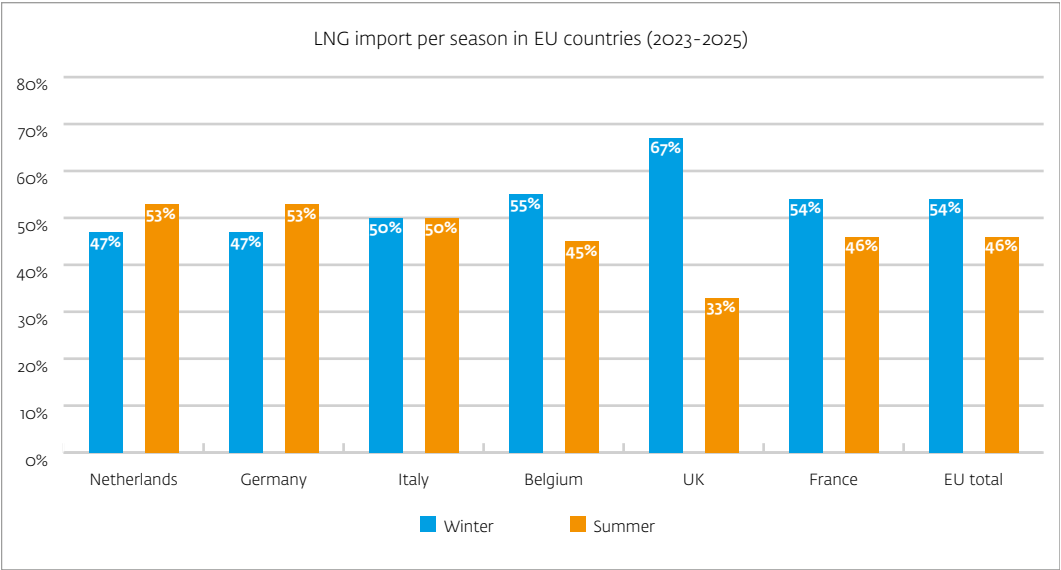


FIGURE 13
Profile of LNG imports in EU countries²³.

This difference is related to the distribution of LNG flows within the Northwest European gas system, where countries with a greater need for flexibility and limited gas storage volumes receive relatively more seasonally driven imports. The Netherlands and Germany play a crucial role in this respect because the system can accommodate a flatter or inverted seasonal pattern through the presence of significant seasonal storage capacity.

The allocation of LNG flows across different countries therefore helps ensure that available flexibility at system level is used in markets where the need for seasonal flexibility is greatest.

2.6 Quality-neutral gas market

The Dutch gas market is quality-neutral. This means that gas trading takes place in a single energy unit (kWh), without market participants having to take the quality of the physical gas into account. Contracting entry and exit capacity also takes place in this same quality-neutral unit.

2.6.1 GTS’s statutory task²⁴

For the benefit of market participants, GTS:

- ▶ administratively or physically converts gas with a higher energy content into gas with a lower energy content (*quality conversion*; QC);
- ▶ administratively converts gas with a lower energy content into gas with a higher energy content, insofar as gas with a higher energy content is available for conversion (*reversed quality conversion*; rQC);

unless this cannot reasonably be required of GTS. This means that gas is refused if the requested quality conversion cannot be facilitated with the existing resources. The physical possibilities for *reversed quality conversion* are very limited.

²³ Entso-g transparency platform.
²⁴ Energy Act, article 3.65.

GTS performs its QC task using blending stations and nitrogen installations. Since the closure of the Groningen field in 2024, there have been no natural sources of G-gas. All required G-gas is therefore produced by blending H-gas with nitrogen, resulting in pseudo G-gas. This pseudo G-gas is produced in such a way that it is of comparable quality to gas from the Groningen field and therefore complies with the delivery specifications set out in relevant laws and regulations²⁵.

Physical quality conversion by GTS is a crucial element in safeguarding security of supply.

2.6.2 Development of gas quality

Natural gas is a geological product with a variable composition. For different gas flows, this results in a range of possible gas qualities and calorific values. The Wobbe index is a measure of gas quality that enables safe use, including combustion.

In recent years, the composition of the available gas has changed. Due to the decline in production from domestic fields — both low-calorific and high-calorific gas, often at the lower end of the permitted Wobbe band — and the increase in LNG supply (high-calorific), the average Wobbe index of gas supply has increased.

A higher Wobbe index of high-calorific gas leads to greater use of nitrogen installations for the production of pseudo G-gas. At the same time, several countries that previously received gas from the Groningen field are implementing conversion programmes from low-calorific to high-calorific gas. Belgium has fully converted to high-calorific gas. In Germany and France, conversion programmes are ongoing and are expected to be completed in gas year 2029/2030. A number of large industrial customers in the Netherlands have also converted to H-gas.

Together these developments lead to a decrease in demand for low-calorific gas, particularly abroad. In the Netherlands, the low-calorific market will remain, but demand is expected to decline over time, partly as a result of sustainability measures. The combination of these trends contributes to a declining market need for the use of nitrogen by GTS²⁶.

²⁵ Energy Regulation, Article 3.16: Gas injection and delivery specifications: <https://wetten.overheid.nl/BWBR0051774/2026-05-01>

²⁶ <https://www.gasunietransportservices.nl/netwerk-operations/transportinformatie/stikstofoverzicht>

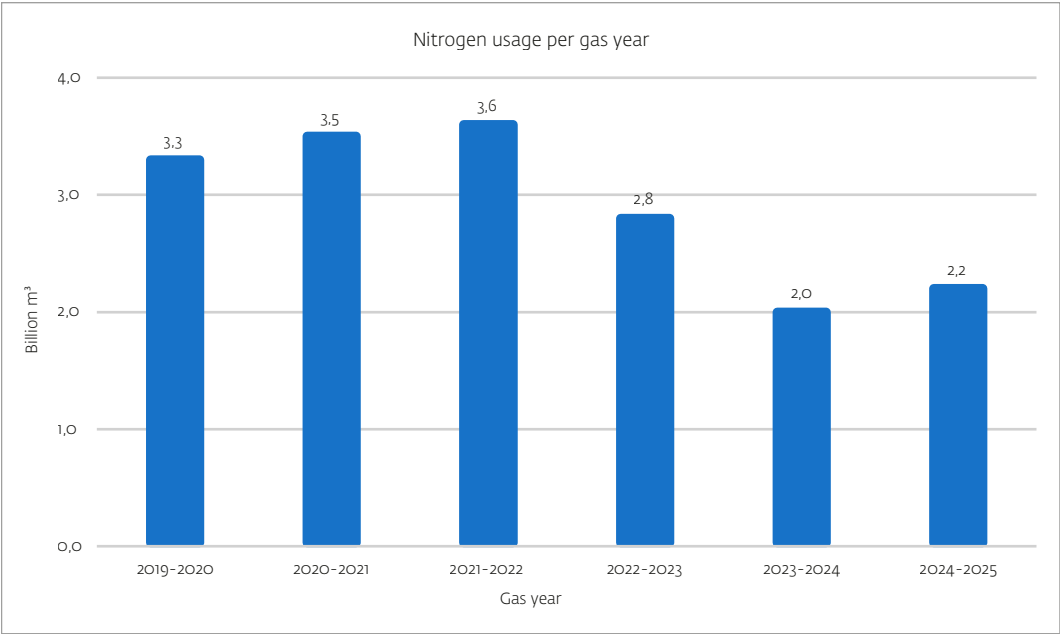


FIGURE 14
Historical nitrogen volumes in billion m³ for the production of pseudo L-gas.

Due to the decline in production from domestic fields and the increase in LNG supply (high-calorific), the average Wobbe index has increased in recent years. This trend was interrupted in gas year 2024/2025 because more G-gas was produced from storage facilities than was injected. Such net production from gas storage facilities is not structurally possible, and the average Wobbe index is therefore expected to rise again.

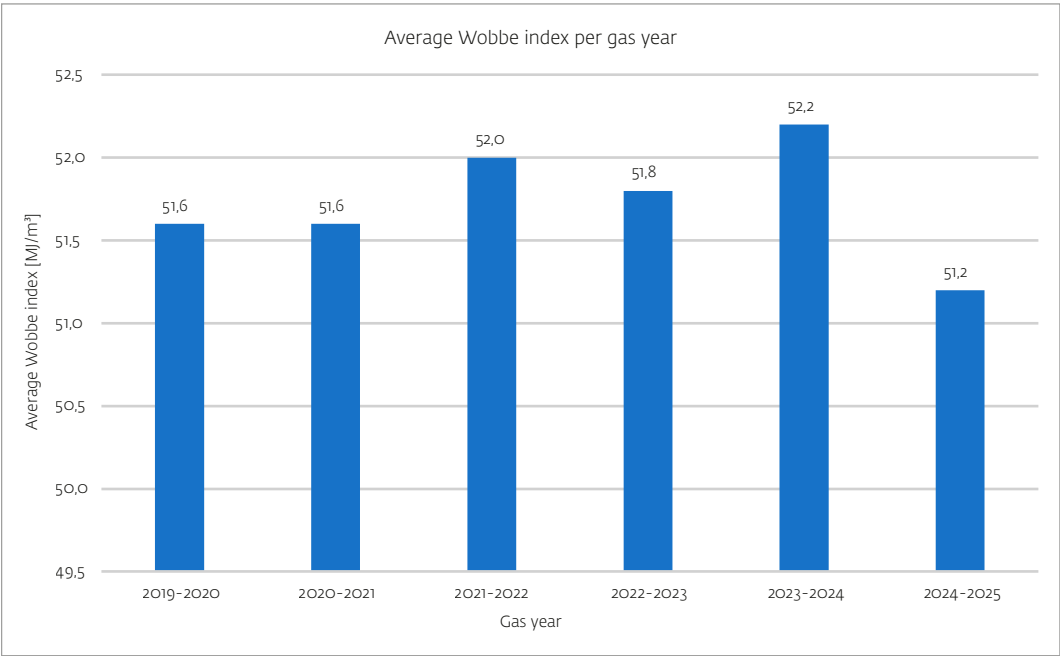


FIGURE 15
Development of the Wobbe index of the gas used for quality conversion over time.

3 Assumptions for the Security of Supply Overview

This chapter explains the framework within which GTS assesses security of supply and the assumptions used for this analysis.

3.1 Assumptions following from the legal framework

In the Netherlands, security of supply is described as a situation in which “final gas customers are supplied at the right time, in the right quality (low-calorific or high-calorific) and in the required quantity, including during periods of high gas demand”²⁷. Under this definition, all final customers in the Netherlands may assume that security of supply is safeguarded, including extremely cold winters. Under regular circumstances, restricting gas flows to other countries is not permitted under European legislation. When determining whether sufficient gas is available to meet the demand of final customers, expected gas flows to and from other countries are therefore also taken into account.

The statutory provisions relating to the security of natural gas supply are based on European Regulation 2017/1938 (hereinafter: the SoS Regulation)²⁸. The SoS Regulation contains provisions aimed at safeguarding the security of gas supply by ensuring the proper and continuous functioning of the internal gas market and by allowing extraordinary measures, i.e. non-market-based measures, to be taken when the market is no longer able to supply the required quantity of gas. It also describes and allocates responsibilities relating to both preventive action and responses to concrete disruptions of gas supply.

The following sections briefly explain the statutory requirements relevant to this overview.

3.1.1 Gas Security of Supply Overview: a statutory task for GTS

Article 3.66, first paragraph, of the Energy Act²⁹ requires GTS “annually, by a date to be determined by ministerial regulation and after consulting the representative organisations of connected parties, to submit to Our Minister an overview of security of supply containing:

- ▶ the quantities of high-calorific and low-calorific gas required in a gas year to meet the gas demand of final customers;
- ▶ the capacity required in a gas year to supply final customers with both high-calorific and low-calorific gas, and the resources and methods available for this purpose;
- ▶ the quantities of high-calorific and low-calorific gas that must be stored during the gas year in order to reliably supply the quantity of gas referred to under a and to reliably make available the capacity referred to under b; and
- ▶ the development of demand for high-calorific and low-calorific gas over the next five years.”

²⁷ Explanatory memorandum, section 2.1: <https://zoek.officielebekendmakingen.nl/kst-34957-3.html>
²⁸ REGULATION (EU) 2017/1938 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL: <https://eur-lex.europa.eu/legal-content/NL/TXT/HTML/?uri=CELEX:02017R1938-20250101>
²⁹ <https://wetten.overheid.nl/BWBR0050714/2026-02-14>

Article 3.66, second, third and fourth paragraphs, of the Energy Act and Articles 3.22 (date of the Security of Supply Overview, being 15 September) and 3.23 (content of the Security of Supply Overview) of the Energy Regulation³⁰ further specify the provisions of the Energy Act.

This overview has been prepared on the basis of these statutory rules.

3.1.2 European infrastructure standard (capacity)

Monitoring the infrastructure standard, in accordance with Article 5 of the SoS Regulation, is a statutory task for the Member State. Article 5.1 of the SoS Regulation provides that *“Member States shall ensure that the necessary measures are taken so that, in the event of a disruption of the largest single gas infrastructure, the technical capacity of the remaining infrastructure, determined according to the (N-1) formula, is able to satisfy total gas demand in the calculated area during a day of exceptionally high gas demand occurring with a statistical probability of once in 20 years. This shall take into account gas consumption trends, the long-term effects of energy-efficiency measures and the utilisation rate of existing infrastructure.”*

Because gas demand has a linear relationship with the effective daily average temperature, the exceptionally high gas demand referred to is derived from the effective daily average temperature. A day with exceptionally high gas demand, occurring with a statistical probability of once in 20 years, is therefore translated into a gas day with an effective daily average temperature occurring with the same probability. This is referred to as the coldest gas day. To determine the effective daily average temperature on the coldest gas day, GTS relies on an analysis carried out by KNMI in 2023³¹. Assuming a statistical probability of once every twenty years, KNMI arrives in this analysis at an effective daily average temperature of -14 °C.

To give effect to the EU infrastructure standard³², GTS prepares a demand/supply balance of hourly capacities for the coldest gas day. In this balance, the supply capacity of the largest supply source is not included (N-1); this is the Norg gas storage facility. The expected utilisation rate of the infrastructure is taken into account, so that the analysis is based on a realistic expectation of demand and supply.

If the capacity balance is positive (more supply than demand), the EU infrastructure standard is met. In that case, no additional measures are required.

If the capacity balance is negative, the Member State must take measures to eliminate the capacity shortfall. Such measures must reduce the likelihood that the emergency plan³³ will have to be activated and that non-protected customers will have to be partially or fully curtailed.

3.1.3 European gas supply standard (volume)

The gas supply standard, pursuant to Article 6 of the SoS Regulation, is a statutory task for the Member State. Article 6 requires the competent authority to oblige the natural gas undertakings it has identified to take the necessary measures to ensure gas supply to the protected customers of the Member State in each of the following cases:

- ▶ extreme temperatures during a seven-day peak period occurring with a statistical probability of once in 20 years;
- ▶ a period of 30 days with exceptionally high gas demand occurring with a statistical probability of once in 20 years;
- ▶ a period of 30 days in the event of disruption of the largest single gas infrastructure under average winter conditions.

The purpose of the EU gas supply standard is to safeguard gas supply to protected customers in volume terms, so that situations as described in the standard do not, or do not immediately, lead to an emergency situation as described in the SoS Regulation.

Explanation of the seven-day peak period

The *“extreme temperatures during a seven-day peak period occurring with a statistical probability of once in 20 years”* are, pursuant to Article 3.23(4) of the Energy Regulation, translated into *“determined on the basis of the average effective temperature during a seven-day cold period occurring with a statistical probability of once in twenty years”*.

KNMI has determined this average daily temperature for seven days at -10.2 °C. Under the stated circumstances, there is no emergency situation, which means that domestic non-protected final customers may not be curtailed. Pursuant to the SoS Regulation, transit flows to other countries must also be taken into account and may not be curtailed or supplied at a lower volume.

This means that total gas demand, consisting of domestic customers and exports, must be capable of being supplied under the stated conditions. Supply comes from various sources, such as LNG, pipeline imports and small fields. If this supply is insufficient to meet gas demand, supply from a seasonal gas storage facility is an obvious and effective measure to safeguard gas supply to the protected customers of the Member State.

Explanation of the 30-day period with high gas demand

The *“period of 30 days with exceptionally high gas demand occurring with a statistical probability of once in 20 years”* is, pursuant to Article 3.23(5) of the Energy Regulation, translated into *“determined on the basis of the average effective temperature during a 30-day cold period occurring with a statistical probability of once in twenty years”*. KNMI has determined this average effective daily temperature at -5.7 °C. In a similar manner as for component a), GTS determines the total gas demand, regular supply and the required supply from seasonal gas storage facilities.

³⁰ <https://wetten.overheid.nl/BWBR0051774/2026-01-01>
³¹ <https://www.gasunietransportservices.nl/gasmarkt/leveringszekerheid-gas/achtergrondinformatie>
³² See also Article 3.23, paragraph 3, of the Energy Regulation.
³³ Referred to in the Netherlands as the gas protection and recovery plan: <https://open.overheid.nl/documenten/8823440f-4bf6-4c65-9d76-57906219828e/file>

Explanation of the 30-day period with disruption

The “period of 30 days in the event of disruption of the largest single gas infrastructure under average winter conditions” is, pursuant to Article 3.23(6) of the Energy Regulation, translated into “determined on the basis of the average effective temperature during a period of 30 days representative of average winter conditions”. This has been set at 3.6 °C.

Under these average winter conditions, the seasonal gas storage facilities do not produce, or produce at a capacity lower than Gate. Gate is therefore the “largest single infrastructure”. Following the capacity expansion as of 1 October 2026, Gate has a capacity of approximately 26.5 GW, corresponding to a 30-day volume of approximately 19.1 TWh. In a similar manner as for component a), GTS determines the total gas demand, the supply from production and imports, and the required supply from seasonal gas storage facilities.

The analysis shows that the sub-standards based on a 30-day period lead to the largest storage volume. This means that the largest calculated volume must be available at the beginning of the final winter month in order to comply with the gas supply standard.

3.1.4 European storage filling target for gas storage facilities

The storage filling targets, pursuant to Article 6a of the SoS Regulation, are a statutory task for the Member State. The regulation³⁴ requires an EU Member State to ensure that, between 1 October and 1 December, the gas storage facilities of that Member State are on average 90% full. The European Union has chosen to base the storage filling target on AGSI data³⁵. Assuming a total storage volume of 144 TWh, a filling level of 90% corresponds to a storage filling target of approximately 130 TWh.

Both paragraph 2 and paragraph 3 of Article 6a of the SoS Regulation provide the possibility to deviate from the 90% filling target.

Adjusted filling target based on national gas consumption

The filling target may be reduced to a volume corresponding to 35% of average annual gas consumption over the preceding five years. Based on GTS data, average annual Dutch gas consumption over the period 2021–2025 is estimated at 326 TWh. On this basis, the filling target amounts to approximately 114 TWh. Because 2021 still saw high gas consumption, before the 2022 gas crisis after which gas demand structurally declined by approximately 20%, average annual consumption over the period 2022–2026 is expected to be lower and may therefore result in a lower filling target.

Adjusted filling target based on supply to the United Kingdom

The filling target may be reduced by the volume supplied to third countries during the reference period from 2016 through 2021, provided that the average volume supplied during the withdrawal period for gas storage facilities (October–April) exceeded 15 TWh per year.

During this reference period, an average of 23 TWh was transported via the BBL to the United Kingdom during the withdrawal period. This reduces the filling target of 130 TWh to 107 TWh.

Based on average Dutch gas consumption over the period 2021–2025, the filling target is approximately 114 TWh. Application of the exemption for supplies to the United Kingdom leads to a filling target of 107 TWh. This means that the current filling target for the Netherlands is 107 TWh. A recalculation based on average gas consumption over the period 2022–2026 may result in a lower filling target, but GTS does not expect this to be significantly lower than 107 TWh.

Flexibility in the EU filling target

On 18 July 2025, the European Parliament and the Council reached agreement on amending the existing EU filling targets³⁶ as laid down in the SoS Regulation. This mainly concerns a number of relaxations that may be applied under certain circumstances.

On the basis of Article 6a, paragraphs 5 to 5b of the SoS Regulation, each Member State may decide to reduce the 90% filling target by at least 10 percentage points and at most 15 percentage points in the event of difficult circumstances that limit its ability to ensure that underground gas storage facilities are filled in accordance with the SoS Regulation. This means that the EU filling target applicable to the Netherlands may, subject to conditions, be reduced to between 64% and 59%, corresponding to approximately 92 TWh and 85 TWh respectively.

3.2 Temperature-dependent gas demand

Gas demand for space heating in the Netherlands is highly dependent on outdoor temperature, with lower temperatures leading to higher gas demand.

This relationship is better captured by:

- ▶ using a wind-corrected temperature, the “effective temperature”, T_{eff} ; and
- ▶ taking into account the temperature above which the contribution from space heating no longer plays a significant role in gas demand.

Both elements are combined in the definition of a heating degree day³⁷, using a heating threshold³⁸ of +14 °C. The number of heating degree days increases linearly as the effective daily average temperature decreases.

³⁴ The SoS Regulation has been amended in this respect and extended until December 2027.

³⁵ AGSI covers the following gas storage facilities: Alkmaar, Bergermeer, Grijpskerk, Norg, Zuidwending, and UGS Nuttermoor (<https://agsi.gie.eu/>). Zuidwending (EnergyStock) is exempt from the filling obligation; this is formally enshrined in the Energy Supply Crisis Act.

³⁶ <https://www.consilium.europa.eu/nl/press/press-releases/2025/07/18/gas-storage-council-greenlights-2-year-extension-of-reserves-filling-rules-to-safeguard-winter-supply/>

³⁷ In accordance with article 3.23 paragraph 10, of the Energy Regulation.

³⁸ At effective daily mean temperatures above the heating threshold, it is assumed that no natural gas is consumed for building heating.

3.2.1 The definition for determining temperature profiles has been adjusted

The definition for determining temperature profiles has been adjusted as a result of an amended ministerial regulation³⁹. Article 3.23, ninth paragraph, states that “the temperature scenarios referred to in Article 3.66, third paragraph, under b, of the Act shall include at least a coldest, an average and a warmest scenario based on temperature profiles from the past 20 years. The transmission system operator for gas shall indicate which gas year serves as the reference for these specific temperature scenarios.” Previous editions of the Security of Supply Overview were required by regulation to use a 30-year historical period.

The 20-year historical series used in this overview to determine the coldest winter is not the same as a probability model, such as those defined in the EU infrastructure standard and the EU gas supply standard. Those standards are assessed on the basis of events occurring with a statistical probability of once in 20 years.

Based on observed temperatures, a trend towards less cold years can be observed, with fewer heating degree days per gas year; see Figure 16. However, it is uncertain to what extent the probability of a cold year is affected by this trend.

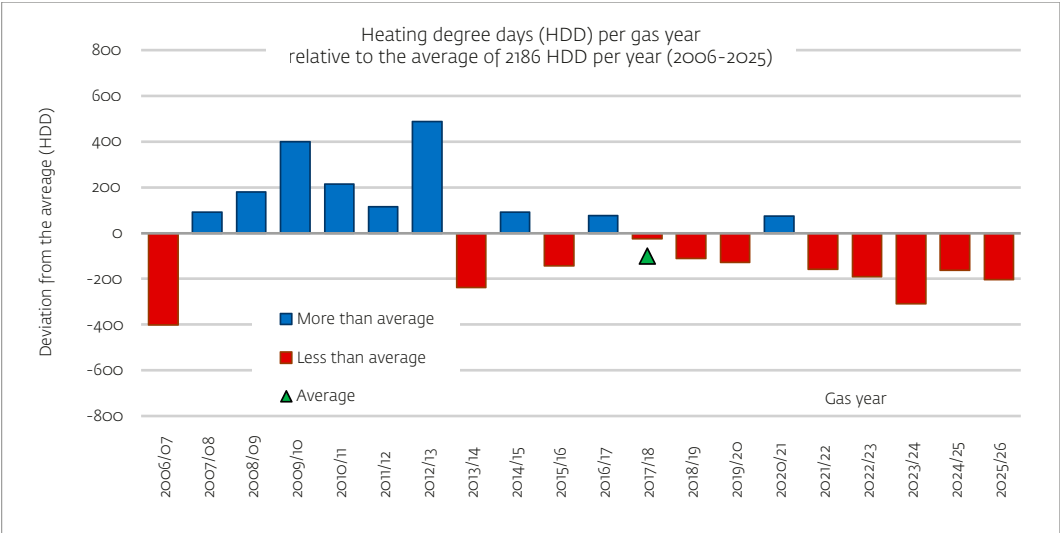


FIGURE 16 History of gas years with more/fewer heating degree days than the annual average over the past 20 years.

3.2.2 Temperature profiles used

A warm, average and cold gas year are defined by GTS as the gas year with, respectively, the lowest, average and highest number of heating degree days observed in the 20 most recent gas years. In the 2026 Security of Supply Overview, the reference years in the table below serve as input for the calculations up to and including gas year 2031/2032. The coldest gas year is used as the basis for calculating the filling target for seasonal gas storage facilities.

39 Energy Regulation: <https://wetten.overheid.nl/BWBR0051774/2026-09-02/0>

	Temperature profile	Heating degree days
Cold gas year	2012/2013	2682
Average gas year	2017/2018	2170
Warm gas year	2006/2007	1789

3.2.3 Definition of a 'gas day with high demand'

The European infrastructure standard requires that, in the event of the loss of capacity equivalent to the largest single gas infrastructure, sufficient capacity must remain available to supply exceptionally high gas demand occurring with a statistical probability of once in 20 years. Because gas demand is directly related to the effective daily average temperature, “a day with exceptionally high gas demand occurring with a statistical probability of once in 20 years” is translated into a day with an effective daily average temperature occurring with the same probability. To determine the effective daily average temperature, GTS relies on an analysis carried out by KNMI in 2023⁴⁰. Assuming a statistical probability of once every twenty years, KNMI arrives in this analysis at an effective daily average temperature of -14 °C.

3.3 Seasonal flexibility from gas storage facilities

The required fill level of gas storage facilities is based on winter gas demand that cannot be covered by the assumed gas supply in winter. The missing supply is covered by gas from storage facilities. The gas withdrawn from storage facilities in winter is replenished in summer when there is surplus supply.

3.4 Nitrogen capacity

Nitrogen and conversion resources will continue to be required in the coming years, despite declining L-gas demand both domestically and abroad (2.6.2). GTS currently uses five nitrogen installations with the following capacities, as well as a salt cavern for nitrogen storage:

Nitrogen installation	Capacity [m³/hour]
Wieringermeer	295.000
Ommen	146.000
Zuidbroek II	180.000
Heiligerlee	190.000
Pernis	60.000

40 <https://www.gasunietransportservices.nl/gasmarkt/leveringszekerheid-gas/achtergrondinformatie>

For planning purposes, this analysis assumes the following available and usable capacity per period:

Period	Capacity [m³/hour]
November through March	621.000
April	561.000
May through September	501.000
October	561.000

Throughout the year, unavailability of 60,000 m³/hour is taken into account due to possible unexpected outages of installations⁴¹. In summer and in the shoulder months, additional unavailability of 60,000 m³/hour and 120,000 m³/hour respectively is included due to planned maintenance.

3.5 Demand and supply: capacity

For preparing the capacity balance, the available capacity is used as the starting point, taking into account the expected utilisation rate of the infrastructure under the applicable circumstances. This reflects a realistic expectation.

Capacity demand at -14 °C

For capacity demand, a distinction has been made between:

Domestic gas demand

- ▶ G-gas demand in the Netherlands (households, power plants and industry)
- ▶ H-gas demand from gas-fired power plants in the Netherlands
- ▶ H-gas demand from industry in the Netherlands

Export of low-calorific gas

- ▶ L-gas demand in Germany
- ▶ L-gas demand in France (via Belgium)

Export of high-calorific gas

- ▶ H-gas export to Germany
- ▶ H-gas export to Belgium
- ▶ H-gas export to the United Kingdom

Supply of capacity

For the supply of capacity, a distinction has been made between:

Domestic gas production

- ▶ Production from small fields

Import of pipeline gas

- ▶ Import of H-gas from Norway (via Germany)
- ▶ Import of H-gas from Belgium

Import of LNG

- ▶ LNG import via Gate
- ▶ LNG import via EemsEnergyTerminal⁴²

Supply from gas storage facilities or installations

- ▶ Production capacity of the Norg gas storage facility
- ▶ Production capacity of the Bergermeer gas storage facility
- ▶ Production capacity of the Grijskerk gas storage facility
- ▶ Production capacity of the Alkmaar gas storage facility
- ▶ Production capacity of L-gas caverns (Zuidwending, Epe's)
- ▶ Production capacity of H-gas caverns in Germany
- ▶ Capacity of the LNG peak shaver

For the infrastructure standard, a situation is assumed in which the capacity corresponding to the largest single gas infrastructure is unavailable. For the Netherlands, this means that the supply capacity from the Norg gas storage facility is not included in the capacity balance.

3.6 Demand and supply: volume

The following section discusses the expected volumes for domestic demand, domestic production and import and export flows. The corresponding annual profiles are also described.

3.6.1 Scenarios

The calculation model used by GTS to substantiate the Security of Supply Overview calculates the gas balance on an hourly basis, with each hour required to be balanced. This results in both an annual volume balance and the minimum volume that must be supplied by gas storage facilities.

To take account of uncertainty in gas demand and its development, as well as uncertainty in the LNG supply profile, several scenarios are defined for both demand and supply.

⁴¹ The Heiligerlee nitrogen cavern is excluded from this consideration.

⁴² Not available in winter 2027/2028; available the following winter.

Variation in LNG-related supply

In the first scenario, GTS assumes that the supply of LNG flows is flat. This means that the LNG terminals Gate and EemsEnergyTerminal operate with a flat profile throughout the year. In the second scenario, GTS takes LNG supply with a seasonal profile into account. This results in higher LNG-related supply in winter.

Variation in gas demand

As a sensitivity to the base scenarios, GTS also calculates scenarios with lower and higher gas demand. To keep the impact of individual uncertainties transparent, uncertainties are not combined. The scenarios for higher and lower gas demand are therefore based on the assumption with the greatest impact on the demand side: transit flows to Germany. For this purpose, transit flows to Germany are assumed to be 20% higher and 20% lower than in the base scenarios.

The scenarios with higher and lower gas demand can be interpreted broadly and represent different possible market developments. The lower gas demand scenario may, for example, be associated with demand reduction due to higher gas prices, but also with developments such as energy savings or lower economic activity. The higher gas demand scenario may, among other things, be consistent with a stronger economic recovery in energy-intensive industry, higher use of gas-fired power plants due to lower-than-expected solar and wind generation, or a greater import requirement from surrounding countries, resulting in increased gas transit via the Netherlands. The scenarios are explicitly not limited to these interpretations.

3.6.2 Netherlands
Domestic gas demand

As the basis for gas demand within the Netherlands, GTS uses the prognosis established by the Netherlands Environmental Assessment Agency in KEV2025 for an average year. Gas demand in a cold gas year is derived from the temperature dependence of the different consumption categories.

Assumption for gas year 2027/2028

Domestic gas demand	Base scenario, higher gas demand and lower gas demand		
Type of gas year	Warm	Average	Cold
Annual volume [TWh]	259	278	303
Seasonal profile	Based on the relationship between gas demand and heating degree days		

Domestic production

Domestic production is based on the GTS report "Overview of gas production estimates from small fields 2026"⁴³, which sets out the development of production capacity. Based on an analysis of the reported capacities in combination with historical operating times, this results in an expected production volume of 95 TWh for gas year 2027/2028.

43 Rapport overzicht ramingen gas uit Kleine Velden 2026.

3.6.3 Norway

Based on recent years, the annual volume supplied to the Netherlands amounts to approximately 115 TWh. Assuming future depletion and an unchanged distribution between the Northwest European countries, a decline from the historical volume is assumed for Norwegian gas supply to the Netherlands in gas year 2027/2028. This decline is in line with the expected decline in Norwegian production.

In recent years, Norwegian gas supply to the Netherlands has shown a pattern that is predominantly opposite to seasonal demand. In most years, supplied volumes were higher in summer than in winter, although in some years summer volumes were equal to winter volumes. For the analysis, a flat supply profile is assumed.

Assumption for gas year 2027/2028

Import from Norway	Base scenario, higher gas demand and lower gas demand
Type of gas year	Warm, average and cold
Annual volume	113 TWh
Seasonal profile	Flat

Trend up to 2032

It is assumed that supply to the Netherlands will decrease proportionally with the expected decline in Norwegian production. Up to and including gas year 2031/2032, this means that the annual supplied volume gradually decreases to 91 TWh.

3.6.4 LNG

The Netherlands has two LNG terminals: Gate on the Maasvlakte and EemsEnergyTerminal in Eemshaven. Since the loss of Russian pipeline gas in 2022, these terminals have been used more frequently for gas imports. In recent years, higher volumes have been supplied in summer than in winter, partly for the purpose of filling gas storage facilities.

In this analysis, the expectation is that the terminals will continue to play an important role in security of supply in the coming years. This is supported by the extension of EemsEnergyTerminal. After being unavailable from 1 September 2027, EemsEnergyTerminal can be used again from 1 June 2028⁴⁴. The unavailability of EemsEnergyTerminal during the winter of 2027/2028 affects not only the volume that can be imported into the Netherlands during the winter, but also the capacity balance.

In the base scenarios, GTS assumes, on the one hand, limited supply of additional winter volume in LNG supply for the Dutch gas market. In other words, for LNG supply in the Netherlands in a cold year, this scenario assumes a flat profile. On the other hand, a scenario is calculated with higher LNG supply in winter, where the only constraint is the technical capacity of Gate and EemsEnergyTerminal.

44 https://www.tweedekamer.nl/kamerstukken/brieven_regering/detail?id=2026Z11264&did=2026D25612

In gas year 2027/2028, the maximum total LNG import capacity of the Netherlands therefore amounts to 252 TWh per year.

Assumption for gas year 2027/2028

LNG import	All variants	All variants
Terminal	Gate	EemsEnergyTerminal
Type of gas year	Warm, average and cold	Warm, average and cold
Annual volume	Maximum 219 TWh	Maximum 33 TWh (from 1 Juni 2028)
Seasonal profile	Flat and profiled	Flat and profiled

Trend up to 2032

For EemsEnergyTerminal, it is assumed that the terminal will be available again from 1 June 2028. From gas year 2028/2029 onwards, the maximum available annual volume for both terminals will therefore be 303 TWh.

3.6.5 Belgium H-gas

Belgium has no significant gas production. On an annual basis, Belgium does supply H-gas to the Netherlands; this concerns transit of H-gas. Both imports and exports take place over the course of the year, with Belgium supplying the Netherlands on a net annual basis. In recent years, import volumes varied between 60 TWh and 130 TWh, with volumes in the summer months being higher than in winter. The expected annual export volume is 25 TWh. For this analysis, a maximum net import volume of 105 TWh is assumed⁴⁵.

Assumption for gas year 2027/2028

Import from Belgium	Base scenario, higher gas demand and lower gas demand
Type of gas year	Warm, average and cold
Annual volume	Maximum 105 TWh
Seasonal profile	Based on the relationship with heating degree days

Trend up to 2032

The volume is assumed to remain constant for the period up to and including 2031/2032.

3.6.6 United Kingdom H-gas

In recent years, the United Kingdom has received higher LNG volumes in winter than in summer, even though these were relatively mild winters. The UK LNG terminals have room to import even higher winter volumes if needed. However, given the expected decline in both domestic gas production in the United Kingdom and Norwegian supply to the United Kingdom⁴⁶, as well as limited domestic storage capacity, GTS assumes that in an extremely cold winter no additional LNG volumes can be transported from the United Kingdom to the Netherlands, because these volumes are required for domestic consumption in the United Kingdom.

⁴⁵ Net result of a maximum import volume of 130 TWh and an export volume of 25 TWh.
⁴⁶ <https://www.neso.energy/what-we-do/resilience-emergency-management/gas-supply-security-assessment>

Moreover, analysis shows that during the winter months capacity from the continent is needed to meet high winter demand⁴⁷. During summer, the volume entering the United Kingdom via LNG is not needed to cover domestic gas demand and can be transported via pipelines to the Netherlands and Belgium. The summer volume to the Netherlands varied in recent years between 20 and 30 TWh per year.

This analysis therefore assumes supply from the United Kingdom to the Netherlands via the BBL during the summer months, up to a maximum of 30 TWh.

Assumption for gas year 2027/2028

Import from the UK	Base scenario, higher gas demand and lower gas demand
Type of gas year	Warm, average and cold
Annual volume	Maximum 30 TWh
Seasonal profile	Import only during the summer months

Trend up to 2032

The maximum import volume is assumed to remain constant for the period up to and including 2031/2032.

3.6.7 Germany H-gas

Since the loss of Russian gas supply to Germany, the Netherlands has become an important transit country for the supply of H-gas to Germany. Both imports and exports take place, with the Netherlands supplying gas to Germany on a net basis. In addition to the Netherlands, imports from Norway and Belgium are important supply flows for the German market. Germany's domestic gas production has been declining for some time and makes only a limited contribution to German gas supply.

As a result of the phase-out of German lignite-fired power plants, additional gas-fired capacity will be developed in Germany in the coming years. The German transmission system operators OGE and Thyssengas have requested GTS to enable additional export capacity towards Germany. This is expected to lead to additional transit of H-gas via the Netherlands. Germany also fulfils an important and increasingly growing role again as a transit country to Central Europe. Because the supply of Russian gas to the EU via TurkStream is assumed to fall to zero, Germany is expected to play a significant role as a transit country to Central Europe. In addition, imports via German LNG terminals are expected to increase as LNG import capacity expands.

Because the supply routes from Norway and Belgium are already being used intensively, Germany remains substantially dependent on additional supply via the Netherlands and LNG imports.

⁴⁷ <https://www.neso.energy/what-we-do/resilience-emergency-management/gas-supply-security-assessment>

For a cold gas year, the joint German transmission system operators, united in FNB, indicate that under these circumstances higher exports from the Netherlands to Germany are expected in winter. This takes account of demand and supply within Germany, including LNG imports and the use of gas storage facilities within Germany.

All assumptions below are based on information from German TSOs, united in FNB.

Assumption for gas year 2027/2028

Export to Germany	Base scenario			Higher gas demand (tight balance)			Lower gas demand (ample balance)			
	Type of gas year	Warm	Avg.	Cold	Warm	Avg.	Cold	Warm	Avg.	Cold
Annual volume [TWh]	138	150	168	165	181	202	111	121	134	
Seasonal profile	1/3 in summer months, 2/3 in winter months									

Explanation of the seasonal profile

For the calculations, a seasonal profile is assumed in which the volume in the six summer months amounts to 1/3 of the annual volume.

Trend up to 2032

In the period up to 2027/2028, expected exports at -14 °C increase from 29.6 GW to 38.6 GW in 2031/2032. This is related to the expected increase in gas-fired electricity generation in Germany.

In the base scenario, the annual volume increases in 2031/2032 to 177 TWh for an average temperature profile and to 196 TWh in a cold gas year. The expectation is that declining L-gas exports will be offset by an increase in H-gas exports.

3.6.8 Export of L-gas to Germany and France (via Belgium)

Historically, the Netherlands has exported L-gas to markets in Germany, Belgium and France. As a result of the closure of the Groningen field, these markets are gradually being converted from the L-gas system to the H-gas system. The L-gas market in Belgium has now been fully converted to H-gas.

In cold years, this export volume is expected to be less than 30 TWh per year and to decline further thereafter.

L-gas exports abroad are temperature-dependent, with the largest volume being taken off in winter. Demand for seasonal flexibility in Germany is dominant in this respect.

Assumption for gas year 2027/2028

The table below shows the aggregated volumes and capacities for L-gas exports to Germany and France, based on information from the countries concerned.

L-gas export	Base scenario, higher gas demand and lower gas demand		
Type of gas year	Warm	Average	Cold
Annual volume	26 TWh	27 TWh	29 TWh
Seasonal profile	Based on the relationship between gas demand and heating degree days		

Trend up to 2031

L-gas exports are expected to end from gas year 2029/2030 onwards.

3.7 Gas storage facilities in the Netherlands

The following sections describe the assumptions regarding gas storage facilities.

3.7.1 LNG peak shaver

The LNG peak shaver was built to meet peak demand for G-gas in the western Netherlands in the event of low temperatures and supports the transmission network during disruptions. The installation consists of two LNG tanks, a blending station and a liquid nitrogen tank with associated installations such as liquefaction, pumps and vaporisers. The LNG tanks can be regarded as an independent source and are included in the capacity balance with a capacity of 8.3 GW.

3.7.2 Seasonal gas storage facilities

The Netherlands has three seasonal gas storage facilities with negotiated third-party access: Norg (L-gas), Grijpskerk (L-gas) and Bergermeer (H-gas). Approximately 19 TWh of the Grijpskerk gas storage facility can be used in the L-gas system with a maximum capacity of 25.8 GW. The remaining working gas volume has a different quality and therefore must be fed into a separate subsystem; for that part, the capacity is 11.4 GW (3.7.2.2). PGI Alkmaar has a separate status and has been designated as an emergency reserve.

	Gas quality	Working gas (TWh)	Maximum capacity (GW)	
			Production	Injection
Norg	L	59.3	30,1	18,7
Grijpskerk	L	Max. 24,4	11,4 ⁴⁸	6,4
PGI Alkmaar	L	5,0	15,0	1,7
Bergermeer	H	48,2	26,6 ⁴⁹	17,9
Total		131,9	82,9	43,0

For the analysis, it is assumed that the seasonal gas storage facilities listed above will remain available, with the specifications stated above, and that they will continue to operate according to a seasonal pattern in the coming years.

⁴⁸ Approximately 19 TWh available with a capacity of 25.8 GW; approximately 6 TWh available with a capacity of 11.4 GW.

⁴⁹ Adjusted from 27.0 GW in the consultation version to 26.6 GW in the final overview, based on a comment from TAQA.

3.7.2.1 Possible consequences of the submitted production plan for UGS Norg

NAM has submitted a production plan for UGS Norg⁵⁰. Given the duration of the statutory procedures, GTS does not consider it realistic that gas production from UGS Norg can take place in gas year 2027/2028. If gas production were to commence during gas year 2027/2028, GTS will revise the analysis on the basis of the production plan applicable and approved at that time.

3.7.2.2 Off-spec gas from Grijpskerk

UGS Grijpskerk was converted several years ago from an H-gas storage facility into a G-gas storage facility. Part of the working gas volume is currently still produced with a higher Wobbe index. NAM aims for the entire working gas volume of UGS Grijpskerk to consist of G-gas. This is expected to require several additional annual injection and production cycles.

Article 3.16 of the Energy Regulation sets out the entry and delivery specifications for gas. For G-gas, entry at a connection requires a Wobbe index between 43.46 and 44.41 MJ/m³(n). Part of the working gas volume from UGS Grijpskerk does not meet this requirement and is classified as off-spec gas.

Pursuant to Article 3.48, first paragraph, under b, of the Energy Act⁵¹, GTS must refuse gas that does not meet the system’s entry specifications. Article 3.48, fourth paragraph, allows off-spec gas to be accepted insofar as it can reasonably be blended using the existing system into gas that complies with the delivery specifications at the delivery points.

The off-spec gas from UGS Grijpskerk is transported via a specific subsystem to the blending stations. There, it is blended with nitrogen into pseudo G-gas that complies with the delivery specifications for G-gas. The available offtake, transport and processing capacity for off-spec gas from UGS Grijpskerk is approximately 11.4 GW⁵².

3.7.2.3 PGI Alkmaar

In the consultation document for the Security of Supply Overview, PGI Alkmaar was not included in the capacity balance because the facility has been designated for maintaining an emergency stock. After completion of the consultation, it became clear that the European Commission had agreed that an emergency stock may be included in the assessment of the capacity balance. The final analysis was adjusted accordingly, meaning that the capacity of PGI Alkmaar is included in the capacity balance.

50 <https://www.rijksoverheid.nl/documenten/2025/10/06/stand-van-zaken-omgevingstraject-grijpskerk-norg-en-winningsplan-norg>
51 <https://wetten.overheid.nl/BWBR0050714/2026-07-01>
52 In doing so, GTS has based its calculations on the most recent forecasts from small-field producers; deviations from these forecasts may result in changes to the available off-take capacity.

3.7.3 L-gas caverns for the Dutch market

There are four L-gas cavern locations that are connected exclusively to the GTS network. For these caverns, it is assumed that volume and capacity are available for the Dutch market. Caverns can switch quickly between injection and withdrawal but also display a seasonal pattern. However, the storage volume is limited, meaning that their contribution to providing additional winter volume is limited. The table below shows the specifications of these L-gas caverns.

	Gas quality	Working gas (TWh)	Maximum capacity (GW)	
			Production	Injection
Epe RWE	L	2,6	5,0	2,7
Epe Eneco	L	1,4	3,8	2,0
Epe Nuon	L	2,8	5,9	3,5
UGS EnergyStock	L	3,6	18,1	12,9
Total		10,4	32,8	21,1

3.7.4 H-gas caverns for the Dutch market

There are seven H-gas caverns in Germany that are connected to the Dutch market via Oude Statenzijl. Of these, six caverns can serve both the Netherlands and Germany, while one cavern is connected exclusively to the GTS network.

The total production capacity of these gas storage facilities is relatively high, but technical constraints in the German transmission network mean that only a limited share is available for the German market. The remaining share is therefore available for the Dutch market with a reasonable degree of certainty. This is consistent with historical behaviour, where capacity of up to 30.3 GW was available for the Dutch market. The associated working gas volume for the Netherlands is estimated at 20 to 30 TWh.

The capacity from these caverns that is available to meet Dutch peak demand is based on the peak-demand simulations included in the ENTSG Winter Supply Outlook⁵³.

53 https://www.entsog.eu/sites/default/files/2025-10/ENTSG%20Winter%20Supply%20Outlook%202025_26%20-%20With%20Summer%202026%20overview_o.pdf

4 Results

This chapter explains the results for the volume balance, the capacity balance, the EU gas supply standard and the fill level.

4.1 Annual volumes

The annual volumes for the base scenario and the variants of the base scenario have been calculated up to and including gas year 2031/2032. First, annual volumes are considered by demand and supply category to examine the various developments, after which the balance is explained.

Annual volume demand by category

To examine developments in demand across different categories and gas qualities, a breakdown is made into the various supply and demand categories for the analysed period.

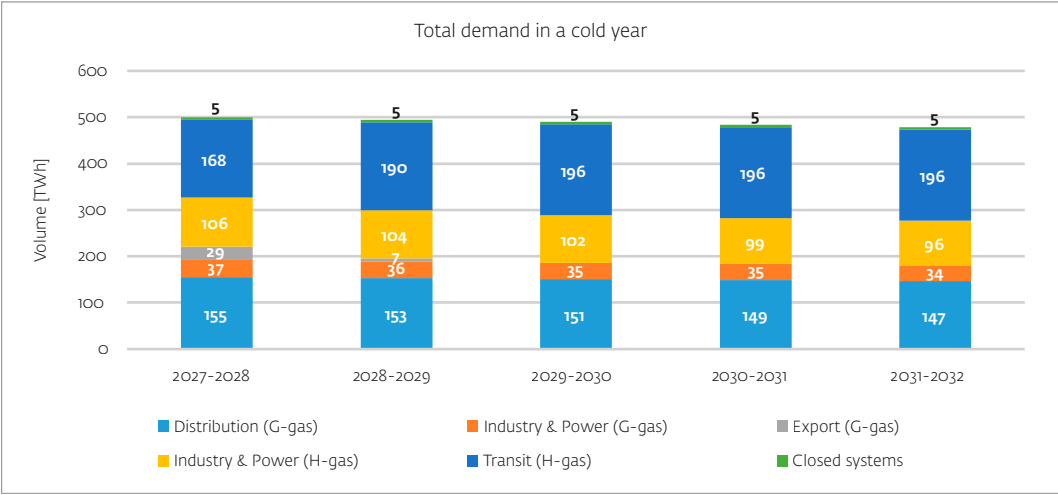


FIGURE 17A

Assumption for gas demand in the Netherlands up to and including gas year 2031/2032 in a cold, average and warm year, broken down by offtake category.

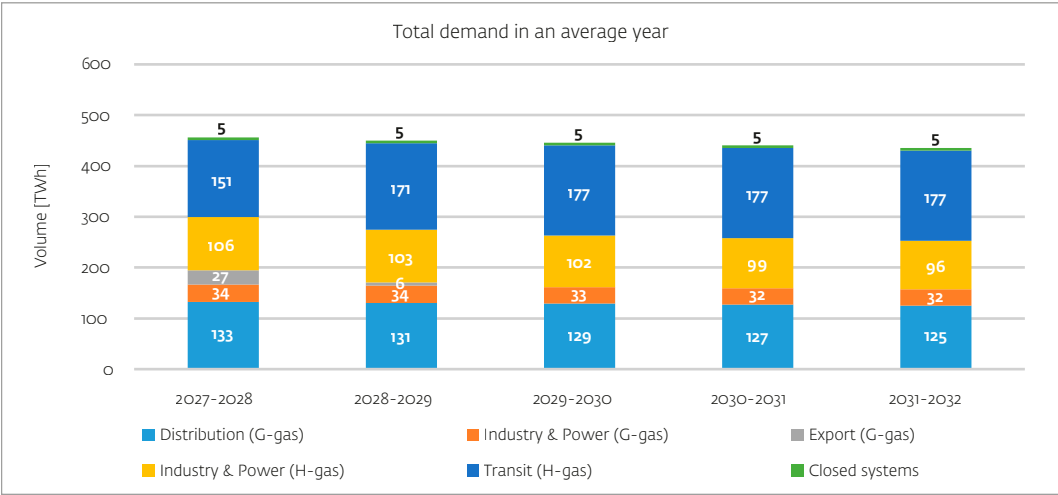


FIGURE 17B

Assumption for gas demand in the Netherlands up to and including gas year 2031/2032 in a cold, average and warm year, broken down by offtake category.

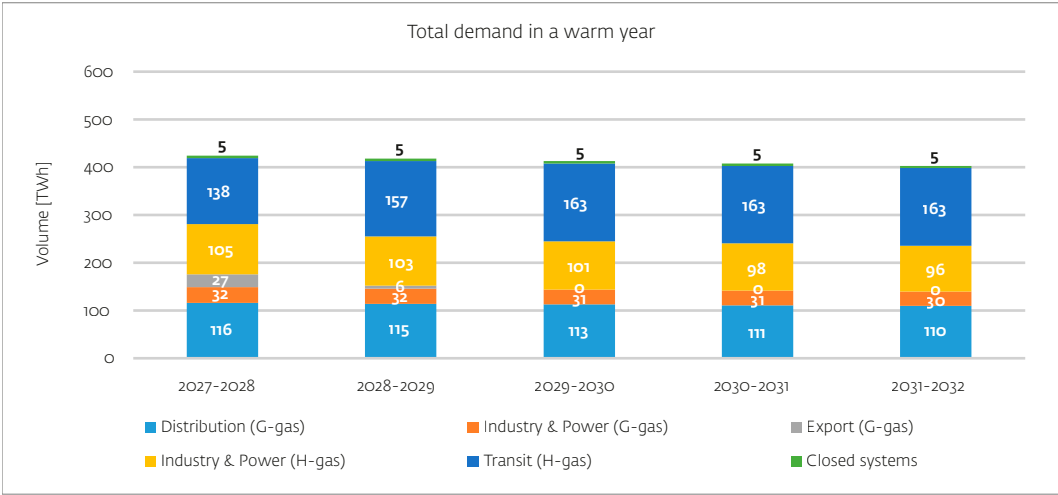


FIGURE 17C

Assumption for gas demand in the Netherlands up to and including gas year 2031/2032 in a cold, average and warm year, broken down by offtake category.

Compared with the 2025 Security of Supply Overview, the decline in Dutch gas demand resulting from the new KEV prognosis is visible in demand from households, industry and gas-fired power plants. The expected phase-out of low-calorific gas exports remains unchanged compared with the 2025 Security of Supply Overview, as does the expected transit of high-calorific gas.

Annual volume supply by category

The development of the various supply categories for the analysed period is also considered. The potential LNG import capacity can be seen to increase: EemsEnergyTerminal is available from 1 June 2028 and therefore contributes partly to gas year 2027/2028 and is fully available for gas year 2028/2029 and thereafter. Potential import volumes via pipelines decline in line with the expected decrease in Norwegian gas production, as does domestic production from small fields.

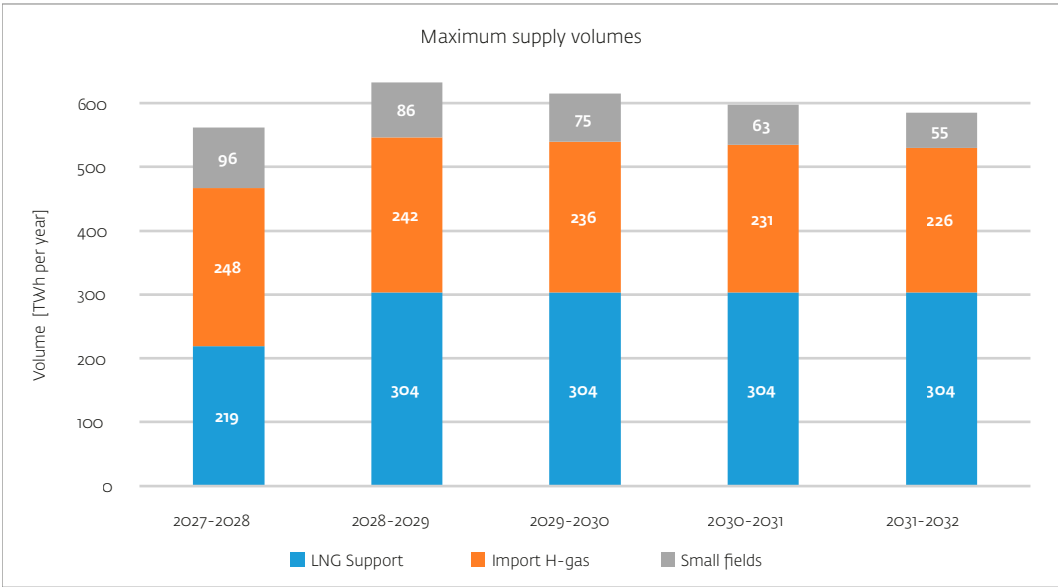


FIGURE 18

Supply volume in the Netherlands up to and including gas year 2031/2032.

Annual volume balance

The annual volume balance considers the net result of supply minus demand. It assesses whether sufficient supply is available over the full year to meet expected demand.

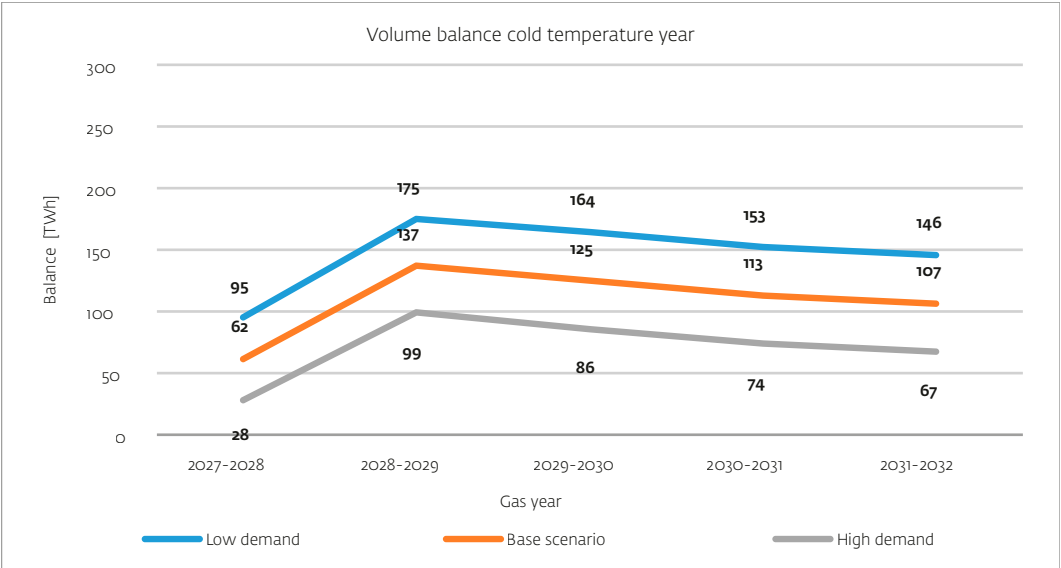


FIGURE 19A
Volume balance in the Netherlands up to and including gas year 2031/2032, for a cold, average and warm gas year.

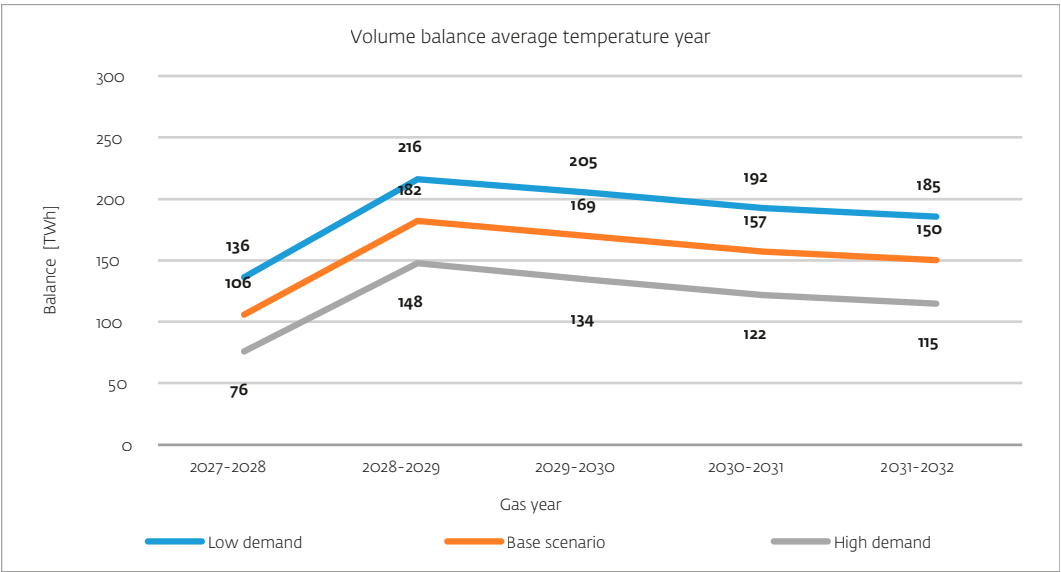


FIGURE 19B
Volume balance in the Netherlands up to and including gas year 2031/2032, for a cold, average and warm gas year.

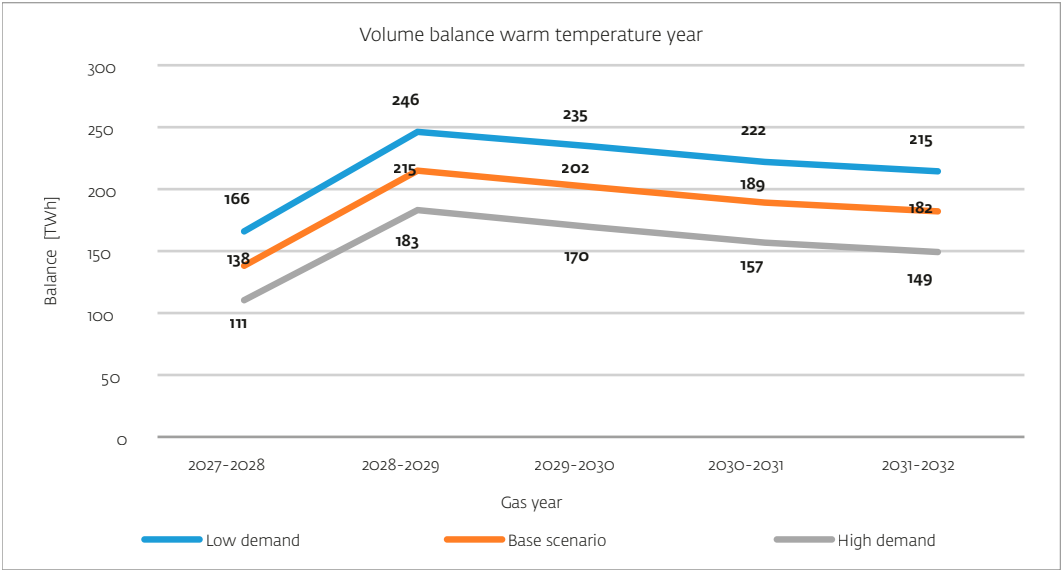


FIGURE 19C
Volume balance in the Netherlands up to and including gas year 2031/2032, for a cold, average and warm gas year.

For gas year 2027/2028, the volume balance is positive in all scenarios. Because EemsEnergyTerminal is partially unavailable in gas year 2027/2028, the results for that year differ from the other years in the overview.

4.2 Capacity balance on a peak-demand day at -14 °C

The capacity balance assesses whether sufficient resources remain available to meet capacity demand during a period of high demand and the outage of a production resource.

Capacity balance by category

This part also allows the different demand and supply categories to be examined, shown below for gas year 2027/2028. The largest source, in this case UGS Norg, has been excluded in accordance with the statutory provision.

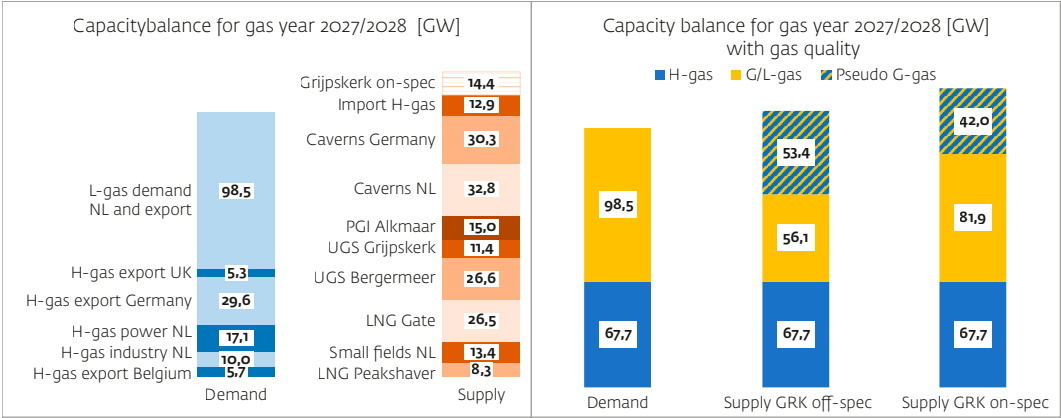


FIGURE 20
Results of the capacity balance in gas year 2027/2028, broken down by category on the left and gas quality on the right.

The capacity balance shows a positive result in gas year 2027/2028. Compared with the previous Security of Supply Overview, the capacity balance has become less ample. This decrease is the result of the temporary unavailability of EemsEnergyTerminal in winter 2027/2028. In addition, a reduced capacity has been applied for the Grijpskerk gas storage facility due to potential off-spec production with lower capacity (3.7.2.2).

In addition to the system-level assessment, the separate systems for high-calorific and low-calorific gas were also assessed. Where relevant, the use of nitrogen installations for quality conversion was taken into account. The analysis shows that the system, including the use of nitrogen resources, results in a positive outcome. This applies regardless of whether UGS Grijpskerk produces off-spec or on-spec gas.

Capacity balance at system level

The balance is positive in all scenarios. There is an increase in gas year 2028/2029 because EemsEnergyTerminal is again available in the capacity balance. From winter 2030/2031 onwards, the surplus in the capacity balance decreases because higher exports to Germany are taken into account.

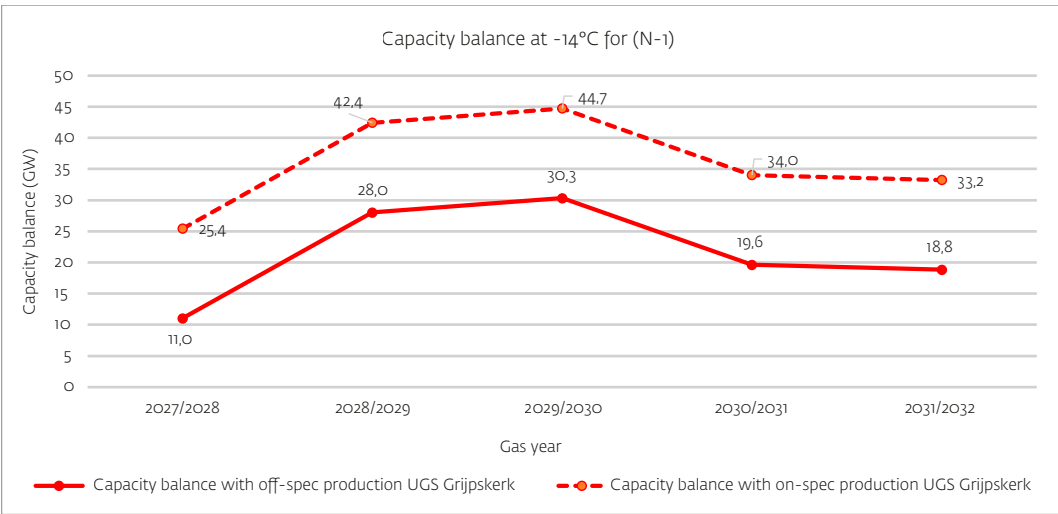


FIGURE 21
Capacity balance at -14 °C in the Netherlands at system level up to and including gas year 2031/2032.

4.3 EU gas supply standard: sufficient gas for protected customers

The Energy Act requires an overview of the quantities of high-calorific and low-calorific gas and the associated capacities needed to supply final customers in the Netherlands with gas in the three situations defined in the European gas supply standard. These three situations are described in more detail in section 3.1.3. Under the stated circumstances, the situation is a regular situation, not an emergency situation. Domestic non-protected final customers may therefore not be curtailed. In addition, pursuant to the SoS Regulation, transit flows to other countries must also be taken into account and may not be curtailed or supplied at a lower volume under the stated circumstances. This means that the full gas demand of domestic customers and exports must be capable of being supplied.

1. Seven days of peak demand: 8.1 TWh from seasonal gas storage facilities

GTS determined the required volume on the basis of the average effective daily temperature of -10.2 °C established by KNMI⁵⁴. This corresponds to a seven-day cold period occurring with a statistical probability of once in twenty years.

Balance: seven days of peak demand	Volume [TWh]			Capacity [GW]
Effective daily average temperature -10,2 °C	G-gas	H-gas	Total	Period average
Gas demand				
protected customers	5,7	0	5,7	34
▶ including domestic customers	9,2	2,0	11,2	67
▶ including exports	9,3	7,5	16,8	100
Gas supply				
From production, imports and LNG			8,8	52,1
Required supply from seasonal gas storage facilities			8,1	47,9

To meet gas demand, 8.1 TWh of additional supply is required after deducting supply from production and imports. Supplying this volume from a seasonal gas storage facility is an obvious and effective measure, as sufficient gas is stored there at the start of the winter period. The withdrawal capacity of the gas storage facilities is sufficient to provide the required 47.9 GW (see 3.7.2).

2. Thirty days of high gas demand: 32.8 TWh from seasonal gas storage facilities

The required volume was determined on the basis of the average effective daily temperature of -5.7 °C established by KNMI⁵⁵. This corresponds to a 30-day cold period occurring with a statistical probability of once in twenty years.

Balance: 30 days of high gas demand	Volume [TWh]			Capacity [GW]
Effective daily average temperature -5,7 °C	G-gas	H-gas	Total	Period average
Gas demand				
protected customers	22,0	0	22,0	31
▶ including other domestic customers	36,1	10,2	46,3	64
▶ including exports	36,4	33,8	70,3	98
Gas supply				
From production, imports and LNG			37,5	52,1
Required supply from seasonal gas storage facilities			32,8	45,9

54 <https://www.gasunie transportservices.nl/gasmarkt/leveringszekerheid-gas/achtergrondinformatie>
55 <https://www.gasunie transportservices.nl/gasmarkt/leveringszekerheid-gas/achtergrondinformatie>

To meet total gas demand of 70.3 TWh, 32.8 TWh of additional supply is required after deducting supply from production and imports. Supplying this volume from a seasonal gas storage facility is an obvious and effective measure. The withdrawal capacity of the seasonal gas storage facilities is sufficient to provide the required 45.9 GW (see 3.7.2).

3. Thirty days of average winter conditions, with outage: 27.2 TWh from seasonal gas storage facilities

According to KNMI, a period of 30 days under average winter conditions corresponds to an average effective daily temperature of +3.6 °C⁵⁶. The outage is defined as the outage of Gate, being the installation that supplies the largest volume under average winter conditions.

Balance: 30 days with outage		Volume [TWh]		Capacity [GW]
Effective daily average temperature +3,6 °C		G-gas	H-gas	Period average
Gas demand				
protected customers		11,4	0	11,4
▶ including other domestic customers		20,0	19,7	29,7
▶ including exports		20,2	26,6	46,8
Gas supply				
From production, imports and LNG, excluding Gate			19,6	31,6
Required supply from seasonal gas storage facilities			27,2	33,4

To meet total gas demand of 46.8 TWh, 27.2 TWh of additional supply is required after deducting supply from production and imports. Supplying this volume from a seasonal gas storage facility is an obvious and effective measure. The withdrawal capacity of the seasonal gas storage facilities is sufficient to provide the required 33.4 GW (see 3.7.2).

In summary

To comply with the EU gas supply standard, the largest volume resulting from the three sub-standards must be available in the seasonal gas storage facilities. Based on the second sub-standard, thirty days of high gas demand, this means that 32.8 TWh must be available at the beginning of the final winter month for winter 2027/2028, with a capacity of 45.9 GW.

4.4 Storage filling target for Dutch seasonal gas storage facilities

This section examines the required fill level in seasonal gas storage facilities to safeguard security of supply in a cold winter, defined based on the 2012/2013 temperature profile. In addition to the base scenarios, additional variants are calculated as sensitivities. These additional variants include scenarios with lower and higher gas demand. The required fill level in the scenarios is determined based on the net demand for additional winter volume, as described in Chapter 2.5.

4.4.1 Overview of the scenarios

A summary of the variants is shown in Figure 22. The scenarios with lower and higher demand, combined with baseload LNG supply, require filling levels of 97 TWh and 106 TWh respectively. If flexible LNG supply is assumed, filling levels of 67 TWh and 97 TWh respectively are calculated for lower and higher demand.

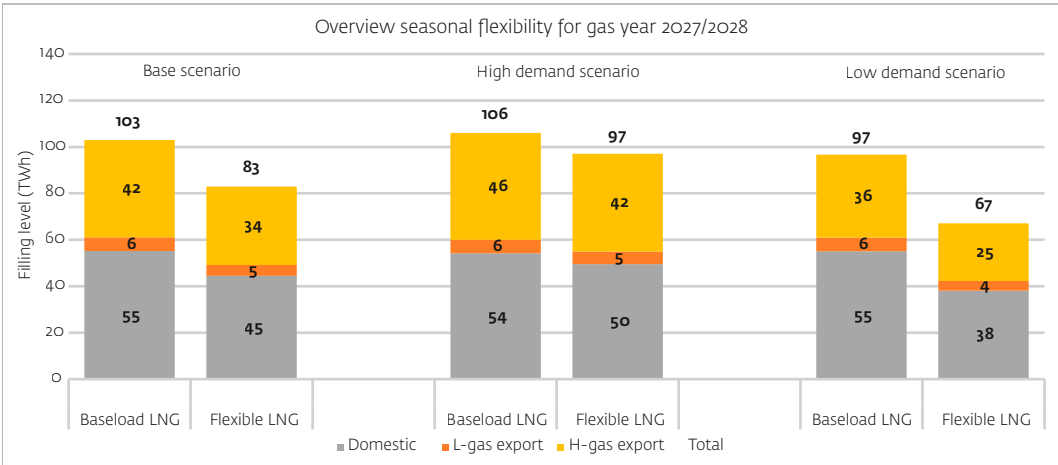


FIGURE 22 Overview of variants and required filling levels.

In the coming years, in the scenario with baseload LNG supply during a cold winter, demand for seasonal flexibility is expected to remain stable at around 103 TWh per gas year. In the scenario in which LNG is supplied flexibly during a cold winter, the required seasonal flexibility from gas storage facilities decreases from gas year 2028/2029 onwards, because EemsEnergyTerminal will then again be fully available during the winter.

These other developments are the net result of:

- ▶ a gradual decline in domestic gas demand;
- ▶ the termination of low-calorific gas exports;
- ▶ a decline in production from small fields;
- ▶ a decline in imports of Norwegian gas;
- ▶ an increase in the transit of high-calorific gas to Germany.

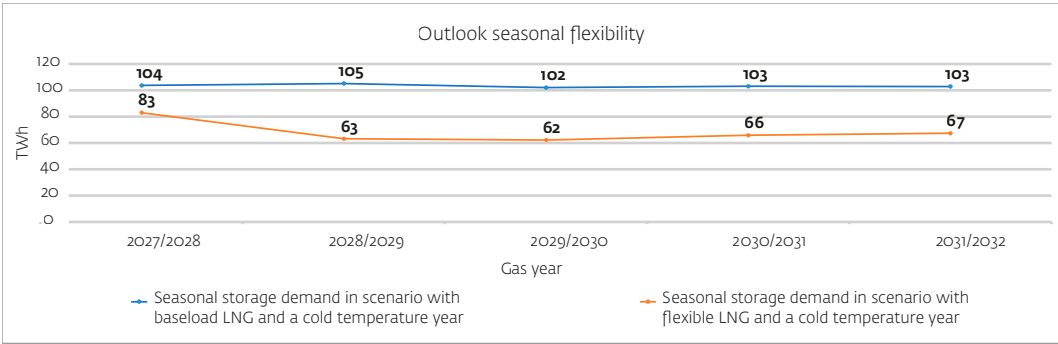


FIGURE 23 Storage filling target at the start of each gas year, based on a cold gas year (2012/2013).

56 <https://www.gasunietransportservices.nl/gasmarkt/leveringszekerheid-gas/achtergrondinformatie>

4.4.2 Recommended filling target

GTS’s analysis shows that the required filling level of seasonal gas storage facilities partly depends on the extent to which additional LNG supply can be relied upon during an extremely cold winter.

In the calculation with a relatively flat LNG supply profile, a fill level of 103 TWh is required to be prepared for a cold winter. In the variant which assumes that additional LNG volumes are supplied in the winter months, relative to the flat supply profile, the required fill level is 83 TWh. Both outcomes follow from assumptions that GTS considers realistic.

The difference between the two outcomes relates to the role that additional LNG supply during a cold winter can play in safeguarding security of supply. A lower required fill level implies greater dependence on LNG volumes that would need to come to the Netherlands during a cold winter. A higher required fill level, by contrast, means that a larger share of the required volume is already available in storage before the winter, making the Netherlands less dependent on additional LNG supply during a cold winter.

When choosing an appropriate filling target, GTS considers it important to consider the uncertainty surrounding the availability of additional LNG volumes during an extremely cold winter. Over the past two years, GTS has assumed that no additional LNG volumes, relative to the flat supply profile, would be supplied to the Netherlands during an extremely cold winter. An important difference compared with previous years is that global LNG production is expected to have increased by the winter of 2027/2028.

During an extremely cold winter, gas demand may increase simultaneously in several demand markets. After all, if it is extremely cold in the Netherlands, surrounding countries will also be cold and gas consumption there will also increase. In addition, such a situation coincides with the winter period in Asia, which means that Asian demand may also be higher. As a result, competition for flexibly deployable LNG volumes increases in such a situation.

Because global availability of flexibly deployable LNG volumes is expected to increase in the coming years, GTS explicitly asked in the consultation document to what extent additional LNG supply to the Netherlands can be considered during an extremely cold winter. Market parties indicated in their responses that it is realistic to assume this.

GTS agrees that the expected increase in flexibly deployable LNG volumes provides a realistic basis for assuming that additional LNG volumes may also become available for Northwest Europe and the Netherlands during a cold winter. At the same time, uncertainties remain that may affect the availability of these volumes. These include geopolitical developments, such as the situation around the Strait of Hormuz, uncertainty about when Qatari LNG production will again become fully available, and broader uncertainties in the international LNG market.

From a security-of-supply perspective, GTS therefore considers it prudent not to rely fully on future LNG supply, but to have a larger share of the required volume already available in storage before the winter.

At the same time, GTS acknowledges that the international LNG market is a crucial component of European gas supply and may also contribute to gas availability for Northwest Europe during periods of increased demand.

GTS therefore currently advises a filling target of 93 TWh for gas year 2027/2028⁵⁷. This filling target takes into account the uncertainty surrounding the availability of future LNG volumes, without disregarding their contribution entirely.

⁵⁷ European regulations stipulate that the storage filling target must be met annually during the period from 1 October to 1 December. By way of indication: the filling recommendation of 93 TWh implies that approximately 87 TWh must still be in storage by 1 December to ensure continued ability to meet gas demand corresponding to the coldest winter of the past 20 years.

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