entsog
european network
of transmission system operators
for gas

ENTSOG
WINTER SUPPLY OUTLOOK

2025/2026

Including Summer 2026 Overview

Contents

Executive Summary

In line with Art 26 (3)(g) of Regulation EU) 2024/1789, ENTSOG has undertaken an assessment of the European gas network for the upcoming winter (1 October 2025 to 31 March 2026). The analysis investigates the possible evolution of supplies and underground gas storage facilities' (UGS) inventory during the season as well as the ability of the gas infrastructure to meet the demand, especially in the case of high demand events under two different demand scenarios: Reference Winter and Cold Winter.

Winter preparedness is repeatedly one of the most important topics being discussed by energy stakeholders and following findings of previous analyses it should be considered as early as possible. To supplement the analyses, ENTSOG also provides an overview analysis for the summer 2026 season (1 April 2026 to 30 September 2026). This analysis addresses two different perspectives – active anticipation of the 90% UGS stock level target at the end of the investigated period (full gas year, 12 months simulation), and a lower UGS stock level of 30% at the beginning of summer season. The analysis investigates the possible evolutions of supplies and injections into UGS during the summer 2026 as well as the ability of the gas infrastructure to meet the demand.

Russia's invasion of Ukraine raises energy security concerns in Europe. Therefore, ENTSOG additionally assessed the dependence of the EU on the Russian supply during winter 2025/26 and summer 2026. Exports to Ukraine and Moldova are considered in the simulations. These analyses are particularly relevant given the planned phase-out of Russian gas by 2027, as specified in the European Commission's legislative proposals from June 2025[1].

The increased role of gas supply in the form of LNG to Europe was also assessed through different scenarios of LNG availability. In addition to the reference scenario, which is based on historical data, sensitivity analyses were conducted for both low and high LNG availability scenarios.

As in previous analyses conducted prior to the Russian invasion of Ukraine, ENTSOG has again included potential disruption scenarios in its assessment for the Winter Outlook. This assessment covers two disruption scenarios originally defined in the Union-Wide simulation Report[2], namely the disruption of the largest offshore infrastructure to continental EU, and disruption of all imports from Algeria in scenario with no supply of pipeline gas from Russia.

Winter Supply Outlook 2025/26 main findings

- On 1 October 2025, the EU's UGS reached 83% on average which translates to 943 TWh/ ~86 bcm, compared to 94% in 2024 (on average which translates to 1082 TWh/ ~98 bcm). This initial storage level is an average value, since the national levels per country range from

[1] Proposal for a Regulation on phasing out Russian gas imports and improving monitoring of potential energy dependencies
[2] https://www.entsog.eu/security-of-supply-simulation#union-wide-simulation-of-supply-and-infrastructure-disruption-scenarios-2024

above 90% to as low as 50%. It is shown that 31%[3] of the supply during the previous winter season 2024/25 was delivered from storage. At the start of the injection season on 1 April 2025, storage levels were approximately 34% full (695 TWh/ ~63 bcm were withdrawn), underscoring the importance of a robust refill strategy to ensure supply security during the subsequent withdrawal season. As required by the EU Gas Storage Regulation[4], Member States are required to achieve 90% filling level between 1 October and 1 December, with flexibility permitted under challenging market conditions.

- Storage levels in the North-Western Region remain comparatively low at the onset of the winter. Therefore, from the system operation perspective and winter preparedness further monitoring in the coming weeks is recommended.
- The gas infrastructure, including the projects commissioned during commissioned since the last report edition and the expansions to be commissioned over the upcoming winter, are boosting energy security in the EU and allow for a more efficient cooperation among the EU Member States. However, under specific circumstances, some possible supply limitations and bottlenecks may occur. Simulations of high-demand events under extreme conditions (such as a Cold Winter, low initial storage, and supply disruptions) highlight potential west-to-east bottlenecks limiting gas deliveries to Eastern Europe. Some countries, however, are reserving a part of their own gas stock, constituted as strategic reserves, to be used for the purpose of mitigating demand curtailment.

Reference Winter[5] scenario (1 October to 31 March 2026)

- In the case of the Reference Winter (based on demand estimates provided by TSOs for the winter season 2025/26), the European gas network enables the demand to be met while maintaining more than 30% UGS stock level in all UGS by the end of the winter season. Simulations indicate a potential maximum average storage filling level of 41% across the EU by April 2026.
- LNG supply and supply from Norway represents the largest sources of supply for the EU Member States and the Energy Communities' Contracting parties. In case of limited LNG availability (as investigated in the LNG Low supply scenario where a part of the LNG supply cannot be received by the European market) additional demand response may be needed, otherwise, storage could compensate through higher withdrawals, ending the winter season with a 24% storage level.
- In the high demand cases (i.e., 2-week cold spell and peak day demand in the Reference Winter scenario) no EU Member State is exposed to demand response.

[3] Based on the data from the ENTSOG Gas Flow Dashboard: https://gasdashboard.entsog.eu/#map-flows
[4] Regulation (EU) 2025/1733 of the European Parliament and of the Council of 18 July 2025 amending Regulation (EU) 2017/1938 as regards the role of gas storage for securing gas supplies ahead of the winter season
[5] The Reference Winter demand (from 1 October 2025 to 31 March 2026) is based on TSOs' estimates.

Winter supply dependence assessment in the Reference Winter scenario – supply disruption from Russia (1 October to 31 March 2026)

- Europe's average UGS stock level could remain above 30% at the end of the winter season under the Reference Winter demand case even without Russian pipeline gas, demonstrating the resilience of the EU gas infrastructure as well as increasing independence of the EU gas system from Russian pipeline supply, while at the same time results indicate that EU gas storage may need to be used to a greater extent.
- The LNG low sensitivity, a situation where a part of the LNG supply (around 1000 GWh/d) cannot be received by the European market, demonstrates that demand response or adequate volumes of gas need to be secured during the winter season to avoid depletion of UGS below the desired 30% minimum stock level before the end of March 2026. If no adequate LNG supply would be secured, the storage levels may drop to 16%.

Cold Winter[6] scenario (1 October 2025 to 31 March 2026)

- In the Cold Winter case with limited LNG supply (LNG Ref and LNG Low scenarios), Europe would need to activate a demand response (either policy-based or price-driven) estimated at 3% of total Cold Winter demand—equivalent to 92 TWh (~8 bcm) in the LNG Ref case—and up to 9%, or 262 TWh (~24 bcm), in the LNG Low case. In both cases, only 11% of UGS strategic reserves on average across the EU would remain by the end of the winter season. Additional usage of strategic UGS reserves could further improve the situation[7]. However, gas infrastructure could allow for sufficient imports of additional LNG to compensate for the extra demand.
- To maintain a minimum 30% storage level, EU would need demand response measures (either policy-based or price response-based) and/or extra supplies amounting to 330 TWh (~30 bcm) in the LNG Ref case and 500 TWh (~45 bcm) in the LNG Low case during the winter season.
- In case of full disruption of Russian pipeline supplies in the Cold Winter situation, additional demand response measures (either policy-based or price response-based) and/or extra supplies amounting to 107 TWh (~10 bcm)[8] would be required.
- In the case of high demand events (i.e., 2-week cold spell and peak day demand in the Cold Winter scenario) no EU Member State is exposed to demand response. In the case of a Peak Day event combined with a full disruption of Russian pipeline supply, bottlenecks are observed in the South-Eastern European region.

[6] Cold Winter is based on demand assumptions considered in ENTSOG's Union-wide Security of Supply Simulation Report 2024, i.e., the historical highest winter demand since the winter 2009/10 on country level revised by TSOs

[7] These reserves are not freely available on the market under normal conditions and represent 11% of all European UGS working gas volume. Some European countries are reserving a part of their own gas stock to be constituted as strategic UGS reserves and used only for the purpose of mitigating demand curtailment. The availability of strategic UGS reserves is depending on the country's specific regulation.

[8] The maximum supply that could be received via the TurkStream pipeline.

Winter Demand	RU Supply	Storage Target	LNG Scenario	Demand Reduction Needs	Final UGS Filling Level
REF	Minimised	30%	Ref	No	32%
		Maximum	Ref	No	41%
		30%	Low	No	24%
	Disrupted	30%	Ref	No	32%
		Maximum	Ref	No	32%
		30%	Low	No	16%
COLD	Minimised	30%	Ref	3%	11%
		30%	Low	9%	11%
		30%	High	No	31%
	Disrupted	30%	Ref	7%	11%
		30%	Low	13%	11%
		30%	High	No	26%

Table 1. Winter Supply Outlook Results Summary

Winter supply dependence assessment – SoS disruptions

- The potential impact of disruption scenarios previously considered in the 2024 Union-wide simulations[9] was investigated: the disruption of the largest offshore infrastructure to continental EU, and disruption of all imports from Algeria. In both disruption scenarios there is no supply from Russia.
- In the Reference Winter demand scenario, additional withdrawal from EU storages would be needed. To prevent depletion below 30% at the end of winter period, additional LNG of about 215 TWh (~20 bcm) would be needed in the case of disruption of all imports from Algeria, and 111 TWh (~10 bcm) in the case of disruption of the largest offshore infrastructure to continental EU. In the Cold Winter scenario, additional LNG would be required in combination with demand response (either policy-based or price-driven)[10].
- Combinations of high-demand events, such as Peak Day and 2-Week Cold Spell, under extreme conditions—such as those occurring in a Cold Winter, with low storage levels at the start of the event, and in combination with supply disruption scenarios (e.g., full disruption of Russian pipeline supply and disruptions in key infrastructure)—indicate bottlenecks[11] preventing cooperation from west-to-east, which constrain the ability to deliver gas to the Eastern Europe. These results demonstrate the importance of coordination and cooperation by countries.

[9] https://www.entsog.eu/security-of-supply-simulation#union-wide-simulation-of-supply-and-infrastructure-disruption-scenarios-2024

[10] Results do not consider the utilization of strategic storage reserves - strategic reserves remain available to avoid/reduce demand curtailment in some countries (11% at EU level)

[11] Detailed information can be found in Chapter 3.9: *High demand events supply dependence assessment – SoS disruptions*

Summer 2026 overview main findings

- Starting from a stock level of 83% on 1 October 2025, the European gas network is capable of enabling market participants to meet demand and achieve a minimum UGS stock level of 90% in all storage facilities by the end of the summer season 2026.
- However, sensitivity analysis under limited LNG supply - where a part of the LNG supply (around 1,000 GWh/d) cannot be received by the European market (LNG Low supply scenario) indicates that the infrastructure alone would be insufficient to reach the 90% target, achieving only 74%. The EU infrastructure is capable of importing, transporting, and storing sufficient volumes to reach a 90% storage level by the start of next winter, assuming that all storage facilities begin the injection season on 1 April at 30% storage level, pipeline supply is utilised at maximum levels (excluding Russian pipeline flows), and approximately 1,007 TWh (~92 bcm) of LNG is imported during the injection period. Otherwise, demand response measures (either policy-based or price-based) would provide the necessary supply flexibility to attain the target across all UGS facilities.
- In the event of Russian pipeline supplies disruption, EU storage can meet demand and achieve an average inventory of 90%, with different impacts and results for specific EU regions where landlocked countries in the CEE and SEE region may struggle more than others. In the case of limited LNG supply (LNG Low supply scenario), storage would only reach 56% without additional imports or demand response (either policy-based or price-based).
- In the 5-year average demand scenario with 15% demand response[12], combined with Russian pipeline supply disruption and limited LNG availability (LNG Low supply scenario), the 90% target cannot be met, with storage reaching only 74%. These results underline the critical importance of both securing adequate storage levels at the end of the winter season and ensuring sufficient imports to maintain EU gas supply security.

[12] Council Recommendation of 25 March 2024 on continuing coordinated demand-reduction measures for gas

Conclusions

- The gas infrastructure, including new projects commissioned, enables demand to be met while maintaining more than 30% UGS stock levels in all storage facilities by the end of the 2025/26 winter season. It also demonstrates independence on Russian pipeline supply in most scenarios where LNG is available in sufficient volumes, allowing for more efficient use of imports and transit, as well as increased utilisation of new LNG terminals.
- Storage plays an essential role to ensure security of supply, providing seasonal flexibility needed during the winter season. It is shown that 31%[13] of the supply during the previous winter season 2024/25 was delivered from storage. Insufficient storage levels and early significant withdrawal from storage facilities will result in low storage levels at the end of the winter season. This might have a negative impact on the flexibility of the gas system, especially during high demand events. From the security of supply perspective, it would be important to keep storage at an adequate level until the end of the winter. However, some European countries are reserving a part of their own gas stock, constituted as strategic reserves, and using this only for the purpose of mitigating demand curtailment. The availability of strategic storage reserves is depending on the country's specific regulation.
- Storage levels in the North-Western Region remain comparatively low at the onset of the winter. Therefore, from the system operation perspective and winter preparedness further monitoring in the coming weeks is recommended.
- The LNG Low supply sensitivity analysis indicates the importance of securing an adequate level of LNG supplies to Europe. Otherwise demand response (either policy based or price-based) would be necessary to prevent full depletion of storage by the end of the 2025/26 winter season. This underscores the need for Europe to secure a sufficient supply of LNG. Even higher LNG supply to Europe may be needed in the case of Cold Winter.
- Disruption of the largest offshore infrastructure to continental EU or all imports from Algeria, would add additional constraints on satisfying European demand and not depleting storages below 30%. Especially in Cold Winter or under high demand events a combination of additional supply, demand side response and Member State cooperation may be needed to avoid the risk of demand curtailment.
- In case of full disruption of Russian pipeline supplies during a Cold Winter and peak demand situations, additional measures might be needed to save adequate volumes of gas for the end of the season, and to avoid risk of demand curtailment. Simulation results showed that the introduction of possible measures, such as additional supplies, and a demand response, would avoid demand curtailment risks and allow for reaching an adequate storage level without pipeline supplies from Russia.
- Even in case of a full Russian pipeline supply disruption, cooperation between the countries and a demand response could allow for a more efficient injection during the summer 2026 in preparation for the next winter. The infrastructure also allows for increased LNG supply to Europe to compensate for the reduction in Russian pipeline gas.

[13] Based on the data from the ENTSOG Gas Flow Dashboard: https://gasdashboard.entsog.eu/#map-flows

- Cold Winter scenarios are particularly challenging, often reducing storage inventories to strategic reserve levels and requiring a demand response (either policy based or price-based) to maintain system balance and ensure supply security. These situations highlight the importance of coordinated planning, maintaining adequate storage levels during the winter season, and securing sufficient imports, including LNG, alongside demand response measures, to mitigate risks during extreme winter conditions.
- Additional UGS flexibility could be secured by storing additional volumes in Ukrainian UGS under the condition that this gas can be injected and later on withdrawn during the winter season and market participants would be willing to use it. Transit of gas through Ukraine between EU Member States could improve interconnectivity between the CEE and SEE regions.

Important:

ENTSOG's Winter Supply Outlook 2025/26 with Summer 2026 overview is an assessment of the readiness of the gas infrastructure to cope with the upcoming winter and summer seasons under different scenarios, but this assessment is not a forecast of the expected gas supply situation and the actual availability of gas from different sources is not guaranteed. The actual utilisation of the gas infrastructure, including the development of the gas storage levels, will be determined by the decisions of the market participants and influenced by external factors such as policy decisions.

Outlooks are not forecasts of the future. Rather, they identify potential resource adequacy risks at a specific point in time for the upcoming season which can be addressed proactively by preparation or mitigation measures. The identified risks are based on the assessment of a reference scenario and a variety of sensitivities, which consider uncertainties that could materialise.

1. INTRODUCTION

The Winter Supply Outlook 2025/26 with Summer 2026 overview aims at assessing the ability of the European gas infrastructure to provide enough flexibility to meet different demand situations during the UGS withdrawal season and sufficient flexibility to shippers during the UGS injection season.

It covers two different weather demand scenarios for the winter season: Reference Winter and Cold Winter. The assessments related to the Cold Winter case are based on the demand data assumptions of ENTSOG's Union-wide Security of Supply Simulation Report 2024[14].

As in previous analyses conducted prior to the Russian invasion of Ukraine, ENTSOG considered two disruption scenarios originally specified in the Union-Wide simulation analyses[15], namely the disruptions of the largest offshore infrastructure to continental EU, and disruption of all imports from Algeria in scenario with no supply of pipeline gas from Russia.

The increased role of gas supply in the form of LNG to Europe was also assessed through different scenarios of LNG availability. In addition to the reference scenario, which is based on historical data, sensitivity analyses were conducted for both low and high LNG availability scenarios.

Russia's invasion of Ukraine triggered energy security concerns in Europe. Therefore, ENTSOG additionally assessed the dependence of the EU on the Russian supply during winter 2025/26 and summer 2026 seasons. Ukraine and Moldova are included in the modelling perimeter, with exports to both countries considered in the simulations. Given that the transit contract between Ukraine and Russia expired in December 2024, the Winter Supply Outlook 2025/26 with Summer 2026 overview also includes the gas demand on the left bank of the Dniester River in Moldova. The transit of EU gas through Ukraine (considering technical firm capacities available) can be utilized by EU shippers. Furthermore, ENTSOG has enhanced its model and topology to assess the potential for additional seasonal flexibility provided by Ukrainian storage facilities, with up to 10 bcm available for EU shippers, based on information from Ukraine's TSO.

2. ASSUMPTIONS

The Winter Supply Outlook 2025/26 with summer 2026 overview is based on assumptions specific to the upcoming winter and summer seasons and short-term trends as detailed in the annexes. In any case, the actual withdrawal, injection, and supply mix will result from market behaviour and other external factors such as policy decisions.

2.1. Infrastructure

A significant number of new gas infrastructure facilities were commissioned over the past year, with a notable emphasis on the buildup of new LNG import capacities, boosting energy security in the EU. The topology of the network model considers the existing European gas

[14] https://www.entsog.eu/security-of-supply-simulation
[15] https://www.entsog.eu/security-of-supply-simulation#union-wide-simulation-of-supply-and-infrastructure-disruption-scenarios-2024

infrastructure, the firm technical capacities[16] provided by TSOs, which include maintenance plans known as of September 2025 and new upcoming projects as of their respective expected start of commercial operations. For example:

- Internal network reinforcements in Belgium
- Increase the capacity at IP Moffat (Ireland)

Additionally, taking into account that the transit contract between Ukraine and Russia expired in December 2024, effectively blocking Russian gas transit to Moldova and Transnistria, the Outlook includes the demand on both banks of Dniester River aggregated in the overall Moldovan demand.

In order to capture the influence of the UGS inventory level on the injection and withdrawal capacities, ENTSOG used injection and deliverability curves that were provided by GIE[17]. These curves represent a weighted average of the UGS of each area (see **Annex A**).

2.2. Seasonal Demand

The Reference demand (from 1 October 2025 to 30 September 2026) is based on TSOs' estimates and is provided with a monthly granularity. An average daily demand has been considered within each month (see **Annex B** for country details).

The demand for the Cold Winter is based on demand assumptions considered in ENTSOG's Union-wide Security of Supply Simulation Report 2024[18], i.e., the historical highest winter demand since the winter 2009/10 on country level revised by TSOs.

The average historical demand of the five summer seasons from 2017 to 2021 reduced by 15% in the spirit of the coordinated demand reduction measures defined in the Council Recommendation of 25 March 2024 on continuing coordinated demand-reduction measures for gas. The 5-year average demand values have been updated for the simulations in this report to consider the latest market conversions from L-gas to H gas in Germany, France, and Belgium. An average daily demand has been considered for each month.

For comparison, **Figure 1** shows the European aggregated daily demand for the Reference Winter compared with the historical aggregated daily demand over the last five winters. The estimated demand is compared with the winter 2024/25 for the two assessed winter 2025/26 demand cases. Compared to Winter 2024/25 historical demand, the Reference Winter Demand and the Cold Winter Demand are estimated to rise between +4% and +20% respectively.

For comparison, **Figure 2** shows the European aggregated daily demand for the Summer 2026 overview and the historical daily demand over the summers of the years 2019 to 2024.

[16] According to EC Regulation 2024/1789 of 13 June 2024 'technical capacity' means the maximum firm capacity that can be offered to the network users, taking account of system integrity and the operational requirements of the transmission system operator; 'firm capacity' means natural gas and hydrogen transmission and distribution capacity contractually guaranteed as uninterruptible by the transmission system operator.
[17] https://www.gie.eu
[18] https://www.entsog.eu/security-of-supply-simulation

The Yearly and Summer simulations consider Reference demand as well as the average historical demand of the five summer seasons from 2017 to 2021 reduced by 15% in the spirit of the coordinated demand reduction measures defined in the Council Recommendation of 25 March 2024 on continuing coordinated demand-reduction measures for gas. The 5-year average demand values have been updated for the simulations in this report to consider the latest market conversions from L-gas to H-gas in Germany, France, and Belgium. An average daily demand has been considered for each month (see **Annex B** for country details).

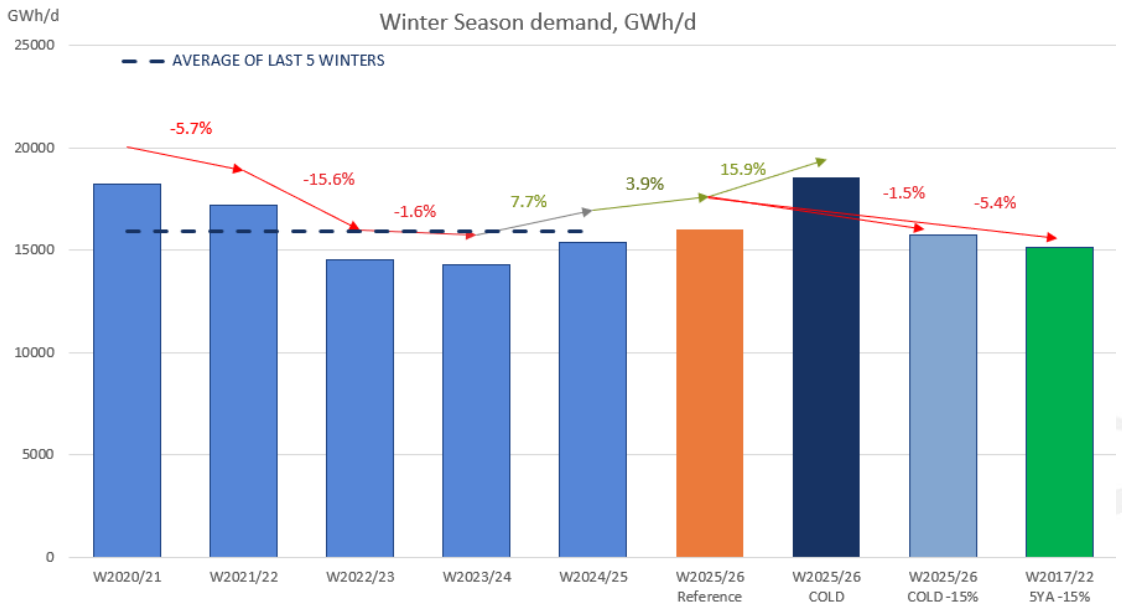


Figure 1. European daily average winter demand with forecasted Reference demand and Cold Winter demand for Winter 2025/26, GWh/d

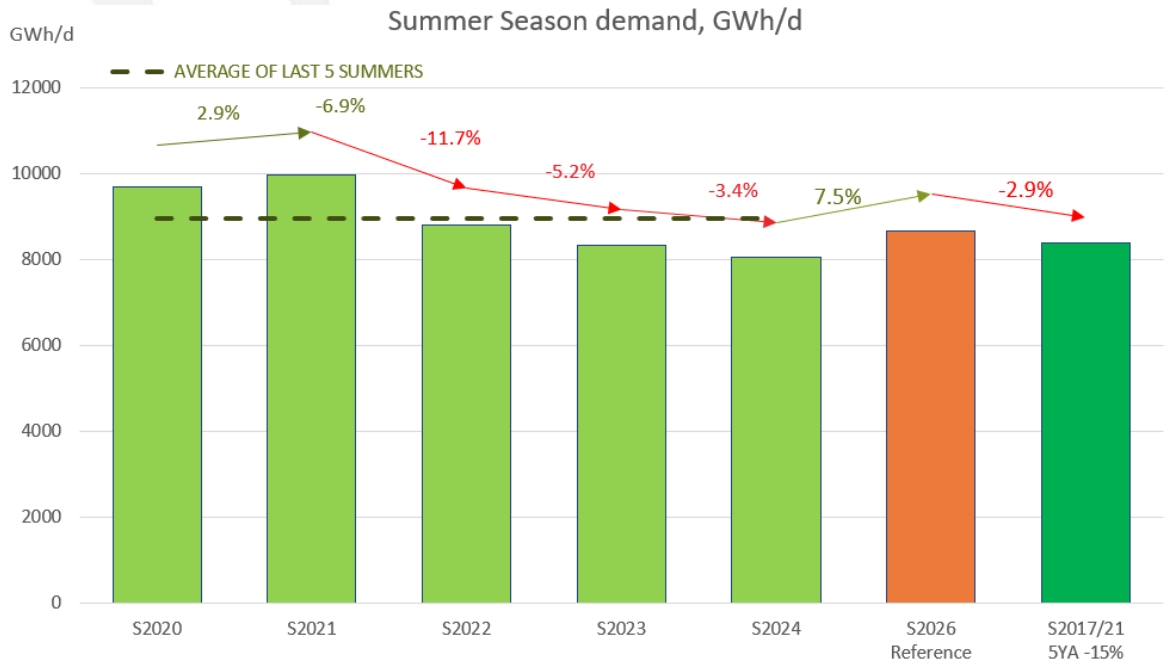


Figure 2. European daily average summer demand comparison with Reference summer demand and 5-year average -15% summer demand, GWh/d

2.3. Peak Demand

Two high demand situations are considered: Peak Day demand and 2-Week Cold Spell. They are defined in the table below:

Period	Occurrence of the demand provided by TSOs
Peak Day	One day (peak day) of exceptionally high demand, occurring with a statistical probability of once in 20 years
2-Week Cold Spell	A period of two weeks of exceptionally high demand, occurring with a statistical probability of once in 20 years

Table 2. Peak Day demand and 2-Week Cold Spell

The Peak Day and 2-Week Cold Spell demands are used to check if the withdrawal capacity from the UGS is sufficient during such events when the storage levels are reduced, and their maximum withdrawal capacity is therefore not available.

Figure 3 shows the European aggregated 2-Week Cold Spell demand. Reference Winter[19] and Cold Winter[20] demand values are compared with the historical demand over the last five winters. It is important to note that the historically highest winter demand did not occur simultaneously across all European countries.

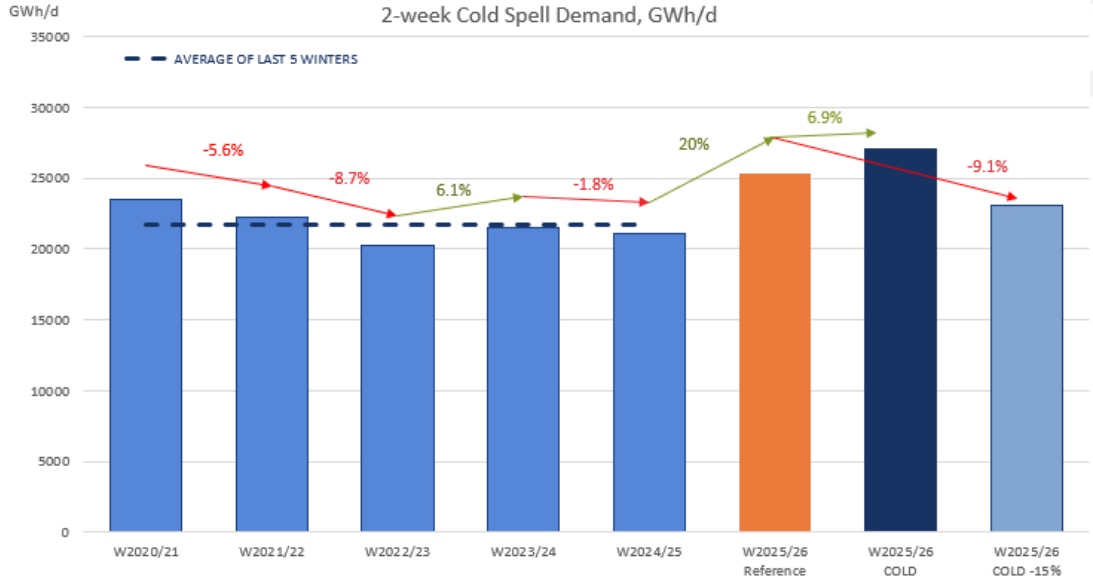


Figure 3. European 2-week cold spell demand history comparison with forecasted Reference Winter demand for winter 2025/26 and Cold Winter 2-Week Cold Spell demand, GWh/d

The 2-Week Cold Spell demand for the Reference Winter is higher than the highest two weeks of demand observed during the previous winter (+20%). In the event of a 2-Week Cold Spell during a Cold Winter, the demand could be +27% higher than in winter 2024/25.

[19] The 2-Week Cold Spell demand for Reference Winter is based on TSOs' estimates.
[20] The 2-Week Cold Spell demand for Cold Winter is based on demand assumptions considered in ENTSOG's Union-wide Security of Supply Simulation Report 2024.

Figure 4 shows the European aggregated Peak Day demand. Reference Winter[21] and Cold Winter[22] are compared with the historical demand over the last five winters. It is important to note that the historically highest winter demand did not occur simultaneously across all European countries.

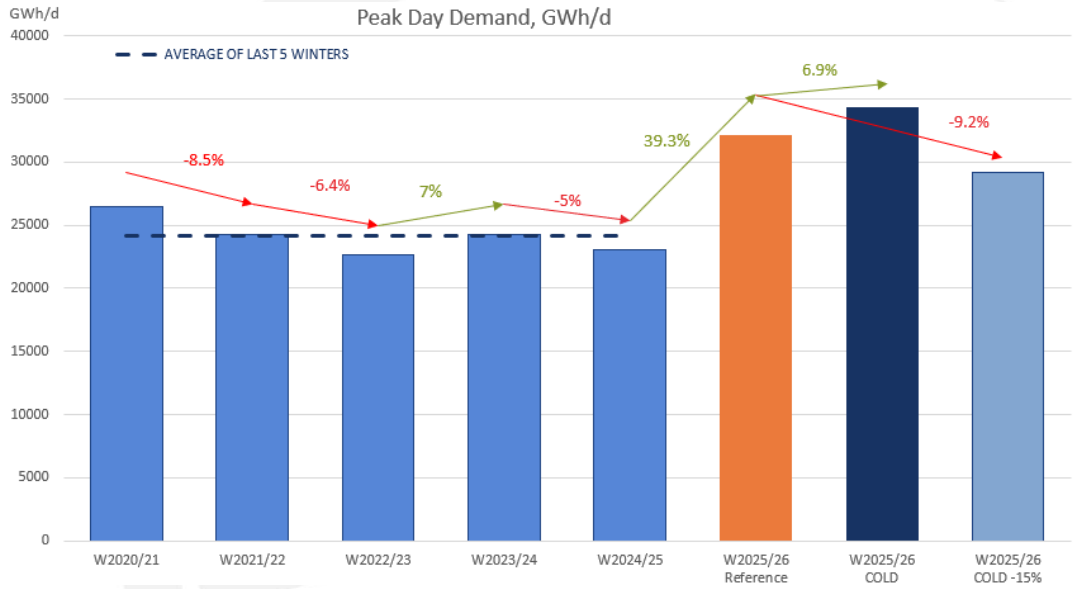


Figure 4. European Peak Day demand history comparison with forecasted Reference Winter Peak demand for winter 2025/26 and Cold Winter Peak demand, GWh/d

Due to the mild previous winters, the Peak Day demand for the Reference Winter is higher than that observed during the last winter (+39%) and higher than the average of the last five winters. In the event of a Peak Day during a Cold Winter, the demand could be higher by 46 % than during the winter of 2024/25.

2.4. Import supply potential

The maximum supply potentials of the different sources providing gas to the Europe are based on the historical availability over the last five years (Caspian Sea, Algeria, LNG Ref) or based on TSO information (Libya, Norway) or the observed flows of the last two years (Russia, Turkstream only). Maintenance works on Norwegian gas fields are considered in the report in line with the maintenance plan published in September 2025[23].

Supply limitations are set for different cases (monthly values for winter and summer seasons, weekly values for the 2-Week Cold Spell case, daily values for the Peak Day case) so that the maximum flows from each source cannot exceed reasonable levels based on historical observations.

[21] Peak Day demand for Reference Winter is based on TSOs' estimates.
[22] Peak Day demand for Cold Winter is based on demand assumptions considered in ENTSOG's Union-wide Security of Supply Simulation Report 2024.
[23] Gassco website: https://umm.gassco.no/

<table>
<tr><th></th><th>National Production</th><th>UGS</th><th colspan="2">LNG</th><th>Caspian, Algeria, Norway, Libya</th></tr>
<tr><td>Winter Season</td><td>TSO forecast for winter</td><td rowspan="6">Limited for each country (or zone) by the stored volumes and the deliverability associated with the inventory level.</td><td colspan="3">Limited for the whole winter period at monthly level to the maximum 30 days rolling average of the last 5 winters[24].
For LNG, three different cases of supply availability are considered: (1) Reference LNG supply, (2) LNG Low supply, and (3) LNG High supply.</td></tr>
<tr><td rowspan="4">2-Week Cold Spell</td><td rowspan="3">TSO forecast for high demand situations</td><td colspan="2">Week 1</td><td rowspan="4">Limited to the maximum 14 days rolling average of the last 5 winters.</td></tr>
<tr><td colspan="2">Limited to the observed February flow in the model plus additional LNG that can be taken from the tanks to be shared with week 2.</td></tr>
<tr><td colspan="2">Week 2</td></tr>
<tr><td colspan="2">Limited to the maximum 14 days rolling average of the last 5 winters plus additional LNG that can be taken from the tanks to be shared with week 1.</td></tr>
<tr><td>Peak day</td><td colspan="2">Limited to the maximum daily supply of the last 2 winters plus additional LNG that can be taken from the tanks.</td><td>Limited to the maximum daily supply of the last 5 winters.</td></tr>
<tr><td>Summer Season</td><td>TSO forecast for summer</td><td colspan="3">Limited for the whole summer period at monthly level to the maximum 30 days rolling average of the last 5 summers[25].
For LNG, three different cases of supply availability are considered: (1) Reference LNG supply, (2) LNG Low supply, and (3) LNG High supply.</td></tr>
</table>

Table 3. Gas supply maximum availability definitions

The Russian pipeline supply potential is based on the previous 2 years' flows. It is thereby limited to recent supplies observed for TurkStream. To assess the EU dependence on Russian gas, all simulations minimised the use of this supply source to the possible extent. Other supply sources are therefore used with priority. There is also a sensitivity assuming a total disruption of Russian pipeline supply.

For LNG, three different cases of supply availability are considered: (1) LNG Ref supply, (2) LNG Low supply, and (3) LNG High supply.

The maximum supply potential for seasonal assessments is by default (if not specified by TSOs or Russian pipeline supply or LNG sensitivity) calculated as the maximum 30 days rolling average supply from this source over the last five years per season. The Reference LNG supply case is calculated as explained above (maximum 30 days rolling average), while the LNG Low supply represents the lack of possibility to replace Russian LNG with other sources, meaning that a 20% of the Reference LNG imports cannot be supplied to the European market. The LNG High supply case is only limited by the European LNG terminal regasification capacities and TSO network capacities and not by the availability of importable LNG.

[24] The Russian pipeline supply potential is based on the last year's flows.
[25] The Russian pipeline supply potential is based on the last year's flows.

The maximum supply potential for assessments of the 2-Week Cold Spell cases is by default (if not specified by TSOs or Russian pipeline supply or a LNG sensitivity) calculated as the maximum 14 days rolling average supply from this source over the last five years. The Reference LNG supply case is calculated as explained above (maximum 14 days rolling average), while the LNG Low supply case uses the relationship between the seasonal Reference LNG supply potential and the seasonal LNG Low supply potential and applies it to the Reference LNG supply potential for the 2-Week Cold Spell case. The LNG High supply case is only limited by the European LNG terminal regasification capacities and TSO network capacities and not by the availability of importable LNG. In all 2-Week Cold Spell cases, the modelling accounts for the additional amount of LNG that can be withdrawn from the tanks (see **Annex A**).

The maximum supply potential for assessments of the Peak Day cases is by default (if not specified by TSOs or Russian pipeline supply or a LNG sensitivity) calculated as the daily maximum from this source over the last five years. The Reference LNG supply case is calculated as explained above (daily maximum), while the LNG Low supply case uses the relationship between the seasonal Reference LNG supply potential and the seasonal LNG Low supply potential and applies it to the Reference LNG supply potential for the Peak Day case. The LNG High supply case is only limited by the European LNG terminal regasification capacities and TSO network capacities and not by the availability of importable LNG. In all Peak Day cases, the modelling accounts for the additional amount of LNG that can be withdrawn from the tanks (see **Annex A**).

For each of the winter and summer demand profiles and high demand situations in the winter season, specific maximum gas supply availabilities are used in the report as defined in **Table 4.**

GWh/day			DZ	LY	CA	NO	LNG Ref	LNG Low	LNG High
Winter Season	Max per 30 days		1220	150	390	3800	5500	4400	9000
High Demand**	2-Week Cold Spell	Week 1	1225	155	395	4000	*	*	*
		Week 2	1225	155	395	4000	5600**	4500**	9000
	Peak day Cold Spell		1285	180	400	4000	6125**	4900**	9000
Summer Season	Max per 30 days		1155	190	375	3800***	5300	4250	9000

* additional LNG that can ve taken from the tanks
** limited to the observed supply potential in February plus additional LNG that can be taken from the tanks
*** supply potential is recalculated for some months according to maintenance plan from Gassco

Table 4. Maximum supply potential, GWh/d

Note: The supply assumptions (supply potentials) are based on the supply observed in the past and should not be considered as a forecast. The actual supply mix will depend on market behaviour and other external factors. Moreover, the model does not factorize commercial supply agreements.

European domestic production

Regarding the European domestic production**, Figure 5** and **Figure 6** provide a comparison between the last five winter and summer seasons and the national production forecasted by the TSOs for winter 2025/26 and summer 2026 (see **Annex B** for monthly details). Domestic production is following a long-term dwindling trend, primarily due to the end of production in October 2023 of the largest gas production in the EU, i.e., the Netherlands' Groningen field.

Moreover, the United Kingdom's gas production is following a strong declining trend after rising in 2022.

In the winter 2025/26, domestic production is estimated to decrease by 7% compared to the previous winter, while for summer 2026, it is forecasted to decrease by approximately 1% compared to summer 2024. This reduction trend appears to be largely structural: in addition to the complete shutdown of the Groningen field in the Netherlands in April 2024, the UK's offshore fields are experiencing a pronounced decline after a temporary recovery in 2022. Production from mature fields in Germany, Italy and other Member States is also decreasing, reflecting natural depletion and the absence of major new developments capable of offsetting these reductions. Without the Tyra field redevelopment in Denmark, the drop in EU production would have been even steeper.
Some offsetting factors slightly mitigated decline: Romania reports incremental increases from its offshore projects in the Black Sea, while Mediterranean producers such as Italy have managed to stabilise parts of their output. These gains remain modest compared to the losses from the larger fields, and overall European domestic production is expected to remain on a declining path in the short to medium term.

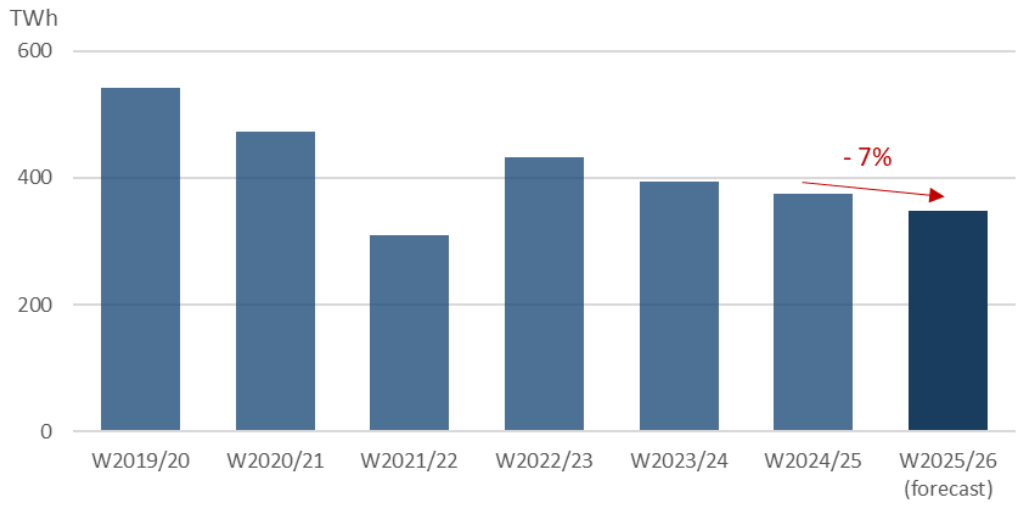


Figure 5. Historic European national gas production during winters compared with forecasted European national production in Winter 2025/26, TWh

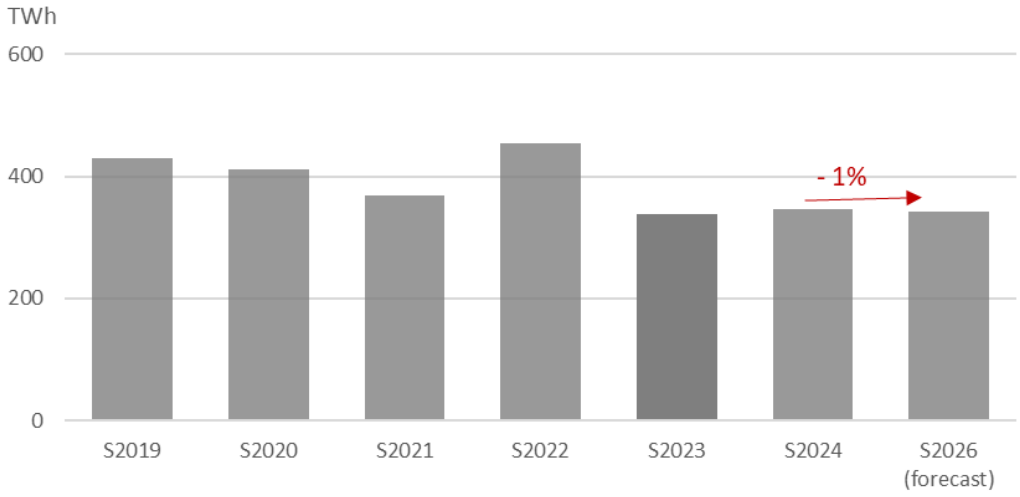


Figure 6. Historic European national gas production during summers compared with forecasted European national production in Summer 2026, TWh

Consideration of non-EU countries

When assessing the supply adequacy at European level, ENTSOG takes into account the interactions with the countries neighbouring the EU: the United Kingdom, Switzerland, North Macedonia, Serbia, Bosnia Herzegovina, Ukraine, Turkey, and Moldova.

The analysis considers non-EU countries, including the Energy Community's Contracting parties, taking into account the geography and the actual supply situation:

- The United Kingdom, Switzerland, Bosnia and Herzegovina, North Macedonia, Serbia, and Moldova are included in the modelling perimeter.
- Export to Ukraine is based on the expected forecast provided by the Ukrainian TSO.
- Export to the Kaliningrad region of Russia is not considered.
- Export to Morrocco is not considered.
- No export towards Turkey is considered. Caspian and Russian gas are considered to be transported through Turkey into the EU.
- Gas flows through Strandzha 1 allow for additional imports from Turkish LNG terminals into the EU.
- Albania, Montenegro, and Kosovo are not connected to the gas grid.

2.5. Storage inventory

UGS behaviour in the modelling is defined as follows:

- **Winter Supply Outlook 2025/26**. The actual UGS stock level on 1 October 2025 according to the AGSI+ platform[26] is used. A target UGS stock level of 30% should be reached at the end of the withdrawal season (31 March 2026) and is defined for each storage facility. This target is

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

not mandatory, i.e., the UGS stock level goes below 30% if other supply sources cannot otherwise satisfy demand.

Sensitivity analyses were also conducted with a maximum target. In these analyses, the model was allowed to exceed 30% to determine how high the storage level could potentially reach The objective was to evaluate whether the transmission and import infrastructure allows to satisfy the demand and also to assess whether the ability to store gas during the winter period is not limited or deteriorating. It should not be interpreted as a recommendation to enforce equally ambitious storage levels at the end of the winter but rather as an evaluation of the situation during the winter season, particularly in the case of high demand events.

- **Summer 2026 overview.** The UGS stock level target for the injection season (30 September 2026) is 90% and is defined for each storage facility. This target is not mandatory, i.e., the storage level cannot be achieved if other supply sources otherwise cannot satisfy demand. This assumption is made to check that infrastructure is not limiting this possibility. Additionally, simulations are performed for the summer season starting with an initial storage filling level of 30% for each storage facility on 1 April 2026.

- In the Summer Overview the Ukrainian UGS that is considered available for EU shippers is modelled as a last resort UGS, i.e., it is only filled after all the other EU UGS meet the established UGS stock level target.

The model assumes cooperative behaviour among EU Member States. These concerns (i) an equal sharing of eventual demand curtailments between all the Member States if technically possibly, (ii) LNG supply distribution between terminals according to security of supply needs, and (iii) storage utilisation according to security of supply needs. However, the model does not factorize commercial supply agreements.

Finally, some European countries could be reserving a part of their own gas stock constituted as strategic UGS reserves to be used only for the purpose of satisfying their own demand. The model assumes the actual constraints on the utilization of the strategic UGS and strategic reserves[27]. Therefore, these strategic UGS cannot be depleted to avoid/reduce demand curtailment in the simulations. The availability of strategic storage reserves is depending on the country's specific regulation.

Figure 7 below illustrates the percentage of gas in storage (filling level) recorded on the first day of each month.

[27] The methodology used for strategic reserves and strategic UGS is explained in the Annex A.

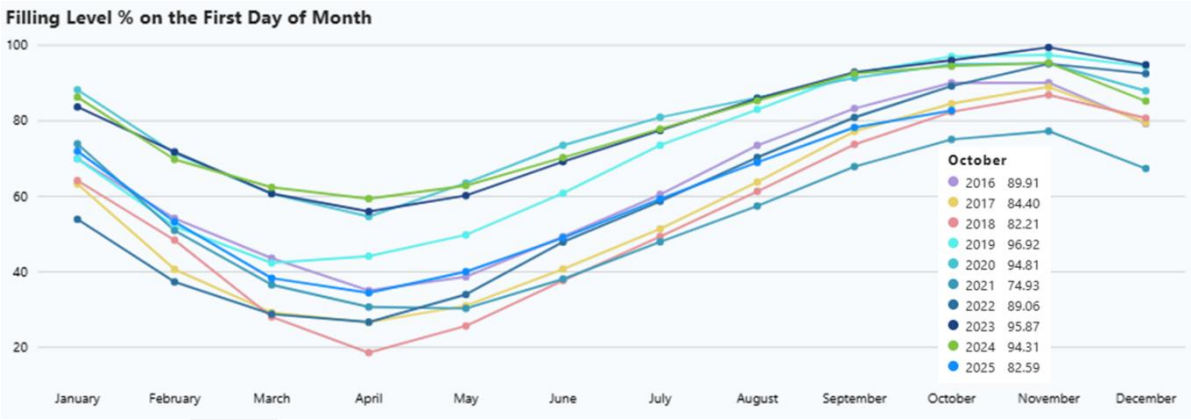


Figure 7. Monthly UGS stock level development since 2016, %

On 1 April 2025, the EU UGS stock level reached the minimum of the range of the past 3 years with 388 TWh. The increase in gas consumption (with relatively colder winter weather) contributed to the record volume of gas in storage. **Figure 8** shows the total WGV, the initial gas in the storages on 1 April and the gas injected during the summer season (until end of September) between 2012 and 2025.

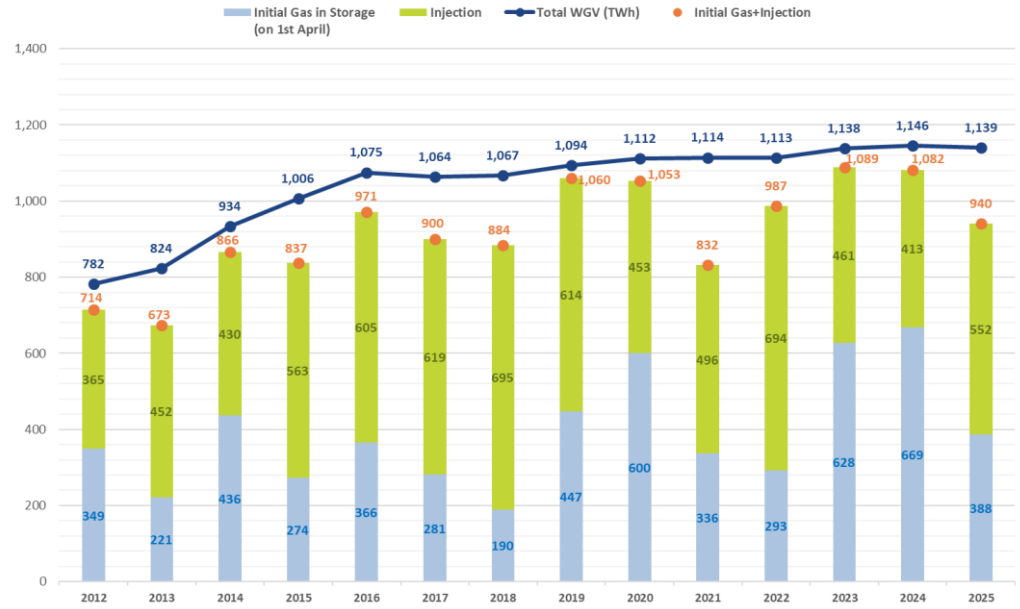
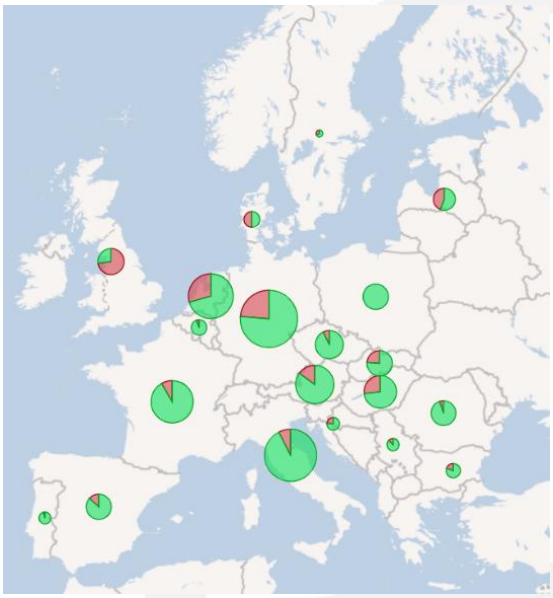


Figure 8. Situation of the storage during summer seasons (2012 to 2025)

- Initial storage level on 1 October 2025

On 1 October 2025, EU underground gas storage reached 83% of WGV, equivalent to 943 TWh. At the start of the injection season on 1 April 2025, storage levels were approximately 34% full, underscoring the importance of a robust refill strategy to ensure supply security during

the subsequent withdrawal season. Under the EU Gas Storage Regulation[28], Member States are required to achieve 90% filling level between 1 October and 1 December, with flexibility permitted under challenging market conditions.



Country	WGV, GWh	Gas in storage, GWh	Full, %
Austria	100,791	85,591	85%
Belgium	8,980	8,473	94%
Bulgaria	7,004	5,649	81%
Croatia	4,773	3,610	76%
Czechia	47,053	43,588	93%
Denmark	9,790	4,910	50%
France	125,723	115,188	92%
Germany	253,660	192,732	76%
Hungary	67,991	49,718	73%
Italy	202,948	187,716	92%
Latvia	24,865	13,888	56%
Poland	36,310	36,435	100%
Portugal	3,570	3,434	96%
Romania	33,864	32,081	95%
Serbia	4,010	3,520	88%
Slovakia	36,563	27,832	76%
Spain	35,832	31,067	87%
Sweden	104	70	68%
The Netherlands	141,406	100,591	71%
United Kingdom	39,017	10,628	27%

Figure 9. Actual UGS stock levels per country on 1 October 2025, GWh and Full % [29]

For the modelling of the different scenarios, the Winter Supply Outlook 2025/26 considers the UGS stock level per country on 1 October 2025 as the initial situation as shown in Figure 9. In absolute terms, the largest gas volumes on 1 October 2025 are stored in Italy and Germany. In relative terms, the storage level of is higher than 90% in Belgium, Czechia, France, Italy, Poland, Portugal and Romania, the lowest filling levels being in Denmark (50%) and the United Kingdom (27%). These storage levels per country have been used as a starting point for the Winter Supply Outlook 2025/26.

2.6. Seasonal spreads

The seasonal spread is defined as the price difference between natural gas contracts with future deliveries across seasons, particularly between summer and winter, and serves as an important market signal for participants. Specifically, the summer–winter spread (summer price vs winter price) indicates incentives for injections, while the winter–summer spread (winter price vs the following summer price) guides withdrawal strategies.

A wide summer–winter spread — with lower summer prices — typically supports higher storage levels ahead of winter by creating an economic incentive to inject gas in summer and sell in winter. This spread should also be sufficient to cover infrastructure-related costs, including storage fees and transportation tariffs. However, actual injection decisions are also dependent on other factors such as, market liquidity, supply security considerations, capacity limitations, and regulatory targets in place.

[28] Regulation (EU) 2025/1733 of the European Parliament and of the Council of 18 July 2025 amending Regulation (EU) 2017/1938 as regards the role of gas storage for securing gas supplies ahead of the winter season

[29] The gas in storage on 1 October 2025 for each country is based on the AGSI+ platform.

Similarly, a significant winter–summer spread may encourage faster withdrawals to benefit from higher winter prices, provided the price differential covers related costs. Nonetheless, withdrawal strategies are also shaped by weather, supply disruptions, LNG availability, and strategic considerations. In milder winters or when spreads are narrow, withdrawals might be more gradual to preserve flexibility by ensuring there is enough gas in storages in case of unexpected events during the winter season.

Season	EUR/MWh
Winter 2025/26	31.715
Summer 2026	30.460
Spread W2025/26 - S2026	**1.255**

Season	EUR/MWh
Summer 2026	30.460
Winter 2026/27	31.675
Spread S2026 - W2026/27	**-1.215**

Figure 10. Comparison of forecast winter and summer Dutch TTF gas prices as of 30 September 2025, EUR/MWh[30]

Important: The ENTSOG Winter Supply Outlook 2025/26 with the Summer 2026 overview, provides an assessment of infrastructure readiness to manage different scenarios rather than a forecast of actual supply situations. Furthermore, these seasonal price spreads are not implemented in the model but serve as contextual signals to illustrate potential market incentives. Actual infrastructure utilisation and storage developments ultimately depend on market participants' decisions.

3. MODELLING RESULTS FOR THE WINTER SUPPLY OUTLOOK 2025/26

The following table shows the most relevant results of the Winter Supply Outlook 2025/26 in the different demand scenarios in combination with the possible configurations of the main sensitivity assumptions. The simulation results are explained onwards in this chapter.

[30] Source: Global S&P (Platts)

Winter Demand	RU Supply	Storage Target	LNG Scenario	Demand Reduction Needs	Final UGS Filling Level
REF	Minimised	30%	Ref	No	32%
		Maximum	Ref	No	41%
		30%	Low	No	24%
	Disrupted	30%	Ref	No	32%
		Maximum	Ref	No	32%
		30%	Low	No	16%
COLD	Minimised	30%	Ref	3%	11%
		30%	Low	9%	11%
		30%	High	No	31%
	Disrupted	30%	Ref	7%	11%
		30%	Low	13%	11%
		30%	High	No	26%

Table 5. WSO Results Summary

3.1 Reference Winter scenario with 30% UGS stock level target for 31 March 2026

For the Reference Winter 2025/26 scenario, the overall winter season withdrawal is defined as the amount of gas necessary to meet demand and reach 30% stock level in each European UGS on 31 March 2026 when starting at an average European UGS stock level of 83% on 1 October 2025 (see Figure 9). These 83% translate to 943 TWh/ ~86 bcm, compared to 94% in 2024 (on average, which translates to 1082 TWh/ ~98 bcm). It is shown that 31%[31] of the supply during the previous winter season 2024/25 was delivered from storage. At the start of the injection season on 1 April 2025, storage levels were approximately 34% full (695 TWh/ 63 bcm were withdrawn), underscoring the importance of a robust refill strategy to ensure supply security during the subsequent withdrawal season.

The distribution of withdrawal, demand, and supply over the winter months results from the modelling and the following assumptions:

- The monthly gas demand estimated by TSOs in **Annex B**
- The monthly national gas production estimated by TSOs in **Annex B**
- The monthly capacities provided by TSOs
- The storage withdrawal curves provided by GSE as defined in **Annex A**
- The flexibility given to the model for the definition of the supply potentials derived from the historical supply mix (see **Table 4**)

Based on these assumptions, the modelling has been used to check if any physical congestion or dependence on an import source may limit the satisfaction of gas demand during the withdrawal period, while all European countries cooperate.

The main finding of the Winter Supply Outlook 2025/26 for the Reference Winter scenario in combination with the LNG Ref supply potential is that the European gas network is capable of enabling market participants to satisfy the demand and reach at least a 30% stock level in all

[31] Based on the data from the ENTSOG Gas Flow Dashboard: https://gasdashboard.entsog.eu/#map-flows

UGS by the end of the winter season 2025/26 (**Figure 11**). In case of LNG Low supply potential, the UGS can reach the 24% UGS stock level target (storage could compensate through higher withdrawals).

A sensitivity simulation with the same input data but aiming at a maximisation of the UGS stock level at the end of the winter was run. This sensitivity shows that there is sufficient flexibility of the gas infrastructure to achieve a higher UGS stock level of 41% at the end of the winter.

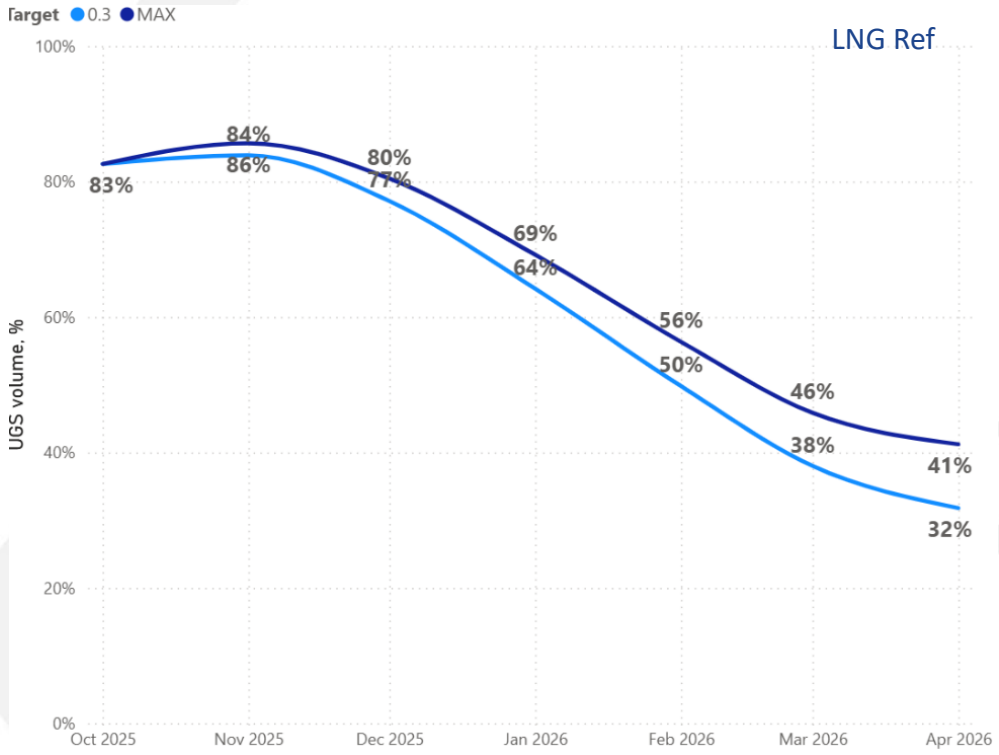
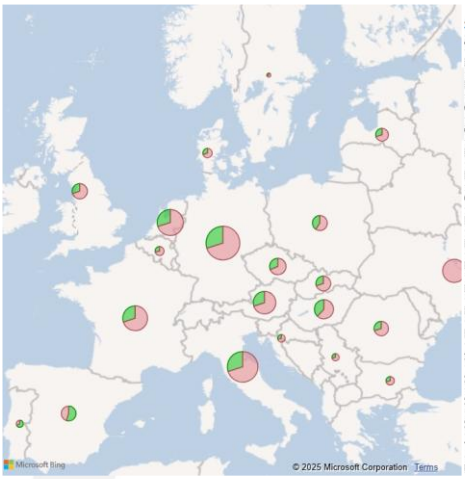


Figure 11. Reference Winter scenario. Evolution of the aggregated European UGS stock level, %

Figures 12 and **13** show the UGS stock level per country on 31 March 2026 as a result of the model for the Reference Winter.

Country	Value
Austria	30%
Belgium	30%
Bulgaria	30%
Croatia	30%
Czechia	31%
Denmark	30%
France	30%
Germany	30%
Hungary	38%
Italy	30%
Latvia	30%
Poland	41%
Portugal	68%
Romania	30%
Serbia	30%
Slovakia	30%
Spain	55%
Sweden	30%
The Netherlands	30%
United Kingdom	30%



Country	Value
Austria	40%
Belgium	40%
Bulgaria	41%
Croatia	40%
Czechia	41%
Denmark	40%
France	41%
Germany	40%
Hungary	45%
Italy	41%
Latvia	40%
Poland	41%
Portugal	68%
Romania	40%
Serbia	40%
Slovakia	40%
Spain	55%
Sweden	40%
The Netherlands	40%
United Kingdom	40%

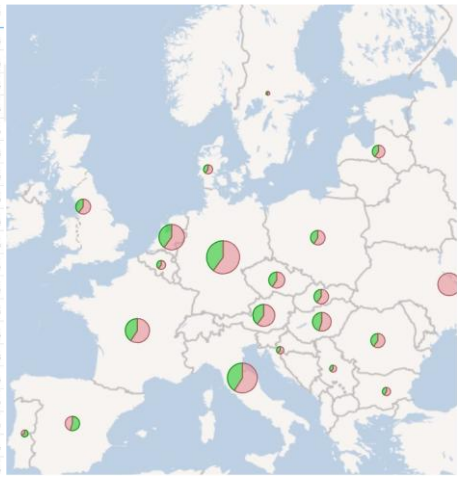


Figure 12 and Figure 13. Reference Winter and sensitivity with Maximum UGS stock level target potential. UGS stock level per country, %

Figures 14 and **15** show the level and composition of the supply mix in the Reference Winter scenario. The storage filling level at the end of March 2026 is 32%.

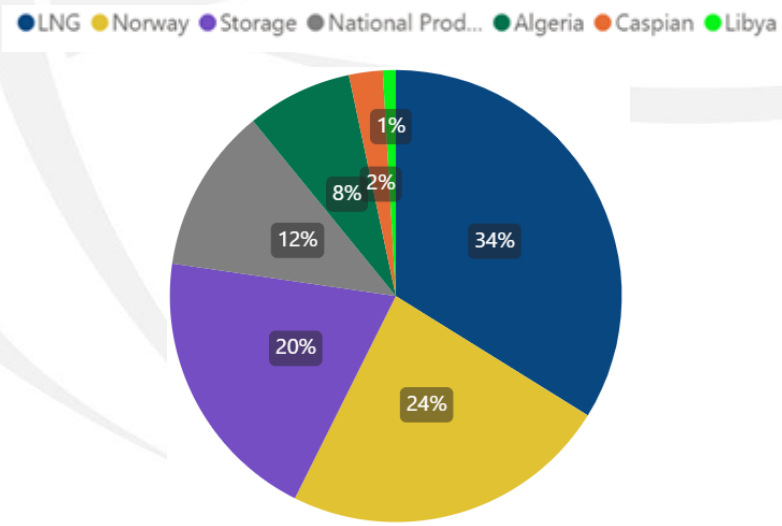


Figure 14. Reference Winter. Supply mix, %

The monthly supply mix is stable over the winter season 2025/26, maximising the usage of all available pipeline supply sources (except Russia) up to their maximum potentials. This shows that no capacity restrictions are limiting imports in this case. LNG supply and supply from Norway represent 34% and 24% respectively.

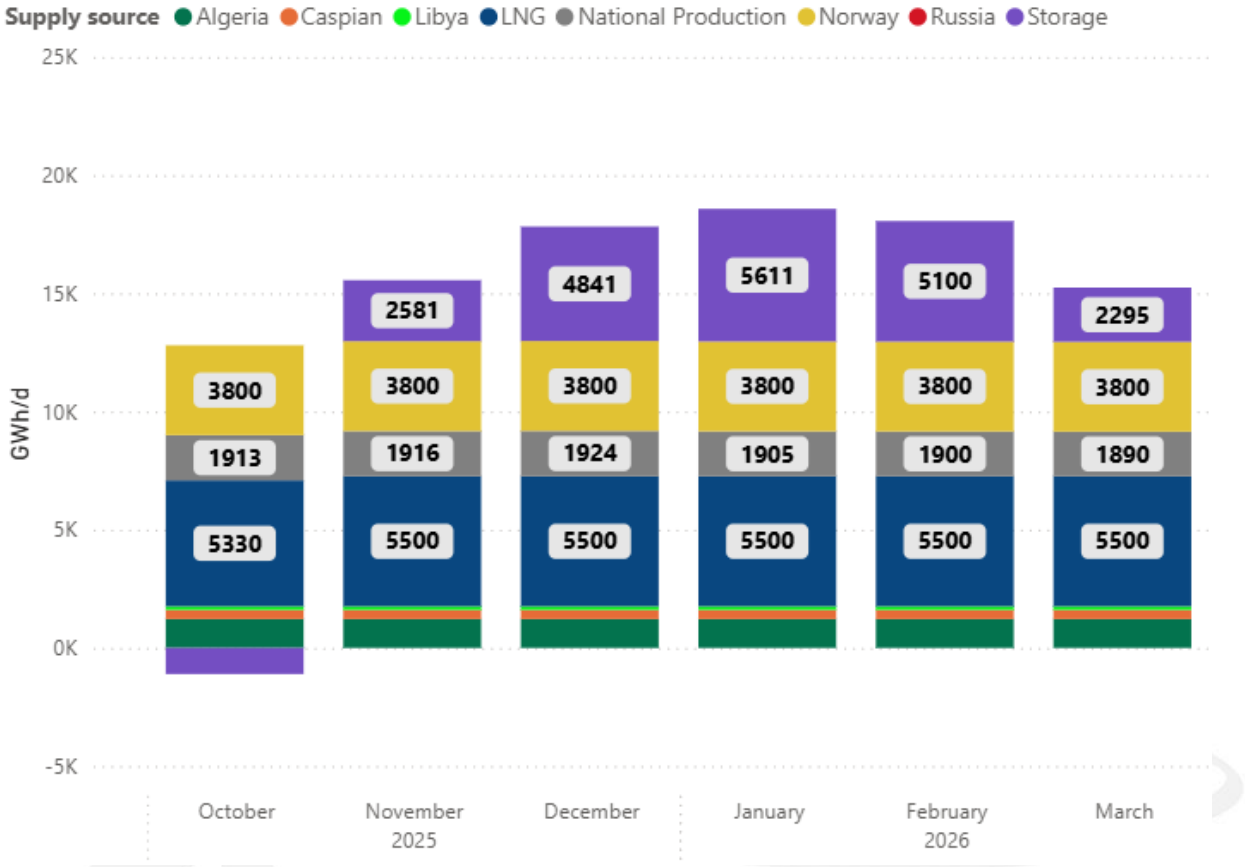


Figure 15. Reference Winter scenario. Monthly supply mix, GWh/d

The import levels shown represent one possible supply option, where LNG is providing the required import flexibility in this example, and modelling is minimising Russian pipeline supply showing that all the targets can be met even without Russian pipeline gas.

3.2 Reference Winter supply dependence assessment – Russian supply disruption

This section investigates the potential impact of the scenario described in section 0 but with the assumption of a full disruption of the Russian pipeline supply during the withdrawal period.

For the Reference Winter demand in combination with the LNG Ref supply potential, the European gas network can enable market participants to satisfy the demand and reach a 30%[32] filling level in all UGS by the end of the winter season 2025/26 (**Figure 16**). The outcomes of a sensitivity analysis aiming at a maximum storage filling level at the end of the winter further indicate that the UGS stock level yielding 32% at the end of the withdrawal period.

In the scenario where a disruption of Russian supply via TurkStream is combined with a low LNG supply potential sensitivity analysis, it is observed that UGS are fully utilised to meet demand. By the end of the winter season, the European UGS stock level remains at 16% (**Figure 17**).

[32] The storage filling level is 32% (above 30%) due to national strategic reserves in some countries.

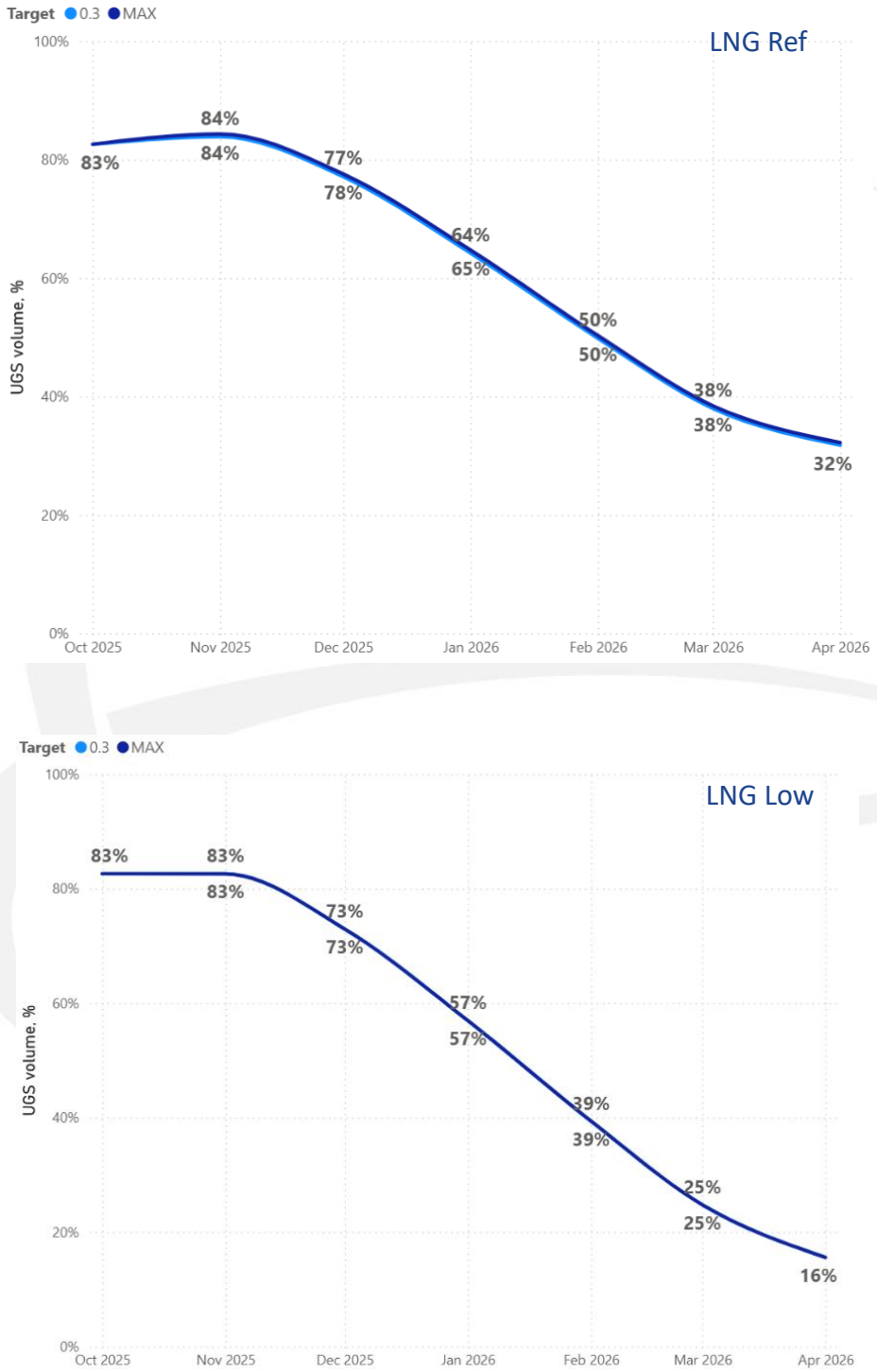
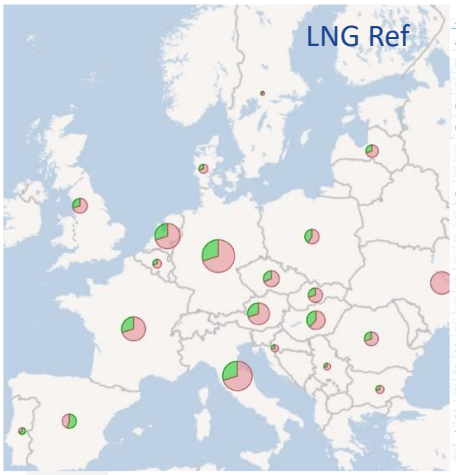


Figure 16 and Figure 17. Winter Russian supply dependence assessment. Evolution of the aggregated European UGS stock level, %

Figures 18 and **19** show the stock level per country on 31 March 2026 as a result of the model for the winter supply dependence assessment for the Reference Winter.

Country	Value
Austria	30%
Belgium	30%
Bulgaria	30%
Croatia	30%
Czechia	31%
Denmark	30%
France	30%
Germany	30%
Hungary	38%
Italy	30%
Latvia	30%
Poland	41%
Portugal	68%
Romania	30%
Serbia	30%
Slovakia	30%
Spain	55%
Sweden	30%
The Netherlands	30%
United Kingdom	30%



Country	Value
Austria	21%
Belgium	8%
Bulgaria	7%
Croatia	7%
Czechia	9%
Denmark	20%
France	8%
Germany	7%
Hungary	22%
Italy	25%
Latvia	8%
Poland	41%
Portugal	68%
Romania	7%
Serbia	7%
Slovakia	7%
Spain	55%
Sweden	7%
The Netherlands	8%
United Kingdom	7%

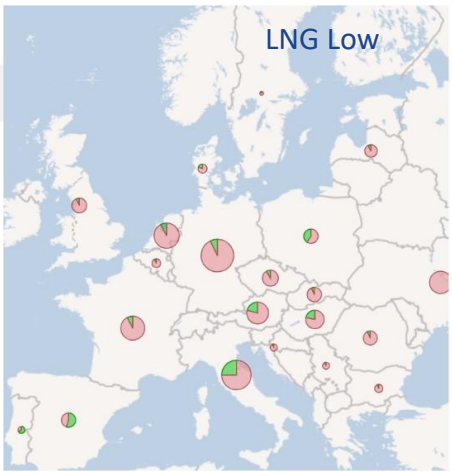


Figure 18 and Figure 19. Winter Russian supply dependence assessment. Reference Winter scenario and sensitivity scenario with LNG Low supply potential. UGS stock level per country, %[33]

Figures 20 and 21 show the level and composition of the supply mix in the supply dependence assessment of the Reference Winter scenario – on pipeline supply disruption from Russia. The European UGS stock level at the end of March 2026 is 32%.

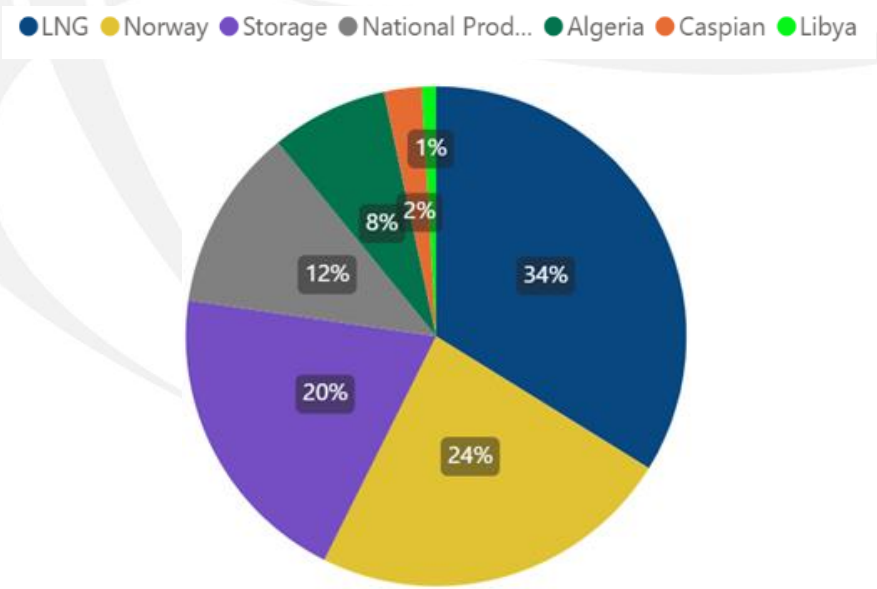


Figure 20. Winter Russian supply dependence assessment. Reference Winter scenario. Supply mix, %

[33] Values for Czech Republic include Slovakian storages located on the Czech Republic territory.

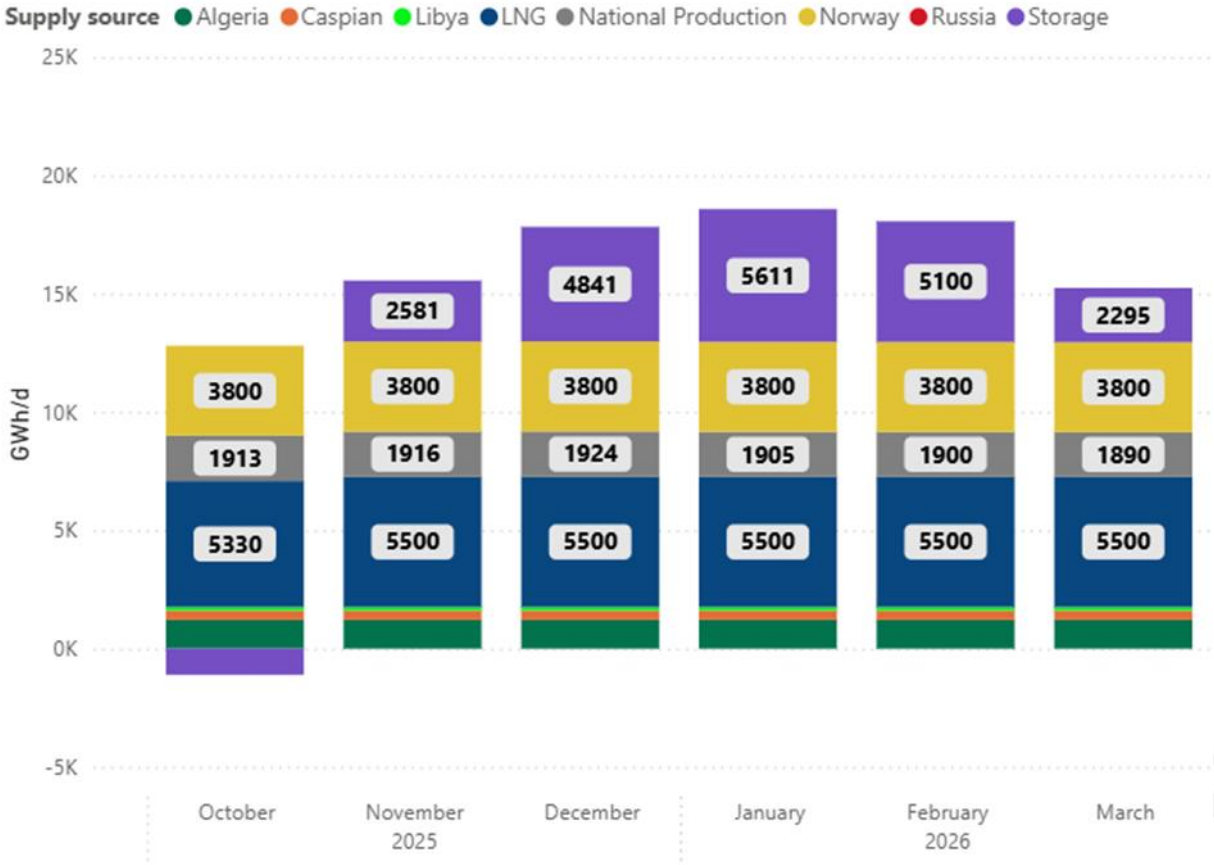


Figure 21. Winter Russian supply dependence assessment. Reference Winter scenario. Monthly supply mix, GWh/d

The monthly supply mix is stable over the winter season 2025/26 period. LNG supply and supply from Norway represent the largest sources of supply. In the Reference Winter scenario, they constitute 34% and 24% of the total supply, respectively.

3.3 Reference Winter supply dependence assessment – SoS disruptions

This section investigates the potential impact of two scenarios previously considered in the 2024 Union-wide simulation of gas supply and infrastructure disruption scenarios[34] (SoS simulation), namely the disruption of the largest offshore infrastructure to continental EU (Europipe 2), and disruption of all imports from Algeria (imports via both pipelines and LNG cargos). In both cases, it is also assumed that the Russian supply via Turkstream is also disrupted at the same time.

For a Reference Demand scenario with Algeria or Europipe 2 disruption cases, storage facilities are sufficient to meet demand, but storage falls below the 30% target by the end of winter (**Figure 22**).

With higher LNG supply, it is possible to reach the 30% target at the end of the winter season. Additional LNG supply required in the EU is estimated at approximately 215 TWh (20 Bcm) in

[34] https://www.entsog.eu/security-of-supply-simulation#union-wide-simulation-of-supply-and-infrastructure-disruption-scenarios-2024

the case of an Algeria disruption, and approximately 111 TWh (10 Bcm) in the case of a Europipe 2 disruption (**Figure 23**).

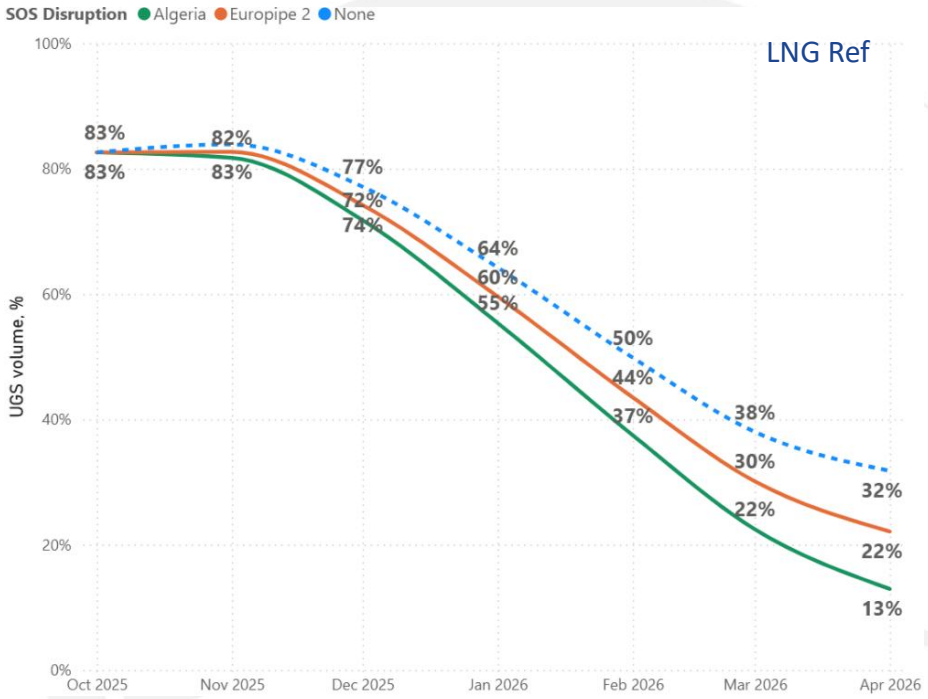


Figure 22. SoS disruptions supply dependence assessment, LNG Ref case. Evolution of the aggregated European UGS stock level, %

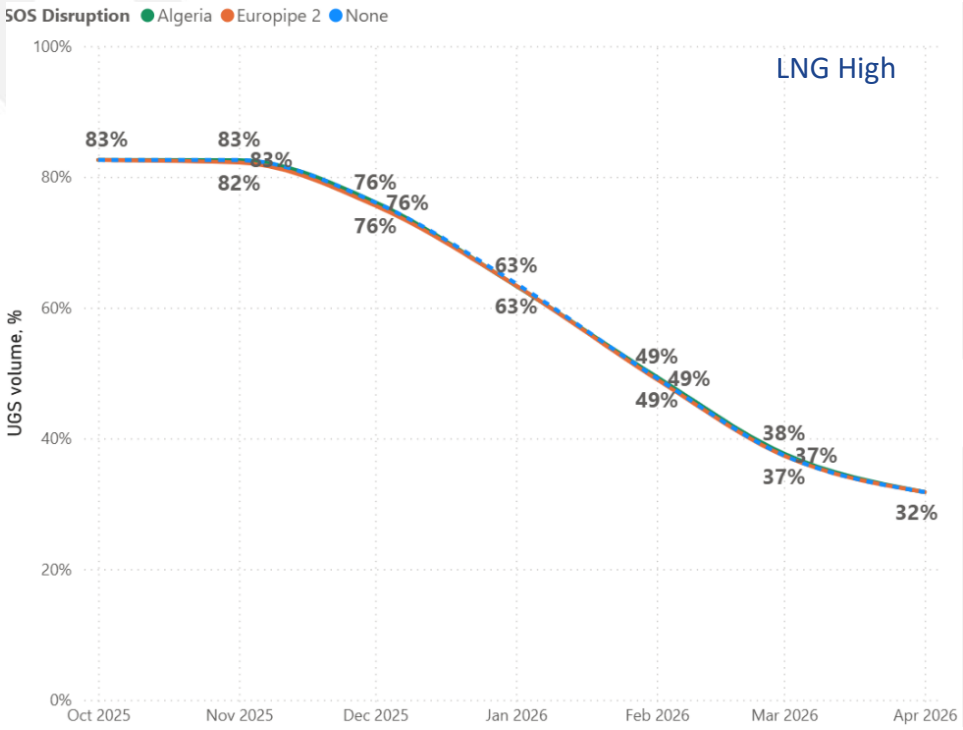


Figure 23. SoS disruptions supply dependence assessment, LNG High case. Evolution of the aggregated European UGS stock level, %

3.4 Cold Winter scenario with 30% UGS stock level target for 31 March 2026

For the Cold Winter 2025/26 scenario, the overall winter season withdrawal is defined as the amount of gas necessary to meet demand and reach 30% stock level in each European UGS on 31 March 2026 when starting at an average European UGS stock level of 83% on 1 October 2025 (see Figure 9). In this scenario, the Cold Winter demand values for each country during the withdrawal period were assumed.

The distribution of withdrawal, demand, and supply during the winter months results from the modelling and the following assumptions:

- The Cold Winter monthly gas demand in **Annex B**
- The monthly national gas production estimated by TSOs in **Annex B**
- The monthly capacities provided by TSOs
- The storage withdrawal curves provided by GSE as defined in **Annex A**
- The flexibility given to the model for the definition of the supply potentials derives from the historical supply mix (see **Table 4**)

Based on these assumptions, the modelling has been used to check if any physical congestion or dependence on an import source may limit the fulfilment of gas demand during the Cold Winter withdrawal period while all European countries cooperate.

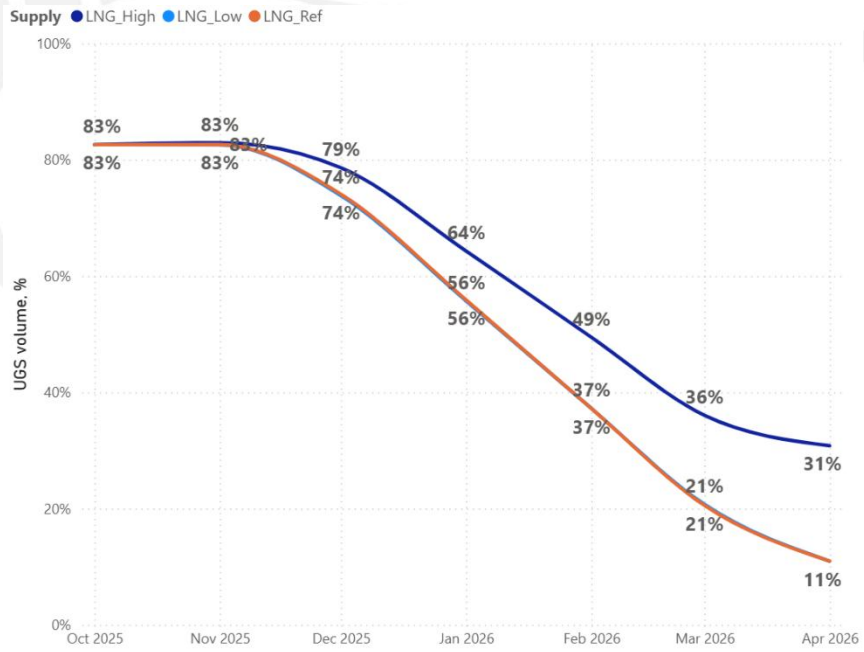


Figure 24. Cold Winter scenario. Evolution of the aggregated European UGS stock level, %

The Cold Winter 2025/26 scenario simulation results show that withdrawal capacities of the UGS combined with the supply flexibility of imports in some scenarios are not sufficient to cover the demand and reach the UGS stock level target of 30%. By the end of the winter season, the European UGS stock level remains at a mere 11% for both LNG Ref and LNG Low

supply, and 31% for LNG High supply. The 11% value corresponds to UGS strategic stock reserves on EU average at the end of the winter season (**Figure 24**).

Europe would face a risk of demand response need (either policy-based or price-driven) estimated at 3% of total Cold Winter demand—equivalent to 92 TWh (~8 bcm) in the LNG Ref case—and up to 9%, or 262 TWh (~24 bcm), in the LNG Low case, as shown in **Figure 25.** This situation underscores a noteworthy risk that must be pre-emptively addressed, particularly if EU Member States aim to achieve the 30% UGS stock level target at the end of the winter season 2025/26.

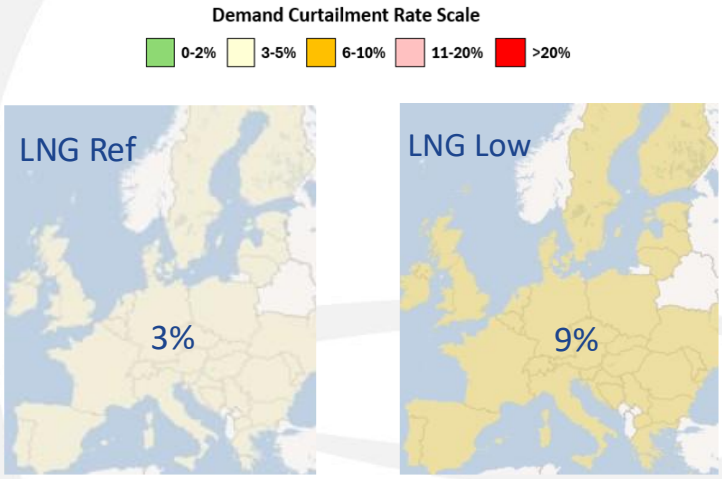


Figure 25. Cold Winter scenario. Demand Curtailment (average), %[35]

In both cases, this would leave only 11% of UGS strategic reserves on average across the EU by the end of the winter season. Additional usage of strategic UGS reserves could further improve the situation. These reserves are not freely available on the market under normal conditions and represent 11% of all European UGS working gas volume. Some European countries are reserving a part of their own gas stock to be constituted as strategic UGS reserves and used only for the purpose of mitigating demand curtailment. The availability of strategic UGS reserves is depending on the country's specific regulation.

To avoid the risk of demand curtailment and maintain a minimum 30% storage level, EU would need demand response measures (either policy-based or price response-based) and/or extra supplies amounting to 330 TWh (~30 bcm) in the LNG Reference case and 500 TWh (~45 bcm) in the LNG Low case during the winter season.

3.5 Cold Winter supply dependence assessment – Russian supply disruption

This section investigates the potential impact on the scenario described in section 3.2 but with the assumption of a full disruption of the Russian pipeline supply during the withdrawal period.

[35] Results do not consider the utilization of strategic storage reserves - strategic reserves remain available to avoid/reduce demand curtailment in some countries (11% at EU level)

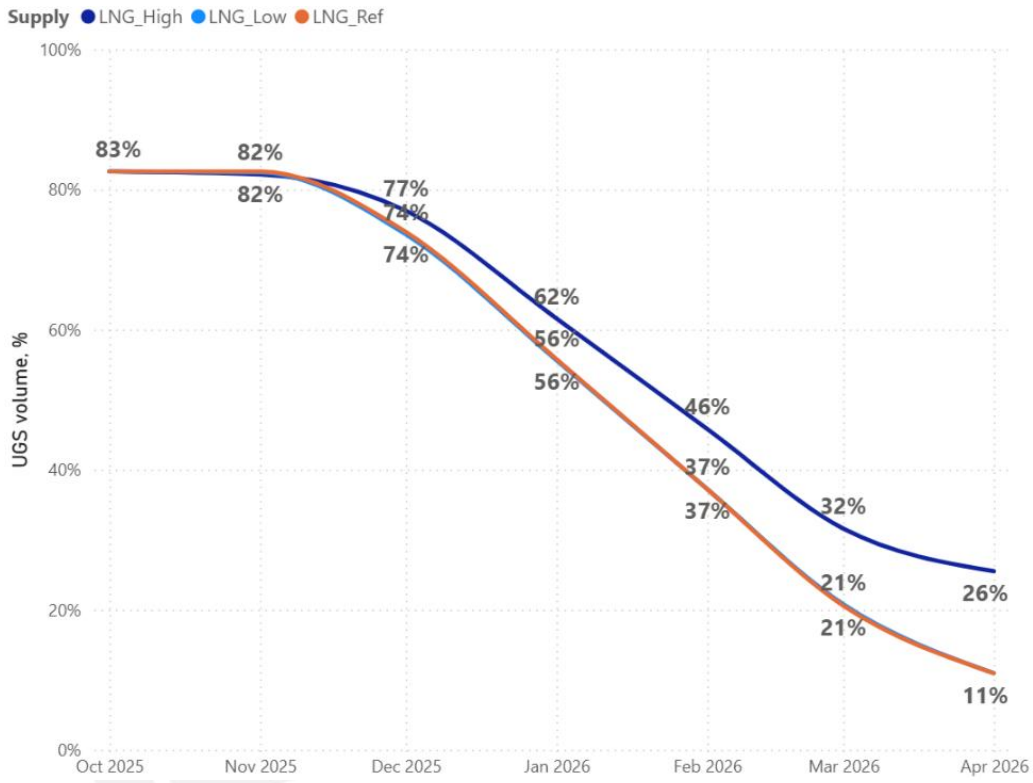


Figure 26. Cold Winter Russian supply dependence assessment. Evolution of the aggregated European UGS stock level, %

The Cold Winter 2025/26 with full Russian disruption scenario simulation results show that withdrawal capacities of the UGS combined with the supply flexibility of imports is not sufficient to cover the demand and reach the UGS stock level target of 30%. Results show that, without Russian pipeline supply during a Cold Winter, Europe would need to adjust its consumption with a demand response from 7% for LNG Ref supply to 13% for LNG Low supply (**Figure 27**). The scenario is influenced by the dynamics of LNG imports as shown in **Figure 26**.

In any case the simulation results reveal the gas supply for Europe is not enough in Cold Winter to meet all the targets. By the end of the winter season, the European UGS stock level remains at a mere 11%. This figure encompasses only the strategic reserves of selected countries which is not freely available on the market under normal conditions. This situation underscores a noteworthy risk that must be pre-emptively addressed, particularly if EU Member States aim to achieve the 30% UGS stock level target at the end of the winter season 2025/26.

Additional demand response measures (either policy-based or price response-based) and/or extra supplies amounting to 107 TWh (~10 bcm) would be required. This volume is equivalent to the maximum supply that Europe could receive through the TurkStream pipeline.

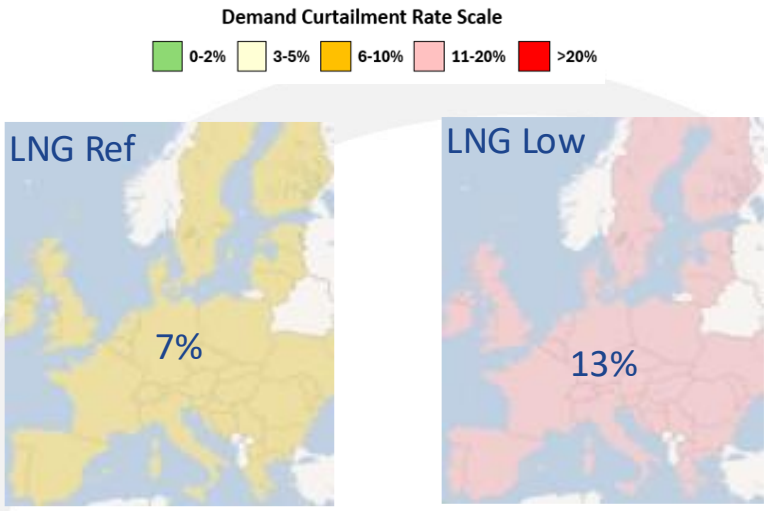


Figure 27. Cold Winter Russian supply dependence assessment. Demand Curtailment (average), %[36]

3.6 Cold Winter supply dependence assessment – SoS disruptions

The two SoS scenarios (Algeria and Europipe 2) were reconsidered, this time under Cold Winter conditions.

Storage facilities are insufficient to meet demand, falling to the 11% volume related to strategic reserves by the end of winter (**Figure 28**). Curtailments ensue, from 10% in the Europipe 2 case to 13% in case of Algerian disruption (**Figure 29**).

With higher LNG supply, the impact of the disruptions is lessened but it is still not feasible to reach the 30% target at the end of the winter season (**Figure 30**). The curtailment levels are nevertheless more than halved (**Figure 31**).

To prevent depletion below 30% at the end of the Cold Winter scenario, additional LNG would be required in combination with demand response measures (either policy-based or price-driven), of which about 618 TWh (~56 bcm) in the case of an Algerian disruption, and 524 TWh (~48 bcm) in the case of a Europipe 2 disruption.

[36] Results do not consider the utilization of strategic storage reserves - strategic reserves remain available to avoid/reduce demand curtailment in some countries (11% at EU level)

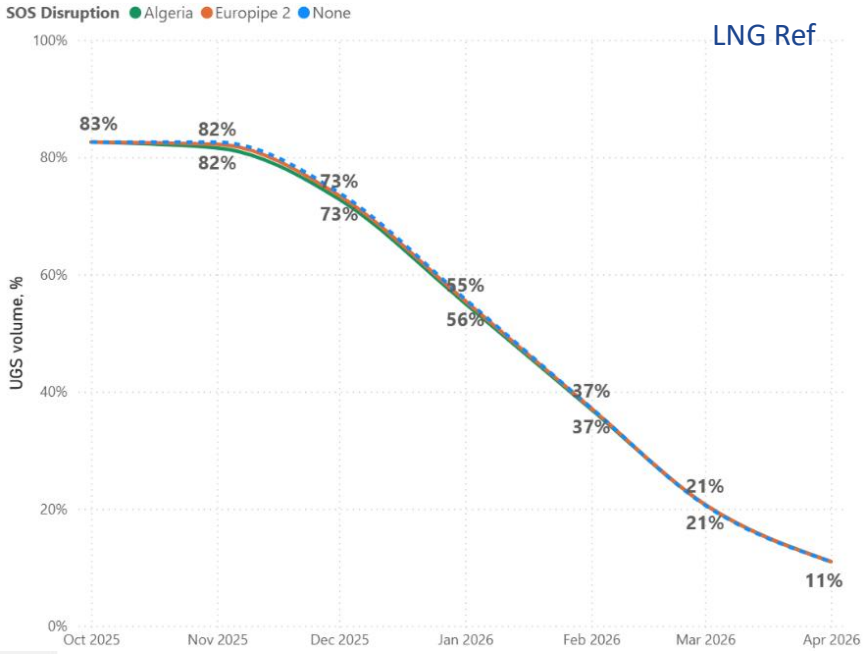


Figure 28. Cold Winter scenario. SoS disruptions supply dependence assessment, LNG Ref case. Evolution of the aggregated European UGS stock level, %

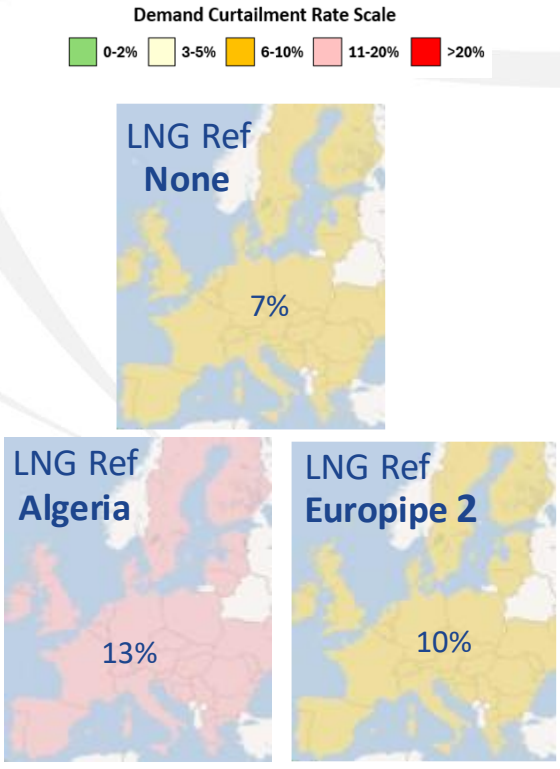


Figure 29. Cold Winter scenario. SoS disruptions supply dependence assessment, LNG Ref case. Demand Curtailment (average), %[37]

[37] Results do not consider the utilization of strategic storage reserves - strategic reserves remain available to avoid/reduce demand curtailment in some countries (11% at EU level)

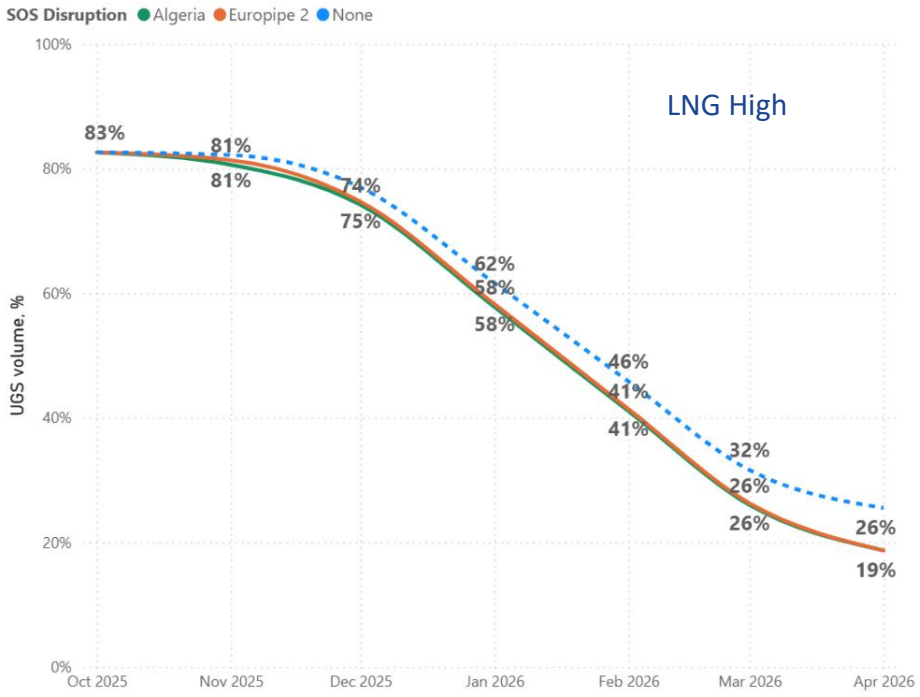


Figure 30. Cold Winter scenario. SoS disruptions supply dependence assessment, LNG High case. Evolution of the aggregated European UGS stock level, %

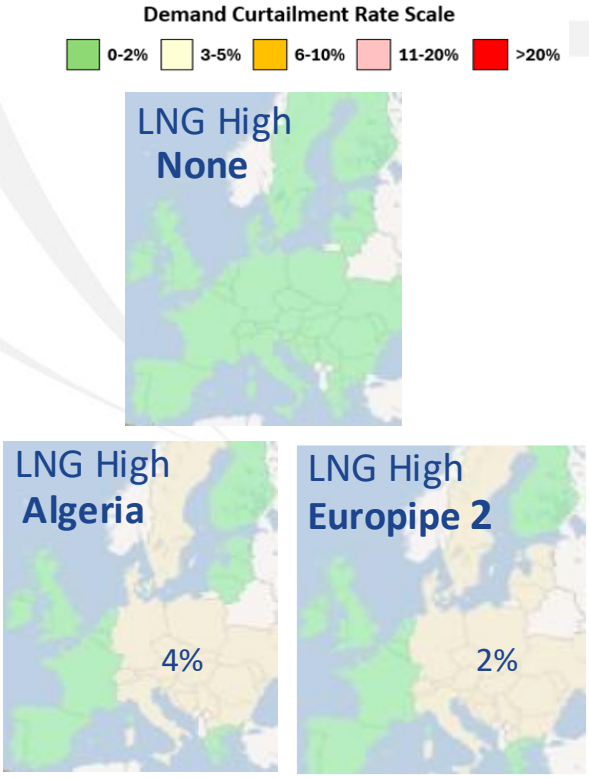


Figure 31. Cold Winter scenario. SoS disruptions supply dependence assessment, LNG High case. Demand Curtailment (average), %[38]

[38] Results do not consider the utilization of strategic storage reserves - strategic reserves remain available to avoid/reduce demand curtailment in some countries (11% at EU level)

3.7 High demand events

For the high demand situation scenarios, meeting the demand for Peak Day and 2-week Cold Spell is defined as availability of the peak supply potential and sufficient withdrawal capacity, starting from an initial European UGS stock level of 50%, or 35% in the SoS disruption cases shown here.

High demand cases, such as Peak Day and 2-Week Cold Spell, are simulated as independent analyses. However, these high demand events are typically expected to occur late in winter, when UGS are no longer at their maximum stock level (therefore, they cannot deliver their maximum withdrawal capacity). At this stage, seasonal simulation results show that maintaining a UGS stock level of 50%, when high demand situations may arise, would enable an effective response to increased demand through efficient withdrawals from UGS. A lower UGS stock level leads to a decrease in withdrawal capacity, primarily due to reduced pressure in the UGS.

The distribution of withdrawal, demand, and supply during the high demand situation results from the modelling and the following assumptions:

- The Peak Day and 2-week Cold Spell gas demand estimated by TSOs for the Reference Winter in **Annex B**
- The Peak Day and 2-week Cold Spell gas demand for the Cold Winter in **Annex B**
- The peak national gas production estimated by TSOs in **Annex B**
- The peak capacities provided by TSOs
- The UGS withdrawal curves provided by GSE as defined in **Annex A**
- The flexibility given to the model for the definition of the supply potentials derives from the historical supply mix (see **Table 4**) and plus additional LNG that can be taken from the tanks (see **Annex A**)
- Initial European UGS stock level of 50% or 35% in the SoS disruption cases

Based on these assumptions, the modelling has been used to evaluate the ability of the gas infrastructure to cope with high demand events such as a 1-in-20 years Peak Day and a 1-in-20 years 2-week Cold Spell during the winter period while all European countries cooperate.

In the case of Reference Winter (see Figures 32 and **33)**, the European gas infrastructure is capable of fully meeting the demand during a 2-week Cold Spell and also during the Peak Day.

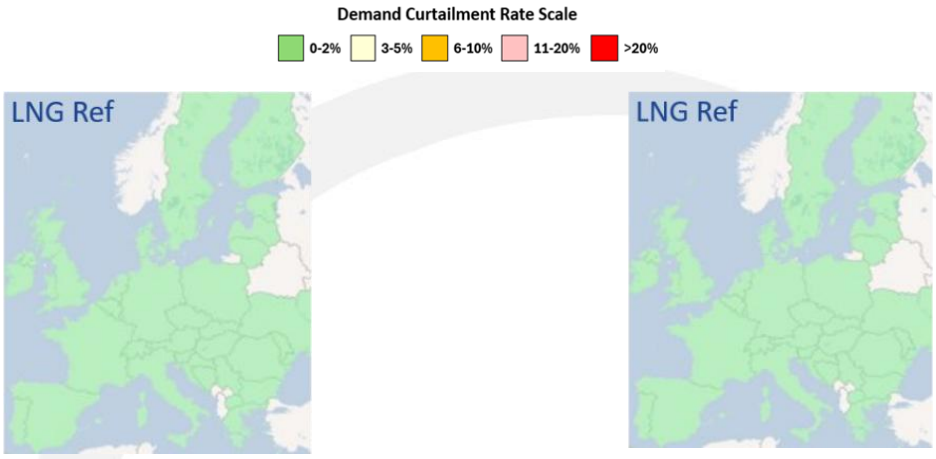


Figure 32 - Reference Winter. 2-week Cold Spell. Demand Curtailment, %

Figure 33. Reference Winter. Peak Day. Demand Curtailment, %

In the case of Cold Winter (see **Figures 34** and **35**), the European gas infrastructure is capable of fully meeting the demand during a 2-week Cold Spell and also during the Peak Day demand.

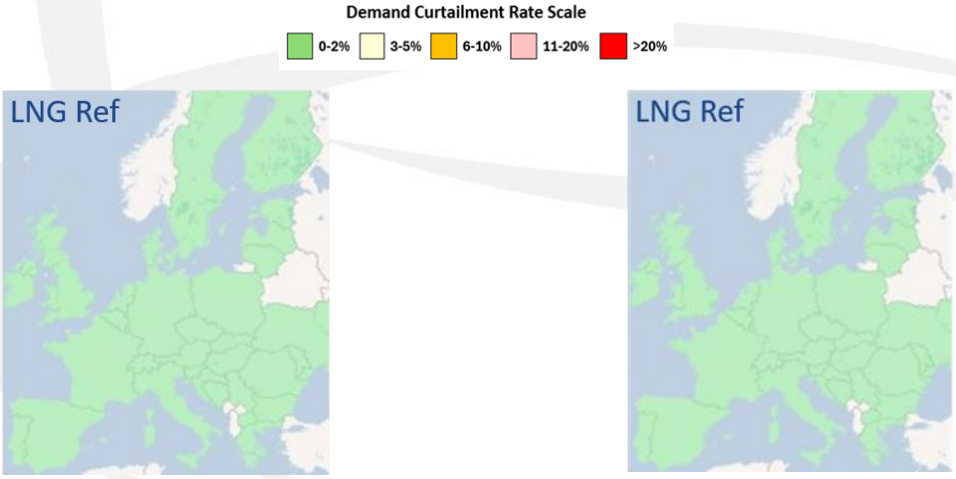


Figure 34. Cold Winter. 2-week Cold Spell. Demand Curtailment, %

Figure 35. Cold Winter. Peak Day. Demand Curtailment, %

3.8 High demand events supply dependence assessment – Russian supply disruption

This section investigates the potential impact of full disruption of Russian pipeline supply during the high demand situations on meeting the demand for Peak Day and 2-week Cold Spell, starting from an initial European UGS stock level of 50%.

High demand cases, such as Peak Day and 2-Week Cold Spell, are simulated as independent analyses. However, these high demand events are typically expected to occur late in winter, when UGS are no longer at their maximum stock level (therefore, they cannot deliver their maximum withdrawal capacity). At this stage, seasonal simulation results show that maintaining a UGS stock level of 50%, when high demand situations may arise, would enable an effective response to increased demand through efficient withdrawals from UGS. A lower

UGS stock level leads to a decrease in withdrawal capacity, primarily due to reduced pressure in the UGS.

In the case of Reference Winter (see Figures 36 and **37)**, the European gas infrastructure is capable of fully meeting the demand during a 2-week Cold Spell. During a Peak Day situation, countries are also capable of fully meeting the demand.

Figure 36. Reference Winter RU supply dependence assessment. 2-week Cold Spell. Demand Curtailment, %

Figure 37. Reference Winter RU supply dependence assessment. Peak Day. Demand Curtailment, %

In the case of Cold Winter (see Figures 38 and **39)**, the European gas infrastructure is capable of fully meeting the demand during a 2-week Cold Spell but most of the countries in the South-Eastern European region (Croatia, Bulgaria, Hungary, Romania, Serbia, Bosnia and Herzegovina, North Macedonia, Ukraine and Moldova) are exposed to an average need of demand response of 8% during a Peak Day situation. The rest of the Union except Greece, Italy, Spain and Portugal) are exposed to 3% of demand response needs. In Peak Day results, the bottlenecks to South-Eastern European region do not allow for more gas supply.

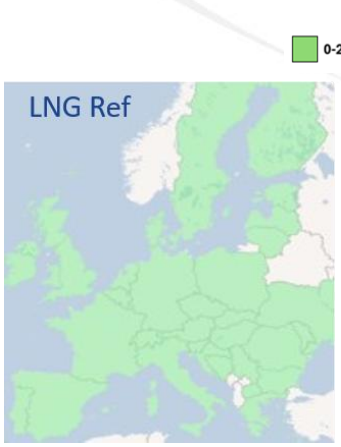


Figure 38. Cold Winter RU supply dependence assessment. 2-week Cold Spell. Demand Curtailment, %

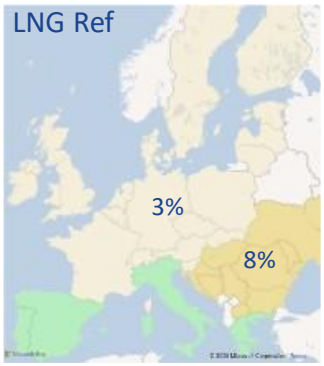


Figure 39. Cold Winter RU supply dependence assessment. Peak Day. Demand Curtailment, %

However, some European countries are still reserving a part of their own gas stock, constituted as strategic reserves, to be used only for the purpose of mitigating demand curtailment. The availability of these strategic storage reserves depends on the specific regulation in each country. The model assumes actual strategic UGS constraints, but simulation results do not consider the utilisation of strategic storage reserves and these remain available to avoid/reduce demand curtailment in some countries.

3.9 High demand events supply dependence assessment – SoS disruptions

The two disruption scenarios - the disruption of the largest offshore infrastructure to continental EU (Europipe 2), and disruption of all imports from Algeria were considered, specifying initial European UGS stock level of 35%.

The 2-Week Cold Spell situation presents no challenges, while the Peak Day case results in curtailments up to 9% in the Algerian disruption and 7% in the Europipe 2 disruption (**Figures 40 and 41**).

However, the Cold Winter case can as expected lead to more severe curtailments even in the 2-Week Cold Spell case, as illustrated in **Figures 42** and **43**.

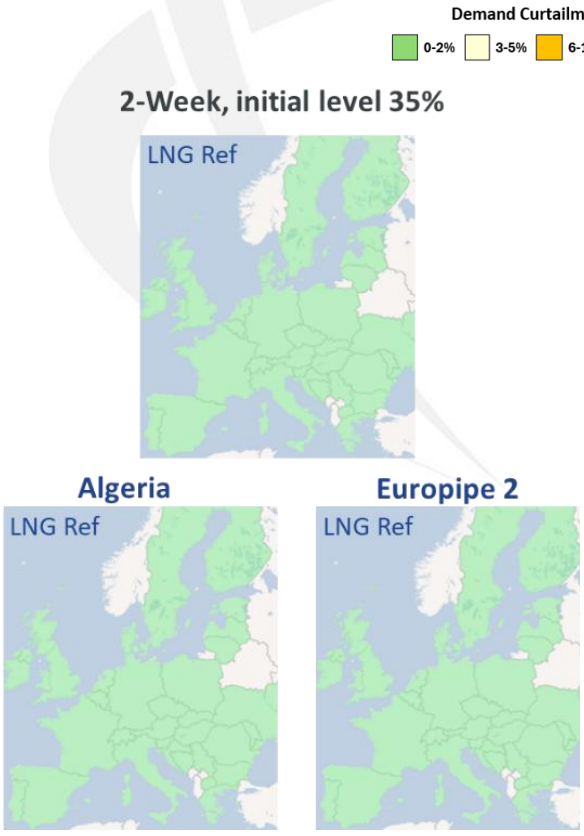


Figure 40. 2-Week Cold Spell supply dependence assessment – SoS disruptions, Reference Winter. Demand Curtailment, %

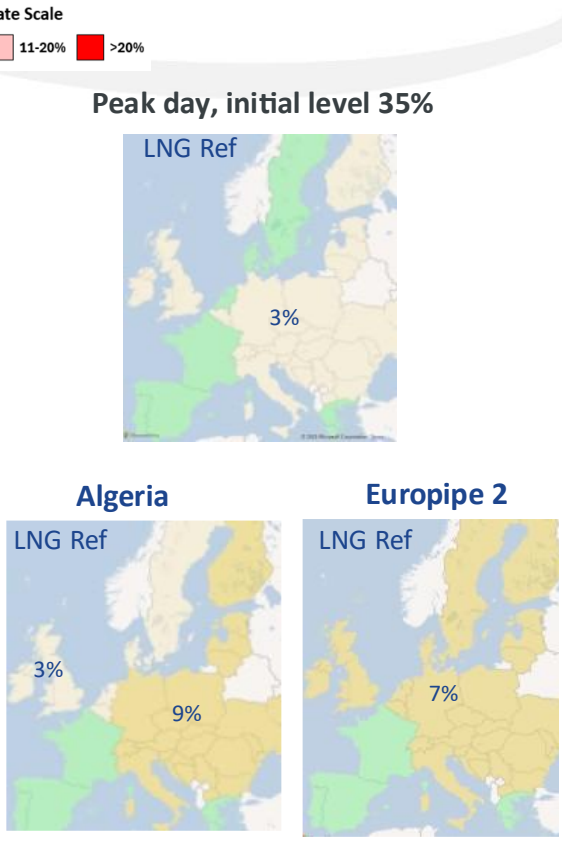


Figure 41. Peak Day supply dependence assessment – SoS disruptions, Reference Winter. Demand Curtailment, %

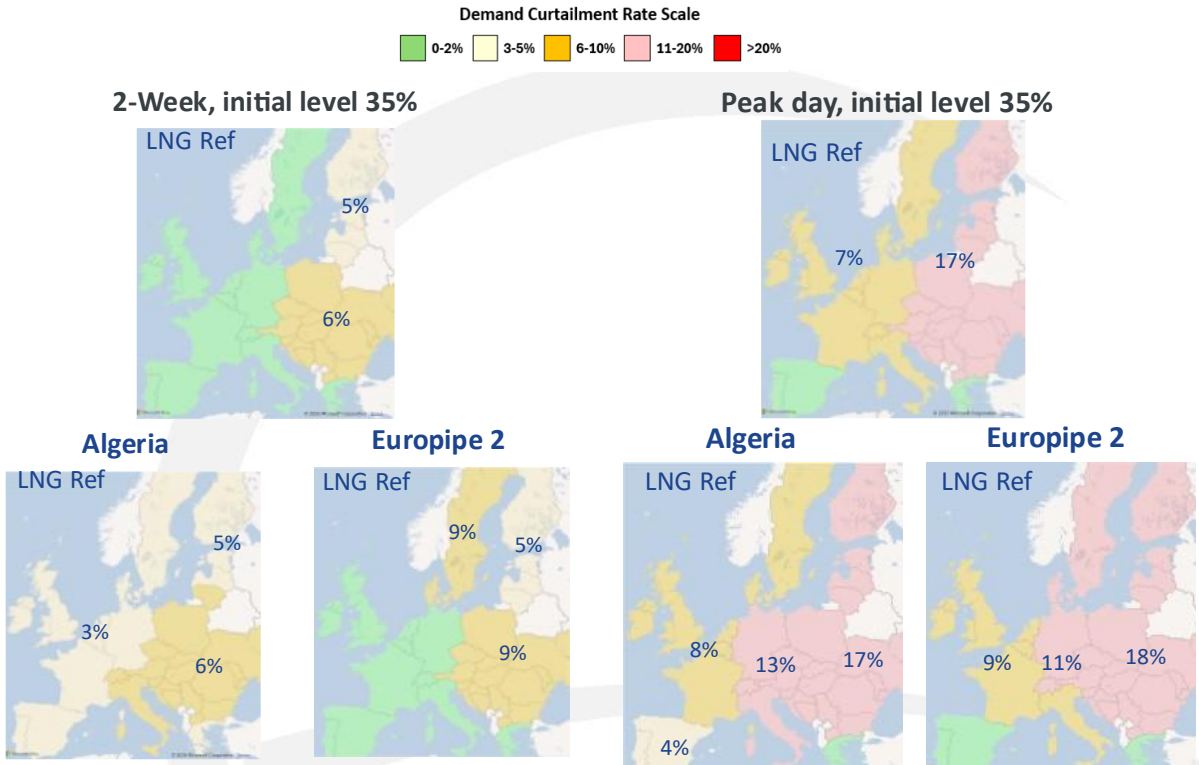


Figure 42. 2-Week Cold Spell supply dependence assessment – SoS disruptions, Cold Winter. Demand Curtailment, %

Figure 43. Peak Day supply dependence assessment – SoS disruptions, Cold Winter. Demand Curtailment, %

The simulations of high demand events, such as Peak Day and 2-Week Cold Spell, under extreme conditions—like those in a Cold Winter, with low storage levels at the start of the event, and under supply disruption scenarios (e.g., no Russian pipeline supply, and disruptions in disruptions in key infrastructure)—highlighted bottlenecks from west-to-east, which limit the ability to supply gas to the Eastern Europe.

However, some European countries are still reserving apart of their own gas stock, constituted as strategic reserves, to be used only for the purpose of mitigating demand curtailment. The availability of these strategic storage reserves depends on the specific regulation in each country. The model assumes actual strategic UGS constraints, but simulation results do not consider the utilisation of strategic storage reserves and these remain available to avoid/reduce demand curtailment in some countries.

4. MODELLING RESULTS FOR THE SUMMER 2026 OVERVIEW

4.1 Reference summer scenario with 90% UGS stock level target for 30 September 2026

For the Reference Summer 2026 overview scenario, two types of simulations were performed:

- Full year (12 months) simulations where the model anticipates reaching the UGS stock level target of 90% at the end of this period (after these 12 months) already from the beginning of the gas year, i.e., 1 October 2025. Monthly demand values for Reference

demand and for 5-year average demand with 15% reduction (5YA-15%)[39] are assumed for each country.

- Summer season simulations investigating possibilities to reach the UGS stock level target of 90% at the end of the season but starting at an average UGS stock level of 30% in each country at the beginning of summer, i.e., 1 April 2026. Monthly demand values for Reference demand and for 5-year average with 15% reduction (5YA-15%)[40] are assumed for each country.

The analysis investigates the possible evolution of the gas supply as well as the ability of the gas infrastructures to meet the demand, export, and storage injection needs to reach 90% of the stock level in each European UGS on 30 September 2026. For the full year simulation of the gas year 2025/26 (i.e., from 1 October 2025 to 30 September 2026), the simulation starts with an average European UGS stock level of 83% on 1 October 2025 (**see Figure 9**).

The distribution of withdrawal, injection, demand, and supply during the winter and summer months results from the modelling and the following assumptions:

- The **Reference** monthly gas demand and the **5-year average with 15% reduction** monthly gas demand in **Annex B**
- The monthly national gas production estimated by TSOs in **Annex B**
- The monthly capacities provided by TSOs
- The UGS withdrawal and injection curves provided by GSE as defined in **Annex A**
- The supply potentials from the historical supply mix (see **Table 4**)

With this configuration the results show that in the full year simulations (12 months) the European gas network is capable to enable market participants to meet demand and achieve a minimum UGS stock level of 90% in all UGS by the end of the summer season 2026. According to the simulation results, a UGS stock level of 41% is indicated at the end of winter to reach the 90% UGS stock level target by the end of summer 2026.

However, the outcomes of the sensitivity analysis with LNG Low supply scenario further indicate the gas infrastructure is insufficient to achieve the UGS stock level target of 90% as it can only enable 74% (**Figure 44**).

In such cases, demand response (either policy-based or price-based) would offer enough supply flexibility and the opportunity to reach the target for all UGS **(Figure 45)**. Also, a higher initial UGS stock level at the beginning of the injection period can provide added flexibility to the gas infrastructure.

[39] Council Recommendation of 25 March 2024 on continuing coordinated demand-reduction measures for gas
[40] Council Recommendation of 25 March 2024 on continuing coordinated demand-reduction measures for gas

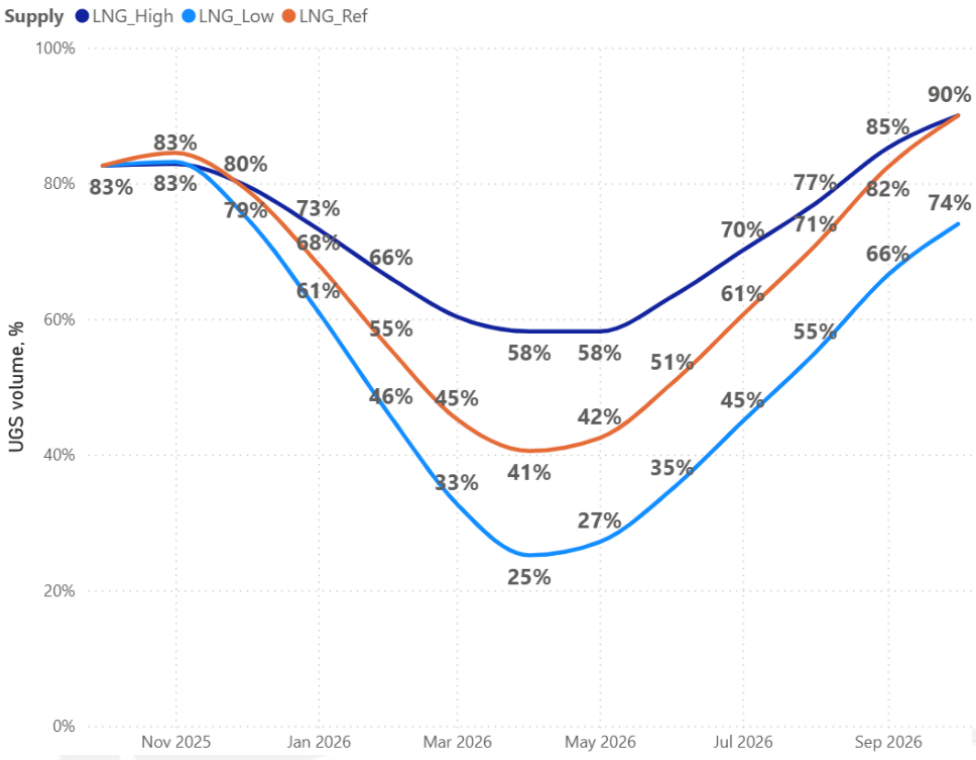


Figure 44. Reference demand scenario. Evolution of the aggregated European UGS stock level, %

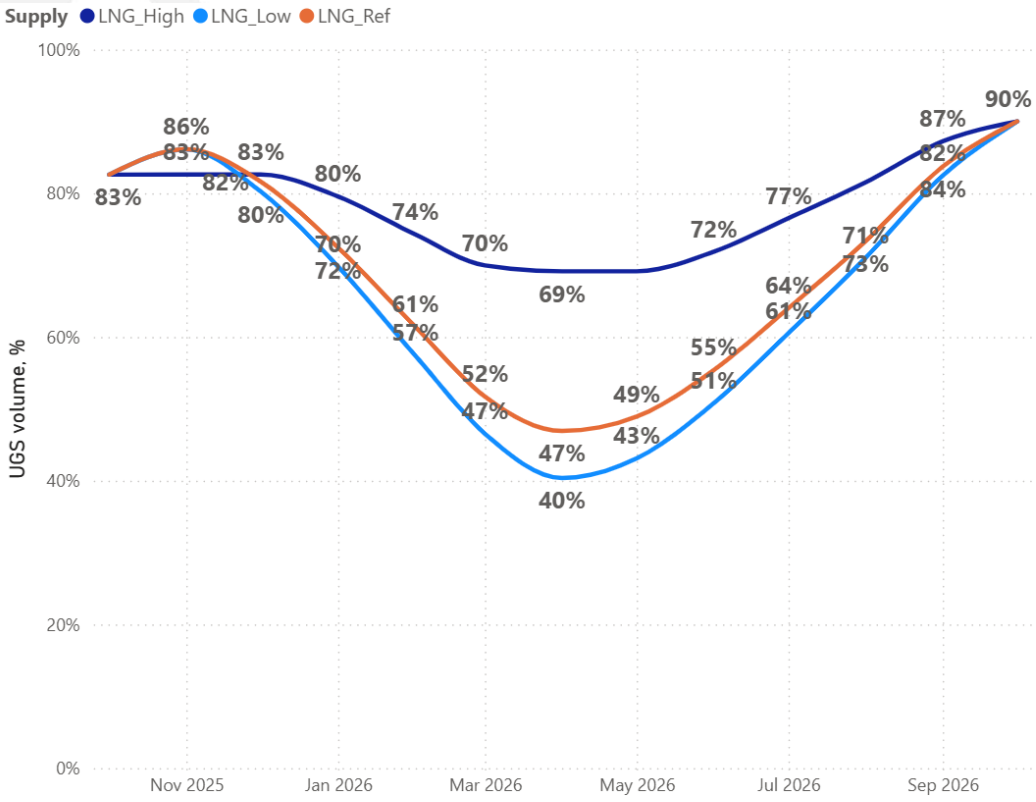


Figure 45. 5YA-15% Scenario. Evolution of the aggregated European UGS stock level, %

Figures 46 and **47** show the level and composition of the supply mix in the full year (12 months) simulation scenario with LNG Ref supply potential. The UGS stock level at the end of September 2026 is 90%.[41]

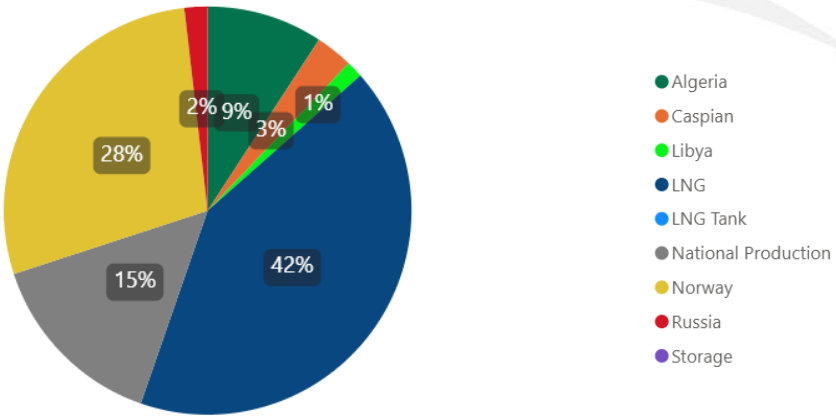


Figure 46. Reference Summer (full year) scenario. Supply mix, %

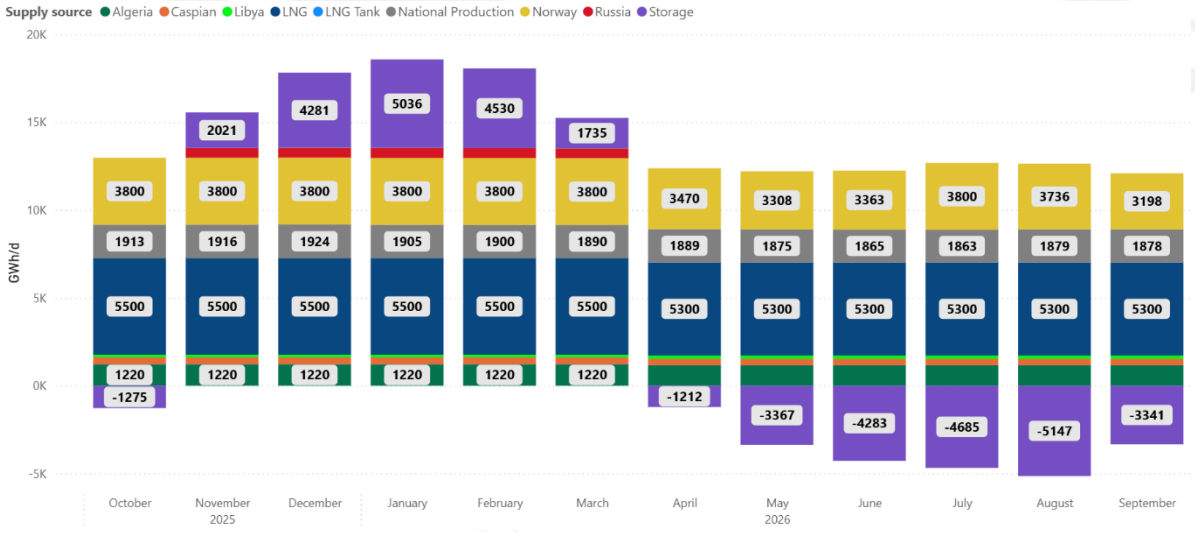


Figure 47. Reference Summer (full year) scenario. Monthly supply mix, GWh/d

LNG supply and supply from Norway represent the largest sources of supply. In the Reference Summer scenario, they constitute 42% and 28% of the total supply, respectively. The simulation results reveal that LNG supply is used at its maximum potential based on the assumptions made for this scenario to reach the UGS stock level target of 90% by the end of September 2026.

The monthly supply mix remains stable throughout the winter season of 2025/26. However, during the summer season 2026, the Norwegian supply is reduced due to maintenance work on their fields during some months (in April, May, June and September 2026), which is

[41] The import levels shown represent one possible supply option, with LNG providing import flexibility in this example, and modelling was done while minimizing Russia supply.

anticipated to impact injection possibilities during that period of time. The European UGS stock level could potentially increase in October 2026, as the injection season typically extends until November in some countries.

4.2 Reference summer supply dependence assessment – Russian supply disruption

This section investigates the potential impact of full disruption of the Russian pipeline supply during the withdrawal and injection period. The analysis investigates the possible evolution of the gas supply as well as the ability of the gas infrastructure to meet the demand, export, and storage injection to reach 90% of the stock level in each European UGS on 30 September 2026. For the full year simulation of the gas year 2025/26 (i.e., from 1 October 2025 to 30 September 2026), the simulation starts with an average European UGS stock level of 83% on 1 October 2025 (see **Figure 9**). In this scenario, the monthly gas demand estimated by TSOs and the 5-year average with 15% reduction demand (5YA-15%) values were assumed for each country. The distribution of withdrawal and supply during the winter months results from the modelling and the following assumptions:

- The **Reference** monthly gas demand and the **5-year average with 15% reduction** monthly gas demand in **Annex B**
- The monthly national gas production estimated by TSOs in **Annex B**
- The monthly capacities provided by TSOs
- The storage withdrawal and injection curves provided by GSE as defined in **Annex A**
- The supply potentials **without Russia pipeline supply** from the historical supply mix (see **Table 4**)

Based on these assumptions, the modelling has been used to check if any physical congestion or dependence on an import source may limit the satisfaction of gas demand during the withdrawal period, while all European countries cooperate.

According to the simulation results, with LNG Ref supply the European gas infrastructure is capable to enable market participants to meet demand and achieve a stock level of 90% in all UGS by the end of the summer season 2026. According to the simulation results, the optimal storage level is determined to be 33% on 1 April 2026. On the other hand, when simulations consider the LNG Low supply the UGS stock level at the end of the summer season 2026 can only reach 56% unless quantities of gas from other sources would be secured or some demand response action (either policy-based or price response-based) triggered (**Figure 48**).

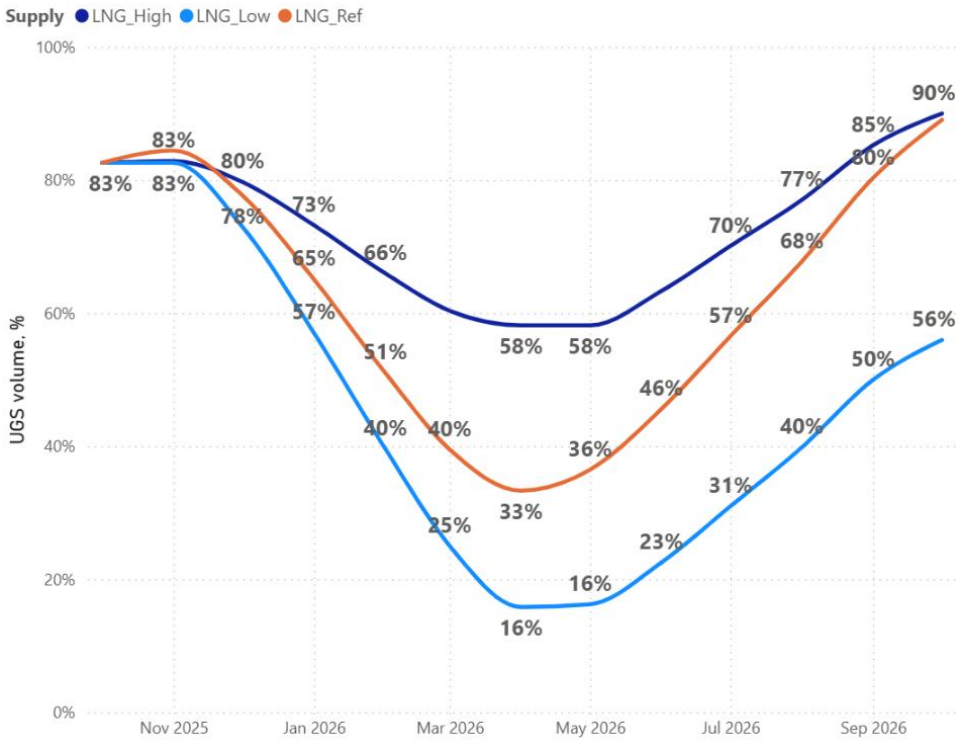


Figure 48. Reference demand (full year) RU supply dependence assessment. Evolution of the aggregated European UGS stock level, %

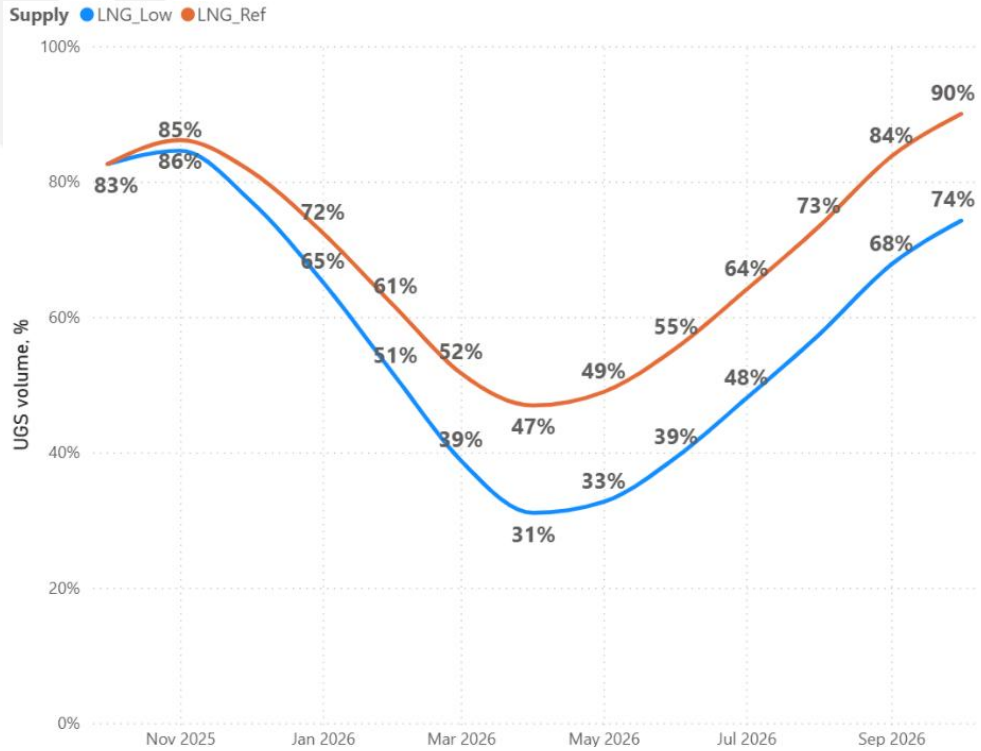


Figure 49. 5YA-15% demand (full year) RU supply dependence assessment. Evolution of the aggregated European UGS stock level, %

In the case of the 5-year average demand scenario with 15% demand response it would be possible to meet the UGS stock level target of 90% with the LNG Ref supply potential, but not with the LNG Low supply potential, where only 74% UGS stock level could be achieved (**Figure 49**). In such case, a higher initial UGS stock level at the beginning of the injection period, additional supply from other sources or demand response may be needed. In any case, the importance of both securing an adequate storage level at the end of the winter season and ensuring sufficient imports is evident.

Figures 50 and 51 show the level and composition of the supply mix in the Reference demand (yearly) scenario where the storage filling level at the end of September 2026 is 90%.[42]

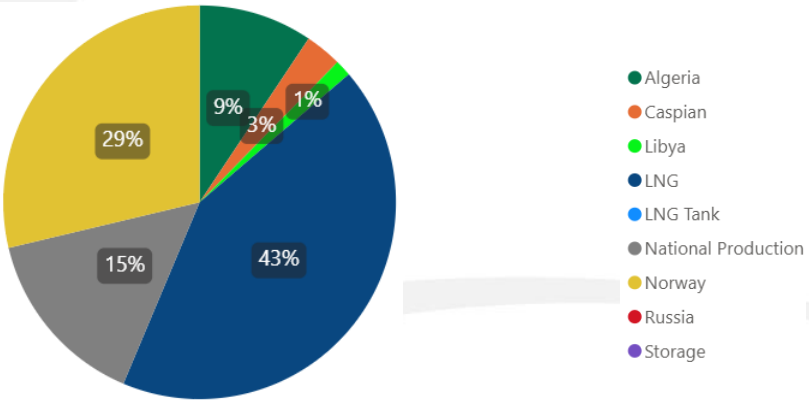


Figure 50. Reference Summer (full year) scenario RU supply dependence assessment. Supply mix, %

LNG supply and supply from Norway represent the largest sources of supply. In the Reference Summer scenario, they constitute 43% and 29% of the total supply, respectively. The simulation results reveal that LNG supply used at its maximum potential based on the assumptions for this scenario, to reach a target of 90% by the end of September 2025.

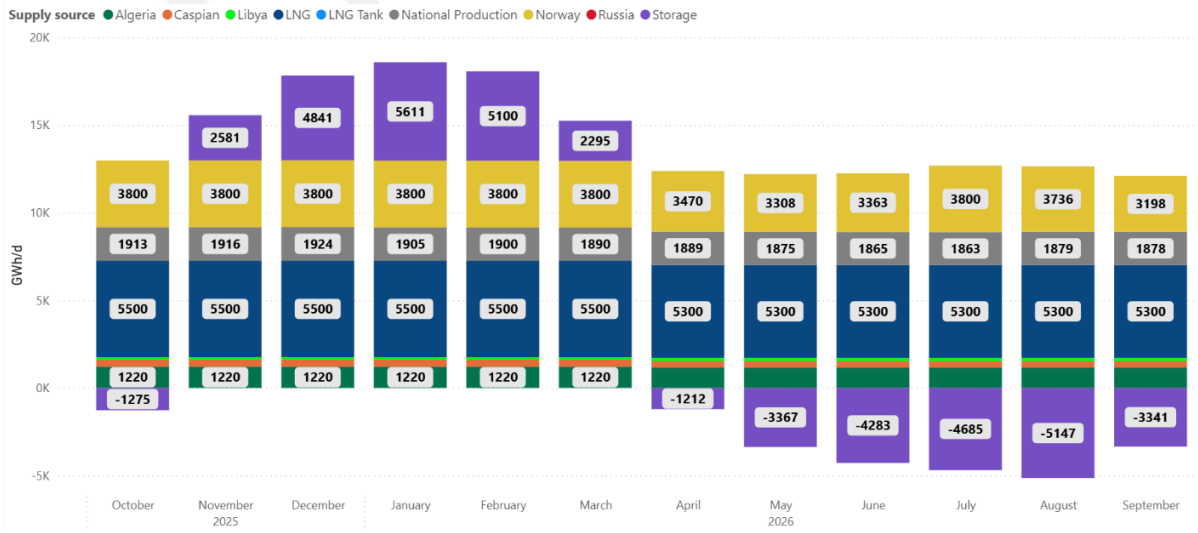


Figure 51. 5YA-15% Summer (full year) RU supply dependence assessment. Monthly supply mix, GWh/d

[42] The import levels shown represent one possible supply option, with LNG Ref providing enough import flexibility in this example, and modelling was done without Russian supply.

The monthly supply mix remains stable throughout the winter season of 2025/26. However, during the summer season 2026, the Norwegian supply is reduced due to maintenance work on their fields during some months, which anticipate will impact injection possibilities for that month. The European storage filling level could potentially increase in October 2026, as the injection season typically extends until November in some countries.

4.3 Reference summer scenario with initial storage level 30% on 1 April 2026

For summer season ENTSOG has run additional sensitivity analyses to evaluate the impact of the initial storage level at the start of the injection period. This sensitivity analysis was done with an average European UGS stock level of 30% in each country on 1 April 2026.

Injection season simulations show that a LNG Low scenario may impact the UGS refilling targets even if the remaining Russian supply is unaffected, resulting in a 80% stock level in October 2026 (**Figure 52**). In the case of disrupted Russian supply, the volume drops to 71% (**Figure 53**).

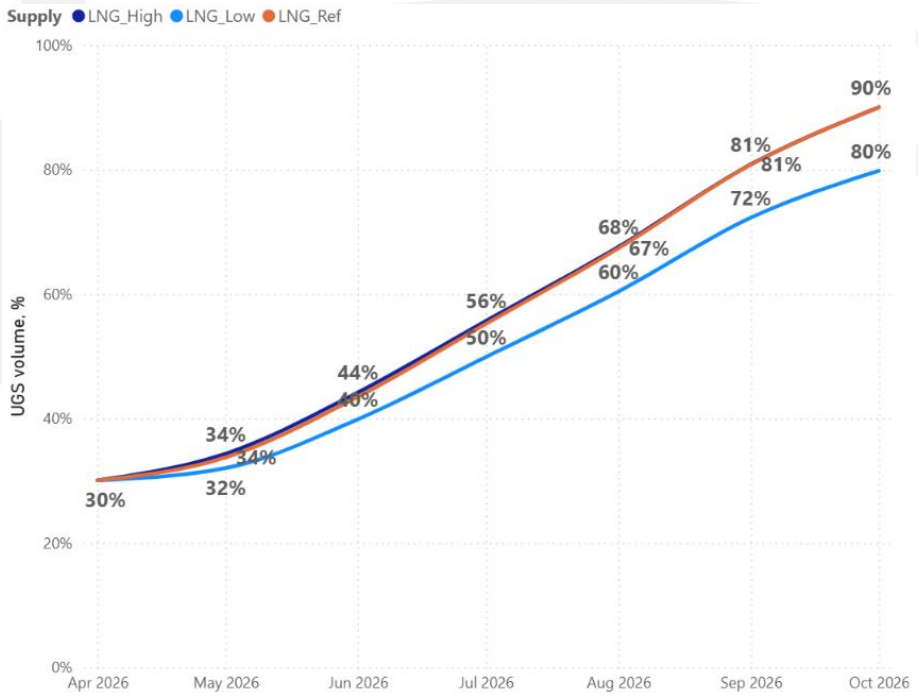


Figure 52. Reference demand scenario with Russian supply minimised. Summer evolution of the aggregated European UGS stock level, %

The EU infrastructure is capable of importing, transporting, and storing sufficient volumes to reach a 90% storage level by the start of next winter, assuming that all storage facilities begin the injection season on 1 April at 30% storage level, pipeline supply is utilised at maximum levels (excluding Russian pipeline flows), and approximately 1,007 TWh (~92 bcm) of LNG is imported during the injection period. Otherwise, demand response measures (either policy-based or price-based) would provide the necessary supply flexibility to attain the target across all UGS facilities.

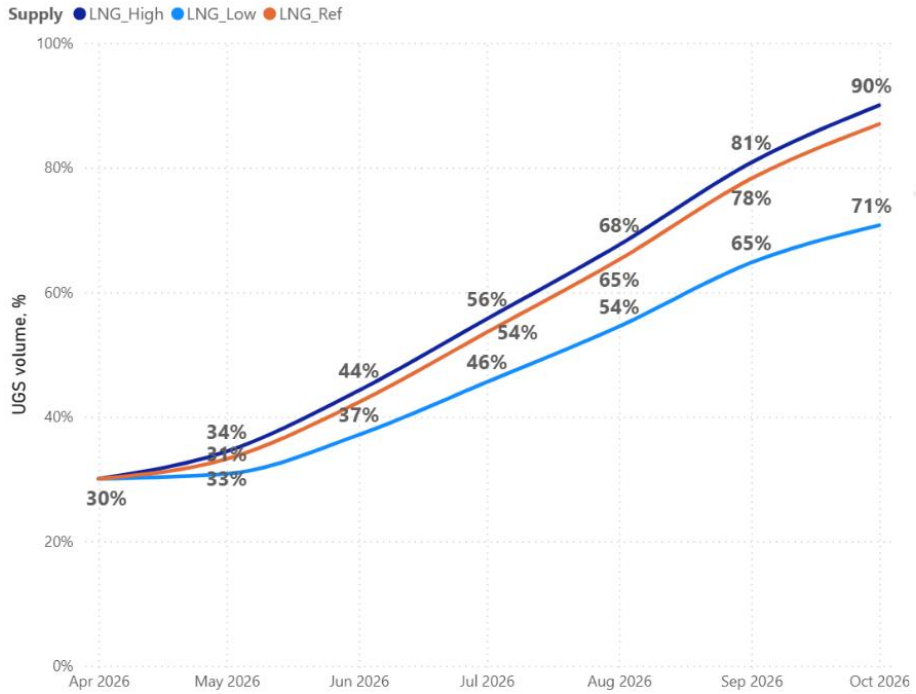


Figure 53. Reference demand scenario with Russian supply disrupted. Summer evolution of the aggregated European UGS stock level, %

5. ENTSO-E INSIGHTS ON GAS CONSUMPTION FOR ELECTRICAL POWER SYSTEM

The operations of electricity and natural gas systems are historically interdependent. Gas-fired generators are key for covering the electricity demand during peak hours and during period of low renewable generation. This is especially true during the winter period and ENTSO-E remains prepared and in close cooperation with ENTSOG, especially in case winter 2025-2026 would be cold.

As performed in the last two winters, ENTSO-E will conduct again a critical gas volume (CGV) analysis to quantify the amount of gas needed to ensure adequacy on the electrical power system. (see figure here-under for more explanation and CGV results of winter 2024/2025). The CGV analysis will be part of ENTSO-E's Winter Outlook 2025-2026 publication.

Previous year, this CGV was estimated to be around fifth of the European Working Gas volume, according to **Figure 54**. For the coming winter, although the CGV is still in process at the time of writing, no system adequacy issues are foreseen given that the input data indicates good nuclear availability, planned outages in line with last winter and a good filling level of reservoirs.

The new projected CGV volumes will come in the next ENTSO-E winter outlook, which will be released before December 2025.

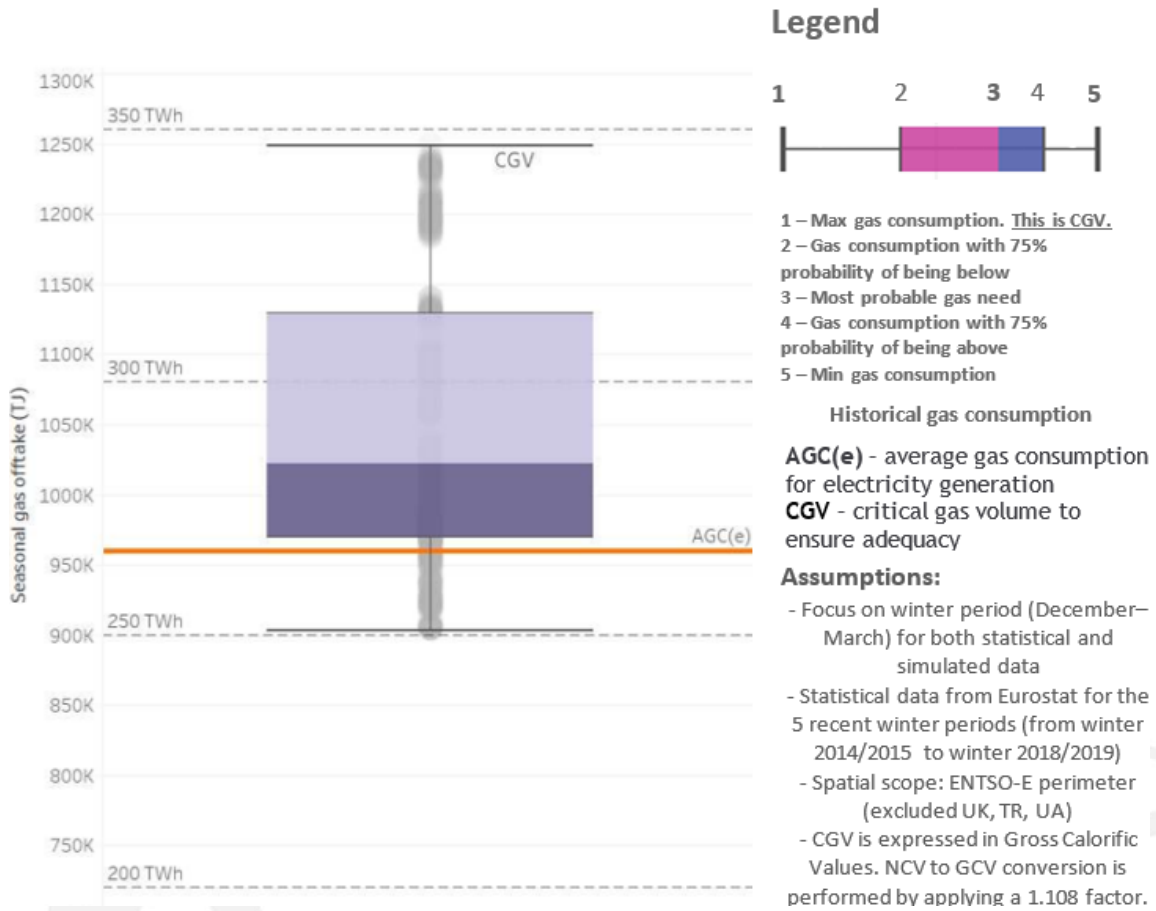


Figure 54. CGV analysis overview for Winter Outlook 2024-2025

How to interpret the CGV chart:
Each orange dot represents a historical winter period of gas consumption for electricity generation. The significant differences between periods are primarily related to temperature and climate conditions but can also be influenced by the situation in the electricity market (prices, planned outages, changing generation fleet, etc.).
The AGC(e) (orange line) represents the average gas consumption for electricity generation for the 5 statistical years (orange dots).
The maximum gas consumption corresponds to the gas volume necessary to ensure adequacy in the worst- case simulated weather condition scenario. This maximum is indicated as the CGV to ensure adequacy.
The dark and light purple colours represent the range of simulation outcomes of gas volume needed to ensure adequacy for a given year, depending on the climate conditions (the simulation uses 34 climate condition scenarios). There is a 50% probability of a given year being in this range.

ENTSO-E keeps awareness of the developments in the gas system and in cooperation with ENTSO-G as the natural gas systems can play a crucial role in delivering electricity to sensitive consumers and ensuring grid stability. It is anticipated that gas and electricity markets will ensure optimal allocation of resources during winter season. In the event of limited gas supplies, some Member States' legislative framework would prioritize scarce gas resources for critical gas-fired power plants to ensure security of power system operations and supply of electricity to the sensitive electricity consumers.

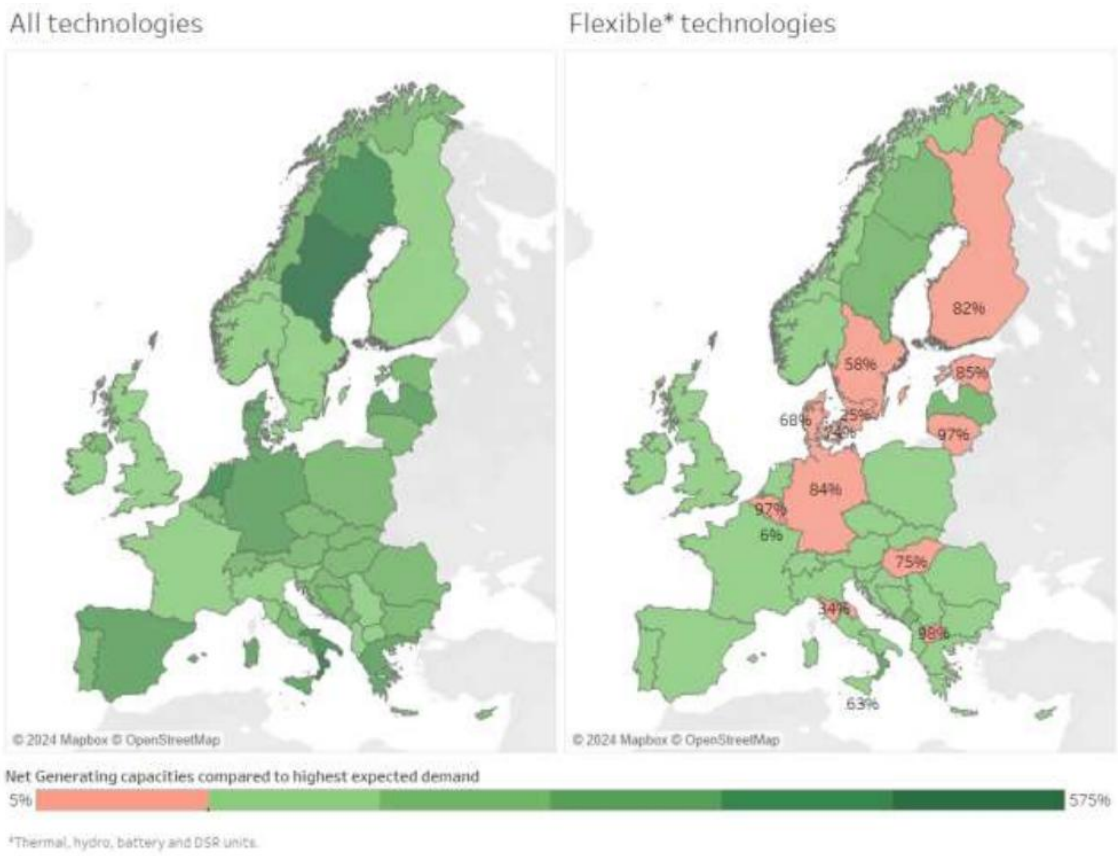


Figure 55. European TSOs' expectation on electricity consumption and demand peaks against last 5 years' statistics (Winter Outlook 2024-2025)

Legal Notice

The current analysis is developed specifically for this Winter Supply Outlook 2025/26 with summer 2026 overview. It results from TSOs experience, ENTSOG modelling and supply assumptions and should not be considered as a forecast. The actual supply mix and storage level will depend on market behaviour and global factors.

ENTSOG has prepared this Winter Supply Outlook 2025/26 with summer 2026 overview in good faith and has endeavoured to prepare this document in a manner which is, as far as reasonably possible, objective, using information collected and compiled by ENTSOG from its members and from stakeholders together with its own assumptions on the usage of the gas transmission system. While ENTSOG has not sought to mislead any person as to the contents of this document, readers should rely on their own information (and not on the information contained in this document) when determining their respective commercial positions. ENTSOG accepts no liability for any loss or damage incurred as a result of relying upon or using the information contained in this document.

Annex A: UGS and LNG

The data for the Winter Supply Outlook 2025/26 is available online as an annex of this report. The data available is specifically:

- *Working Gas Volume and Gas in storage on 1 October 2025.*

For the modelling of the different scenarios, the Winter Supply Outlook 2025/26 considers the storage inventory level per country on 1 October 2025 as the initial situation. The gas in storage on 1 October 2025 for each country is based on the AGSI+ platform. For Serbia, the initial storage inventory level is considered as 90% due to non-availability of data. The relative filling level has been calculated using the Working Gas Volume and gas in the storage from the AGSI+ platform.

- *Injection and withdrawal curves.*

In order to capture the influence of the UGS inventory level on the withdrawal capacity, ENTSOG uses deliverability curves made available by GSE. These curves represent a weighted average of the facilities (salt caverns, aquifers or depleted fields) of each area.

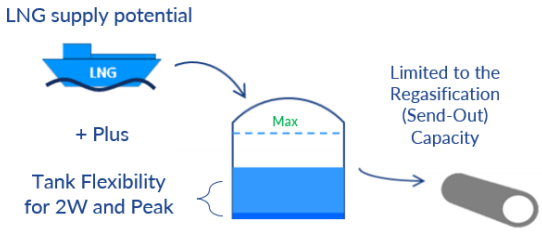
- *LNG Tank Volume and Flexibility.*

The send-outs from the terminals are modelled to represent the sum of both the off-loaded volumes of arriving cargos and gas from tanks. As for the previous Winter Outlook, the 2-Week Cold Spell is split in 2 periods to allow a differentiation of the LNG terminals' behaviour between the first and the second week.

- *During the first week, the model will determine the LNG send-outs using the level of LNG supply that reached LNG terminals in February as a result from the whole winter simulation, plus additional LNG that can be taken from the tanks.*
- *During the second week, importers are allowed to access a relevant number of cargos, so that the LNG supply reaching the terminals can reach the February maximum supply potential. In addition, the LNG send-outs can be taken from the remaining LNG stored in the tanks.*

LNG terminals tank flexibility:

LNG stocked in the tanks fluctuates within a normal operating range of LNG in the tanks following normal operation. Besides, there is a minimum amount of LNG that must be kept in the tanks for a safe operation.



However, in case of high demand events such as 2-week cold spells or peak demand days, this minimum amount can be lowered, and part of the tanks are therefore used as a buffer volume, waiting for more LNG carriers to unload.

ENTSOG models this tank flexibility based on historical figures from GIE ALSI.

Annex B: Demand, National Production, Supply Potential and Export

The data for the Winter Supply Outlook 2025/26 is available online as an annex of this report. The data available is specifically:

- *Average daily Reference Winter and Reference Summer demand forecast, GWh/d.*

The Reference Winter and Summer demand (from 1 October 2025 to 30 September 2026) is based on TSOs' estimates.

- *Average daily Cold Winter demand forecast, GWh/d.*

The Cold Winter demand is based on demand assumptions considered in ENTSOG's Union-wide Security of Supply Simulation Report 2021 revised by TSOs in July 2025, i.e., the historical highest winter demand since the winter 2009/10 on country level.

- *Average daily National production forecast, GWh/d.*

The national gas production is estimated by TSOs.

- *Exports to Ukraine*

Export to Ukraine is based on the expected forecast provided by the Ukrainian TSO.

- *Supply potential*

For each of the winter and summer demand profiles and high demand situations in the winter season, specific maximum gas supply availabilities are used in the report. The maximum supply potentials of the different sources providing gas to the EU are based on the historical availability over the last five years (Caspian Sea, Algeria, Reference LNG) or based on TSO information (Libya, Norway) or the observed flows of the last year (Russia).

Supply limitations are set for different cases (monthly values for winter and summer seasons, weekly values for the 2-Week Cold Spell case, daily values for the Peak Day case) so that the maximum flows from each source cannot exceed reasonable levels based on historical observations.

Annex C: Modelling approach

The topology of the network model considers the existing European gas infrastructure, new upcoming projects, and the firm technical capacities provided by TSOs, which include maintenance plans known as of October 2025.

ENTSOG is using the Plexos modelling tool. The gas topology at European level is used to model the European gas infrastructure with the most relevant accuracy. This enables the national assessment of relevant risks affecting the security of gas supply to benefit from the Union wide simulation of supply and infrastructure disruption scenarios and further extend the local assessment with a higher granularity.

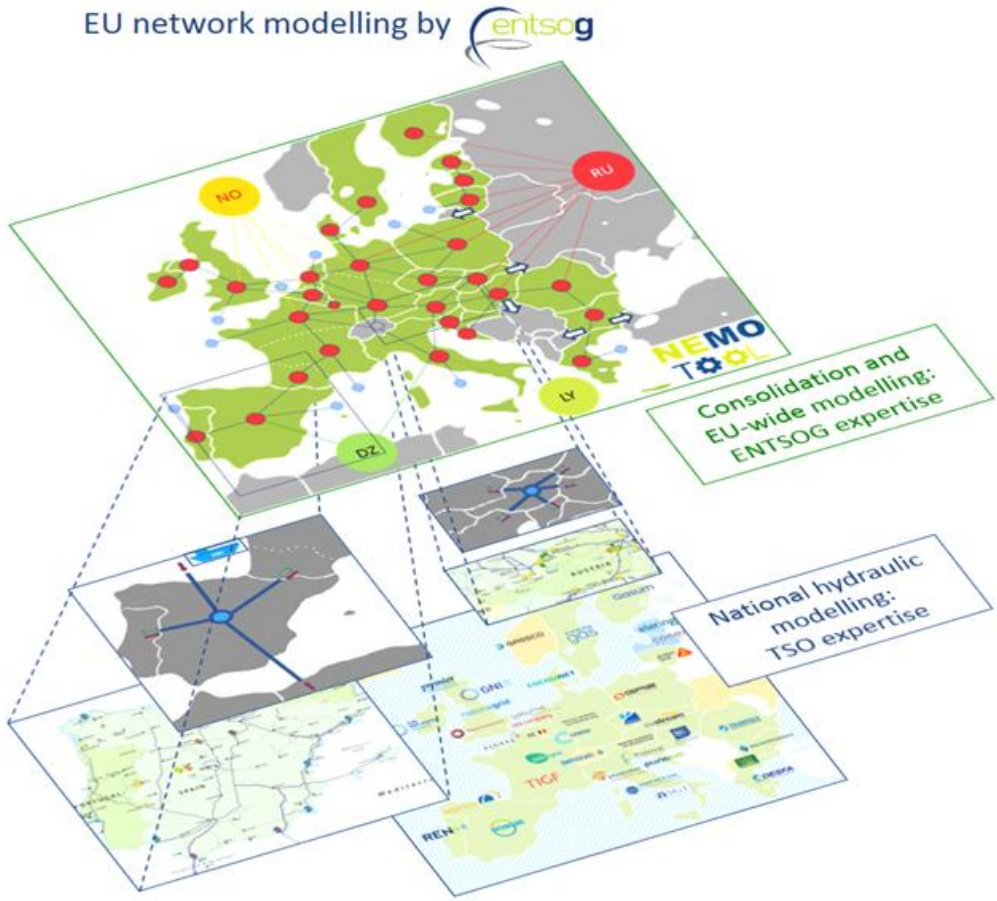


Illustration 1: Entsog model overview

The cooperative modelling is done on the basis of an optimal crisis management. That is, in case a country faces a demand curtailment, all the other countries will cooperate in order to share the same ratio of demand curtailment.

Annex D: *Curtailment Rate*

The data for the Winter Supply Outlook 2025/26 is available online as an annex of this report. The data available is specifically:

- *Curtailment Rate for Winter Outlook monthly simulations, %*
- *Curtailment Rate for High demand events – 2-week Cold Spell and Peak day simulations, %*

For each demand situation and each zone, the modelling results consist of the calculation of a Curtailment Rate which is the potential level of demand curtailment representing the share of the gas demand that cannot be satisfied (calculated as a daily volume). The level of demand curtailment is assessed considering a cooperative behaviour between European countries in order to mitigate its relative impact. This means that all countries try to reduce the curtailment rate of other countries by sharing it.

Note: To give a comparable picture of the situation and avoid any distortion in the cooperative behaviour of ENTSOG's model, all indicators consider the demand as it is defined in the assumptions. However, in case of risk of inadequacy between supply and demand and an exposure to a few percentiles of demand curtailment observed in a country is generally considered as a limited risk in this assessment.

Abbreviations

CEE	Central and Eastern Europe
TSO	Transmission System Operator
UGS	Underground Gas Storage facility
LNG	Liquified Natural Gas
WGV	Working Gas Volume
UAe	Export to Ukraine
5YA-15%	5-Year average demand with demand reduction by 15%

Supplies

CA	Caspian Area
DZ	Algeria
LY	Libya
NO	Norway
NP	National Production
RU	Russia

Countries

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czechia
DE	Germany
DK	Denmark
EE	Estonia
ES	Spain
FI	Finland
FR	France
GR	Greece
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MD	Moldova
MK	North Macedonia
MT	Malta
NL	The Netherlands
PL	Poland
PT	Portugal
RO	Romania
RS	Serbia
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom
UKn	Northern Ireland

Other

BEl	Belgium L-gas
DEl	Germany L-gas
DEn	Germany THE South
DEg	Germany THE North
FRnL	French Nord L-gas
LNG_FRn	French LNG zone North
LNG_FRs	French LNG zone South
LNG_ITa	Italian LNG zone Adriatic
LNG_ESa	Spain LNG zone Atlantic
STcAT	Austrian storage zone
STcATm	Austrian multi-country storage zone
STcATn	Austrian storages to THE South
STcCZd	Czech storages to Slovakia
STcDEd	Germany Dutch storage zone
STcDEdL	Germany Dutch storage zone L-gas
STcDEg	Germany storage zone THE North
STcDEm	Germany multi-country storage
STcDEmL	Germany multi-country L-gas
STcDEn	Germany storage zone THE South
STcFRa	TSO GRTGaz storage zone Atlantic
STcFRn	TSO GRTGaz storage zone North
STcFRnL	TSO GRTGaz storage North L-gas
STcFRs	TSO GRTGaz storage zone South
STcFRt	TSO Terega storage zone

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