

**OPINION No 11/2023
OF THE EUROPEAN UNION AGENCY
FOR THE COOPERATION OF ENERGY REGULATORS**

of 14 December 2023

on ENTSOG's Winter Supply Outlook 2023/2024

THE EUROPEAN UNION AGENCY FOR THE COOPERATION OF ENERGY REGULATORS,

Having regard to Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators ('ACER'), and, in particular, Article 4(3)(b) thereof,

Having regard to Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005, and, in particular, Articles 9(2) and 8(3) thereof,

Having regard to the outcome of the consultation with ACER's Gas Working Group,

Having regard to the favourable opinion of the Board of Regulators of 13 December 2023, delivered pursuant to Article 22(5) of Regulation (EU) 2019/942,

Whereas:

1. INTRODUCTION

- (1) On 17 October 2023, the European Network of Transmission System Operators for Gas ('ENTSOG') published the Winter Supply Outlook 2023/2024 ('WSO 2023/24')¹ pursuant to Article 8(3)(f) of Regulation (EC) No 715/2009, which also includes a preliminary outlook for the summer 2024.
- (2) Pursuant to Article 4(3)(b) of Regulation (EU) 2019/942, ACER may provide an Opinion to ENTSOG on, inter alia, relevant documents referred to in Article 8(3) of Regulation

¹ https://www.entsog.eu/sites/default/files/2023-10/SO0052-23_Winter%20Supply%20Outlook%202023-24%20with%20Summer%202024%20Overview.pdf

(EC) No 715/2009, as submitted to ACER pursuant to Article 9(2), first subparagraph, of Regulation (EC) No 715/2009.

2. SUMMARY OF THE DOCUMENT

- (3) In the WSO 2023/24, ENTSOG undertakes an assessment of the resilience of the European gas network for the upcoming winter (October 2023 to March 2024). ENTSOG's analysis investigates the ability of the gas infrastructure to dispatch the necessary supply volumes to meet gas demand, and especially to deal with high demand situations, provided that gas supply is available. The Outlook is based on assumptions of gas supply potentials, on historical gas supplies during the last 5 years (or based on TSO information), and it looks into the possible evolution of gas supplies and underground gas storage ('UGS') utilisation levels during the upcoming winter withdrawal season. Based on these assumptions the WSO 2023/24 assesses the readiness of the gas infrastructure for the winter season.
- (4) ENTSOG simulates the ability of the gas infrastructure system to ensure supply and demand adequacy under a "Reference winter"² and a "Cold winter"³. The "Cold Winter" assessment is complemented by a sensitivity which considers the voluntary target for Member States to reduce their natural gas consumption by 15%⁴. The WSO 2023/24 also simulates "stress tests" of the gas infrastructure under two cases of high demand linked to cold weather, namely under a "Peak day" and a "2-week cold spell".
- (5) On the supply side, in line with its obligation under the EU Security of gas supply Regulation⁵, ENTSOG has undertaken an assessment of a full disruption of a single supply source, specifically, for WSO 2023/24, Russian piped gas. Furthermore, ENTSOG, for the first time has analysed how different levels of LNG availability⁶ could impact the risk of demand curtailment and the amount of gas remaining in storage at the end of the winter.
- (6) Compared to the previous outlooks, this WSO 2023/24 also includes a sensitivity analysis to check if the gas infrastructure system is sufficiently flexible to achieve storage levels exceeding 30% at the end of the withdrawal period⁷.

² ENTSOG WSO 2023/24 states that "The Reference Winter demand (from 1 October 2023 to 31 March 2024) is based on TSOs' estimates and is provided on a monthly granularity level."

³ ENTSOG WSO 2023/24 states that "The demand for the Cold Winter is based on demand assumptions considered in ENTSOG's Union-wide Security of Supply Simulation Report 2021, i.e., the historical highest winter demand since the winter 2009/10 on country level." The "Cold Winter" demand values were also updated by ENTSOG to consider the latest market conversions from L-gas to H-gas in Germany, France, and Belgium.

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R0706>

⁵ Art. 7(1) of Regulation (EU) 2017/1938

⁶ Three different cases of LNG availability have been considered: reference LNG, low LNG and maximum LNG.

⁷ In the WSO 2023/24 this sensitivity is called "maximum storage target".

- (7) In line with its Summer Supply Outlook 2023 and ACER recommendation on WSO 2022/23⁸, ENTSOG extended the analysis by also including an overview of summer 2024, thus covering the full gas year from October 2023 to September 2024.
- (8) On 17 October 2023, ENTSOG also published a report on the European gas supply and demand for the past Winter 2022/23⁹, which aims to provide an ex-post analysis of the gas demand and supply in the previous seasons. The report was published on a voluntary basis along with the WSO 2023/24.

3. ASSESSMENT OF THE DOCUMENT

- (9) ACER welcomes the timely publication of the WSO 2023/24 and accompanying documents ahead of the winter season. ACER appreciates the analysis of the historical gas supply, demand patterns and use of storages, as well as of the possible evolution of storage levels for the upcoming winter and summer resulting from the assumptions and simulations contained in the Outlook.
- (10) ACER welcomes the inclusion of additional sensitivity analyses of the level of LNG potential imports reaching Europe, as the availability of sufficient LNG volumes is one of the main risk factors for the upcoming winter and summer seasons.
- (11) ACER welcomes the inclusion of a sensitivity analysis on the maximum level of gas in storage that could be reached at the end of the winter period.
- (12) ACER finds the inclusion of a section on the Balticconnector pipeline disruption¹⁰ relevant (Chapter 6).

3.1. ENTSOG main findings and analytical framework

- (13) ACER takes note and underlines the importance of the following **main findings** contained in the WSO 2023/24:
 - a. The EU storage level on 1st October 2023 (ca. 1,100 TWh¹¹, 96% of overall storage capacity) registered the highest stored amount in recent years. On 1st October 2023,

⁸ https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Opinions/Opinions/ACER_Opinion_07-2022_on_ENTSOG%E2%80%99s_Winter_Supply_Outlook_2022-2023.pdf

⁹ https://www.entsog.eu/sites/default/files/2023-10/SO0053-23_Winter%20Supply%20Review%202022-23.pdf

¹⁰ On 8 October 2023 the Balticconnector between Estonia and Finland, with a capacity of ca. 2.6 bcma, was declared out of service due to a leak caused by a damaged pipe in the sea, which, at the time of drafting this Opinion, is currently under investigation.

¹¹ This total includes ca. 7 TWh of gas in storage in the UK and ca. 4 TWh of gas in storage in Serbia.

all Members States¹² had already reached the 90% filling target objective set out in the EU gas storage regulation¹³.

- b. The European gas infrastructure, including projects to be commissioned over the upcoming winter, offers sufficient flexibility to dispatch the necessary supply volumes to meet demand in Europe and reach “safe” storage levels, assuming that there is efficient cooperation among the different Member States and that sufficient gas reaches the EU.
- c. However, under specific scenarios of high demand, some possible demand curtailments are identified by ENTSOG, along with the low level of gas in stock at the end of the winter and some infrastructure bottlenecks emerging within Europe. Such stressful situation is further aggravated in case of low LNG availability and/or in case of a full disruption of Russian gas supply.
- d. Additional storage flexibility could be achieved by using Ukrainian storage facilities, provided that those volumes can be injected and subsequently withdrawn during the winter season and if market participants are willing to make use of it.
- e. According to the WSO 2023/24 results, at least 46% of working gas volume would be needed at the end of the winter to meet the summer demand and to reach the 90% target in all Members States on 1st November 2024. Such level would not be achieved in case of a “Reference Winter” with low LNG imports or in case of a “Cold Winter” (unless a -15% demand reduction is applied).
- f. A sensitivity conducted on the Balticconnector disruption shows that its prolonged unavailability (i.e. through the whole winter) limits the possibility for Finland to cooperate with its neighbouring countries but it does not pose a significant risk to the security of gas supply in the region nor to the possibility of adequately filling the storages.

(14) ACER takes note of the **following conclusions** contained in the WSO 2022/23:

- a. High storage levels, the current gas infrastructure system and new projects to be commissioned, enhanced cooperation and additional LNG import capacities can efficiently reduce the dependence on Russian gas supply, and partially mitigate the risk of demand curtailment in case of a full and prolonged Russian pipeline disruption.
- b. Without demand reduction, most countries would be exposed to significant risk of demand curtailment in case of a “Cold winter”.

¹² The United Kingdom reached 71% on 1st October 2023.

¹³ Article 6(a) of Regulation (EU) 2022/1032 <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R2301>

- c. However, demand reduction alone might not be enough. Ensuring sufficient LNG imports are essential to prevent demand curtailments and to ensure adequate filling of gas storages.
- d. Some infrastructure bottlenecks within EU remain. Between France and Spain, between Poland and Lithuania, and between Southern-East Europe and Central Europe.
- e. Early and significant withdrawal of gas from storages will result in low storage levels at the end of the winter season, having a negative impact on the flexibility of the gas system and on the preparedness for the next winter season 2023/24.

3.2. Gas storage filling levels in view of EU Gas Storage Regulation

- (15) Regulation (EU) 2022/1032¹⁴ and Regulation (EU) 2022/2301¹⁵ set specific country storage filling trajectories for the preparation of winter 2022/23 and winter 2023/24. The Regulations require that gas storages must be filled up to at least 80% of their capacity before 1st of November 2022 and at 90% for the following winter periods.
- (16) ACER welcomes that the EU collective 90% storage filling rate objective was already achieved in mid-August, nearly 2-months ahead of the 1st of November deadline. Where possible, NRAs have checked the accuracy of storage filling levels reported in ENTSOG's Winter Outlook.
- (17) Regulation (EU) 2022/1032¹⁶ states that “Member States shall take all necessary measures [...] to meet the filling targets [...]” and introduces a set of measures which each Member States could adopt to reach those targets. The recently published ACER consultancy study “On the impact of EU and national gas storage regulations”¹⁷ shows that the measures implemented in the Member States effectively helped to reach the storage filling levels at national and European level. Measures like financial incentives for storage users, stockholding obligations, institution of last resort storage entities and use-it-or-lose-it mechanisms, allowed to reach an adequate level of preparedness, despite the discouraging market signals. The study also shows that such measures came at a cost, and that gas prices moved upward also due to the strong competition among countries to refill their storages before the regulatory filling target dates¹⁸.
- (18) Also based on the difficulties and risks observed in implementing these measures, the ACER consultancy study emphasizes the need to further improve the transparency and verifiability of the measures as well as the need to strengthen coordination between Member States with and without storages to avoid Member States without gas storages

¹⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R1032>

¹⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R2301>

¹⁶ Cf. Article 6b.

¹⁷ <https://www.acer.europa.eu/news-and-events/news/acer-publishes-consultancy-study-impact-eu-and-national-gas-storage-regulations>

¹⁸ https://www.acer.europa.eu/Publications/ACER_MMR_2023_Gas_market_trends_price_drivers.pdf

to face constraints in accessing gas sources. The ACER consultancy study also underlines the need for making the last resort mechanism¹⁹ more efficient, by ensuring carefully planning of the conditions when the last resort entity acts, the volume requirements, and by introducing risk reduction mechanisms which can interact with existing market rules and do not increase wholesale prices (e.g., price hedging by the designated entity).

- (19) The study will be followed up by a Council of European Energy Regulators (CEER) study which will review the agreements and the burden-sharing mechanism between Member States that have storage facilities and the ones that do not have them. The follow-up study will identify best practices and propose recommendations to design storage filling obligations with the aim to enhance their effectiveness and efficiency in the future.
- (20) ACER highlights the critical importance of counting on adequate storage levels at the end of the winter season to cover still possible high demand or system stress situations. ACER concurs with ENTSOG that early and significant withdrawal from storages has a negative impact on the flexibility of the gas system and can increase the exposure to supply risks towards the end of the winter. ACER takes note of ENTSOG's view that a 46% aspirational target for storage filling level on 1st April 2024 will be needed to ensure preparedness for the upcoming winter 2024/25.
- (21) As the actual use of imports and/or storage is eventually determined by market participants, ACER expects storage users to prudently withdraw gas from storage during this winter. Furthermore, ACER calls on national competent authorities to monitor and take measures, starting with market-based incentives and measures, to favour a gas withdrawal pattern that enables safeguarding the continuity of gas deliveries during the next winter.
- (22) ACER understands that the WSO 2023/24 considers the strategic reserves set out by national legislation, allowing for “more realistic” simulations. The ACER consultancy study “on the impact of EU and national gas storage regulations”²⁰ shows that in some countries the introduction of strategic reserves was a measure implemented following the adoption of Regulation (EU) 2022/1032²¹. In other countries the use of strategic reserves was already existing but was amended after the adoption of Regulation (EU) 2022/1032.

¹⁹ Seven Member States appointed a last resort entity (other than market participants) whose role was primarily to procure and store gas quantities where the storage filling would be below the targeted levels, and the commercial use of the storages and the other measures in place would prove not to be sufficient. In some of these countries, however, there was no need to trigger the last resort filling service, or the volumes established were too small to effectively impact the gas market.

²⁰ Table 2, p.20.

²¹ Cf. Article 6b.

- (23) Additionally, to the role of storages, ENTSOG also considers the role of tanks from LNG regasification terminals which would offer additional short-term flexibility to cover the peak-demand and short-term cold spells²².

3.3. The role of LNG and other supply sources to replace Russian piped gas

- (24) Since the start of the Russian aggression against Ukraine, Europe has succeeded in reducing its dependency from Russian gas. Despite the significant reduction in Russian imports, while some countries are now completely independent, in 2023 some other countries continued to rely on Russian gas imports, both through pipelines and LNG²³.
- (25) In April 2022, the European Commission launched the EU Energy Platform, AggregateEU, to support demand aggregation and joint purchase of gas. The creation of this platform aimed at facilitating the reduction of European dependence from Russian gas.²⁴
- (26) LNG has been the main gas source to replace significant gas imports from Russia and this is likely to continue in the future. Increased high LNG imports (822 TWh in winter 2022/23 vs 639 TWh in winter 2021/22)²⁵ were necessary to partially offset the decline in Russian gas pipeline imports from Russia, as other gas pipeline sources²⁶ have limited flexibility to increase supply. With the majority of LNG cargos not tied to long-term contracts, these incremental LNG volumes remain subject to global price fluctuations. The European Commission quarterly gas market reports²⁷ show that for most of the first quarter of 2023, as well as for most of 2022, Europe offered price premiums compared to Asia. On one hand the upward pressure on prices might be lower during winter 2023/24 thanks to the availability of more LNG regasification²⁸ and more liquefaction capacities²⁹, as well as, thanks to the alleviation of some cross-border congestions within Europe³⁰. On the other hand, both the European gas and LNG markets are still expected to be characterised by volatility across this winter, and likely the next one as well, with

²² WSO 2023/24, p.50.

²³ <https://www.bruegel.org/analysis/european-union-ready-2023-24-winter-gas-season>

²⁴ According to the European Commission, “after the first three rounds, more than 44 bcm of gas demand from European companies have been aggregated and more than 52 bcm have been offered by international suppliers. After seeking the most competitive offers, AggregateEU has matched a total amount of 34,78 bcm of gas to cover European demand.”. Source: https://energy.ec.europa.eu/topics/energy-security/eu-energy-platform_en

²⁵ ENTSOG Winter 2022/2023 Supply Review, p.20-24.

²⁶ Norway, Algeria and Caspian gas.

²⁷ https://energy.ec.europa.eu/data-and-analysis/market-analysis_en

²⁸ WSO 2023/24, p. 8

²⁹ According to ARGUS Media, global liquefaction capacity is expected to increase by 1 TWh/y between October 2023 and March 2024, largely driven by more liquefaction capacity available from the Atlantic basin: <https://view.argusmedia.com/rs/584-BUW-606/images/ENG-Whitepaper-winter-2023-24-market-preview.pdf>

³⁰ ACER-CEER annual report monitoring the internal gas market in 2022 and 2023, p. 21 -22: https://www.acer.europa.eu/Publications/ACER_MMR_2023_Gas_market_trends_price_drivers.pdf

price risk skewed to the upside³¹, especially in case of unforeseen events (see section 3.4 on risks factors for this winter).

- (27) The WSO 2023/24 assumes³² that LNG imports could be increased up to the maximum of current EU LNG import regasification capacities plus additional LNG import capacities expected to come online soon³³. Although the EU regasification terminals have in general sufficient spare regasification capacity, there are variations in the available spare capacity across Member State and LNG terminals. Additionally, there might be scheduling constraints for LNG cargos deliveries in some LNG terminals this winter. The arrival of LNG cargoes to EU LNG terminals depends on commercial decisions, as LNG market is global and spot LNG cargoes will be destined where demand offers the highest price³⁴. Besides available LNG regasification capacity, sufficient transmission capacities are necessary to make fully use of the LNG import potential across Europe.

3.4. Risks factors for this winter

Main risk factors for upcoming winter

- (28) ACER notes the continuation of risk factors present since the start of the Russian aggression against Ukraine for the upcoming winter season:
- a. High uncertainty about the availability of Russian gas supply, in particular concerning LNG from Russia (today still counting 15% -19% of overall EU LNG imports), and about the flows through Ukraine, also beyond 2024 due to the expiration and possible non-renewal of the transit contract between the two countries³⁵;
 - b. Limited additional gas volumes from other major sources of gas pipeline imports to go significantly beyond the contracted/booked volumes;
 - c. Existence of limited cross-border capacities in the EU to accommodate new gas flows from the West and LNG terminals which previously came from the East;
 - d. Increase in Asian's gas demand due to economic recovery or unavailability of other sources such as hydro or nuclear, possibly driving upwards global LNG demand and prices, and impacting the price levels and availability of LNG imports to the EU;

³¹ <https://timera-energy.com/crisis-over-european-gas-market-winter-outlook/>

³² WSO 2023/24, p.14.

³³ WSO 2023/24, p.8.

³⁴ LNG supplies represented in winter 2022/23, 35.5% of EU gas imports (Winter Review 2022/23, p. 21).

³⁵ <https://www.reuters.com/business/energy/ukraine-has-no-plans-talk-with-russia-gas-transit-contract-renewal-voa-2023-08-17/>

- e. Operational incidents, outages or accidents in major supply routes or in upstream production sites limiting availability of gas supply, in particular LNG, to the EU market;
 - f. A colder than usual winter, driving up gas demand;
 - g. Lack of implementation of gas demand reduction targets; and
 - h. A low storage filling level at the end of the winter, limiting the deliverability of storages and complicating the replenishment of storages during summer 2024.
- (29) The materialisation of these risk factors may lead to supply scarcity which would firstly impact wholesale gas prices, leading to some demand reduction, in particular for industrial consumers. Forced gas demand reductions would come next and involuntary demand curtailment of non-essential gas consumers would be a last resort emergency measure.
- (30) In addition, Member States may decide to prioritise³⁶ the gas supply to certain critical gas-fired power plants over the gas supply to certain categories of protected customers, if the lack of gas supply to such critical gas-fired power plants either could result in severe damage to the functioning of the electricity system or would hamper the production and/or transportation of gas. In this sense, ENTSO-E's Winter Outlook 2023/24 assesses the critical gas volume³⁷ for electricity generation in Europe³⁸, finding that the critical gas volume decreases approximately by 10% compared with winter 2022/23, due to more favourable conditions such as higher nuclear availability in Europe and higher hydro availability, as well as due to a stagnant demand.
- (31) This situation calls for continued vigilance with respect to gas supply situation and for monitoring the implementation of the EU gas demand reduction regulation.

WSO 2023/24 Supply Disruption Scenarios

- (32) ACER finds adequate that the Outlook's "reference case" reflects the currently reduced Russian imports limited to Ukraine and Turkstream routes to the EU. ACER welcomes that ENTSO-E includes in its assessment a full disruption of the piped gas supply from Russia, investigating its potential impact on the storage filling level at the end of the winter and gas demand curtailment for the "Reference Winter" and "Cold Winter" scenarios.

³⁶ According to Article 11(7) of Regulation (EU) 2017/1938.

³⁷ I.e. the amount of gas needed to ensure adequacy on the electrical power system considering the worst winter scenarios.

³⁸ ENTSO-E Winter Outlook 2023/24, p. 27-28: https://eepublicdownloads.entsoe.eu/clean-documents/sdc-documents/seasonal/WOR2023/1_Winter%20Outlook%202023-2024_Report.pdf

- (33) The WSO's simulations show that storages cannot reach the 30% filling level at the end of the winter season in case of a "Cold Winter", and that the European countries would face demand curtailment. Under a prolonged disruption of the pipeline supply from Russia, the assessment reveals insufficient LNG capacity as well as infrastructure bottlenecks between Southern Europe and Central Europe, which do not allow for better cooperation. Under high demand situations and disruption of Russian pipeline imports, the situation is aggravated, and the assessment under a "Cold Winter" shows also bottlenecks between Poland and Lithuania and between South-Eastern Europe with the rest of Europe.
- (34) ACER agrees with ENTSOG that the full disruption of Russian gas is undoubtedly the main risk for the upcoming winter. However, this scenario could be aggravated by disruption scenarios for sources other than Russia, which are nevertheless less likely to occur (e.g., gas supplies from Algeria, prolonged disruption of Norwegian gas supplies via offshore pipeline such as Europipe, Norpipe, Zeepipe, Franpipe). Such additional extreme combined scenarios would provide useful insights regarding the readiness of the European gas infrastructure to deal with less likely but high impact disruption situations.

3.5. Demand assumptions in view of EU Gas Demand Reduction

- (35) On 5 August 2022, the European Union adopted a Regulation³⁹ on a coordinated demand-reduction measures for gas to increase the Union level of preparedness as regards gas supply disruptions, in view of a significant risk that a complete halt of Russian gas supplies may materialise soon. This regulation recommends a voluntary reduction of natural gas demand by at least 15% which may become mandatory by a declaration of a "Union alert"⁴⁰. Member States have flexibility in choosing the demand reduction measures⁴¹. On 28 March 2023, Member States agreed to extend the voluntary 15% gas demand reduction target until March 2024⁴².
- (36) ACER notes that the "Reference Winter" demand shows an increase of ca. 16% compared to the demand registered for the winter 2022/23, while being lower than the average of the previous 5 years (-8% vs the average of winters 2017/18 - 2021/22). ACER

³⁹ Council Regulation (EU) 2022/1369 of 5 August 2022 on coordinated demand-reduction measures for gas: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R1369>

⁴⁰ The Union alert can be declared by the Council, acting on a proposal from the European Commission in case of a substantial risk of a severe gas shortage or an exceptionally high gas demand, or if five or more MSs have declared an alert at national level requesting the Commission to do so. This Regulation foresees derogations for Member States depending on the level of interconnection and other aspects.

⁴¹ Possible measures include reducing gas consumed in the electricity sector, measures to encourage fuel switch in industry, national awareness raising campaigns, targeted obligations to reduce heating and cooling and market-based measures such as auctioning between companies. Measures that do not affect protected customers such as households and essential services for the functioning of society like critical entities, healthcare and defence should be a priority.

⁴² Council Regulation (EU) 2023/706 of 30 March 2023 amending Regulation (EU) 2022/1369 as regards prolonging the demand-reduction period for demand-reduction measures for gas and reinforcing the reporting and monitoring of their implementation: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R0706&qid=1697820043435>

understands that the “Reference Winter” demand data was provided by TSOs on a monthly granularity level but it is not entirely clear if and how ENTSOG checks the TSOs demand projections and if they are consistent with the aggregated demand at EU-level. In this regard, it is not clear if the TSO demand projections consider, for example, that sustained high levels of wholesale gas prices⁴³ can and have eroded gas demand, in particular for energy-intensive industries⁴⁴. ACER also notes that the “Reference Winter” demand is calculated in a different way than the “Reference Summer” demand, with only the latter considering the 15% reduction.

- (37) ACER finds the Outlook’s seasonal demand projection and the peak demand projections in particular, too high⁴⁵, especially when compared to the historical demand evolution⁴⁶ and the observed continuing decrease in gas demand.
- (38) In ACER’s views, ENTSOG should have preferably used a “baseline scenario” of gas demand for the winter outlook built upon the European Union targets of reduction of gas demand, which would be consistent with the Union Regulation on coordinated demand-reduction measures for gas⁴⁷.
- (39) In addition, demand reduction measures in the power sector can have a relevant impact on the overall gas demand via reduced consumption of gas-fired power plants. In its Winter Outlook 2023/24⁴⁸, ENTSO-E assesses that the amount of gas needed to ensure adequacy on the electrical power system (critical gas volume (CGV)) could be further decreased by 10% if energy saving measures to reduce total consumption and peak

⁴³ The ACER-CEER annual report monitoring the internal gas market in 2022 and 2023 suggests that future prices for gas delivery in winter 2023/24 remain higher than the average of the five preceding winters (excluding 2021/22), thus indicating that the market still sees supply risks for winter season 2023/24, p. 14:

https://www.acer.europa.eu/Publications/ACER_MMR_2023_Gas_market_trends_price_drivers.pdf

⁴⁴ The IEA in its Medium-Term Gas Report 2023 expects that over half of the European industrial gas demand lost in 2022 will not be recovered by 2026, due to activity downsize in EU, efficient investments made or substitution of natural gas with other fuels : <https://iea.blob.core.windows.net/assets/f2cf36a9-fd9b-44e6-8659-c342027ff9ac/Medium-TermGasReport2023-IncludingtheGasMarketReportQ4-2023.pdf>

⁴⁵ WSO 2023/24, p.9-12. In comparison to winter 2023/24 which was quite mild and the -15% reduction targets were applied, the WSO 2023/24 seasonal gas demand projection increases by +15.6% for a “Reference winter” and 25% for a “Cold winter”; the peak demand increases by +50% for a “Reference winter” and +56.6% for a “Cold winter”, respectively.

⁴⁶ The highest yearly consumption of natural gas was recorded in 2010 (4,688 TWh) and gas consumption has been decreasing since then. The highest winter demand was recorded during the winter 2009/10 (3,513 TWh vs ca. 3,000 TWh of WSO 2023/24). The highest peak demand consumption and 2-weeks peak demand consumption were recorded during the winter 2011/12 with respectively 29,452 GWh/d (vs ca 33,686 GWh/d of WSO 2023/24 "Reference Winter" high demand) and 27,644 GWh/d (vs ca 27,181 GWh/d of WSO 2023/24 "Reference Winter" high demand). Source: ACER analysis based on Eurostat and ENTSOG data.

⁴⁷ ACER also notes that a scenario based on demand reduction targets was at least considered as sensitivity in ENTSOG WSO 2022/23 while it was disregarded for WSO 2023/24.

⁴⁸ ENTSO-E Winter Outlook 2023/24, p. 27-28: https://eepublicdownloads.entsoe.eu/clean-documents/sdc-documents/seasonal/WOR2023/1_Winter%20Outlook%202023-2024_Report.pdf

demand would be implemented⁴⁹. Such cross-sectoral insights should be reflected in the ENTSOG WSOs.

3.6. Network topology

- (40) ENTSOG periodically upgrades the topology of its network model based on capacities provided by TSOs to reflect the technical capacities that are available for the upcoming winter. The WSO 2023/24 topology includes four new LNG infrastructures⁵⁰ but does not provide a complete list of all the infrastructures considered in the assessment.
- (41) ACER welcomes that the WSO also considers non-EU countries in the WSO perimeter. In some cases, non-EU countries are considered through predefined exogenous input either assumed by ENTSOG (e.g., Serbia) or provided by the relevant TSO of the concerned country (e.g., Ukraine). ACER invites ENTSOG to seek ways to further cooperate with non-EU countries and with the Energy Community to extend, where possible, the geographical perimeter of the simulations to other relevant countries (e.g., Moldova and Ukraine).
- (42) ENTSOG considered “enhanced capacities” as provided by some TSO, which would allow to maximise the flows in the case of disruption of full Russian pipeline supply. According to the TSOs, those capacities would increase interconnection capacities between Germany and Austria, Belgium, the Czech Republic, and the Netherlands, as well as between Spain and France, allowing central Europe to access more LNG imports. However, there is lack of transparency in the WSO on the actual capacity, the conditions under which those capacities could be made available and on the actual required investments.
- (43) ACER encourages once again ENTSOG to provide more clarity in the Outlook on the timestamp of the network topology as well as to publish, together with all the main relevant data, the full list of capacities considered in the WSO 2023/24, thus also including the considered upcoming projects and the enhanced capacities.

3.7. Maximisation of gas import and cross-border capacities

- (44) The war in Ukraine is leading to a significant rerouting of gas across Europe, increasing supplies from West to East substituting traditional East-West flows. ENTSOG has identified transmission capacity limitations to move gas from West to East in case of disruption scenarios of Russian pipeline gas, which hamper some Central Eastern European countries to satisfy their gas demand and reach adequate level of storage filling targets at the end of the winter 2023/24 and in case of a full disruption of Russian gas. Part of such flow changes could be accommodated by TSOs re-allocating existing

⁴⁹ ENTSO-E Winter Outlook 2023/24 considers an energy savings scenario which aim at reflecting the energy saving measures foreseen by the European Council Regulation 2022/1854, under Article 3 (-10% of total monthly gross electricity consumption) and Article 4 (at least -5% over the identified peak hours).

⁵⁰ WSO 2023/24, p. 8: Brunsbüttel Hafen and Stade FSRUs in Germany, Musel LNG terminal in Spain and Le Havre FSRU in France. Concerning Musel LNG terminal, see also Annex III.

transmission capacities to new expected flow patterns. ACER recommends ENTSOG to provide an update of such re-allocated capacities and to TSOs to maximise the availability of capacities to accommodate new flow configurations.

- (45) As stated in the ACER report on “Congestion in the EU Gas Markets”⁵¹ and in the ACER special report on “Addressing congestion in North-West European gas markets”⁵², ACER urges the affected TSOs to take appropriate and coordinated cross-border actions to maximise capacities and manage contractual and physical congestions, and it invites ENTSOG to publicly report on the actions undertaken by the affected TSOs and to specify how much additional capacity has been made available in this way.

3.8. Monitoring tools of gas supply situation

- (46) ACER praises once again ENTSOG for providing monitoring tools and initiatives beyond its legal tasks, which provide real value for monitoring the gas security of supply situation, such as the European gas flow dashboard⁵³, the Seasonal Supply Outlook Monitoring⁵⁴, and the support to Gas Coordination Group assessments. ACER notes that associations of storage and LNG facilities have implemented updated transparency platforms for LNG facilities and gas storage facilities as required by Regulation (EU) 2022/2576⁵⁵ which include links to tariffs information for LNG and storage facilities. ACER encourages ENTSOG and Gas Infrastructure Europe (GIE) to continue making these useful monitoring tools operational and developing new functionalities at their own initiatives or based on the requests of stakeholders or authorities.

3.9. Implementation of previous ACER recommendations

- (47) ACER finds no reference in the Outlook as regards possible implementation of its previous recommendations on seasonal outlooks, namely consider using a scenario based on expected gas supply and booked capacities; consider levels of winter demand which better incorporates exogenous factors such as demand reduction targets, demand elasticity triggered by future gas prices⁵⁶ or fuel switch behaviours (e.g. under peak demand situations some sectors might switch to other fuels than gas)⁵⁷. However, ACER firmly believes that improvement in the WSO assumptions and methodology would be instrumental to better identify potential risks (and remedies) to which Member States

⁵¹ https://acer.europa.eu/Publications/ACER_10_Gas_Congestion_Report.pdf

⁵² https://acer.europa.eu/Publications/ACER_Special_Report_Congestion2023.pdf

⁵³ <https://gasdashboard.entsog.eu/>

⁵⁴

<https://app.powerbi.com/view?r=eyJrIjoiY2NhNz03ODctZmI2ZC00MzAzLTk1ZWVtZWVxYmMzZGEyMTkxIiwidCI6IjgxMDU4NGZkLTY5ZjktNDEzNy1hNmExLWMwZTMzMjgwYjE1YyIsImMiOiJh9>

⁵⁵ Article 13. For storages, AGSI platform <https://agsi.gie.eu/>. For LNG terminals, ALSI platform <https://alsi.gie.eu/>

⁵⁶ While the natural gas demand is an input to the WSO and it is considered inelastic in the simulations, winter 2022/23 showed that part of the demand reduction, especially in the industrial sector, was triggered by extreme high prices. Such considerations should be included when defining the demand input.

⁵⁷ ACER Opinion No 11/2021 on ENTSOG Winter Supply Outlook 2021/2022, p.8.

would be exposed in case of a tight gas supply situation, triggering timely anticipatory measurements.

- (48) ACER encourages ENTSOG to consider developing, in consultation with stakeholders, such methodological improvements for future Outlooks in order to improve the robustness of the Outlook's assessments. ENTSOG should devote, as a matter of priority, more resources to improve, even further, the methodology for the security of gas supply and preparedness assessments,

HAS ADOPTED THIS OPINION:

1. ACER is of the view that ENTSOG's Winter Supply Outlook 2023/2024 contributes to the objectives of Regulation (EU) 2019/942 and Regulation (EC) No 715/2009 in terms of contributing to non-discrimination, effective competition, and the efficient and secure functioning of the internal natural gas market.

Scope of analysis and timely publication

2. ACER welcomes ENTSOG's timely publication of the Winter Supply Outlook 2023/2024. ACER appreciates that the scope and methodology of the Outlook has been expanded to consider the outage of major infrastructures, the Russian invasion of Ukraine and caused risks for imports to Europe, different level of LNG availability and the inclusion of a sensitivity on the maximum level of storages that could be reached at the end of the filling period.

Improvements to Winter Supply Outlook methodology

3. ACER acknowledges ENTSOG's efforts and additional analysis in the current winter supply outlook. However, ACER firmly believes that improvement in the WSO assumptions and methodology would be instrumental to better identify potential risks to which Member States would be exposed in case of a tight gas supply situation. ACER encourages ENTSOG to consider improving the WSO assumptions and methodology, in particular by including in the supply assumptions the expected gas supply and booked capacities⁵⁸ rather than using a scenario only based on historical values, and to embed expected gas prices and gas price demand elasticity in the definition of the demand which is an exogenous input to the modelling.
4. In the last years, both Winter Supply Outlook and the Summer Supply Outlook have become important reference documents for stakeholders. ACER recommends ENTSOG to proactively engage with stakeholders well in advance of the Supply Outlooks' preparation and to consult them on the proposed methodology to gain insights into expected improvements.

⁵⁸ For example, the ALSI platform publishes capacity forecast data for the upcoming 6 months which could be considered when building the reference LNG supply scenario: <https://alsi.gie.eu/capacity-forecast>

5. ACER also highlights the importance of close cooperation between ENTSOG and ENTSO-E to ensure, where relevant, consistent assumptions and results in their respective seasonal assessments. ACER also encourages ENTSOG and ENTSO-E to align the timing of the publication of the respective Winter Supply Outlooks.

Gas demand projections and savings

6. ENTSOG should have included a “baseline scenario” of gas demand for the winter outlook built upon the European Union targets for reduction of gas demand, which would be consistent with the Union Regulation on coordinated demand-reduction measures for gas.

Risks factors for this winter and upcoming injection season

7. ACER agrees with ENTSOG that the simulated disruption of Russian gas is undoubtedly the main risk for the upcoming winter. However, this scenario could be aggravated by other source, which are nevertheless less likely to occur, yet not modelled in the Outlook. The presence of risk factors⁵⁹, given the continuity of the Russian war against Ukraine calls for continued vigilance with respect to the gas supply situation. ACER calls on ENTSOG and all actors to remain vigilant for the upcoming winter and to track closely these risk factors.

Transparency

8. ACER urges ENTSOG to publish all the assumptions and decisions underling the input used in the WSO 2023/24. ENTSOG should collect and publish the assumptions used to define the enhanced capacities and to derive the demand data provided by the TSOs.

New infrastructure projects and maximisation of gas import and cross-border capacities

9. ACER welcomes that new cross-border initiatives and new LNG regasification capacities have contributed to the security of supply of EU. It remains a priority that cross-border capacities ensure the preparedness of the EU gas infrastructure to transport gas supplies that reduce and replace Russian gas supplies. ACER invites TSOs to take appropriate and coordinated cross-border actions to maximise capacities and manage contractual and physical congestions.

Vigilance over EU storage filling levels

10. ACER welcomes that the EU collective 90% storage filling rate objective was already achieved in August, and that storage filling levels have reached the 90% target in all Member States well ahead 1st of November. Strengthened gas storage regulations and measures have played a role in the successful replenishment of storages.
11. ACER highlights the critical importance of monitoring and keeping adequate storage levels towards the end of the winter season to cover for possible high demand or supply disruption situations. Early and significant withdrawal from storages results in low storage levels at the end of the winter season and increases the risk for the next replenishment season. Therefore, ACER expects storage users to prudently withdraw gas from storage

⁵⁹ See section 3.4 of the Opinion, on main risk factors for upcoming winter.

also during the remaining winter season and national competent authorities to monitor and favour a withdrawal pattern that would safeguard the continuity of gas deliveries throughout the whole winter.

This Opinion is addressed to ENTSOG.

Done at Ljubljana, on 14 December 2023.

- SIGNED –

*For the Agency
The Director*
C. ZINGLERSSEN

Annexes:

I: Storage filling levels per Member States on 1st October 2023

II: EU Storage filling levels on 1st November 2023 vs EU Regulation filling targets

III: Incorrect or unclear information in ENTSOG's Winter Outlook 2023/2024

Annex I: Storage filling levels per Member States on 1st October 2023⁶⁰

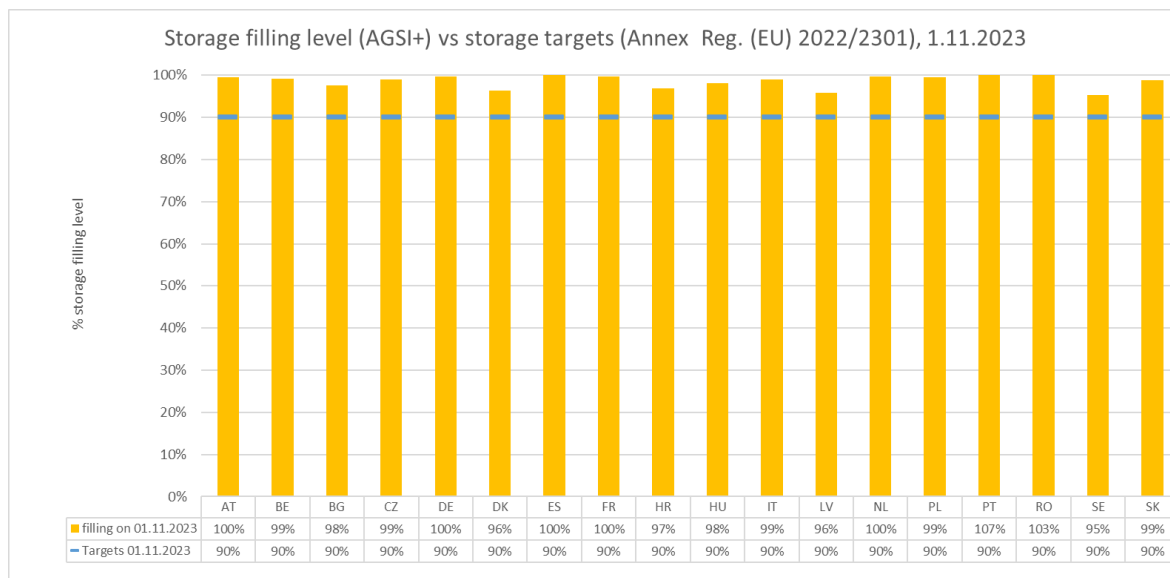
WGV: Working Gas Volume of Storages

GIS: Gas in Storage

Country	Working gas volume (TWh)	Gas in storage (TWh)	Filling level of storage (%)
Austria	97.6	92.6	95
Belgium	9.1	8.4	92
Bulgaria	5.9	5.7	96
Croatia	4.8	4.6	97
Czech Republic	44.6	43.2	97
Denmark	9.8	9.0	92
France	134.4	126.2	94
Germany	254.1	244.1	96
Hungary	70.1	66.7	95
Italy	195.4	188.7	97
Latvia	22.6	20.9	92
Netherlands	142.4	137.1	96
Poland	37.5	37.3	100
Portugal	3.6	3.5	97
Romania	33.9	33.1	98
Slovakia	36.9	35.7	97
Spain	34.1	34.2	100
Sweden	0.1	0.1	95
EU	1136.8	1091.3	96

⁶⁰ Source: AGSI+ platform (<https://agsi.gie.eu/>), 1.10.2023 data, platform accessed on 24.11.2023. According to the AGSI+ platform the data for Italy was marked as “estimated” at the time of access.

Annex II: EU Storage filling levels on 1st November 2023 vs EU Regulation filling targets.



Storage filling data based on AGSI+ data; storage targets based on 1st of November target as defined in Regulation (EU) 2022/2301.

Annex III: Incorrect or unclear information in ENTSOG’s Winter Outlook 2023/2024

(1) In page 8, third paragraph of ENTSOG WSO 2023/24, it says: “The topology of the network model considers the existing European gas infrastructure, the firm technical capacities provided by TSOs, which include maintenance plans known as of September 2023 and new upcoming projects as of their respective expected start of commercial operations. For example:

- Brunsbuettel Hafen and Stade FSRUs in Germany;
- Musel LNG terminal in Spain;
- Le Havre FSRU in France.”

CNMC notices that Musel LNG terminal, previously mothballed, entered into operation at the end of July 2023.

(2) All “monthly supply mix” graphs in ENTSOG WSO 2023/24 (e.g., Figure 15) refer to GWh/d in the vertical axis while they refer to “sum of the month” in the horizontal axis. ENTSOG should ensure consistency in the way data are displayed and correct the graphs accordingly.