Gas and Electricity Winter Outlooks 2023-2024

16 November 2023 – Joint ENTSO-E and ENTSOG public webinar

ENTSOG: Kacper Żeromski – Deputy Director, System Development

ENTSO-E: Simon Art – Convenor of Working Group Seasonal Outlook

Moderated by: Lukas Galdikas (Seasonal Outlooks project manager, ENTSO-E)

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Housekeeping rules

You are welcome to place **your questions directly through sli.do (#2908353).**

In **Sli.do**, feel free to vote for the most relevant questions posted.

Indicate **your name and company** when posting your question.

The moderator will select a couple of questions and ask the relevant speakers to comment.

Chat & 'raise the hand' features of Teams Webinar will not be used.

The recording of the webinar will be made available on the ENTSO-E website.

Questions?
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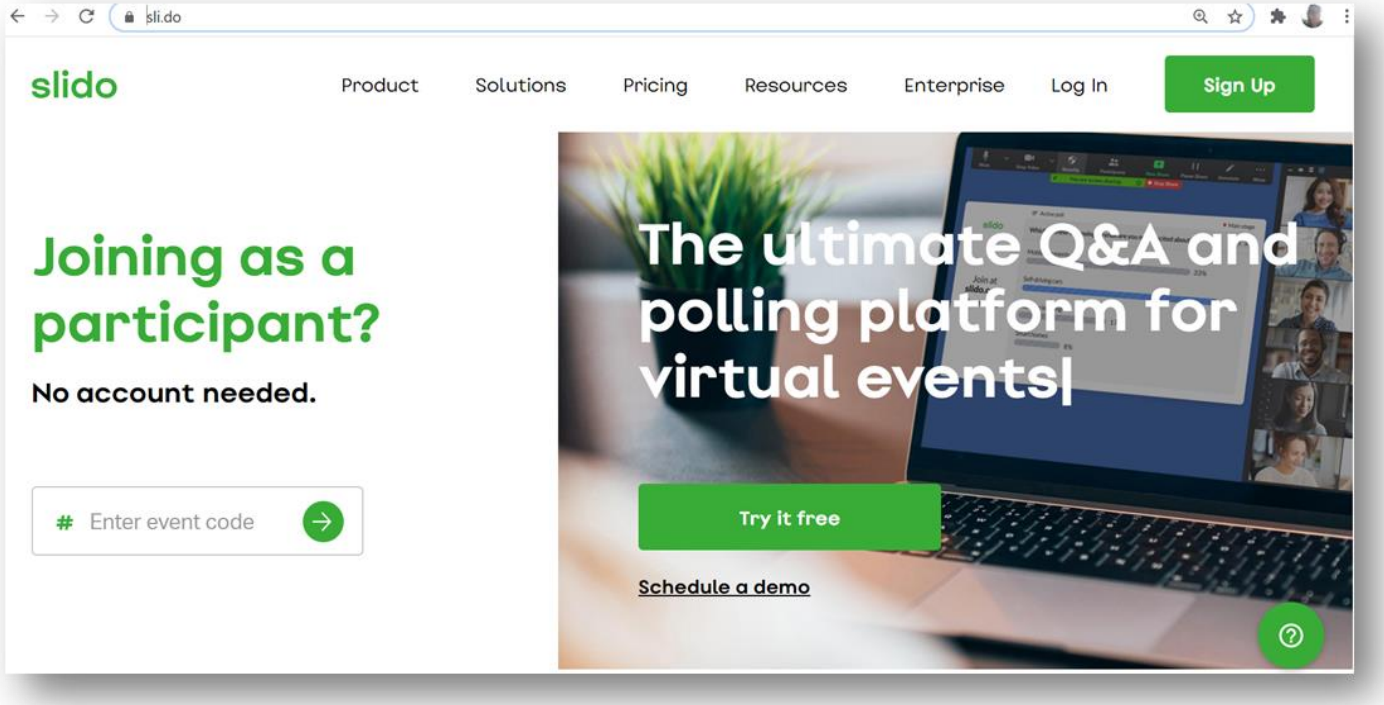
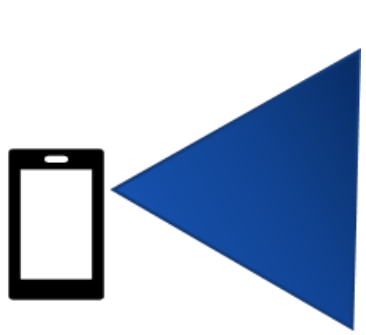
How to login to Sli.do



Go to www.sli.do and enter **#2908353** or scan the following QR with your phone to login



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Agenda

1. Introduction
2. Electricity Winter Outlook (ENTSO-E)
3. Gas Winter Supply Outlook (ENTSOG)
4. Questions
5. Summary and coming events

Purpose of Seasonal Outlooks

ENTSO-E Summer Outlook and ENTSOG Summer Supply Outlook:

- Assess adequacy situation to prevent and mitigate risks to security of supply during the winter period
- Inform all interested parties about the gas and electricity adequacy situation at a pan-European level
- Allow ENTSO-E & ENTSOG to exchange information about the situation in their respective systems

Electricity Winter Outlook 2023 - 2024

Public Webinar – 16 November 2023

Simon Art – Convenor of Working Group Seasonal Outlook ENTSOE

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Scope

Reference scenario

Best available information

Energy saving scenario

What if **European energy saving targets** would be reintroduced?

Adequacy assessment

Critical Gas Volume analysis (same as winter 2022-2023)

Special considerations

- No regional concerns were identified by TSOs
- Limited lignite availability in Poland considered
- UA/MD system integrated part of European power system: enabling transit flows if needed but no consumption and generation modelling in UA/MD system itself
- UA/MD expert qualitative expectations included in the report

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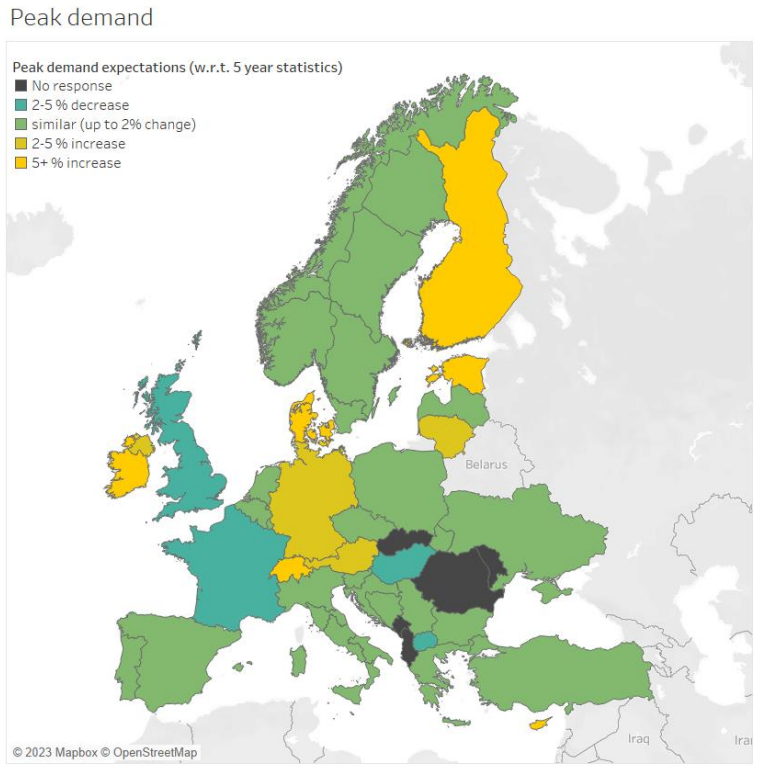
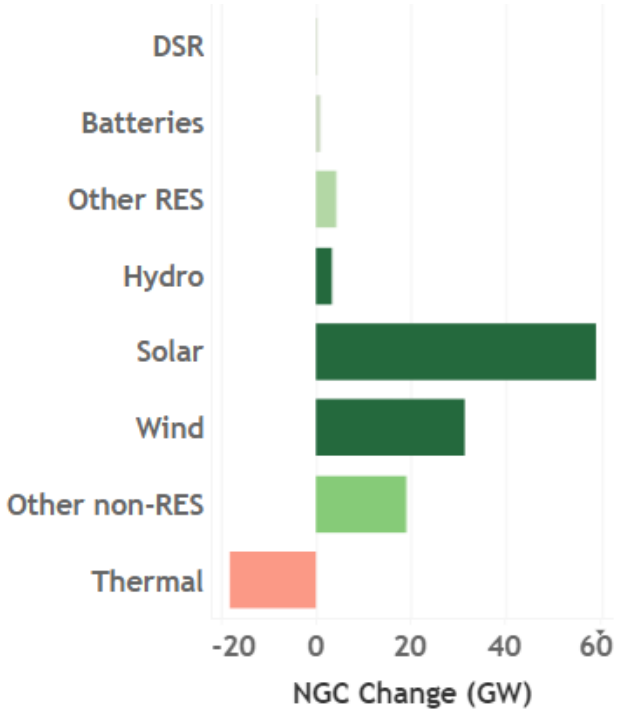
Trends compared to past winter (I)

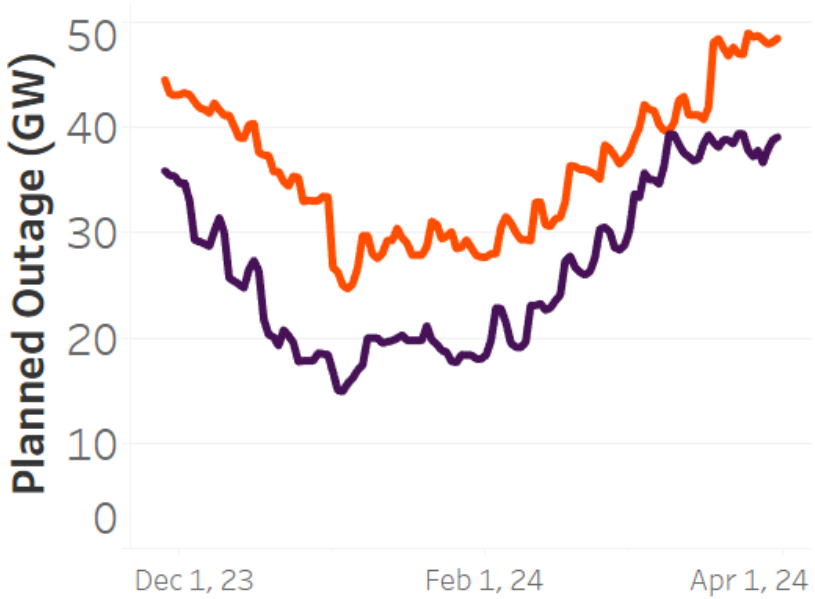
Demand varies around average levels across Europe



RES increase; Conventional decrease



More favorable planned outage schedule



WO 2022-2023 WO 2023-2024

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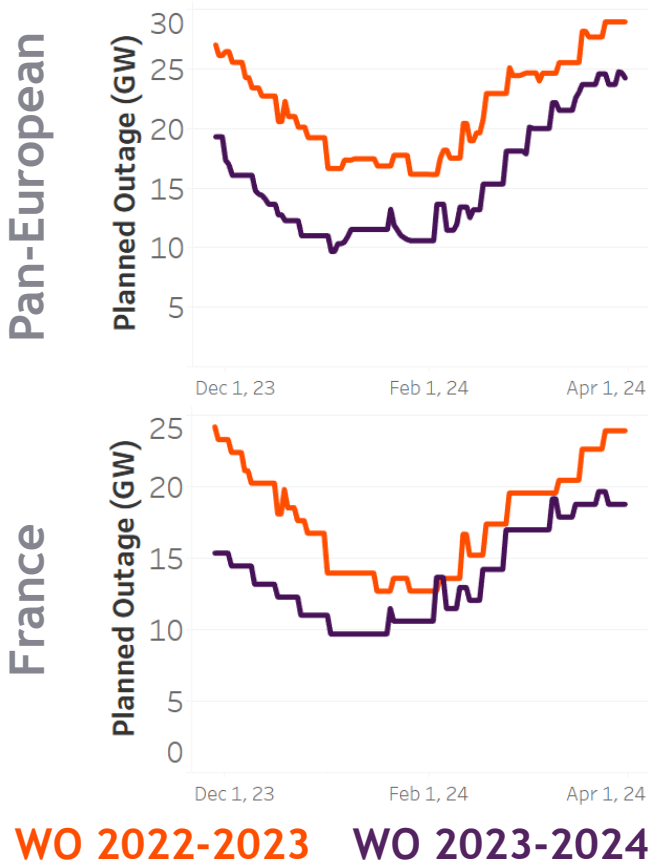
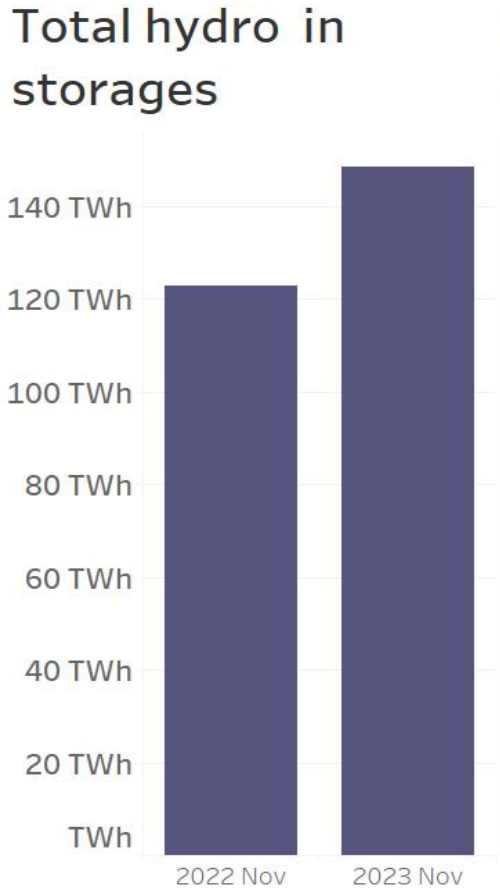
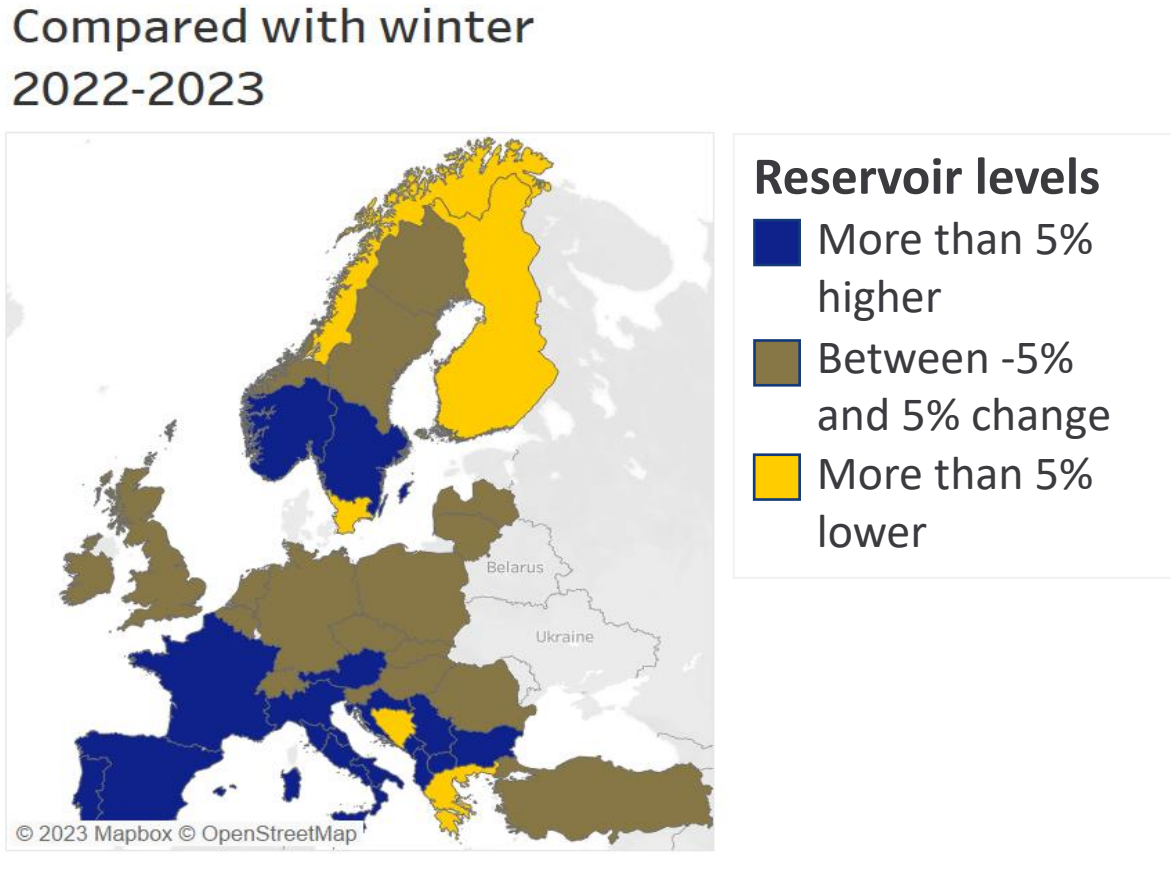
Trends compared to past winter (II)

Higher expected nuclear availability



Hydro storage levels in November projected to be better than year before





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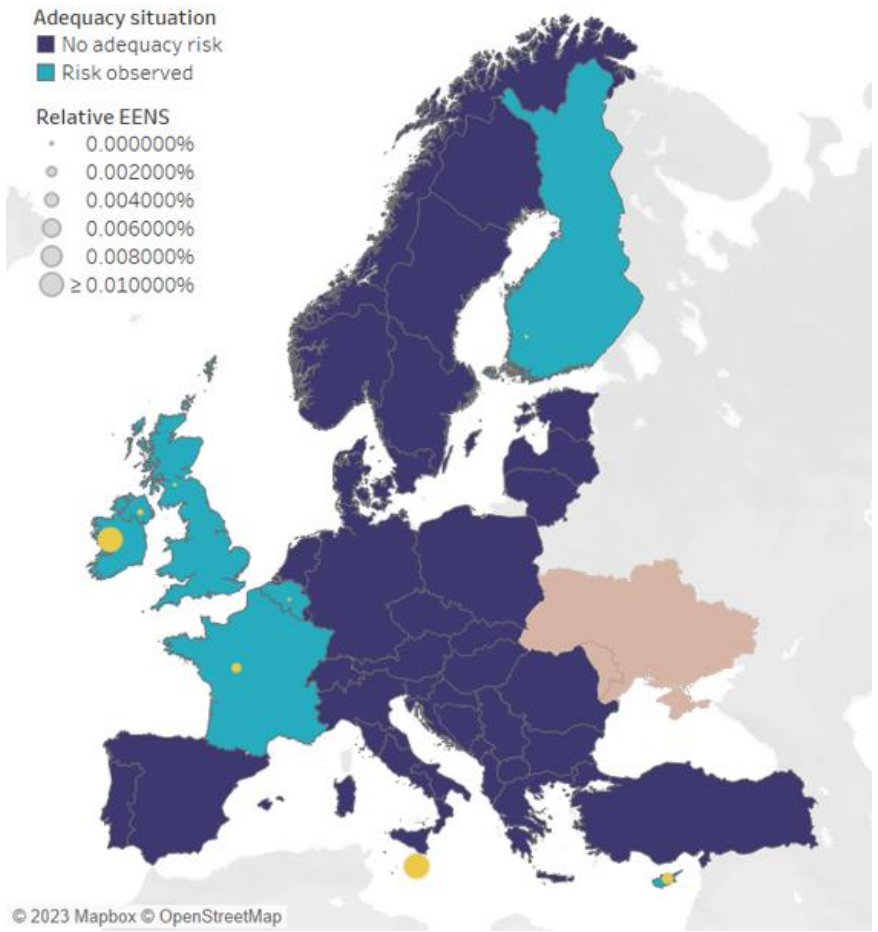
Results confirm positive trend identified in input data

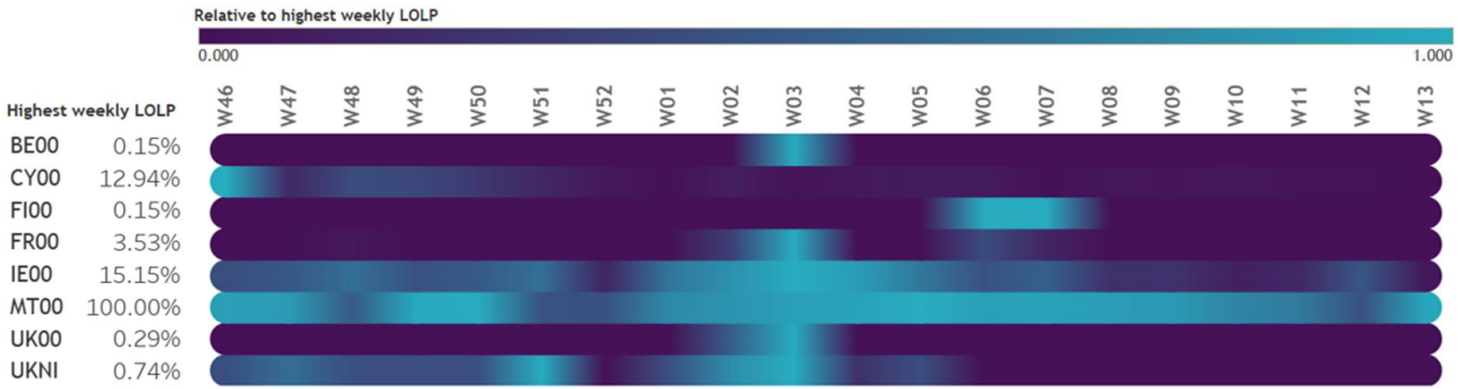


Favourable adequacy results due to:

- RES expansion
- Favourable planned maintenance schedules
- Stagnant demand

Adequacy risks:

- In rather remote systems
- Traces of risks in Finland suggest tight supply margins
- Regional risks in and around France should be addressed by FBMC efficiencies



*Adequacy risks can be mitigated by non-market resources in Ireland and Malta.

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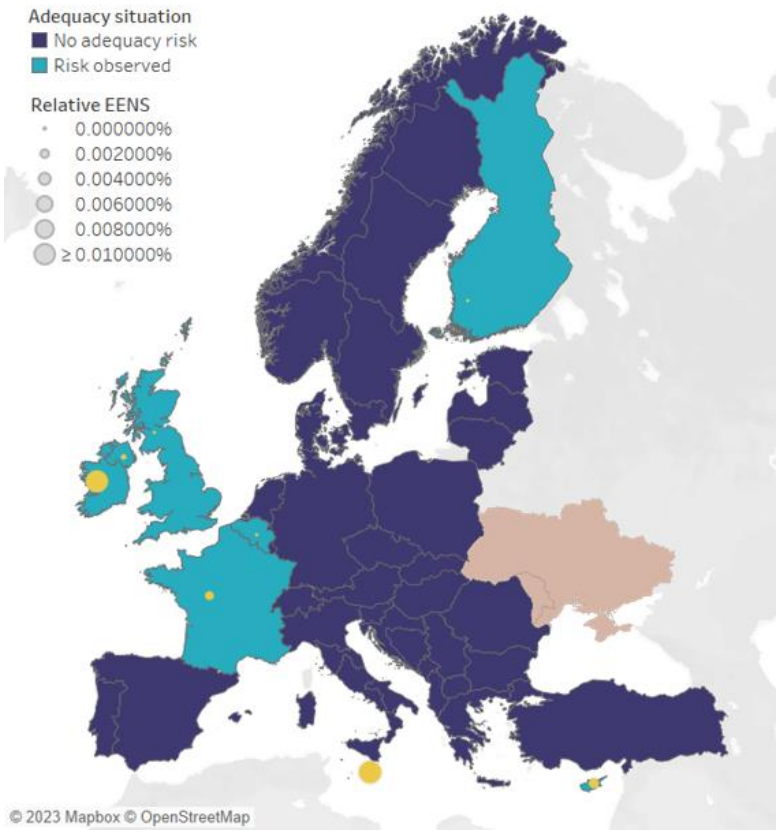
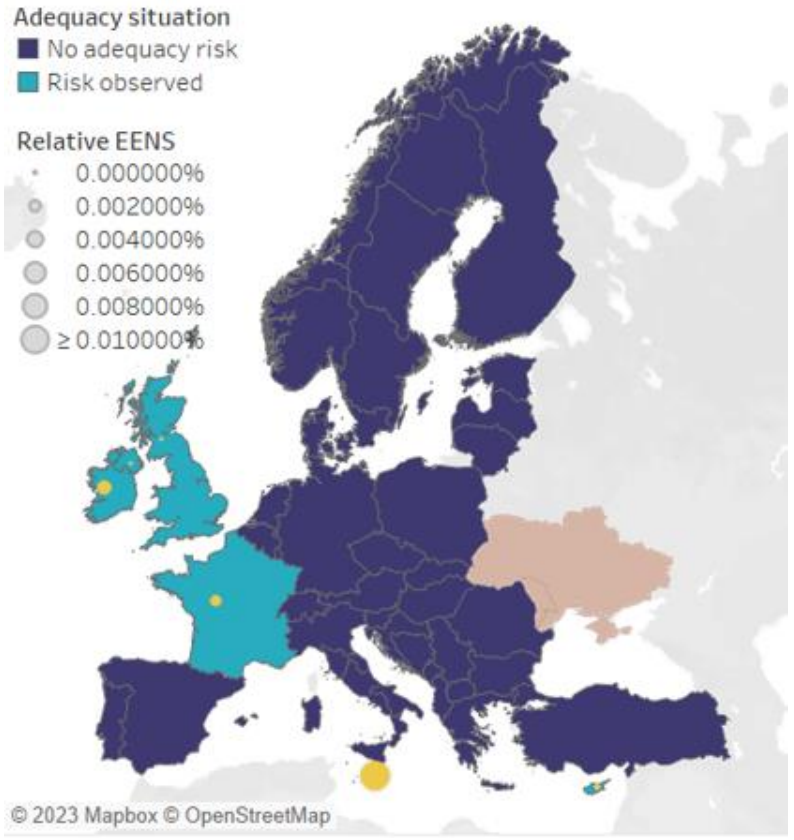
Energy saving measures

Reference scenario



Energy saving scenario



Adequacy risks:

- Would be mitigated at least by half with energy saving scenario everywhere
- Small potential to address regional risks in and around France.

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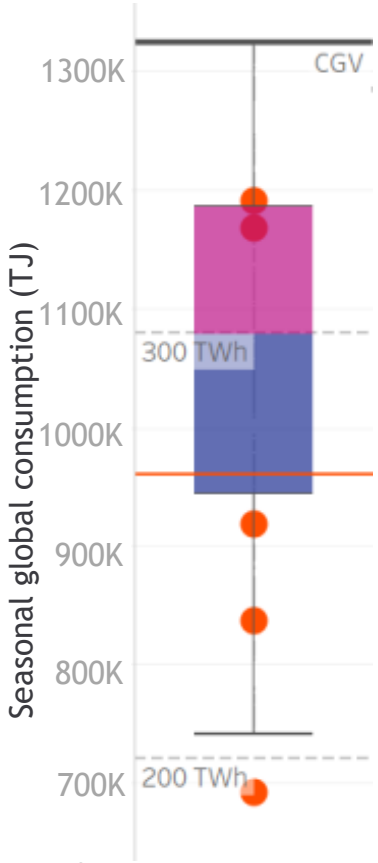
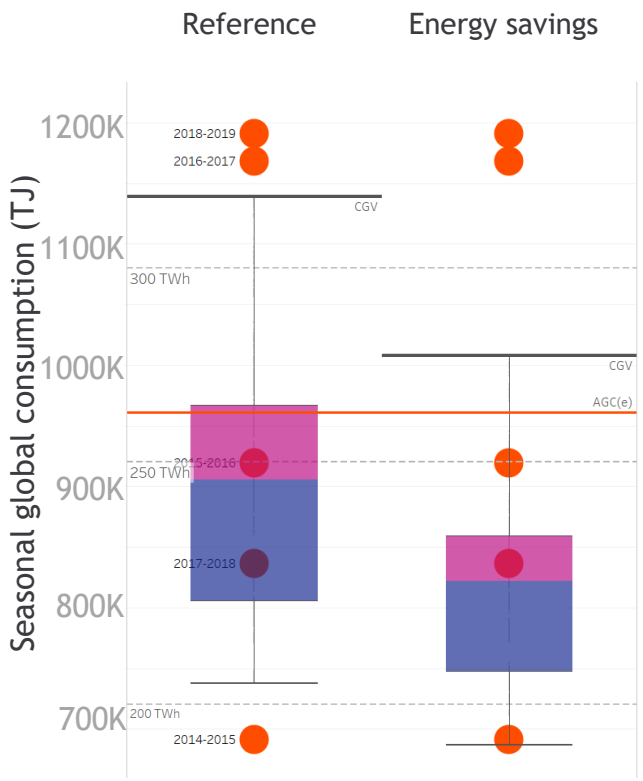
10% lower reliance on gas compared with winter 2022-2023 (Dec-Mar)

Winter Outlook 2022-2023



Winter Outlook 2023-2024



Insights:

- CGV decreases by 10% compared with previous winter.
- Additional 10% gas savings may be achieved if energy saving targets would be re-introduced.
- Favourable conditions this winter would reduce gas need for same period.
- Thermal decommissioning compensated by RES expansion and reduced planned outages

Reminder: CGV estimates only gas needs for adequacy in harsh winter. Actual gas consumption may be higher depending on market conditions; or lower than CGV if weather conditions would be favourable. Additional gas may be needed to ensure system services.

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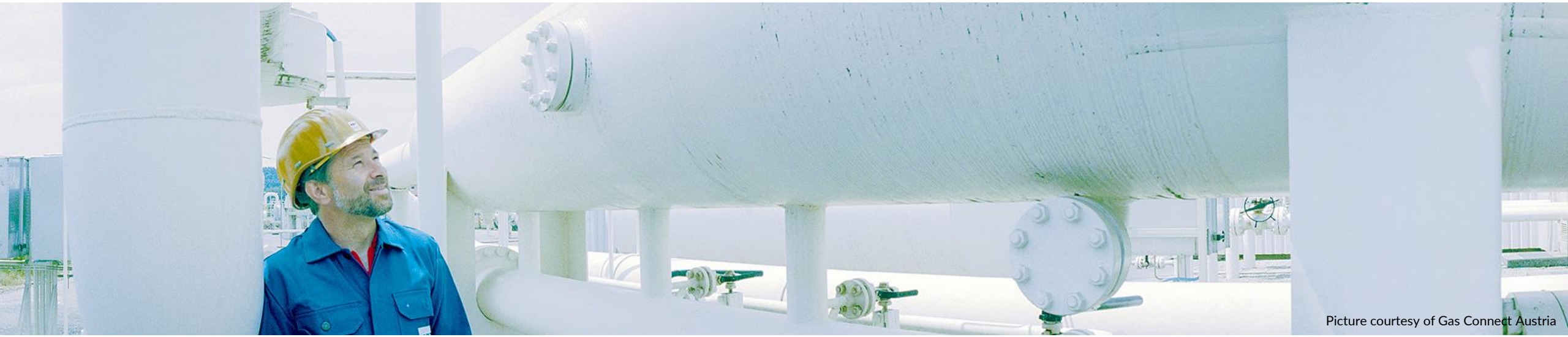
16 November 2023



Picture courtesy of Gas Connect Austria

Winter Supply Outlook 23/24 with Summer 2024 Overview and Winter Supply Review 22/23

Public Webinar – 16 November 2023

Kacper Żeromski, Deputy Director, System Development

Assumptions

Storage situation 1 OCT 2023

- **Average 96% filling level (1091 TWh ~100bcm)**

Capacities

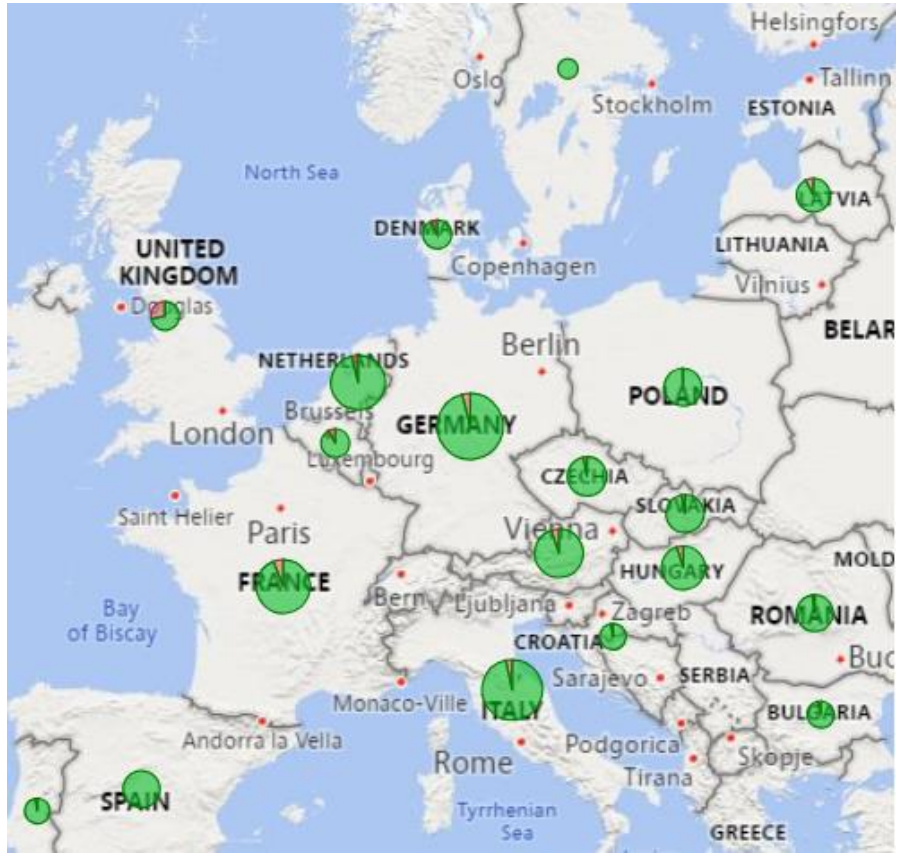
- Collected from TSOs for 12 months including maintenance & enhanced capacity for full RU disruption

Different simulation periods

- Winter Season, Yearly, Summer Season, Peak day and 2-Week

Different supply scenarios

- LNG: high, reference and low supply potential
- Russian pipelines: minimized and fully disrupted



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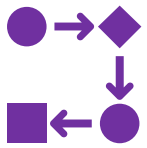
Assumptions

System assessment under different demand scenarios:

- Reference Winter (forecasted) and Cold Winter (highest demand since 2009/10), Cold Winter -15%
- Peak day (1-in-20 years), 2-Week Cold Spell (1-in-20 years) and Cold Winter Peak day, 2-Week Cold Spell

Different storage level target:

- 30% on 1 APR 2024
- 90% on 1 OCT 2024



Model optimisation - all countries cooperate to:

1. **Avoid the risk** of demand curtailment
2. **Share the risk** of demand curtailment if infrastructure allows for it
3. Inject to **storages** and withdraw **in optimal way**
4. Use their **import infrastructure in coordinated way**

(**especially LNG terminals**)

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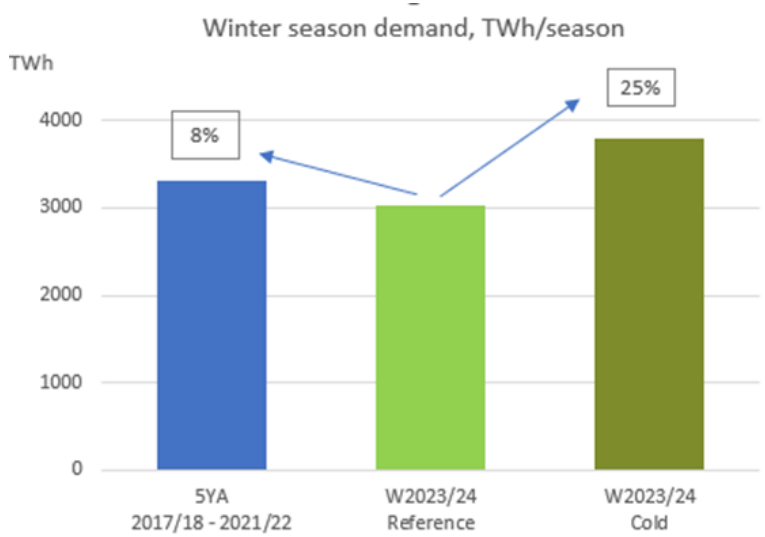
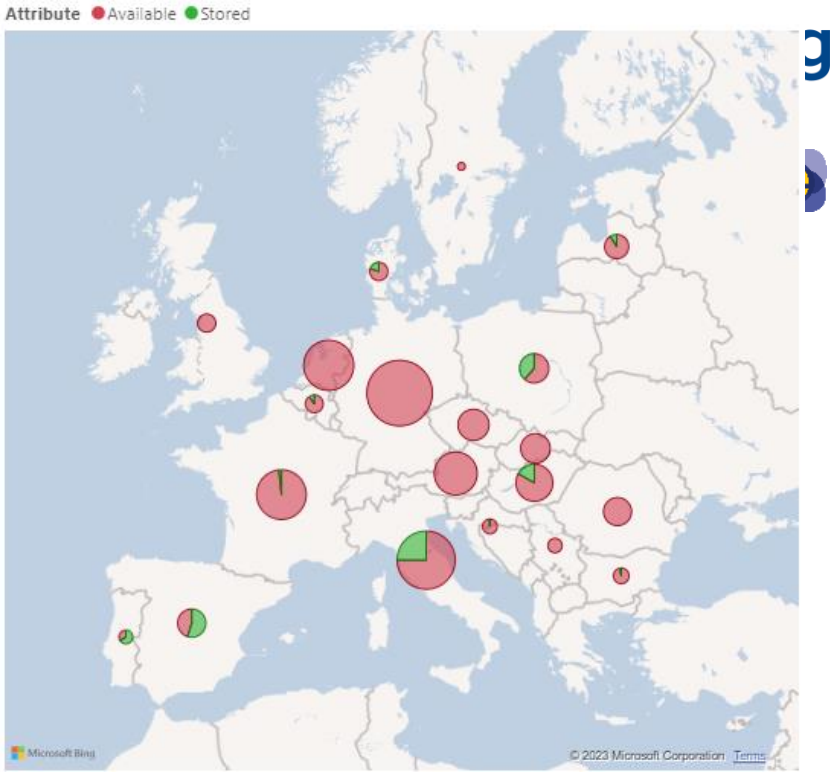


WSO2023/24 results

Winter Demand	RU supply	Storage Target	LNG Scenario	Demand curtailment	Final UGS filling level
Reference	Minimised	30%	Ref	No	32%
		30%	Low	No	23%
		Maximum	Ref	No	56%
	Disrupted	30%	Ref	No	32%
		30%	Low	No	12%
		Maximum	Ref	No	47%
Cold Winter	Minimised	30%	Ref	7%	9%
		30%	Low	17%	9%
		30%	Max	No	13%
	Disrupted	30%	Ref	9%	9%
		30%	Low	21%	9%
		30%	Max	3%	9%
Cold - 15%	Minimised	30%	Ref	No	32%
		30%	Low	3%	9%
		Maximum	Ref	No	38%
		Maximum	Max	No	58%
	Disrupted	30%	Ref	No	27%
		30%	Low	7%	9%
		30%	Max	No	32%
		Maximum	Max	No	47%



Some European countries reserves a part of their own gas stock constituted as **strategic reserves to be used only for the purpose of demand curtailment mitigation**. Availability of strategic storage reserves depends on country specific regulation.

The model assumes actual strategic storage facilities constraints, but results do not consider the utilization of strategic storage reserves - **strategic reserves remain available to avoid/reduce demand curtailment in some countries.**

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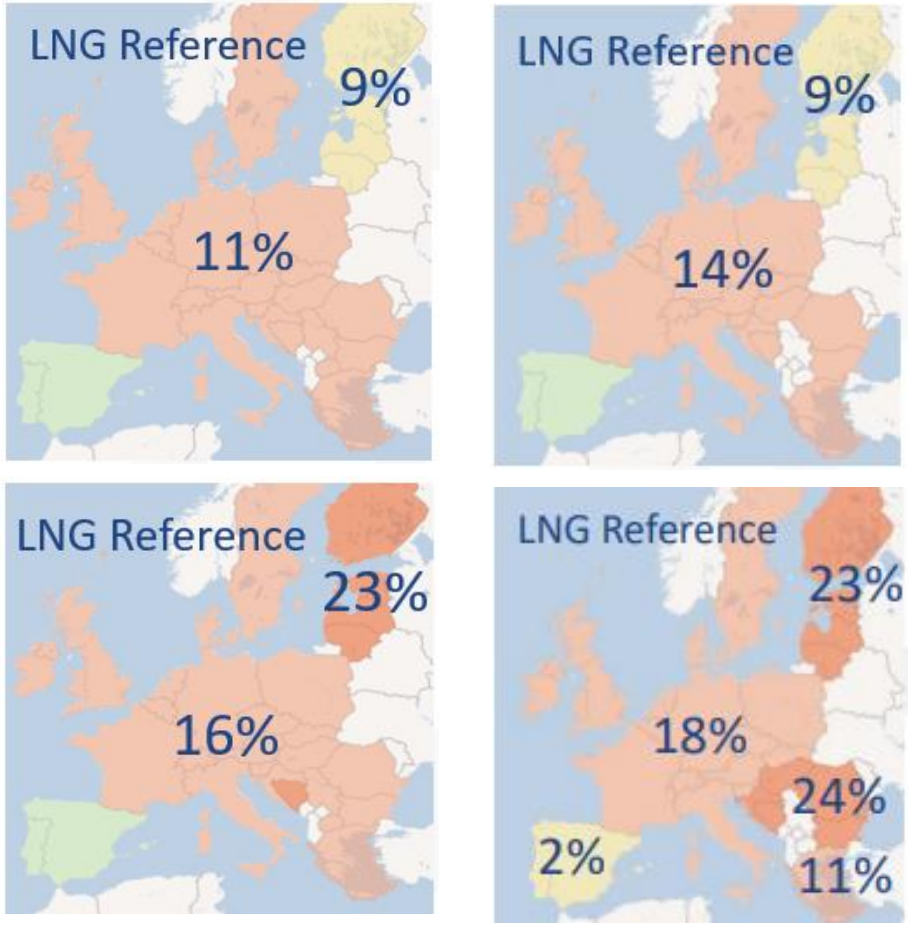
Note: Results don't consider the use of strategic storage facilities. Strategic reserves remain available in some countries

Peak day and 2-week cold spell

Normal Supply **RU Disruption** **Normal Supply** **RU Disruption**

Reference Winter



Cold Winter

Demand Curtailment Rate Scale

0 - 2% 3 - 10% 11 - 20% 21- 30% > 31%

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Conclusions

COOPERATION IS KEY

Current high storage levels, the gas infrastructure and enhanced **cooperation efficiently reduces the dependence on Russian supply,** to use more LNG in EU and more efficiently use storages (when injecting or withdrawing),

Even in case of the full Russia supply disruption, **cooperation between the countries and demand measures could allow for efficient injection** during the summer 2024 in preparation for the next winter.

DEMAND RESPONSE, ALTERNATIVE SUPPLY, ENCHANCED CAPACITIES + INVESTMENTS

In case of full disruption of Russian supplies during winter, additional measures might be needed to save significant volumes of the gas for the end of the season: possible measures such **as enhanced capacities, additional supplies and decrease in gas demand by 15%** would avoid demand curtailment risks and to reach adequate storage level.

PREPARDNESS

To reach 90% at the end of next summer**, more gas need to be kept at the beginning of injection season (45% on average)** or more LNG (than in summer 2022) need to be imported to reach 90% on October 1st 2024.

Storages play an essential role to ensure security of supply, providing seasonal flexibility needed during the winter season. An early significant storage withdrawals will result in low storage levels at the end of the winter season. It would be important to inject gas during the summer season and keep storage on adequate level until the end of the winter.

Additional storage flexibility could be secured by storing additional volumes in Ukrainian storage facilities. Potential transit of gas through Ukraine between member states could improve interconnectivity between CEE and SEE region.

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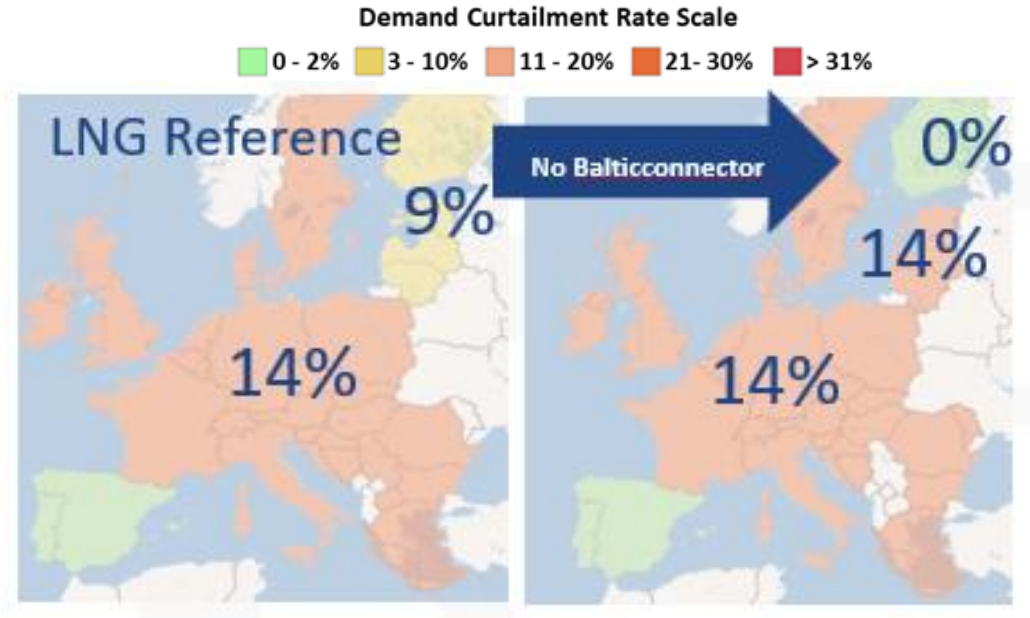
Balticconnector pipeline disruption

- **Finland cannot directly cooperate with Baltic States** and contribute to more efficient reduction of the demand curtailment risk
- **The disruption does not change dramatically the situation** either in the region or in the rest of Europe.
- **The Baltic States region can still cooperate with the rest of Europe** using PL-LT interconnector and LNG terminal in Klaipeda. The same impact is observed in case of peak day in cold winter.



Reference Winter Peak Day Demand situation – RU supply disruption

Simulations show that the disruption of the Balticconnector pipeline limits the possibility of Finland's cooperation with the Baltic States, but at the same time does not pose a significant risk to the security of gas supplies in the region.

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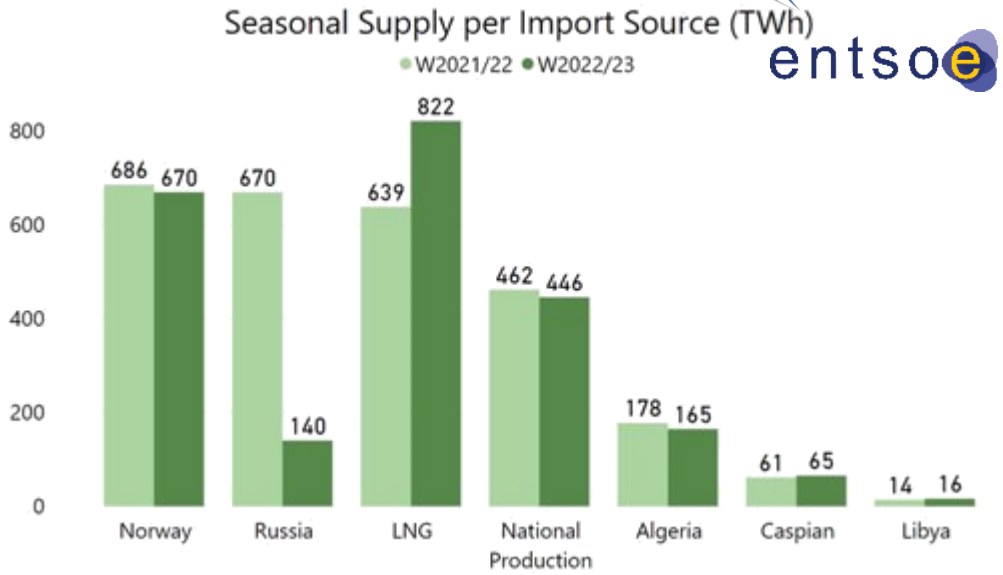
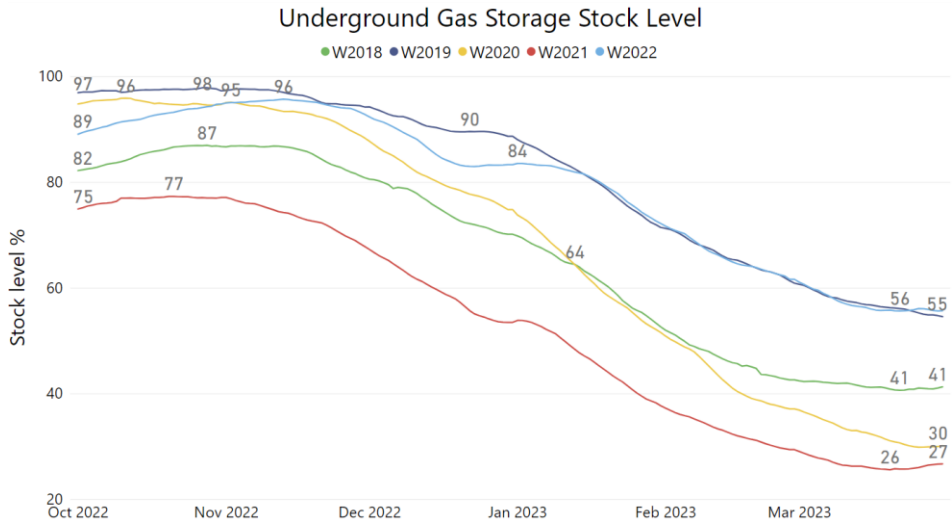
- Total gas demand values dropped in the EU by 18.6%
- Pipeline gas supplied by Russia dropped by around 80% in comparison with the Winter 2021/22. LNG experienced the most notable increase from all supply sources to Europe 30% of increase.
- Algeria supply sources decreased and have been compensated by Caspian and Libyan supply source.
- Storage levels during Winter 2022/23 increased its stockage till late November after which it followed pre-crisis trend of Winter 2019.
- The sum of all the import flows to Europe together with the National Production dropped by around 14.4%.





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Q&A

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Summary

- ENTSOs seasonal outlooks are unique pan-European & system wide analysis of security of supply
- Adequacy assessed in:
  - Electricity system under various typical conditions
  - Gas system under extreme events or in case of supply disruptions
- Prospects in gas and electricity systems are better for winter 2023-2024 than year ago. Risks remains under harsh weather conditions, especially if combined with additional adverse incidents.
- Gas and electricity TSOs maintain awareness for coming winter as situation in gas and electricity systems continuously evolves.
- ENTSOs remain in a close proximity and continues exchanging information.

Upcoming events

Curious about electricity adequacy in coming years?
December 2023

Wondering about Offshore Electricity Network Development Pathways?
January 2024

Consider submitting your gas infrastructure project for assessment in TYNDP? Or are you simply curious about the process?
20 November 2023 10-12 CET.

https://www.entsog.eu/webinar-tyndp-2024-project-promoter-handbook

Thank you very much for your attention

For any questions, please reach:

- ENTSO-E: Lukas.Galdikas@entsoe.eu
- ENTSOG: ENTSOG.Communications@entsog.eu