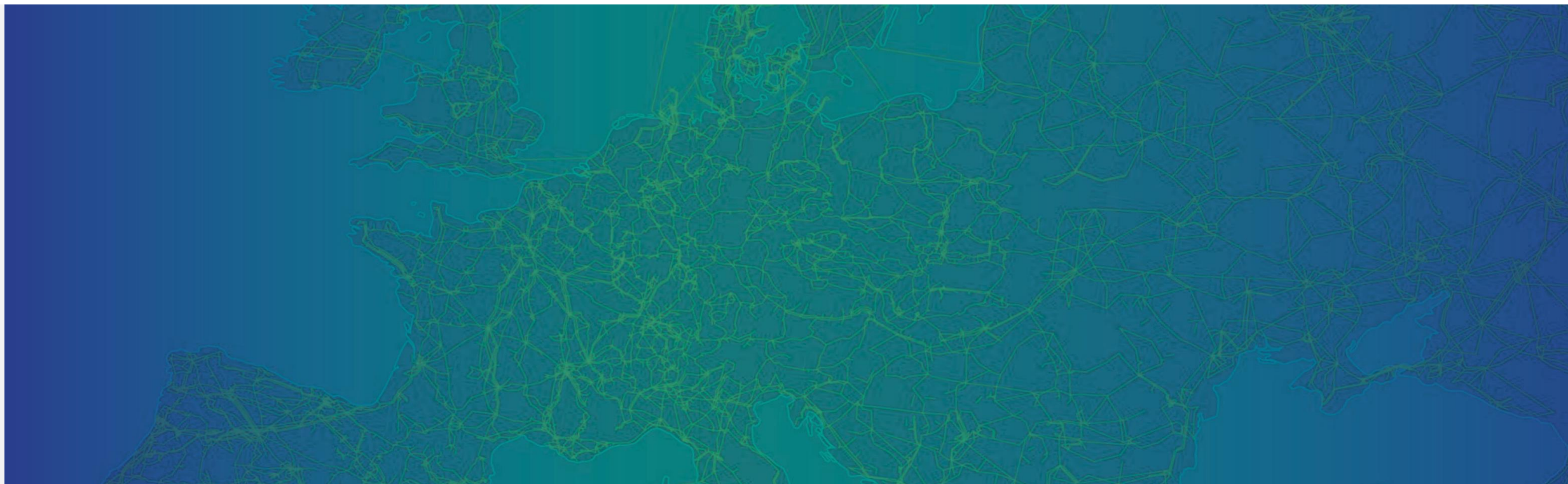


European Adequacy - Winter Outlook 2021/2022

EnC SoS – 14 December 2021



Lukas Galdikas – system adequacy specialist

Lukas.Galdikas@entsoe.eu

Purpose of Seasonal Outlooks

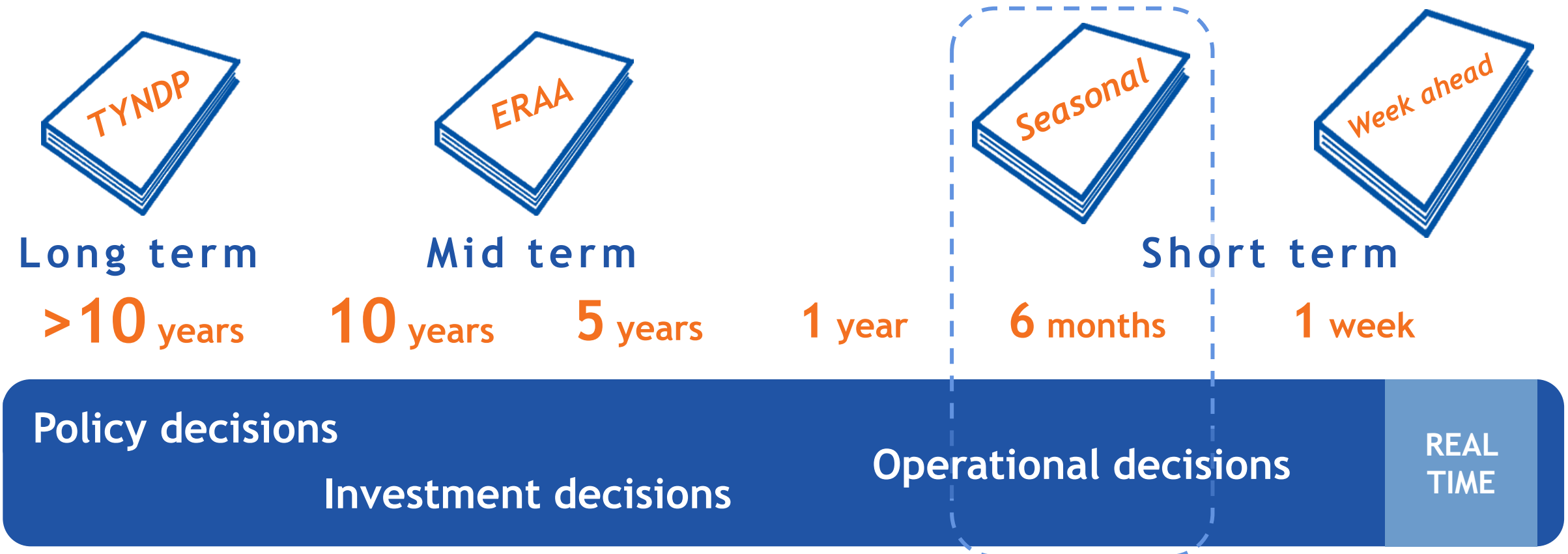
ENTSO-E Winter Outlook and ENTSOG Winter Supply Outlook:

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



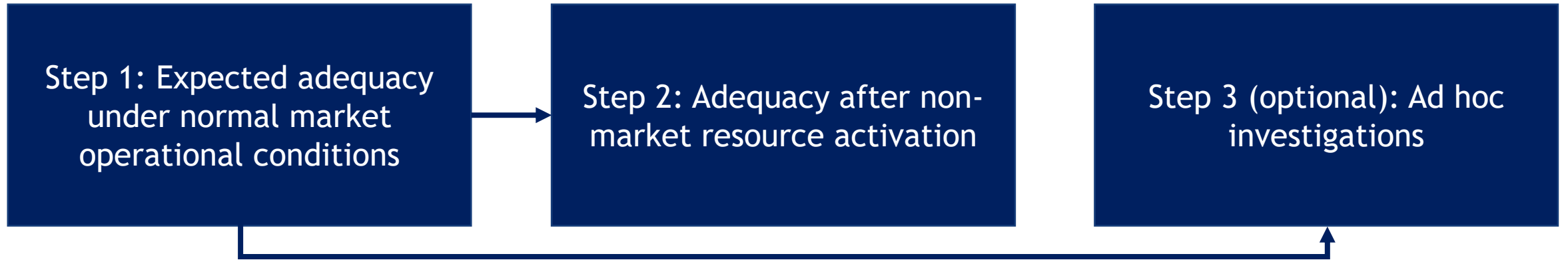
ENTSO-E Winter Outlook

Different risks are addressed within different timeframes



← UNCERTAINTY INCREASES WITH TERM LENGTH

Summer outlook approach



Information available in September

Expected resources available in the market (generation and exchange capacities)

Activation of non-market resources

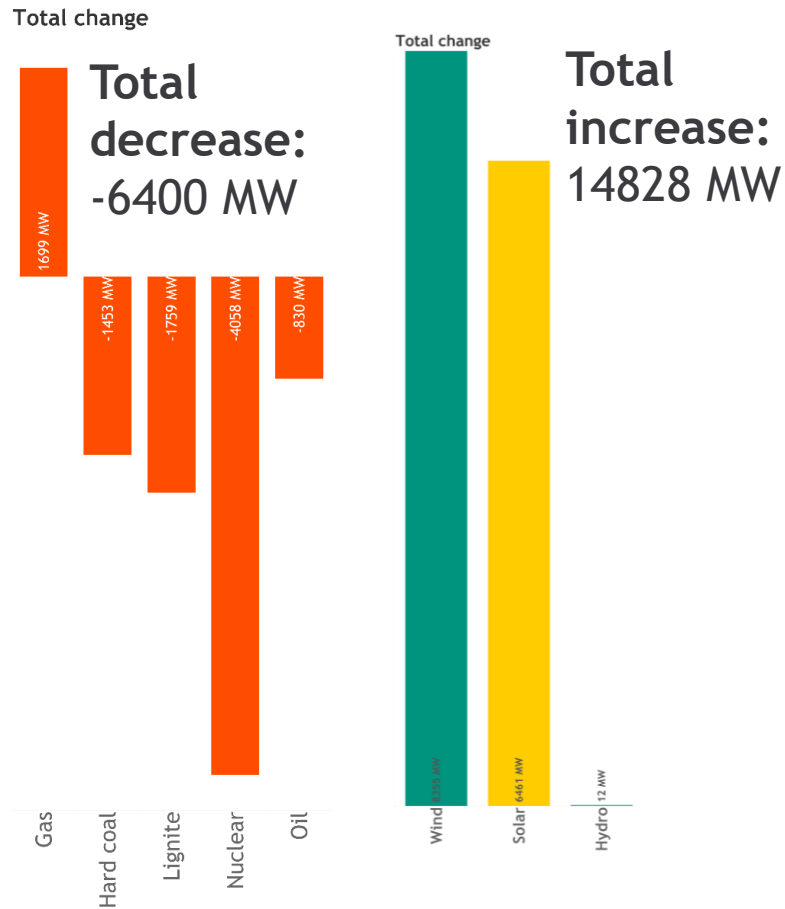
European cooperation

Result investigation

Winter trends in available thermal generation

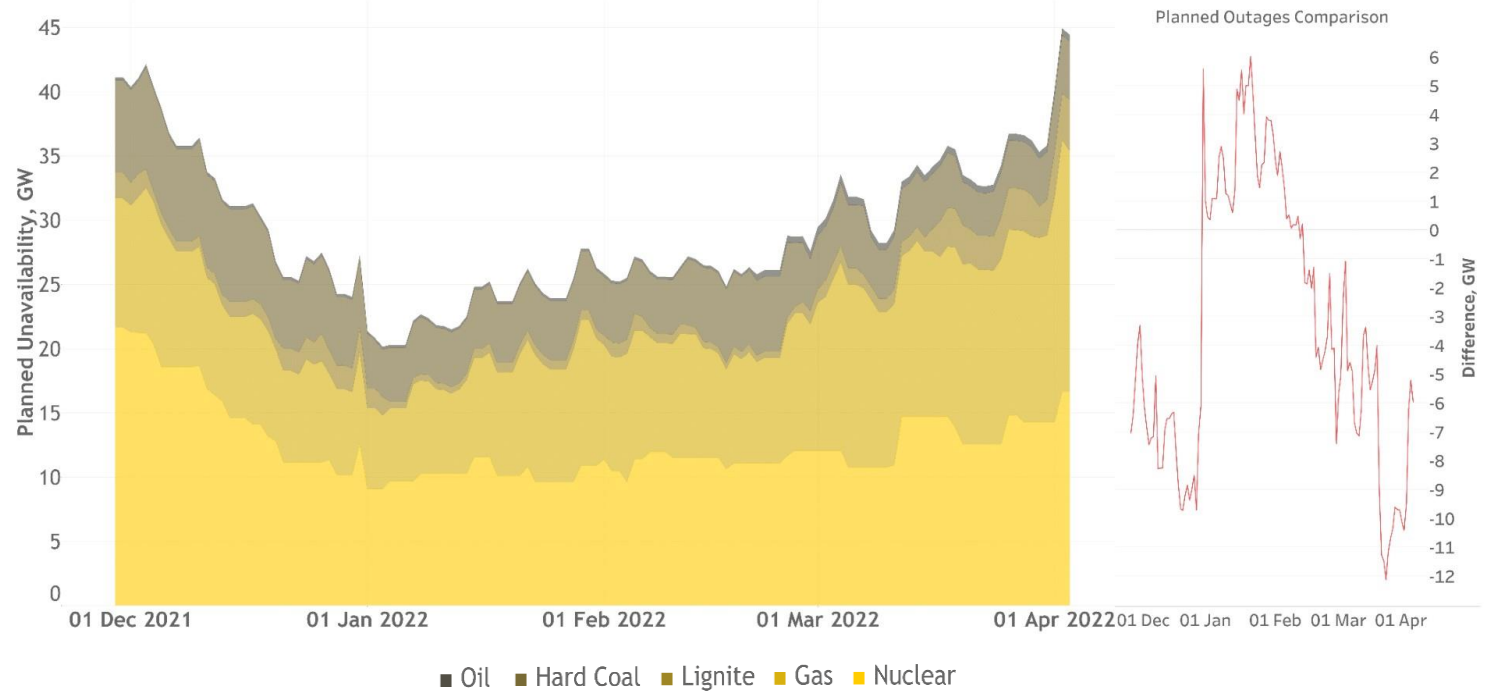
Thermal capacity during winter decreases by ~6400 MW, which represents ~1.3% of the European thermal fleet.

Net thermal capacity change



Total planned unavailability of thermal power plants decreases towards mid-winter. Nuclear units show the highest level of unavailability at the beginning of winter 2021-2022, which flattens approaching January 2022.

Planned unavailability of thermal units (as of September)

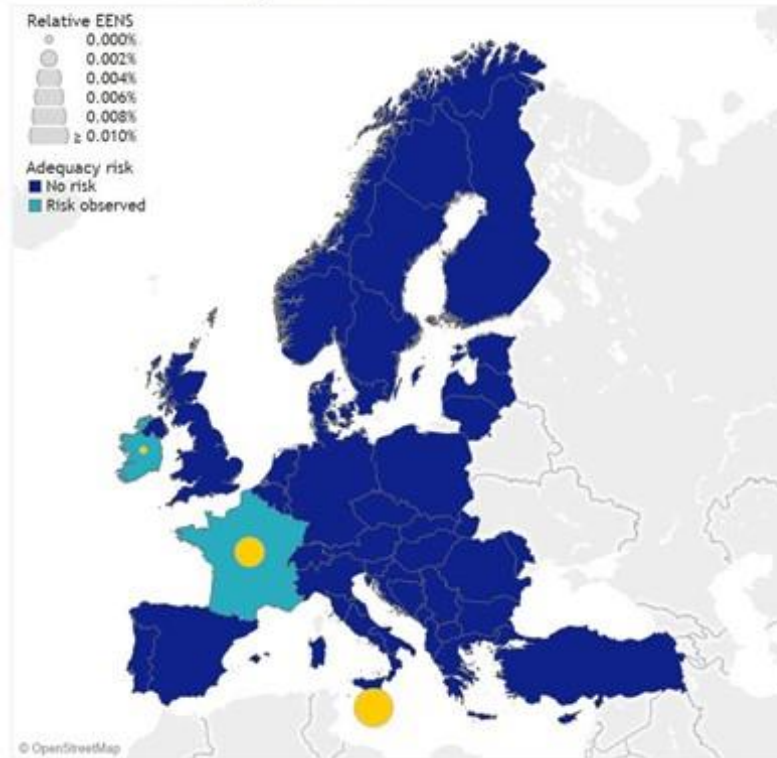


Adequacy overview

Notable adequacy risks are identified in France and Malta, while some adequacy risks are identified in Ireland. Adequacy risks are expected to be addressed by out-of-market resources in Malta. All TSOs are closely monitoring adequacy concerns together with RSCs.

Adequacy overview (considering September information)

Normal market operations



Considering non-market resources



→ Risks do not change significantly

→ Risks decrease

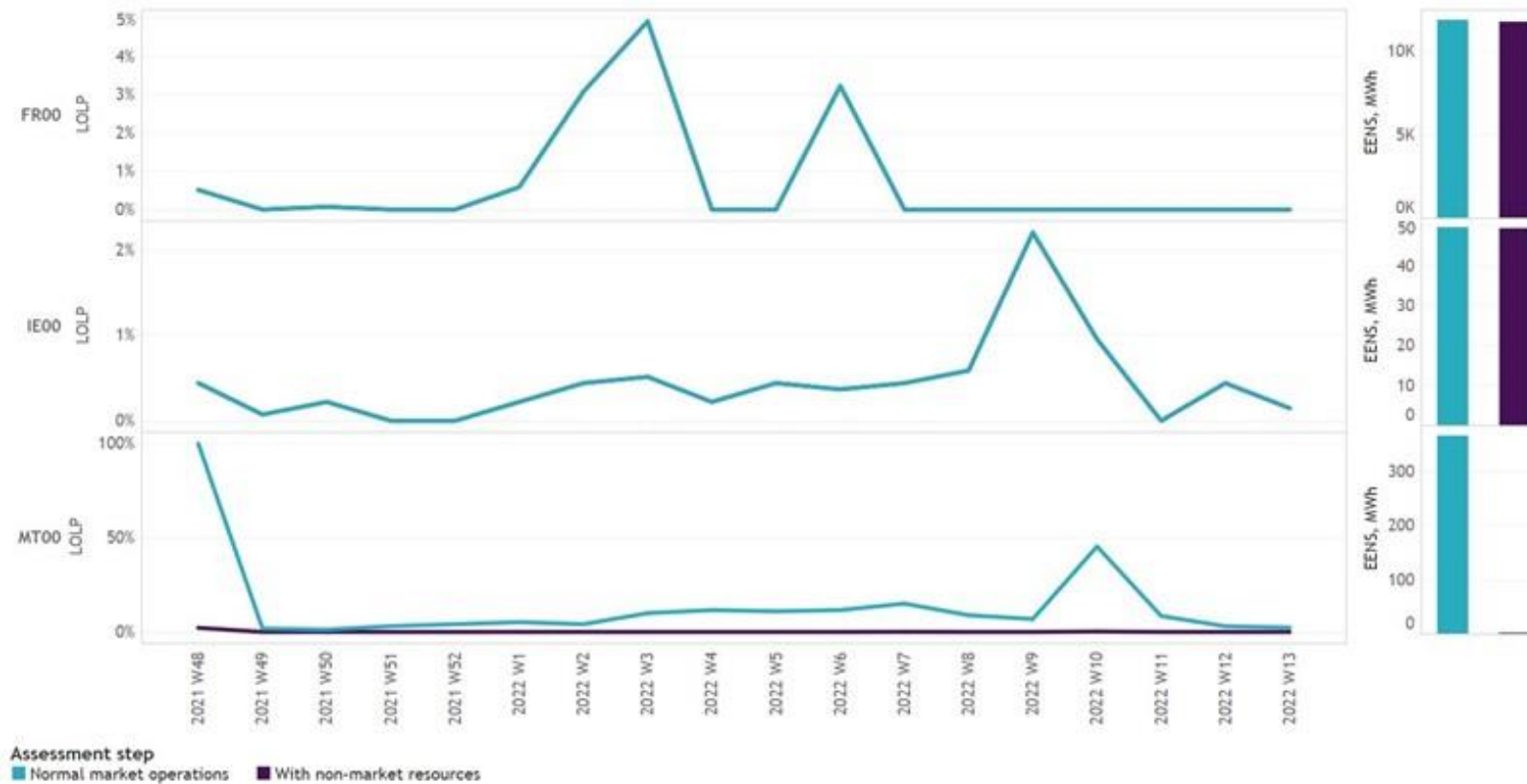
EENS = Expected Energy Not Served, RSC = Regional Security Coordinator

Relative EENS - EENS representation considering power system seasonal consumption (reliability metric designed to compare EENS on pan-European scale)

Adequacy details

The contribution of non-market measures significantly reduces Loss of Load Probability (LOLP) in Malta, with the highest weekly LOLP dropping from 100% to 2.21%. EENS is reduced by 99.996%.

Detailed adequacy overview - weekly LOLP and EENS



EENS = Expected Energy Not Served, LOLP = Loss of Load Probability (probabiliyu that at least 1 consumer could loose electricity supply)

Thank you for your attention