

# European Resource Adequacy Assessment 2022 – Results, key messages and consultation launch

Stakeholder Webinar, 06 December 2022



# Agenda

**Context and Key Takeaways**

Kristof Sleurs

**ERAA 2022 Improvements & Outcomes**

Lazaros Exizidis

**Next Steps**

Kristof Sleurs

**Q&A with the audience**

Moderated by Samy Geronymos

# ERAA 2022: Context and Key Takeaways



Kristof Sleurs, ERAA Steering Group Convener, ENTSO-E



# ENTSO-E is committed to Net-Zero



## Role of the ERAA

- Understand how system changes interact
- Inform decision makers and stakeholders
- Strengthen Europe's trajectory to net-zero

### NET ZERO



Objective of net-zero by 2050 structures all activities.

Central role of electricity means TSOs must manage an increasingly complex system.

### FLEXIBILITY



Wide range of factors influence resource adequacy.

New trends require forecasting adequacy years in advance.

### EFFICIENT PLANNING



Public support for the energy transition requires security of supply at the lowest cost in the long run.

Sharing of resources in integrated markets enables this.

# Setting the scene - ERAA in the current context



## Winter Outlook VS ERAA:

- ERAA is mostly indicating capacity at risk and the impact on adequacy in the longer run
- Seasonal outlook comes with less uncertainty on the power system situation given the shorter time horizon



ERAA considers a perfect market - assessment of operational security is not in the scope of ERAA



Ongoing discussions on the market design should be taken into account for the future evolution of ERAA and its implementation roadmap

# ERAA 2022 Key takeaways



## Risks

In the absence of targeted measures, adequacy risks appear, mainly in Central and Western Europe.



## Cooperation

Planning, cooperation and targeted measures are key for a secure electricity system.



## Coordination








Adequacy issues deeply interlinked; regional coordination is crucial.



## Future of ERAA

ERAA 2022 delivers further learnings for the future developments.

## ERAA 2022 Key takeaways - Scenario “without CM”

-  • High volumes of forecasted\* fossil-fuelled capacity at risk of economic decommissioning in the next years.
-  • Appropriate incentives and/or targeted interventions will be needed to avoid adequacy risks, especially in Central and Western Europe.
-  • Due to the high gas prices, typical gas units higher in merit order than coal in TY 2025.
-  • Viability pressure on coal units is reduced compared to gas.
-  • Longer term assessments beyond 2025 shows progressive inversion of the merit order in favour of gas
-  • New flexibility tools for demand management (ramps and peaks) as well as flexible capacity become necessary.
-  • Important risks for the forecasted thermal generation fleet up until TY 2030 with more than 60 GW retired and 21 GW invested.

\* Forecasted capacity: Refers to TSO best estimates (National Estimates)

# ERAA 2022 – Improvements & Outcomes

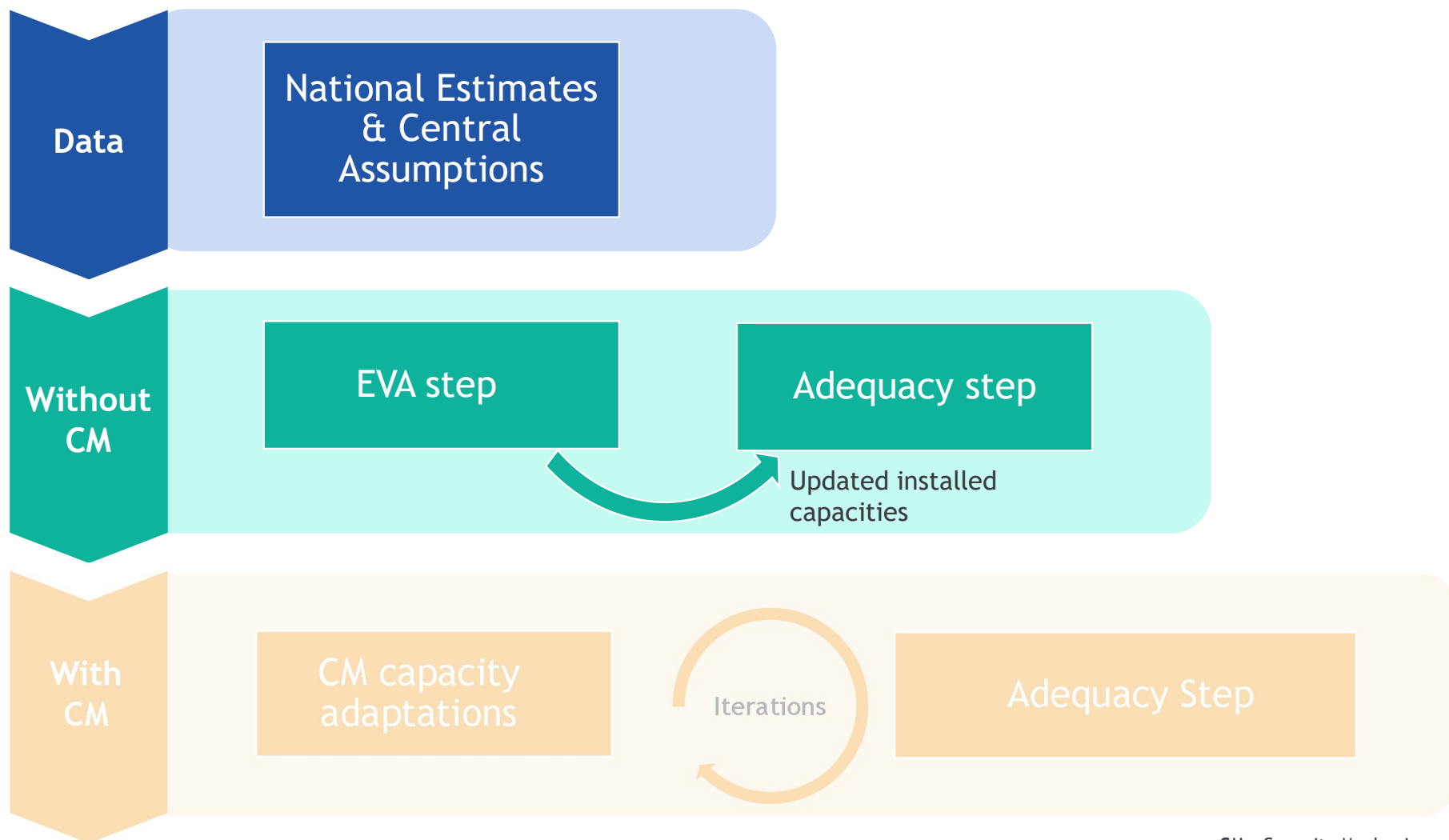


Lazaros Exizidis, Adequacy Expert, ENTSO-E



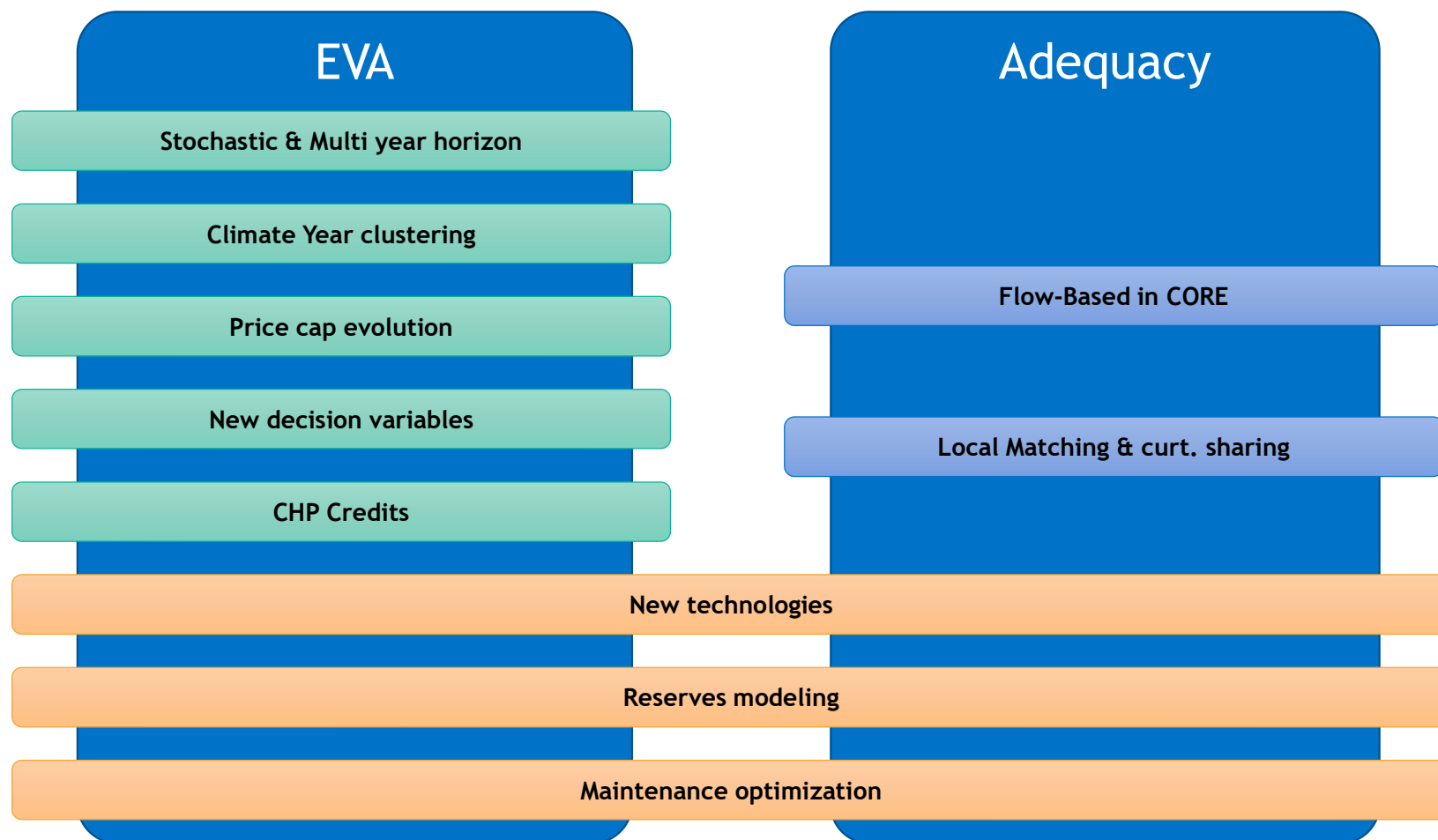
# Methodology insights

## The ERAA Scenarios – A multi-step and iterative process



CM : Capacity Mechanism

## Main ERAA 2022 improvements



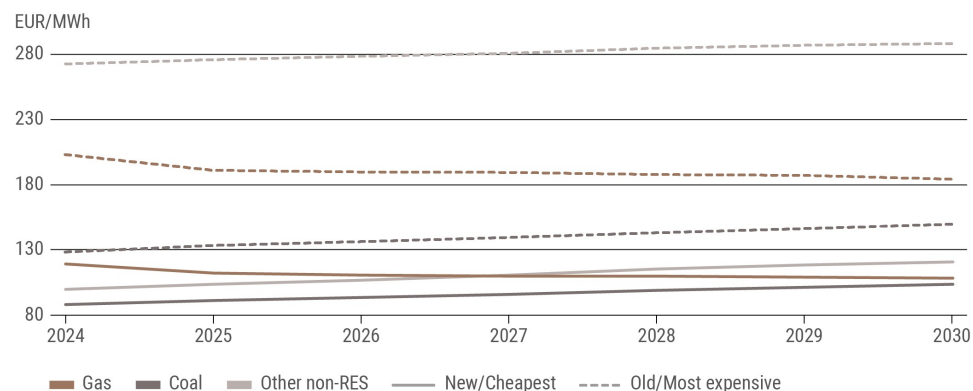
EVA: Economic Viability  
Assessment  
CHP: combined heat and power

# ERAA 2022 - Outcomes



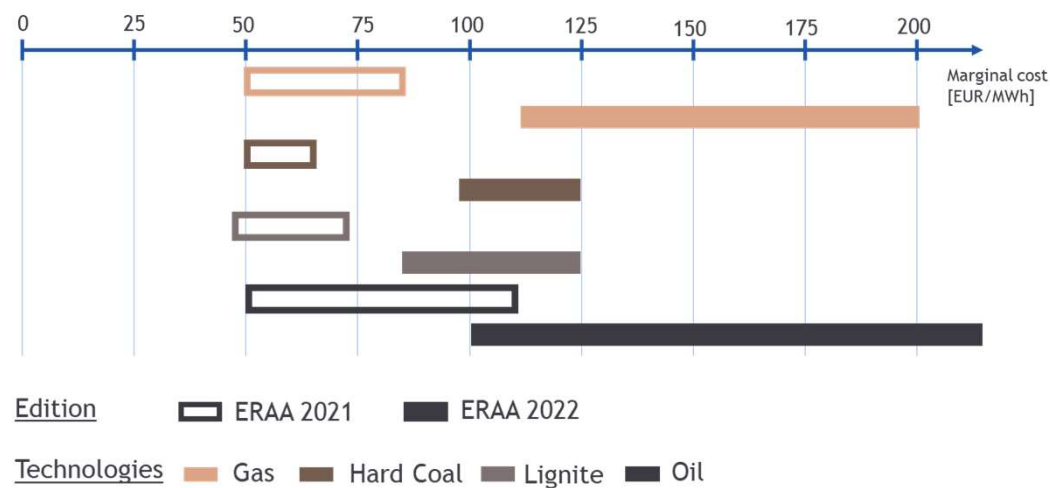
# Technology merit order evolution

Across ERAA target years



Compared to ERAA 2021

Marginal costs ranges for Target Year 2025

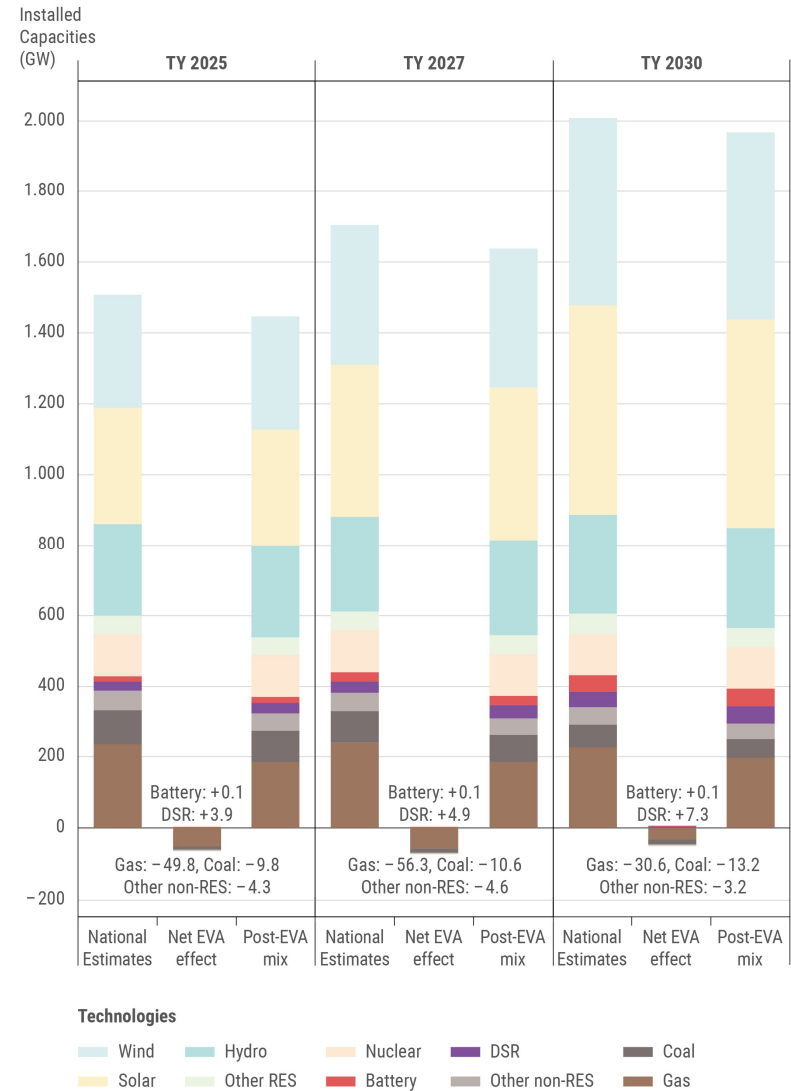


Reflects the various new and old technologies and from different regions

\*Other non-RES contain oil units  
 \*\*Indicative prices for “standard/typical” units

## EVA results without CM - Aggregated

- The National Estimates scenarios contain existing units but also units in various planning/construction stages
- Economic decommissioning\* is the biggest trend
- Gas and coal technologies have the highest economic decommissioning in the early years
- Gas and DSR have the highest economic commissioning
  - Gas in the longer term
  - DSR spread over the whole horizon

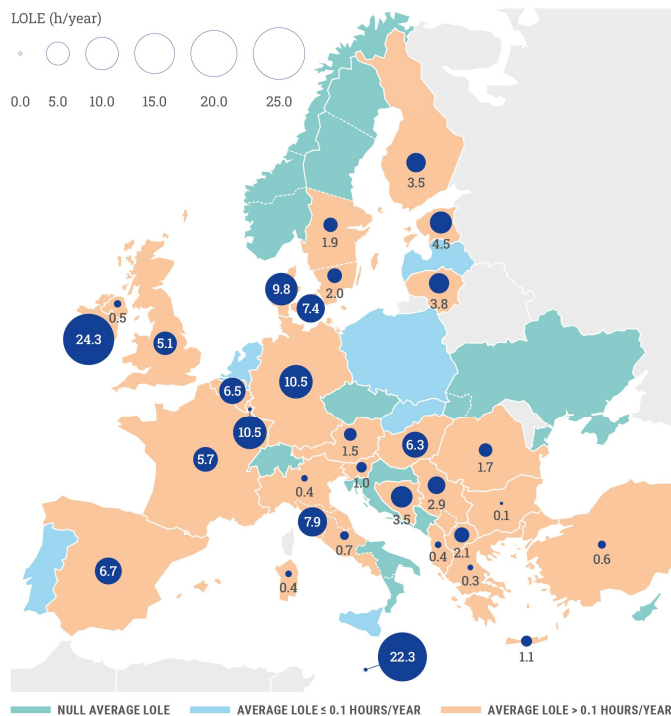


\* 'Economic decommissioning' refers to the difference with respect to TSO's forecasts (National Estimates)

# Adequacy Simulations without CM – LOLE results

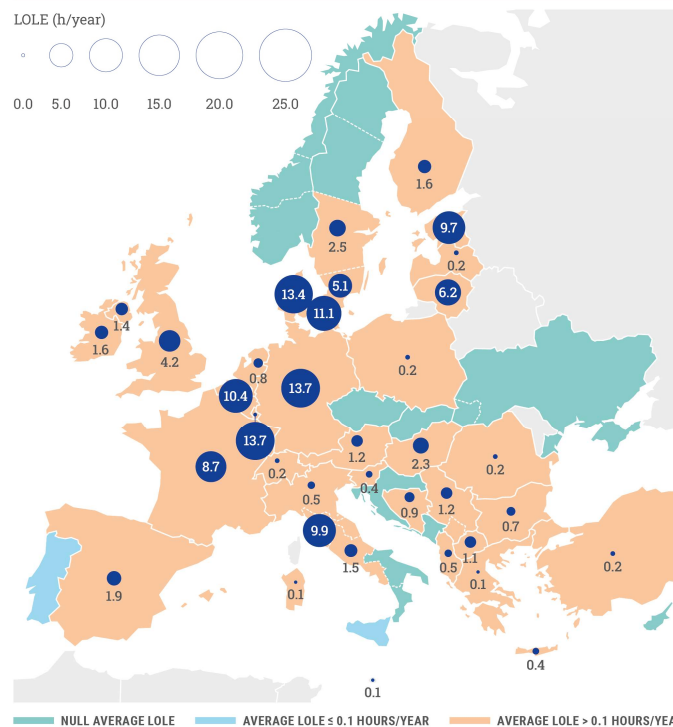
2025

LOLE values for the Central Reference Scenario Without CM 2025



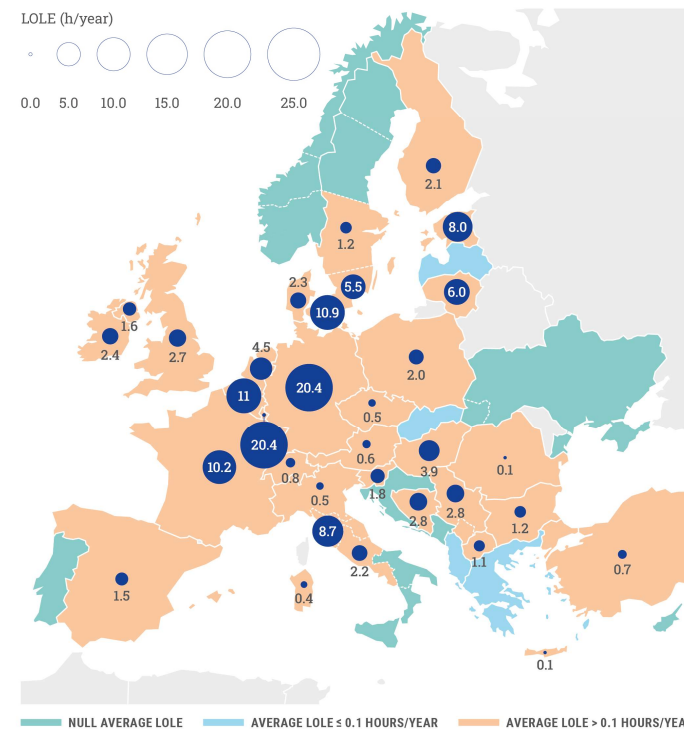
2027

LOLE values for the Central Reference Scenario Without CM 2027



2030

LOLE values for the Central Reference Scenario Without CM 2030



MT ES  
IE DK

Decreasing LOLE in periphery regions:  
Higher interconnection capacities, new investments

PL DE  
FR CH LT

Increasing LOLE:  
Higher peak load (10 to 30% higher), thermal decommissioning

# Next Steps



Kristof Sleurs, ERAA Steering Group Convener, ENTSO-E



# Stepwise implementation of ERAA



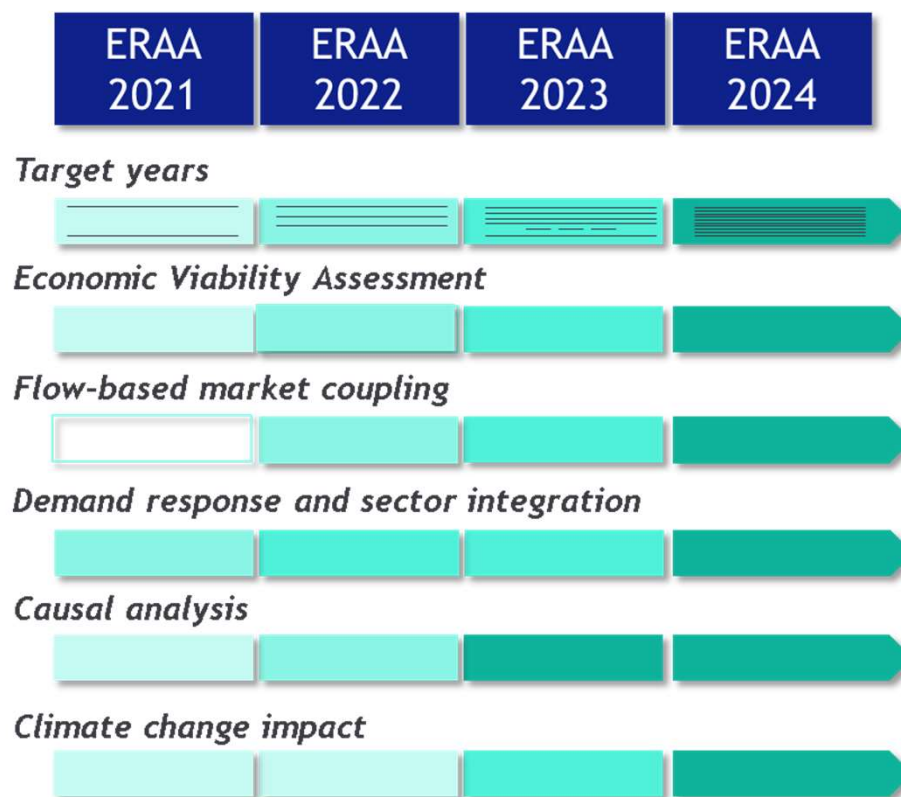
## Stakeholder interaction

- Multiple consultations and webinars on input data, methodologies and results
- Integrating views into ERAA 2023 and next ERAAs

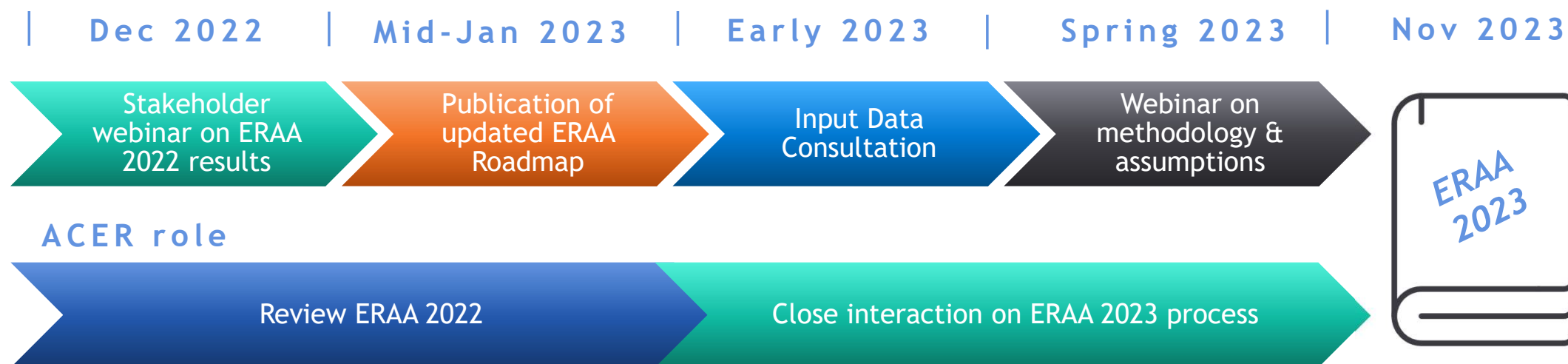


## Expanded methodology

- Scenarios towards Fit for 55 and REPowerEU
- Enhanced EVA
- Flow-based in central reference scenarios
- DSR, storage and electrolyzers
- CHP heat revenues and maintenance

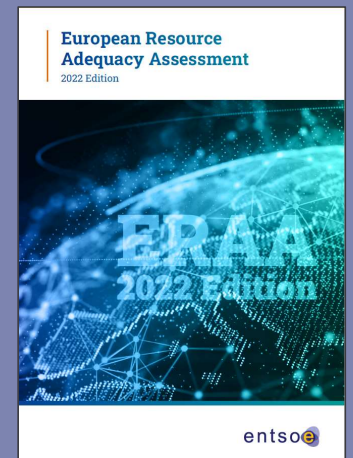


## Next steps









Have your say on the ERAA 2022 public  
consultation by 13 January 2023!



# Publications available



	<b>Annex 1: Assumptions</b> Presentation of the ERAA 2022 scenarios and assumptions.
	<b>Annex 2: Methodology</b> Description of the main ERAA 2022 methodology, consisting of: <ul style="list-style-type: none"><li>› Probabilistic methodology for assessing adequacy</li><li>› Methodology of the EVA</li><li>› Introduction to methodologies used to prepare demand and climate datasets</li></ul>
	<b>Annex 3: Detailed Results</b> Presentation of the ERAA 2022 detailed results for the central scenarios
	<b>Annex 4: Country Comments</b> Specific comments voluntarily provided by TSOs on the ERAA 2022 input data and results



# Thank you very much for your attention!

Our values define who we are, what we stand for and how we behave.  
We all play a part in bringing them to life.



## EXCELLENCE

We deliver to the highest standards.  
We provide an environment in which people can develop to their full potential.



## TRUST

We trust each other, we are transparent and we empower people.  
We respect diversity.



## INTEGRITY

We act in the interest of  
ENTSO-E



## TEAM

We care about people. We work transversal and we support each other.  
We celebrate success.



## FUTURE THINKING

We are a learning organisation.  
We explore new paths and solutions.

# We are ENTSO-E