ERAA 2021 – Key takeaways and results

2nd Stakeholder Webinar, 23 November 2021

entsoe

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Housekeeping rules

Participants Questions

Participants can place **their questions directly through sli.do**
(https://app.sli.do/event/dgvnjnww**)**

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

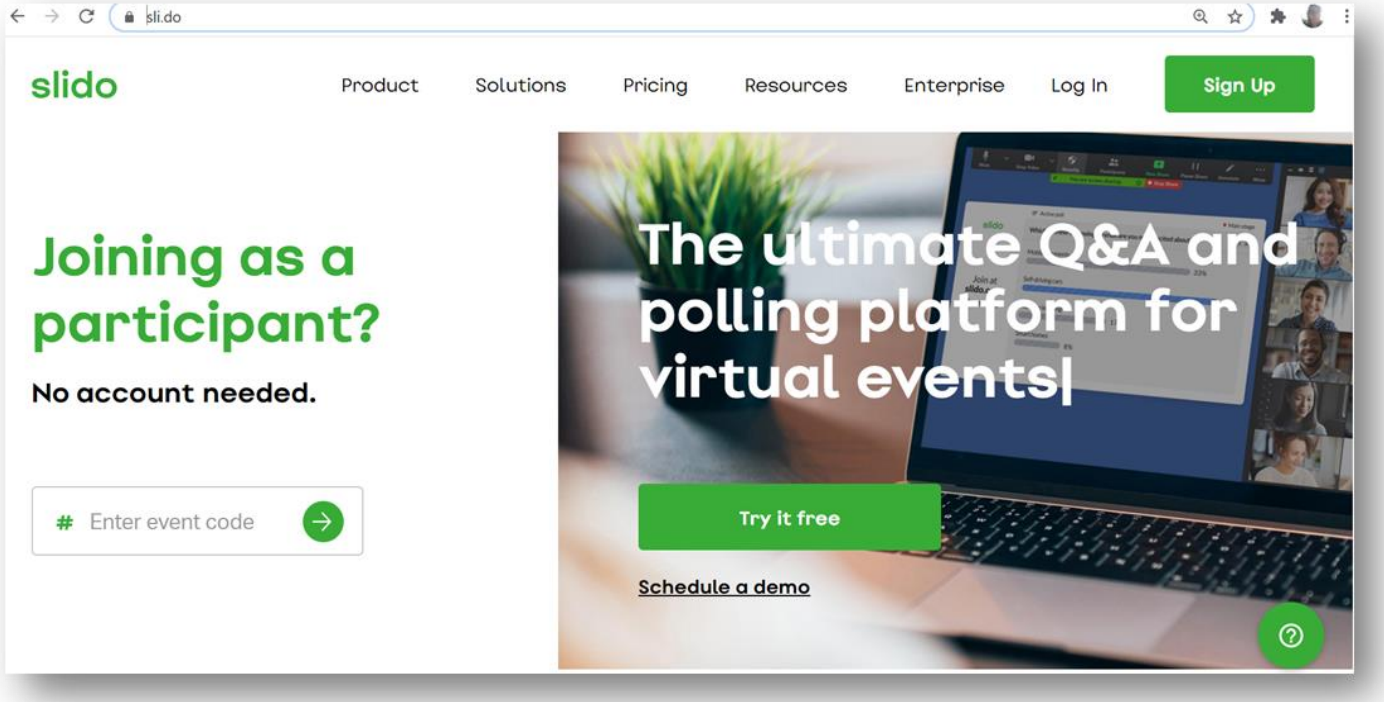
Indicate **your name and company** when posting your question.

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

Chat and raise the hand features of Gotowebinar will not be used.

Q&A:

How to login to Sli.do



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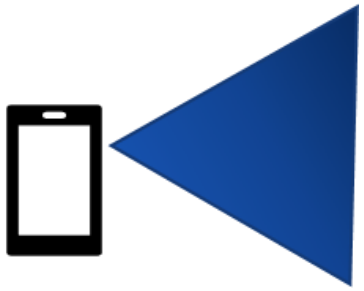


Q&A:

Welcome

Sonya Twohig, Secretary General, ENTSO-E

Q&A:

Our Public Webinars

What you'll learn today

PART I

- **12 October 2021**
- **Agenda:**
  1. Background to ERAA
  2. Timeline and Process
  3. Understanding our assumptions
  4. What scenarios will ERAA use?
  5. State of Play

PART II

- Today
- **Agenda:**
  1. A recap of ERAA's background
  2. Overview of ERAA 2021 Scenarios
  3. Results
  4. Key take aways
  5. Roadmap to ERAA 2022 and beyond

Q&A:

Background

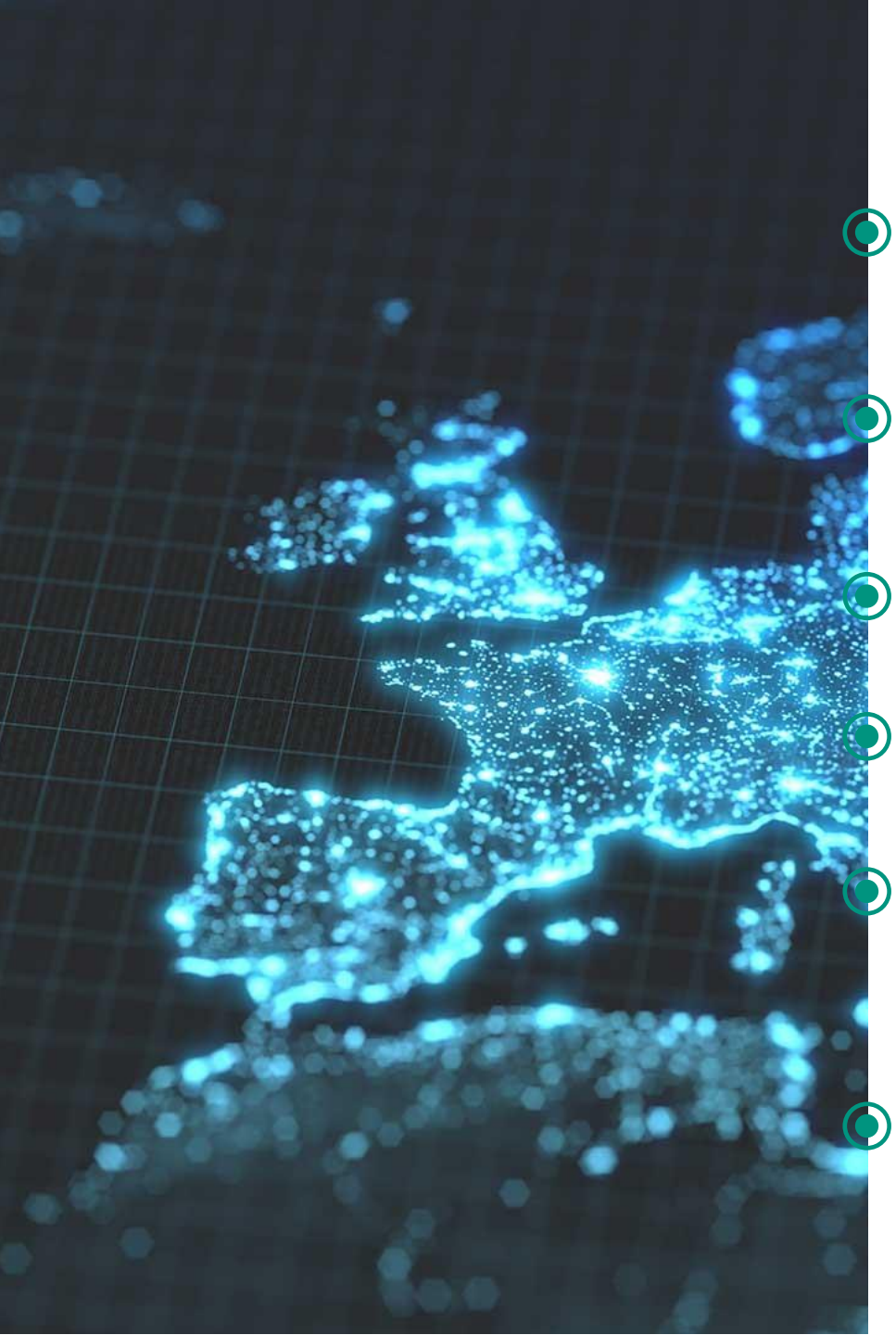
Gerald Kaendler, Chair of System Development Committee, ENTSO-E

Q&A:

Audience poll Question #1

What value does ERAA provide for you?

Q&A:



Purpose of the ERAA

- The ERAA is driven by both **legal mandate** and **needs of stakeholders**.
- A successor to the MAF, it is **a pan-European monitoring assessment of power system resource adequacy.**
- Based on a **state-of-the-art** and **probabilistic analysis.**
- A gradual implementation is followed in line with **ACER's methodology**.
- The ERAA 2021 already provides **an effective tool to understand adequacy** in the coming decade which is pivotal for the energy transition. It contributes to ensuring secure and affordable energy to society.
- Building on this first ERAA, **stakeholder feedback and ACER's review**, the next ERAA2022 is being initiated.

Q&A:

ENTSO-E is committed to Net-Zero

Role of the ERAA 2021

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

NET ZERO

CO2

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.

Q&A:

Q&A with the audience

Don’t forget to post your questions on Sli.do:

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Q&A:

ERAA Scenarios

Kristof Sleurs, ERAA Steering Group Convener, ENTSO-E

Q&A:

Scenarios

NATIONAL ESTIMATES (2025 AND 2030)

TSO's provide forecasts for capacity based on planned lifetime, new generation estimates and national policy plans.

CENTRAL SCENARIO WITHOUT CAPACITY MECHANISM (2025)

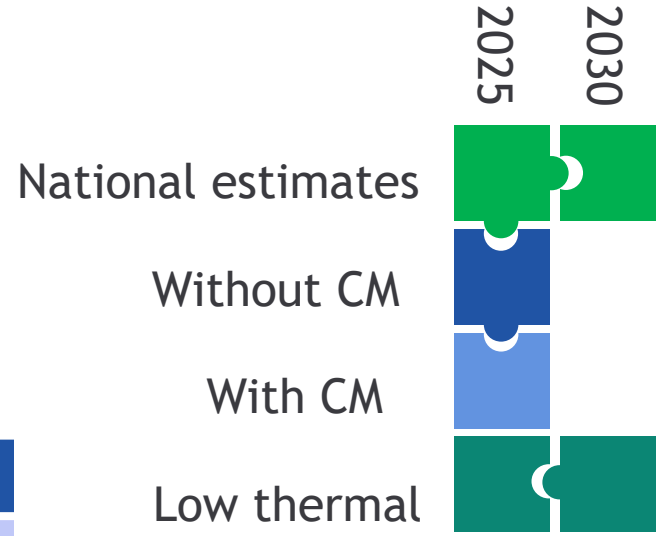
Economic Viability Assessment carried out, accounting for forecasted carbon price and market price cap (VOLL)

CENTRAL SCENARIO WITH CAPACITY MECHANISM (2025)

As above, with addition of capacity needed to meet system reliability standards in countries with an approved capacity mechanism.

NATIONAL ESTIMATES WITH LOW THERMAL CAPACITY (2025 AND 2030)

Acts as a stress test: bottom-up estimation of thermal generation phase out through policy measures and economic factors.



Q&A:

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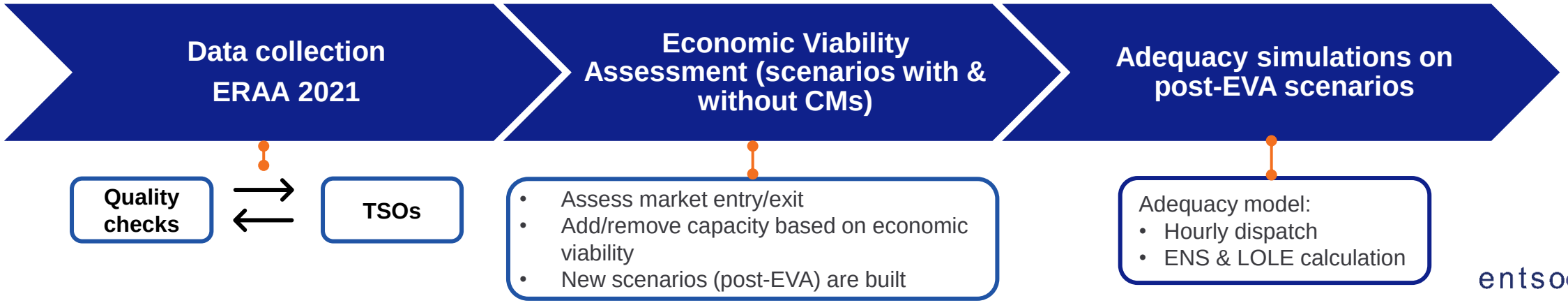
Our scenarios enable new insights

Central Scenarios

Economic Viability Assessment (EVA) with and without capacity mechanisms give the central scenarios for 2025

The EVA is a new method which analyses whether generation or other resource capacity will be economically viable in future based on

- the possibility to invest in gas capacity and demand side technologies
- the impact of one investment on another / the interdependency of different investment options
- an estimation of revenues in an energy-only market (EOM)



Q&A – Your views

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Q&A:

ERAA 2021 results

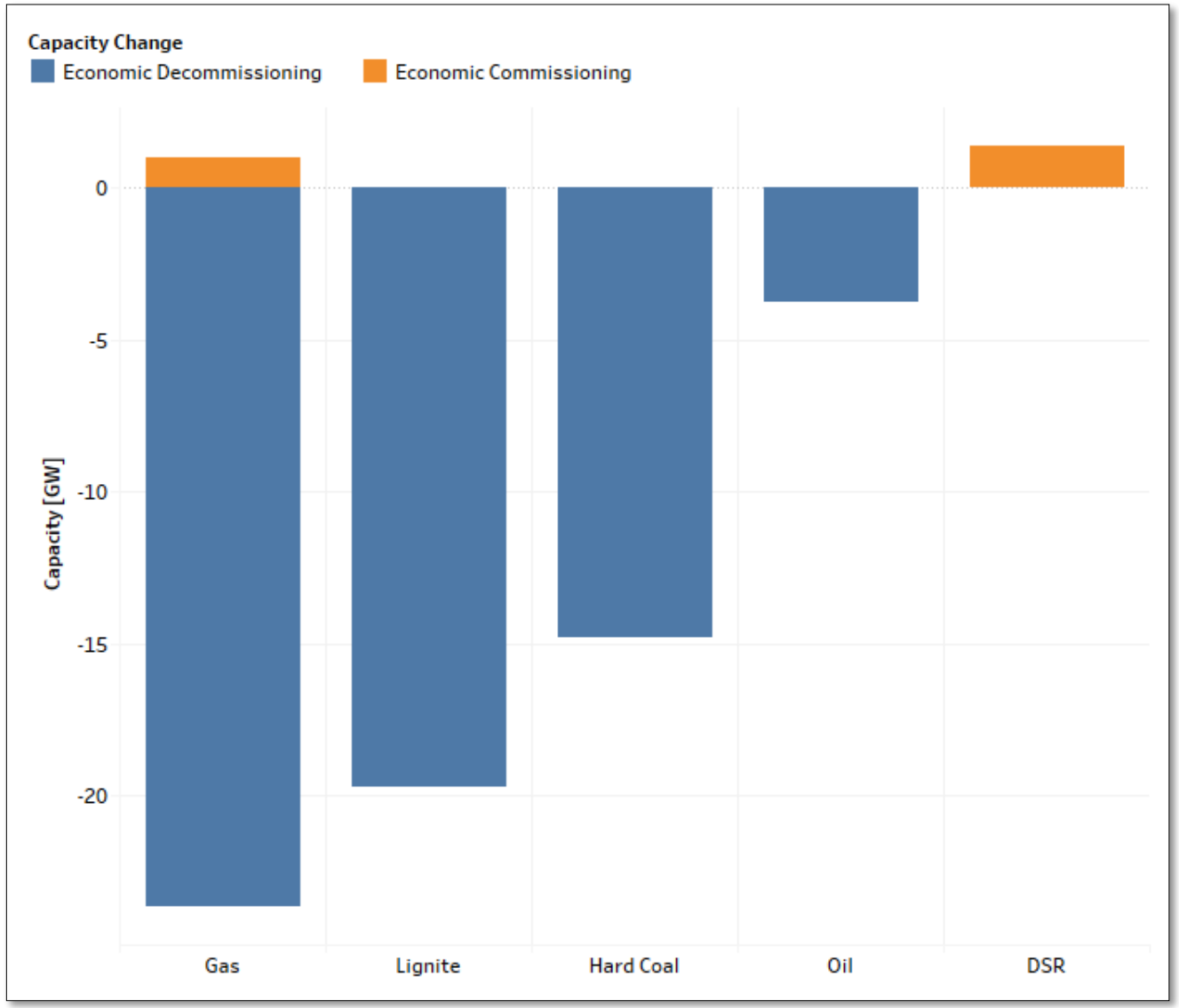
Kristof Sleurs, ERAA Steering Group Convener, ENTSO-E

Q&A:

Results – Economic Viability Assessment Step in Central Scenarios

Q&A:

Central scenario without capacity mechanisms – Target Year 2025



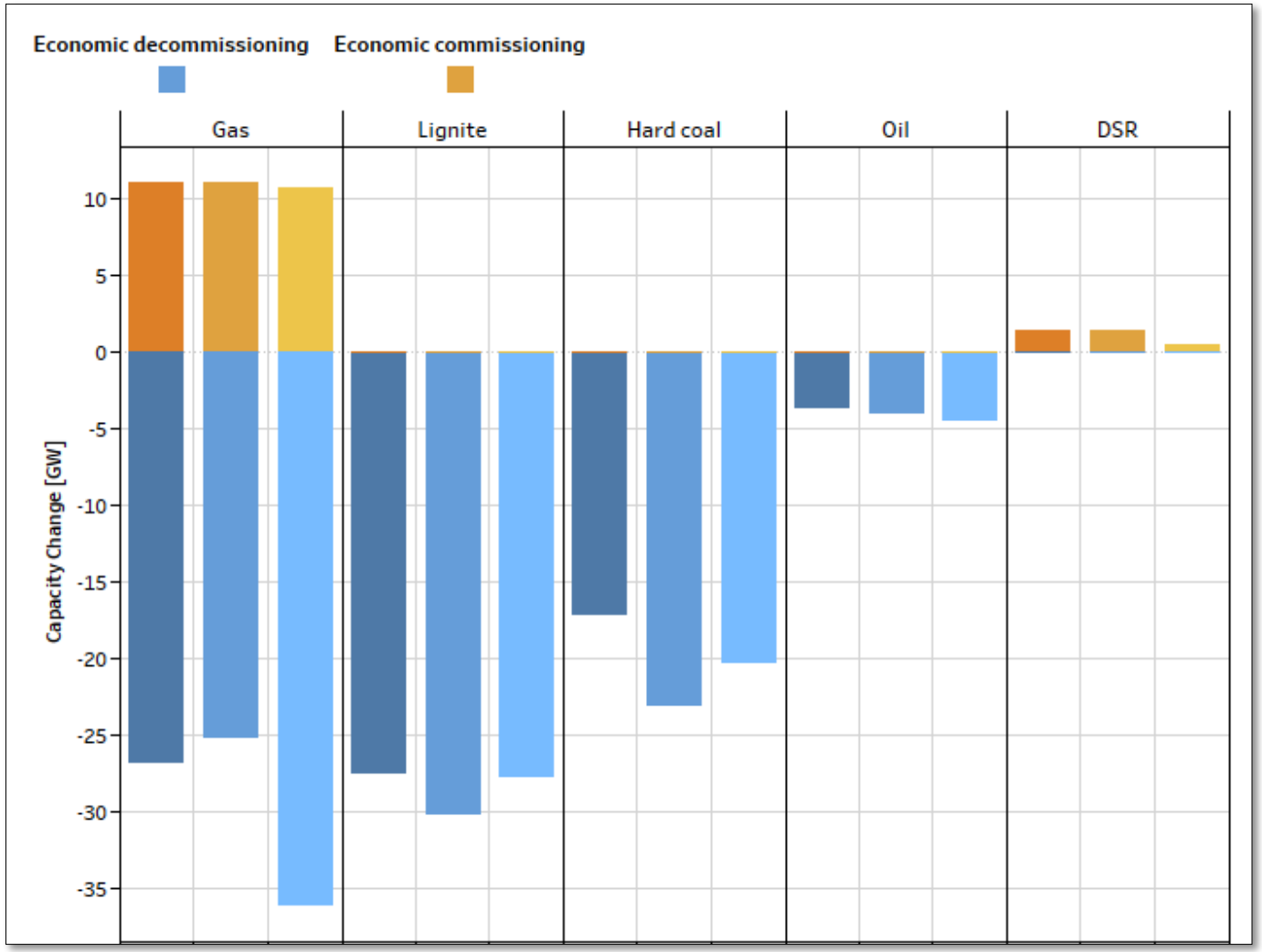
62GW economic decommissioning & 3.5GW economic commissioning in Europe:

- **Large capacity decommissioned** in Spain, continental-western Europe and Great Britain;
- **Gas and DSR the only candidates for economic commissioning** in ERAA 2021;
- **Economic commissioning evenly split between gas & DSR - distributed in multiple regions;**

Results of (de-)commissioned capacity should be seen on a regional level rather than per bidding zone.

Q&A:

Scenario sensitivities without capacity mechanisms - Target Year 2025



- **Higher CO2 prices** increase coal decommissioning & decrease gas decommissioning;
- **Lower price cap** considerably affects the economic viability of Gas and Hard Coal units.

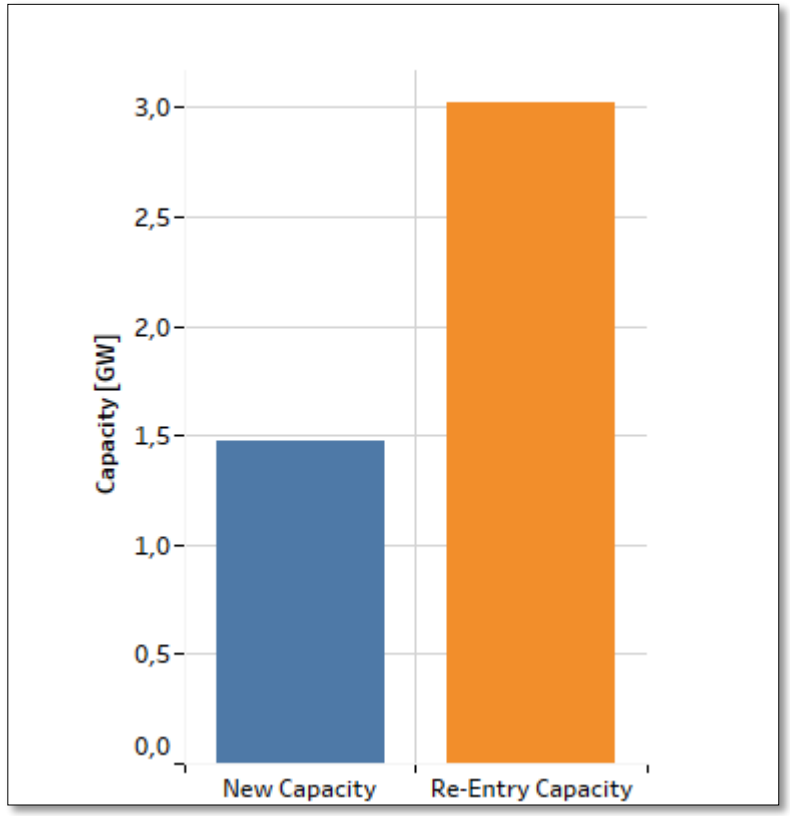
Reference:
price cap 15k€/MWh and CO2 price 40€/ton

Sensitivity #1
price cap 15k€/MWh and CO2 price 60€/ton

Sensitivity #2
price cap 3k€/MWh and CO2 price 40€/ton

Q&A:

Central scenario with capacity mechanisms – Target Year 2025



Adding capacity **post-EVA** in order to meet Reliability Standards*:

- **3 GW of capacity, *removed in Scenario without CM*, re-enters;**
- **1.5 GW of new capacity** is additionally needed to meet Reliability Standard;
- **~57 GW of capacity in Europe removed** in the Scenario without CM, still remain out of the market.

Additional capacity in any country impacts the wider region.

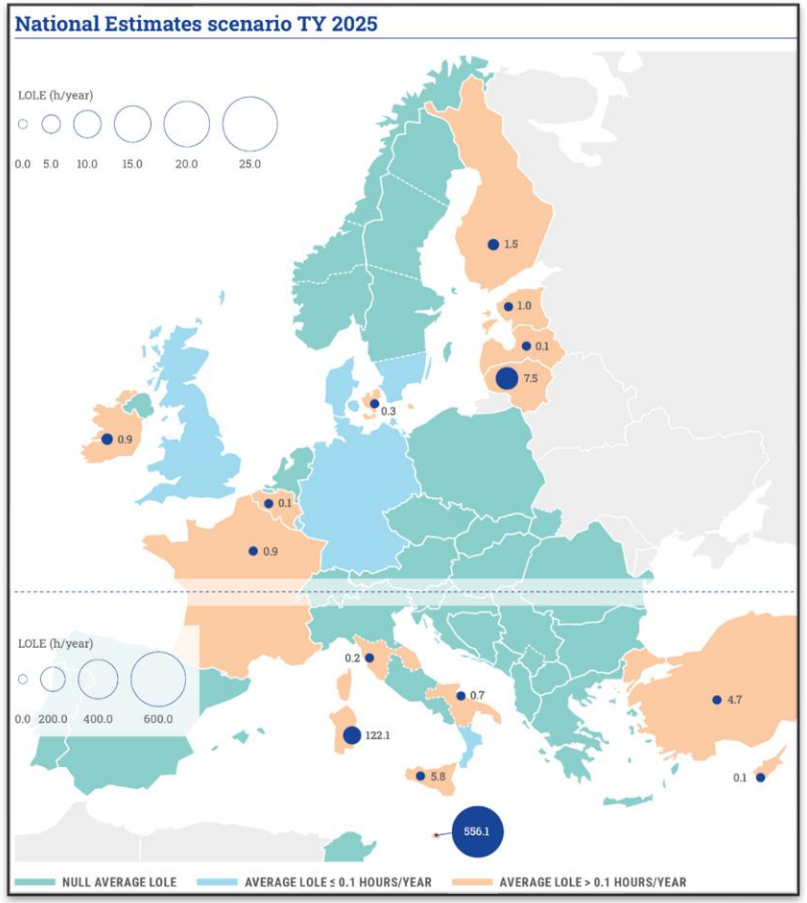
****Countries / Single Price Areas with a Reliability Standard:***
Belgium, Bulgaria, Germany, Spain, France, Greece, ISEM, Italy, Lithuania, the Netherlands, Portugal, Poland, Great Britain

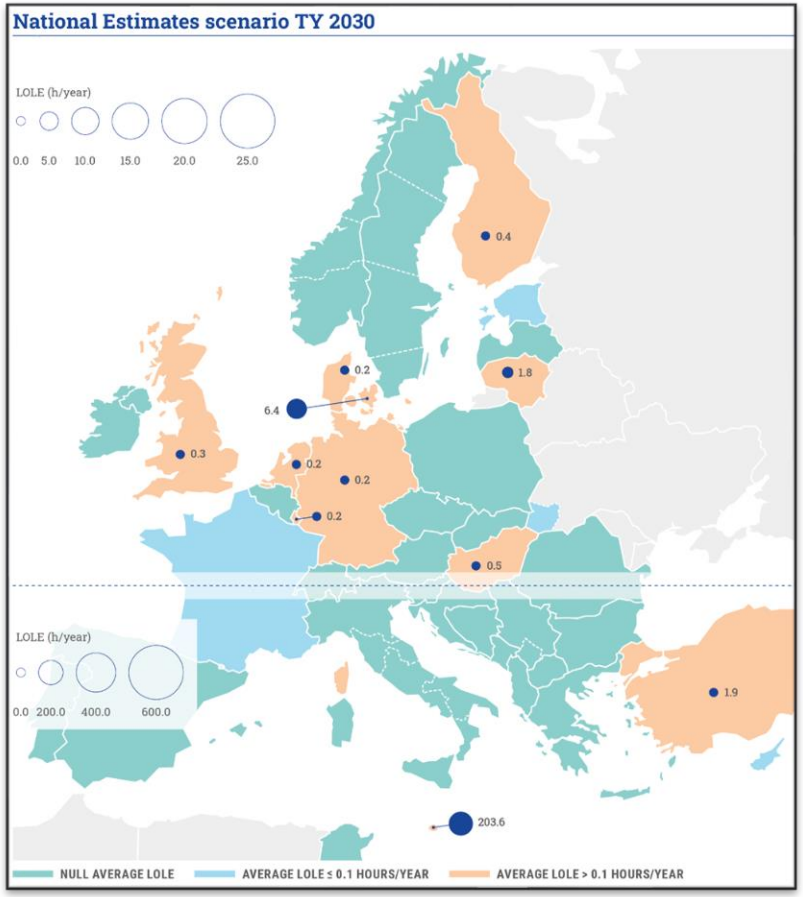
Q&A:

Results – Adequacy assessment

Q&A:

National Estimates - Target Years 2025 & 2030

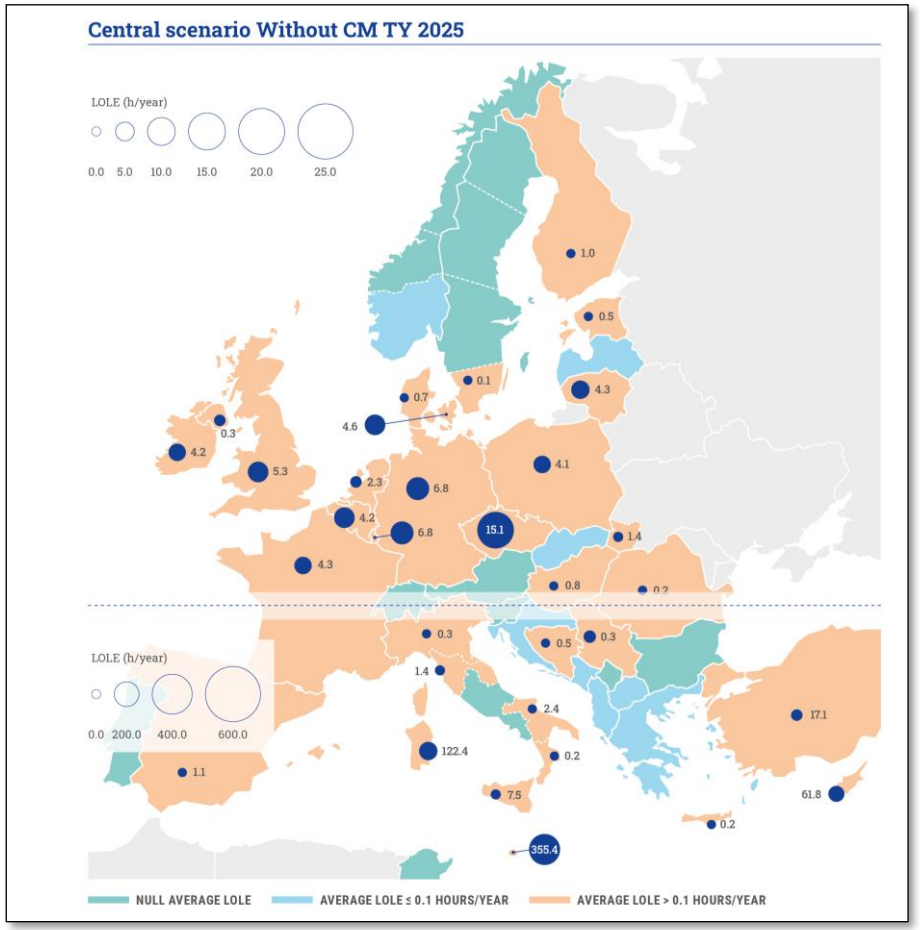


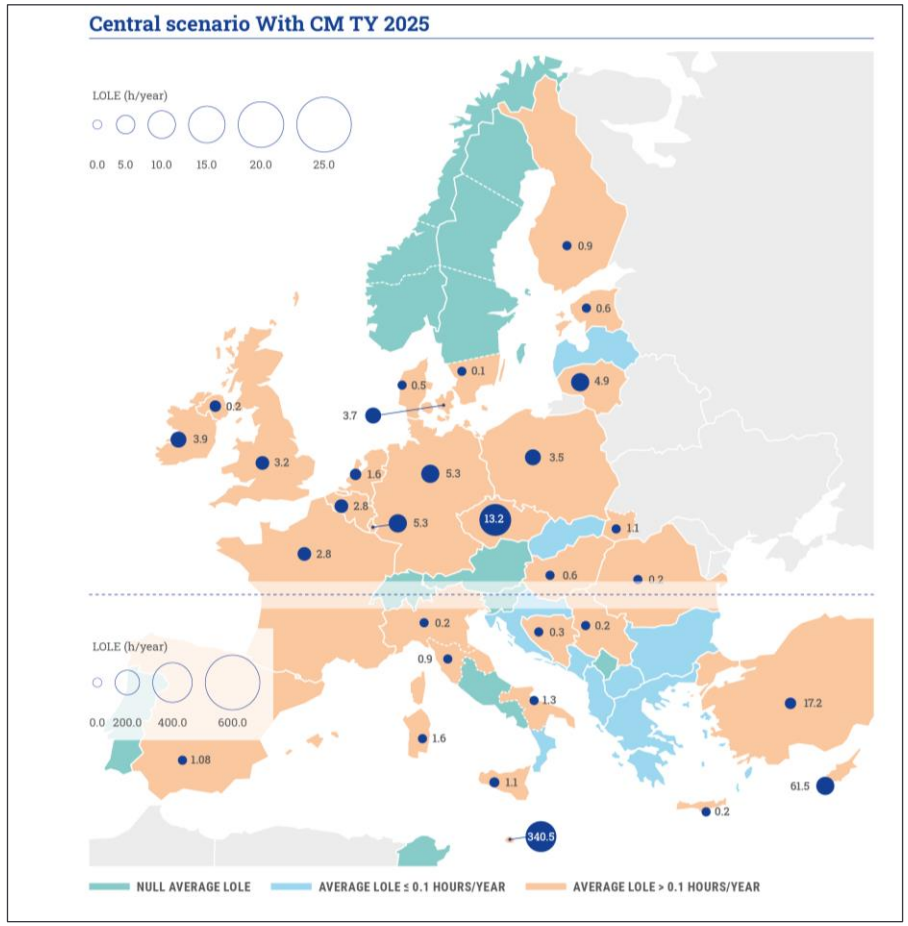


- **Low adequacy risks in both National Estimates scenarios 2025 and 2030**
- **Impact of 'Fit for 55 Package' not yet considered in ERAA 2021 as Member States need to further specify. This could be significant especially for TY 2030.**

Q&A:

Central scenarios without/with capacity mechanisms – Target Year 2025





- Significant adequacy risks, especially in central-west Europe

- 4.5 GW additional capacity compared to scenario without capacity mechanisms needed to bring countries closer to their Reliability Standard

Q&A:

Q&A – Your views

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Q&A:

Key takeaways

Gerald Kaendler, Chair of System Development Committee, ENTSO-E

Q&A:

Key takeaways

Cooperation

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

Risks

In the absence of targeted measures, adequacy risks rise towards 2025.

Coordination

Adequacy issues deeply interlinked; regional coordination is crucial.

Future of ERAA

ERAA 2021 delivers significant learnings for the development of future ERAAs.

Q&A:

CONCLUSIONS AND NEXT STEPS

Kristof Sleurs, ERAA Steering Group Convener, ENTSO-E

Q&A:

Audience poll Question #2 – Your views

What enhancements can be made to ERAA in future editions?

Q&A:

ERAA Implementation Roadmap

Stakeholder interaction

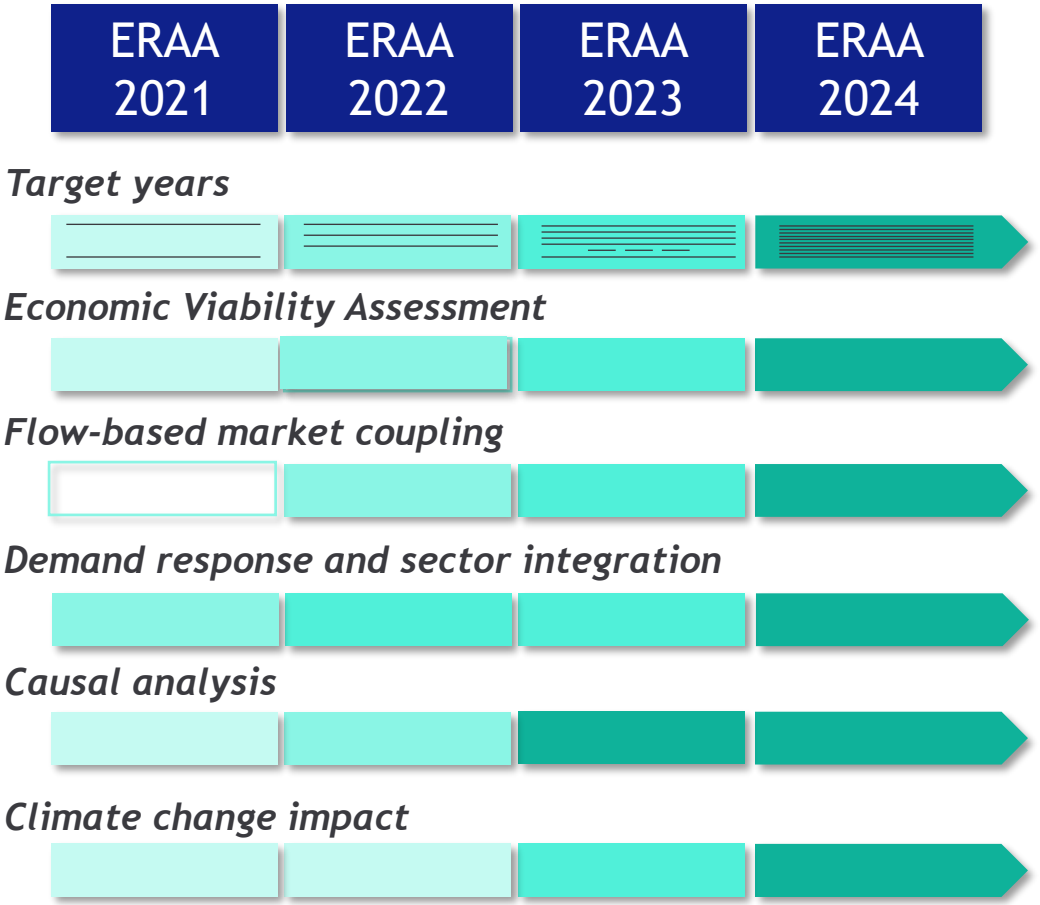
- *ERAA2021 views feeding into next ERAA*
- *Consultation on input data*
- *International benchmarking*

Expanded methodology

- *Scenarios heading towards Fit for 55*
- *Enhanced EVA with four target years*
- *Flow-based in central reference scenarios*
- *Role of demand response and electrolysers*

Further proof of concepts

- *EVA for other sources incl. storage and renewables*
- *Improved climate change modelling*



Q&A:

Next steps

- ERAA 2021 is the first step towards a full target methodology.
- Regional interlinkages have strong impact on assumptions/insights/outcomes.

| End Nov. 2021 | Until Jan2022 | Early 2022 | May 2022 | Nov 2022

Stakeholder webinar on ERAA 2021 results

Consultation on ERAA 2021 + Roadmap

Workshops on ERAA methodology

Input Data Consultation

ACER role

Review ERAA 2021

Close interaction on ERAA 2022 process

Q&A:

Have your say on the ERAA 2021 public consultation by 7 January 2022 here!

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

Q&A: