

European Resource Adequacy Assessments

IEA – EPRI workshop / Building a resilient net-zero future

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Our Shared Objective is *Net-Zero*



Role of ERAA 2021

The comprehensive techno-economic assessment provided by ERAA helps understand how system changes interact, will inform decision makers and strengthens Europe's trajectory to net-zero.



NET ZERO



Objective of net-zero by 2050 structures all activities in the energy system. Central role of electricity means TSOs must manage an increasingly complex system.

FLEXIBILITY



Wide range of factors influence resource adequacy. Increasing role of variable renewables and load flexibility require forecasting adequacy years in advance.

EFFICIENT PLANNING



Must ensure security of supply, sharing of resources in integrated markets , lowest cost for consumers in the long run, and public support for the energy transition



Background

ERA is a legal mandate, which aims to understand how the rapid changes to our energy system will affect security of supply.

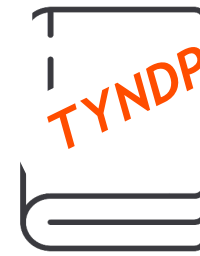
A successor to the MAF, it is a pan-European monitoring assessment of power system resource adequacy, based on a state-of-the-art, globally unparalleled probabilistic analysis.

The ERA methodology, approved by ACER, has introduced significant changes. Stepwise implementation has begun in 2021.

ERA 2021 already provides an effective tool to identify adequacy risks; future editions will provide further insights as to the potential need for interventions to guarantee security of supply.

ERA enables early targeted action by policy makers and investors using the substantial toolbox available to mitigate risk. Publication of ERA 2021 is planned for mid-November.

Dedicated assessments at various timeframes



Short term

1 week 6 months 1 year

Mid term

5 years 10 years

Long term

>10 years

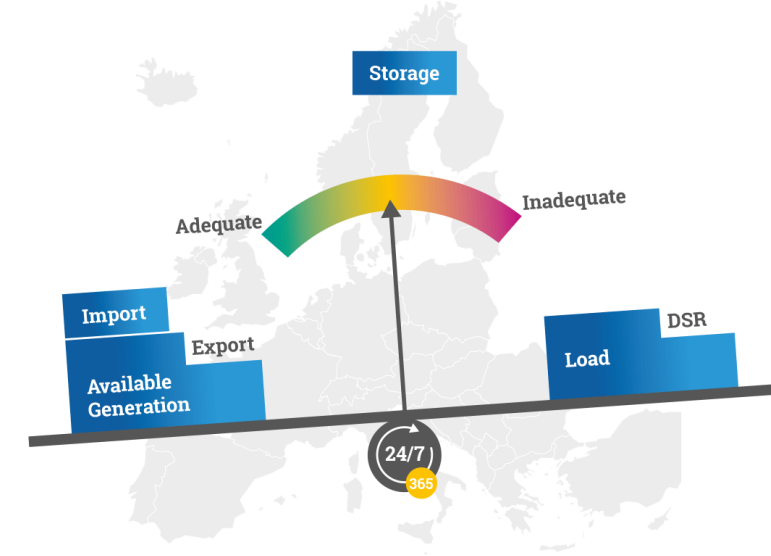
Real Time

Operational Decisions

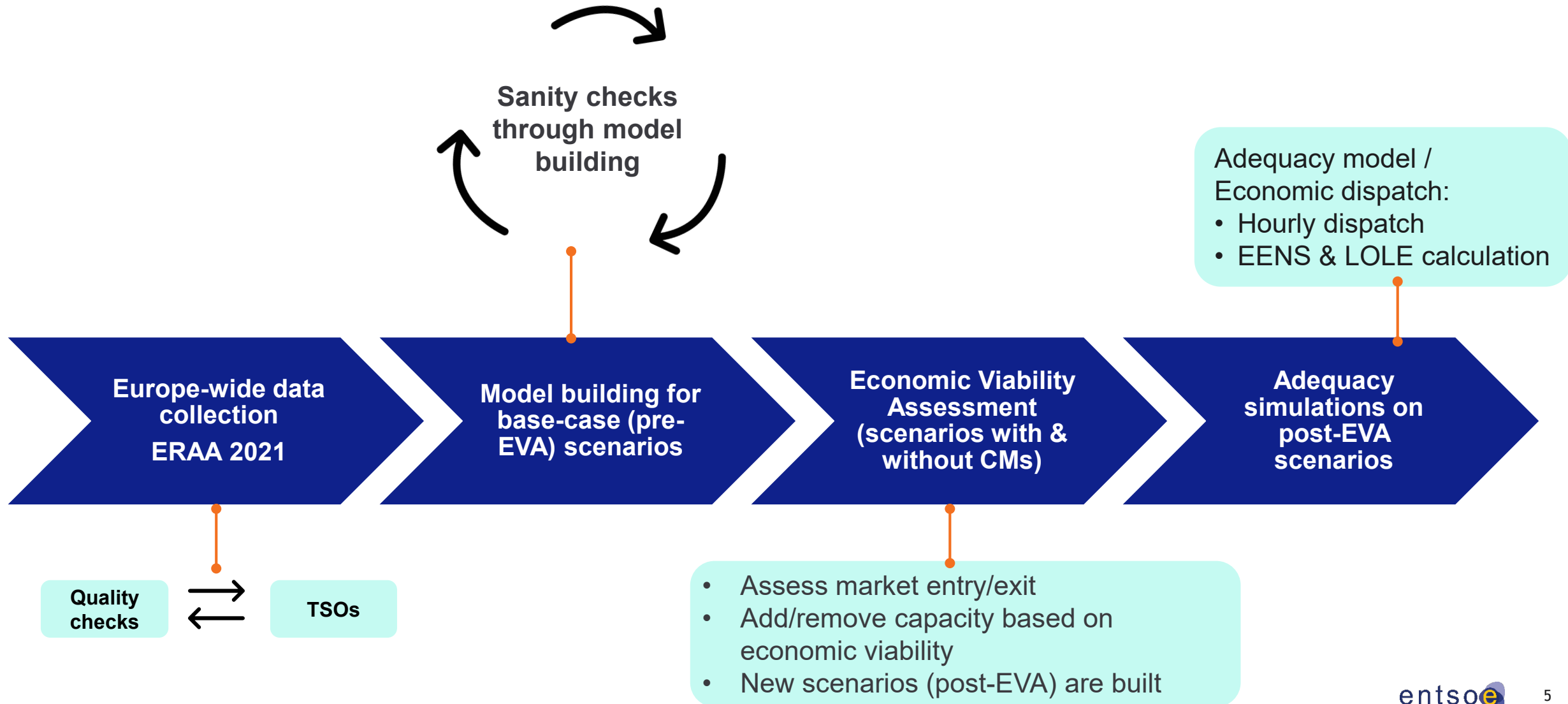
Investment Decisions

Policy Decisions

UNCERTAINTY INCREASES WITH TIME SPAN



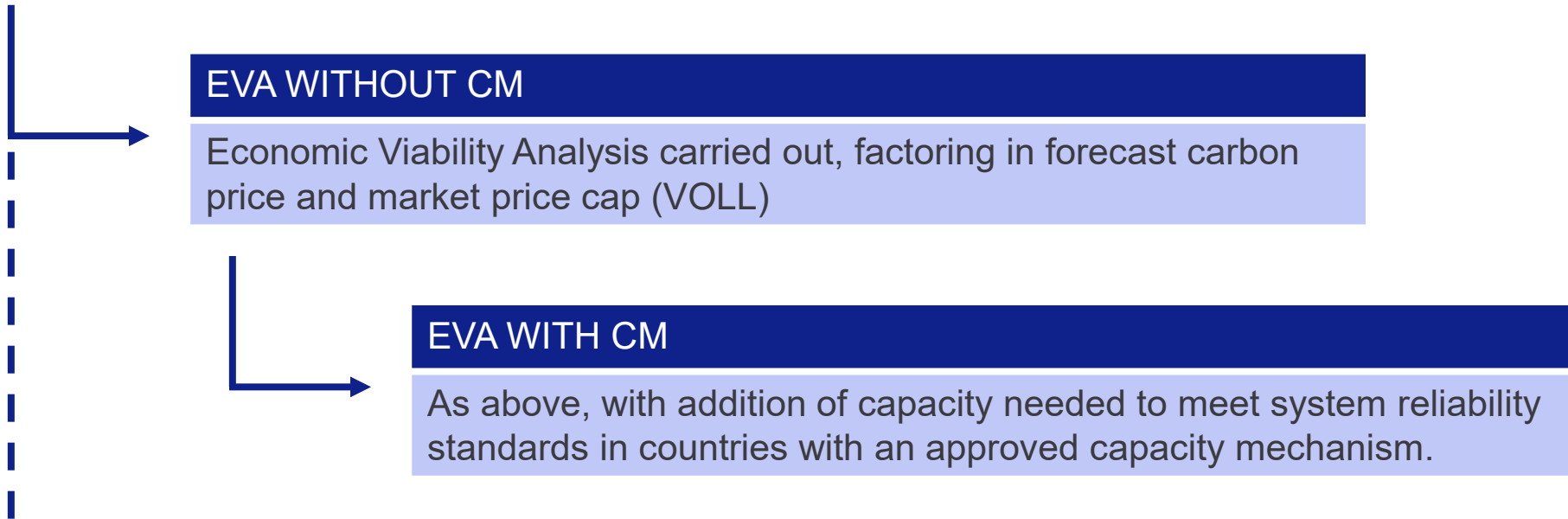
ERAA 2021 – Key elements and work flow



Scenarios for 2025

NATIONAL ESTIMATES

TSO's provide forecasts for capacity based on planned lifetime, new generation estimates and National Climate and Energy Plans.



NATIONAL ESTIMATES WITH LOW THERMAL CAPACITY

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

Forward look at results



Operations

ERAA results underline the need for planning and regional coordination. It offers policy makers a techno-economic assessment of risks when considering interventions to ensure system adequacy.



Capacity

The evolving economics of thermal generation, increasing integration of RES and flexible resources, and developments in carbon pricing, will put downward pressure on capacity.



Regions

Some regional variation across Europe. Western and Central Europe have lower margins, while Southern Europe has more robust adequacy with notable exceptions.

ERAA Implementation Roadmap

Towards ERAA 2022



Stakeholder Interaction

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



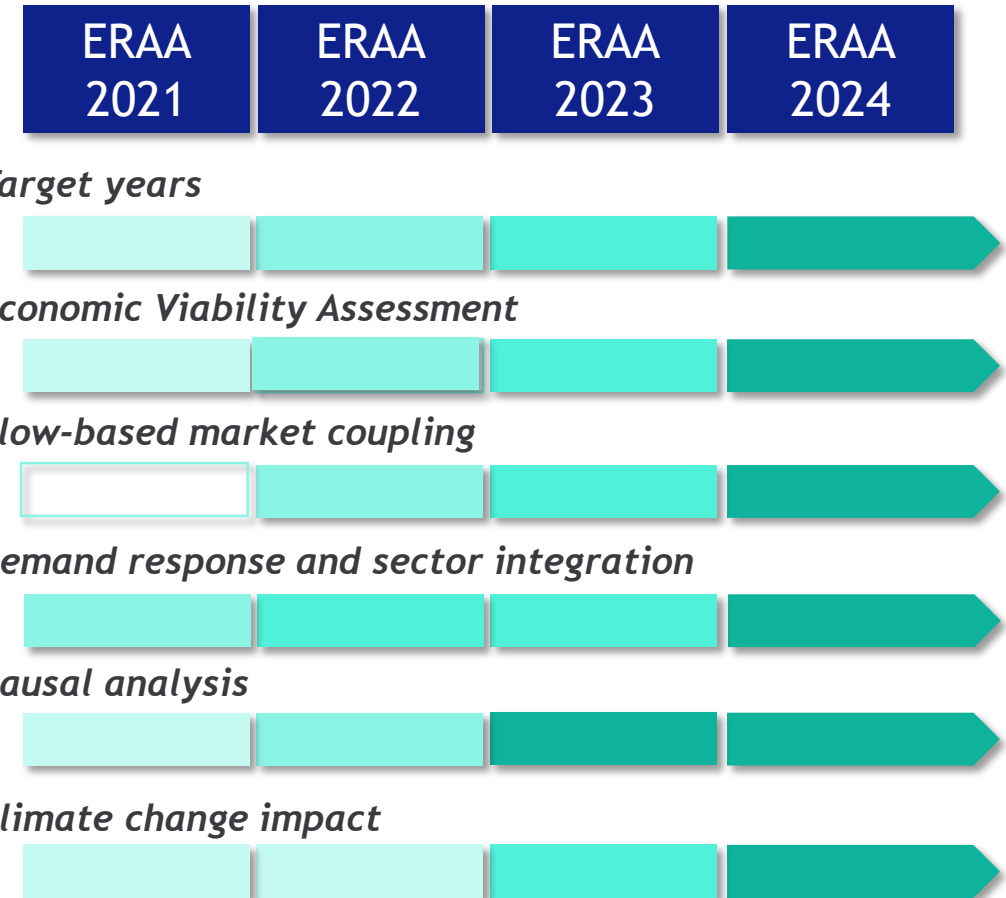
Expanded methodology

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



Further proof of concepts

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



THANK YOU FOR YOUR ATTENTION

