

Electricity Market Integration 2.0 in Central and South East Europe

Section 2: Resource adequacy and cross-border capacity remuneration schemes: options and alternatives

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Some background: “*once upon a time...in 2014*”

Recommendations of Electricity Coordination Group - Adequacy

- Adequacy reports should capture Security of Supply risks to the pan-European power system
- Assessment of the need for flexibility - as it moves towards increased levels of RES-E
- The treatment of electricity interconnection capacities at times of scarcity
- **5 – 10 years** appropriate time horizon for adequacy

ENTSO-Es views

- Fully supports the recommendations of ECG
- Renewables will be key drivers of power system dynamics to be captured by probabilistic methods
- Use of extensive climate data needed
- Modelling of management of transmission in times of scarcity to be improved

Resource Adequacy Methodology

Market modeling
based on
probabilistics
method

Hourly resolution

**Cross-border
contributions** to a
country's system
adequacy

Assessment about
'need for flexibility'

Demand, renewable
production
variation

**LOLE/ ENS/ RES
curtailments,
capacity factors**



➤ **Common basis for discussions on market design and security of supply at a regional and European level.**

➤ **To be used by MS, on the basis of their national sensitivities and specificities, to guide their decisions on capacity mechanisms, support schemes, and security of supply.**

ENTSO-E Mid-term Adequacy Forecast

- *assessment **security of supply** (=potential load shedding) risks over the next decade*
- *first pan-European market-based probabilistic modelling techniques*
- *results benchmarked using 4 software tools*
- *provides **boundary** regarding data, assumptions & tool's **calibration** for further studies at regional level and national level*



Consistently assess how markets can deliver security of supply. Coordinate in crisis situations



Common adequacy methodology to be used for pan-European, regional and national assessments



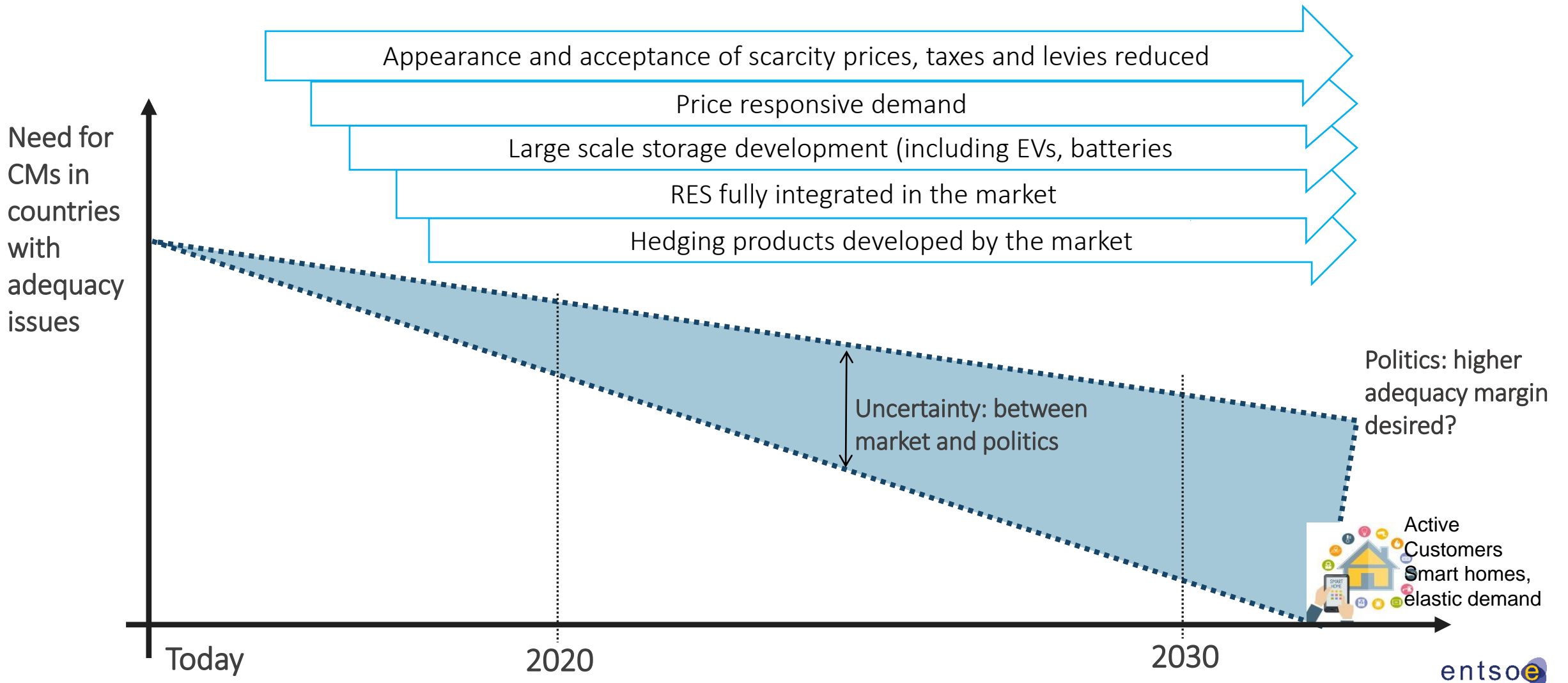
Common adequacy indicators on which regionally coordinated national security of supply standards can be based



Member States to agree on coordinated management of simultaneous scarcity situations in all timeframes

Regional TSO cooperation through RSCs and stronger NRAs' and Member States' cooperation

CMs need will depend on how successfully market signals and innovation will deliver the needed flexibility and system adequacy to meet the political targets for SoS



Clean Energy Package: Capacity Mechanisms and Cross-border participation

Positive Elements

- **Recognition of the potential need for Capacity Mechanisms**
- **CMs introduction to complement market design improvements:** removing regulatory distortions, enabling scarcity pricing, developing interconnection, energy storage, demand side measures.
- **New regulatory framework for cross-border participation to CMs**
- Decision to introduce CMs left to **MS subsidiarity** but based on **harmonised resource adequacy methodologies**

To be improved

- Need case for CM should not solely rely on the EU adequacy assessment (MAF): **national & regional studies** have better granularity and **are complementary**
- **Interconnectors should be allowed to participate** in some cases
- TSOs, not ROCs should calculate maximum entry capacity for cross-border participation
- **Technology limitations** on capacity providers might increase costs to ensure SoS.

Thank you for your attention
