CAPACITY MECHANISMS IN THE NEW MARKET DESIGN:

ADEQUACY: BASIS FOR REVIEWS OF CAPACITY MECHANISMS

CROSS-BORDER PARTICIPATION TO CAPACITY MECHANISMS

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ENTSO-E Adequacy Reports

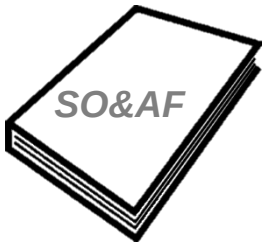
ENTSO-E adopts and publishes on an annual basis the:

"*Scenario Outlook & Adequacy Forecast*" report (SO&AF)
"*Winter Outlook and Summer Review*" report (WOR)
"*Summer Outlook and Winter Review*" report (SOR)

as required by
Article 8 of the EC Regulation n. 714/2009

The goal is to assess the **main adequacy risks** within
seasonal period (6 month – SOR/WOR)
mid-term horizon (5 – max 10 years – SO&AF)

Different risks should be addressed in different time horizons



Short term **Mid term**

6 months 1 year 5 years 10 years

UNCERTAINTIES

Operational decisions	Investment decisions	Policy/political decisions

Assessment of ENTSO-E adequacy reports

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
- The treatment of electricity interconnection capacities at times of scarcity
- 5 – 10 years appropriate time horizon for adequacy

ENTSO-E 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

Implementation of ENTSO-E Target Methodology

- Several (5) market tools based on regional specificities are testing the methodology
- Calibration of market tools to ensure robust results
- Comparison of Pan-EU results to increase consistency of the results

Implementation of ENTSO-E Target Methodology

Market-based probabilistic adequacy assessments

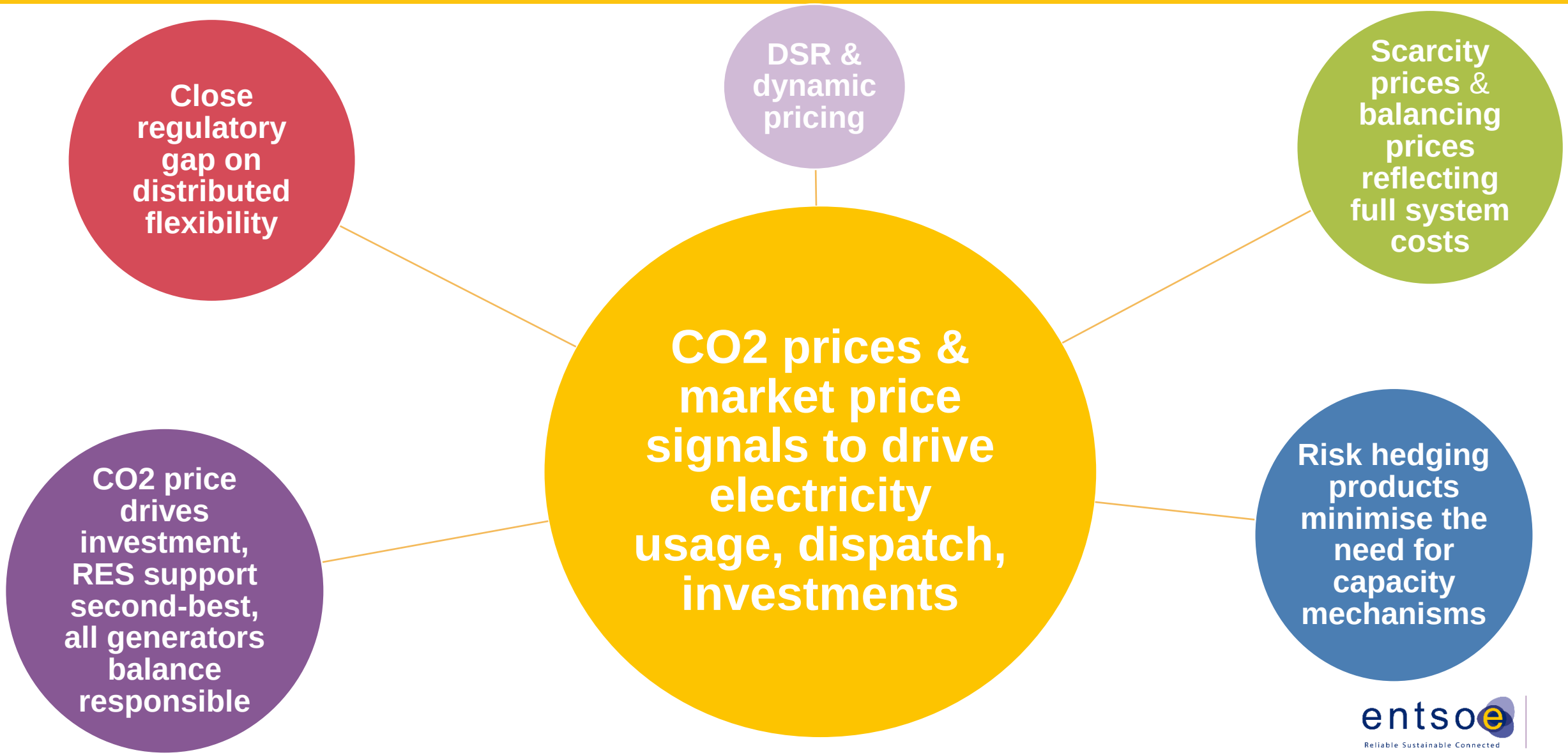
- Pan-EU scope based on regional knowledge of each TSO
- Enhanced transmission management in case of scarcity situations
- State of the art climate databases and RES simulations
- Hourly resolution, different hydro data and load temperature sensitivities
- Probabilistic Monte Carlo based method
- Extensive range of indicators:
  - Loss of Load Expectation (LOLE)
  - Energy Not Served (EENS)
  - Loss of Load Probability (LOLP)
  - Assessment of the need for flexibility (even 1 step better than the residual load analysis reported yesterday in session 1)

Role of ENTSO-E adequacy assessment in the future
(compare e.g. question 17 of market design consultation)

- **ENTSO-E‘s new adequacy methodology and results should become the basis for reviews and discussions of capacity mechanisms and support schemes – between Member States, regionally and/or Europe-wide.**

- **ENTSO-E‘s new adequacy methodology provides also a consistent approach for more detailed Member States’ assessments.**

ENTSO-E Vision for a MARKET DESIGN



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Scarcity prices are already occurring: however they are still not sufficient to stimulate flexibility & investments

Source: EEX

Hedging products (e.g. intraday cap futures) can monetize flexibility and translate it into a more predictable and "bankable" revenue stream compared to the underlying commodity; this will further stimulate investments.

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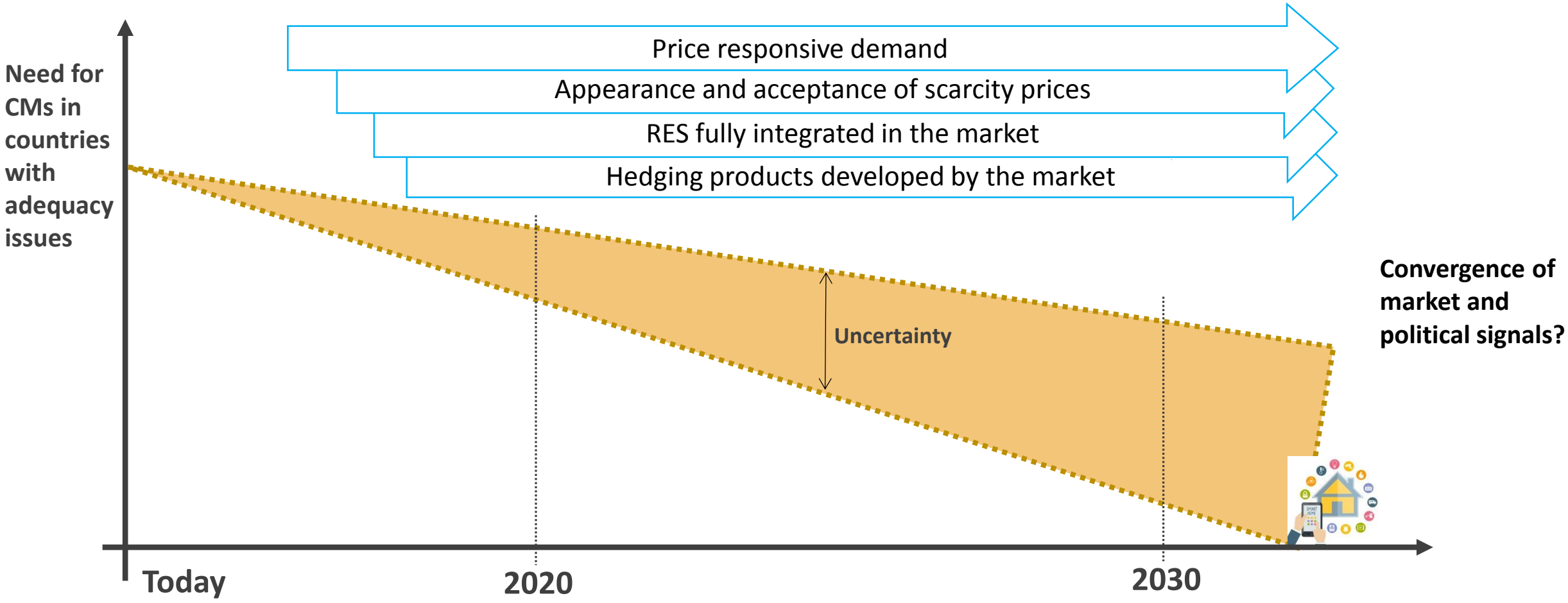
CAN SCARCITY PRICES MAKE CAPACITY MECHANISMS REDUNDANT?



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

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Key principles of ENTSO-E paper on cross-border participation

1. Consistency with the IEM and Target Model
2. Consistency with national policies on Security of Supply
3. Efficiency of Capacity Mechanisms' investment signals
4. Adequate consideration of availability constraints
5. Regional coordination
6. Smooth implementation

Need for close coordination between all involved parties in neighbouring member states!

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Market price signals must drive not only dispatch and investments but also electricity usage

- Up to 60% of the retail prices (distribution & transmission ~25%; taxes and levies ~ 30-35%) are static and cushion most of the wholesale price volatility
- Transmission and distribution tariffs need to be reflective of grid costs, hence have an adequate component of fixed and capacity cost
- Impact of other fixed components which are not cost-reflective (i.e. taxes, levies, RES charges) on final retail bills must be reduced. Where possible, these costs must be transformed into market components by incorporating externalities
- Replace allocation based on estimated consumption profiles with actual, time-stamped consumption + dynamic pricing for end-consumers
- NRAs/TSOs to design balancing pricing mechanisms that reflect overall system costs

ENTSO-E Key recommendations:

General

1. Fully implement the target model (NCs, pilots)
2. Investable (sufficiently high) CO2 prices
3. Restore investment signals (RES integration, imbalance pricing, DSR, incentivise market participants to solve scarcity, hedging products)
4. Acceptance of scarcity prices

CRM specific

1. Target model`s functioning shall be intact (LT, DA, ID, EB)
2. Regional coordination of adequacy assessment
3. All capacities contributing to the adequacy shall be remunerated
4. XB participation shall be ensured
5. No XB capacity reservation

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Thank you for your attention!