Do we need capacity remuneration mechanisms? Effects, Alternatives and Actual Status

Capacity remuneration mechanisms and the internal market for electricity

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The internal energy market is not completed, but is facing new challenges

	The view from the 3rd Energy Package and ETS
Competitiveness	• The Internal Energy Market should stimulate fair and competitive energy prices as well as necessary investments
Security of Supply	• Interconnected networks and the Energy-Only Market (EOM) delivering investments should guarantee security of supply
Sustainability	• The incorporation of the CO_2 price in the EOM should be the main driver for decarbonisation

The energy policy triangle is being challenged both in terms of competitiveness and security of supply

	Current status
Competitiveness	• Customers across the EU are faced with rising energy bills • RES support costs have escalated in some countries with inefficient or outdated design mechanisms
Security of Supply	• Rising variable generation is displacing conventional generation which is needed for generation adequacy but is being forced to shut down (economic factors)
Sustainability	• The EU is so far on track to meet its emissions reductions and RES targets up to 2020, but ETS is currently not a driver for low carbon investments

Going forward, different elements of market design have to work together

	Energy	Flexibility	Capacity[1]
Goal	Efficient dispatch	Short term system adequacy	Long term system adequacy
What it does	Delivers energy in the most cost-efficient way by having the market define the system's merit order	Enables the system to respond to short-term variations in the supply/demand balance	Ensures long-term system adequacy e.g., in the case of extreme load peaks or backup intermittent renewable generation
Market instruments	Forward, day-ahead and intraday markets	Day ahead, intraday and balancing markets, ancillary services	Market-based capacity remuneration mechanisms
Where we are today	Ongoing energy market integration with market coupling and cross border intra-day markets (although taking too long)	Energy market integration and cross-border balancing ongoing, grid related services to be developed	Rather separate CRM national initiatives, with an increasing discussion on cross-border participation

1. CRMs especially relevant for some regional markets

Long term system adequacy is a concern in many markets, giving more urgency to the CRM discussion

- **Political initiatives** in many markets to ensure **national security of supply**
- **Political decisions** are driving the **closure of additional thermal generation due to environmental concerns**
- **RES generation has grown considerably,** impacting the economic viability of capacity needed for system adequacy
  - Lower utilisation of thermal plants
  - Lower and more volatile wholesale prices
- Further development of **flexibility markets**, while necessary, focuses on **short term system adequacy** and **does not deliver signals for capacity** needed for the long term

EURELECTRIC has established a view on the fundamental principles for the implementation of CRM

	Description
Goal	• Only goal must be **generation adequacy**
Product	• Remunerate **plant availability/firm capacity**
Design features	• **Market-based** • **Technology neutral** • Open to **new/existing** plants • Open to **generation/demand response/storage**
Geography	• **Open to cross-border participation**, while not distorting the energy market

The **completion of the IEM** and coordination of the key elements of market design are **crucial** for EU energy policy

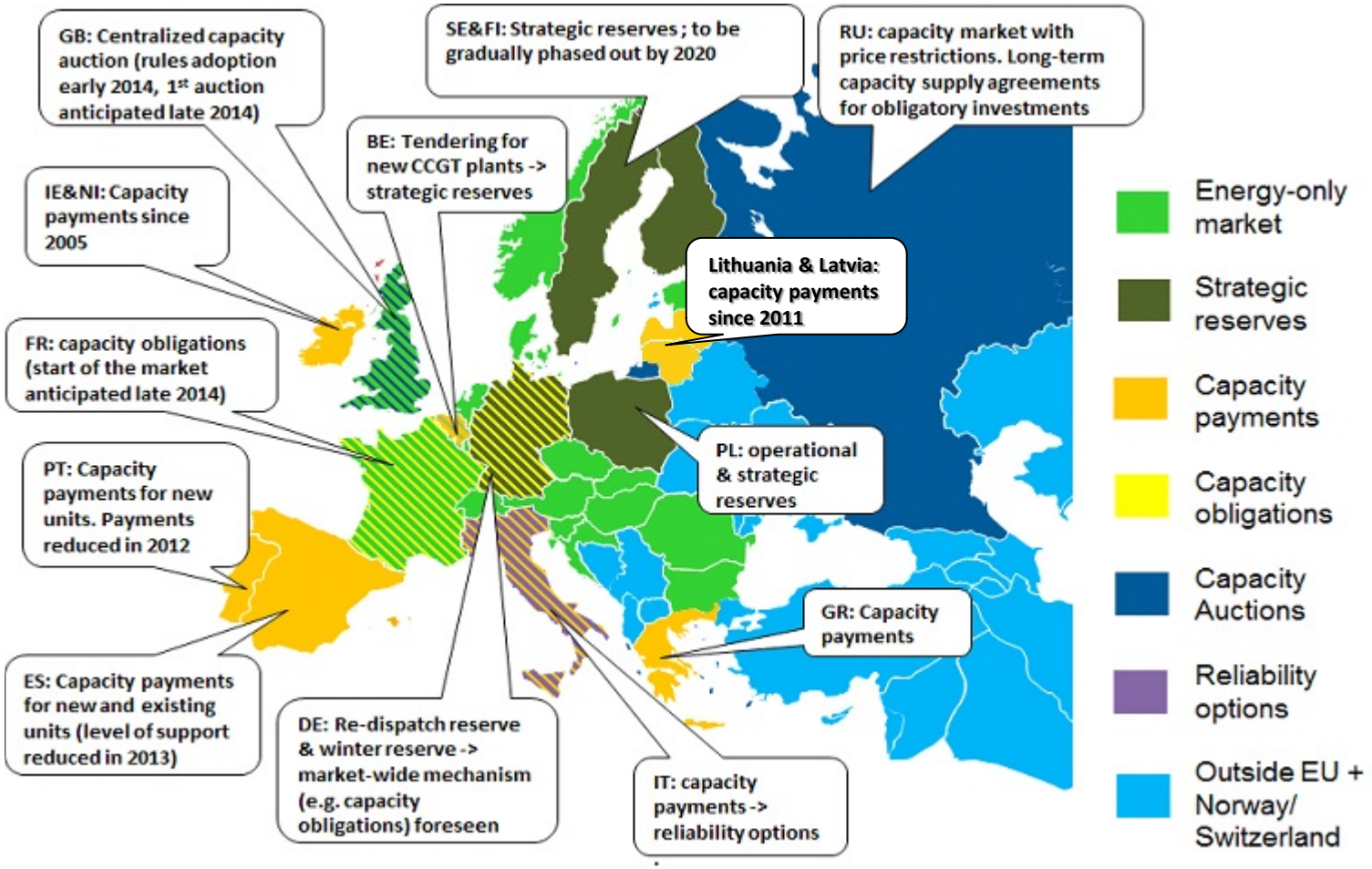
A properly designed CRM should minimize the impact on the IEM

- **Short term** horizon
  - **No effect on dispatch order**, if properly designed: CRMs price availability/firmness, not production
  - When price reaches the scarcity threshold, all generation, storage and demand response committed to the CRM should be available and bid into the market. However, there will be **less extreme price peaks** with CRM compared to the energy-only market
- **Long term** horizon
  - Both **capacity that stays online and new investments** that guarantee a predetermined level of security of supply **are influenced** by the introduction of CRM, leading to **different market outcomes in the long term**
  - **Investment decisions might be distorted** if different CRM models are implemented **without coordination and effective cross-border participation**

EURELECTRIC recommends the following market-based CRM models as a basis for regional development

Main options	Description	Advantages of the instrument
De-central certificates	• **Capacity obligation** on suppliers to procure available capacity in a certificate market	• Market-based, decentralized way to price available capacity needs • Ease of implementation for existing capacity
Central auctions	• **Capacity auction** to procure available capacity	• Appropriate both for existing and new capacity (auctions can take on different time horizons) • Higher certainty for investments in the case of long term auctions

The effort to implement CRM should move away from the current national piecemeal approach…



… to a coordinated effort to establish regional instead of national models in the short/medium term

- **Member states should coordinate** among themselves and adopt **market-based mechanisms** that allow **cross-border participation**
- The **preferred approach** would be to adopt the **same model at regional level** or at minimum to introduce market-based mechanisms at national level with cross-border participation
- **Cross-border participation and a seamless cooperation of transmission system operators** (TSOs) will be the cornerstone of any new market design adjustments

A **fully European approach to the completion of the IEM** must not be hindered by the introduction of regional models

Establishing regional CRM models presents many political challenges that have to be overcome

- **Member States** - political acceptance that cross-border capacity is reliable for national system adequacy must increase
- **TSOs** - generation adequacy assessments should be done from a European or at least regional perspective (ideally with common criteria for lost of load expectation and value of lost load); they should act as one system operator and avoiding isolating national markets in scarcity situations
- **NRAs** – transparency is needed in the approval process of the amount of capacity that should be allowed to participate cross-border

Cross-border participation of CRM is crucial

Which product?

Who participates?

	Availability	**Delivery**
Capacity provider	**A** • Capacity providers sell their capacity cross-border. • They would be responsible only for being available in scarcity situations.	**B** • Capacity providers sell their capacity cross-border. • They would be responsible for being available in scarcity situations and that electricity flows from its own bidding zone cross-border to the zone where capacity has been sold.
Interconnector	**C** • Interconnector sells capacity cross-border. • It would be responsible only for being available in scarcity situations. (In this case, the interconnector on its turn would probably contract "back to back" availability with market actors in the "export" market).	**D** • Interconnector sells capacity cross-border. • It would be responsible for being available in scarcity situations and that electricity flows cross-border to the zone where capacity has been sold.

- **EURELECTRIC** prefers capacity provider selling availability where the interconnector gets paid for the "congestion rent" - A
- **Delivery as product are not acceptable** as they have the potential to distort the energy market by forcing delivery of energy that could otherwise be out of the merit order - B & D
- **Interconnectors should not participate** in competition with market participants - C

EURELECTRIC has also outlined the key principles that should be respected in Model A

Key principles to be respected:

- **Common requirements and market rules** for all CRM participants (e.g. certification, penalty regime, availability requirement, etc.)
- Participation with the **same capacity in more than one CRM should not be possible** (no double commitment and earnings)
- **TSOs** should offer a **certain amount of cross-border participation** (to be approved by NRAs)
- **No reservation of cross-border capacity** for CRM
- CRM must **not influence the cross-border allocation** for forward, day-ahead, intra-day and balancing markets or dispatch / operational decisions

EURELECTRIC regards the completion of the IEM as a 'No Regrets option' but adaptation to the market design is necessary

Enhance Market functioning as a No Regrets option

- The full execution of an integrated European energy market through Intraday, Day-ahead, balancing to ensure incentives for flexibility including demand response
- More interconnections between national markets
- Removal of wholesale price caps and regulated end-user tariffs and other distortions related to wholesale and retail electricity markets

Complement the Market Design

- Regional instead of national approach to CRM
- Where introduced, CRMs schemes must be open to cross-border participation
- Decentral capacity certificates or central auctions for capacity as preferred schemes