Capacity Remuneration Mechanisms and the future of the EU Electricity Market

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In brief
On the general motivation questions ...
Some general statements

- How the electricity market design could cope with the growing share of RES?
- How to avoid negative influence to neighboring markets?
- Whether and why the market needs coordinated capacity mechanisms?
- Whether the EU European policy supports investments in infrastructure?
On the general motivation questions ...
Some general statements

• How the electricity systems sign could cope with the growing share of RES?
  – Market design
    • Decreasing regulators’ interference in the short-term (Govs.)
    • Increasing the role of distributed generation and demand response in the balancing and ancillary services markets (TSOs)
    • Increasing market integration and coordination
      – Day-ahead and balancing (ACER)
  – The key role of tariff design
    • Avoiding inefficient ways of subsidizing RES-E
      – e.g. net metering and volumetric tariffs

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Some general statements

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• How to avoid negative influence to neighboring markets?

• Whether and why the market needs coordinated capacity mechanisms?

• Whether the EU European policy supports investments in infrastructure?
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Some general statements

- How the electricity systems sign could cope with the growing share of RES?
- How to avoid negative influence and take advantage of the positive one of neighboring markets?
  - Increasing market integration and coordination
    - Day-ahead and balancing (ACER)
- Whether and why the market needs coordinated capacity mechanisms?
- Whether the EU European policy supports investments in infrastructure?
On the general motivation questions ...

Some general statements

- How the electricity systems could cope with the growing share of RES?
- How to avoid negative influence and take advantage of the positive one of neighboring markets?
- **Whether and why the market needs coordinated capacity mechanisms?**
  - Discussed also briefly (but not so much) next
- Whether the EU European policy supports investments in infrastructure?
On the general motivation questions ...

Some general statements

- How the electricity market could cope with the growing share of RES?
- How to avoid negative influence and take advantage of the positive one of neighboring markets?
- Whether and why the market needs coordinated capacity mechanisms?
- **Whether the EU European policy supports investments in infrastructure?**
  - Not much comment to make about this ...
  - ... although it is crucial to remind that there is not a better way to support investment than minimizing regulatory risk
CRMss and the EU electricity market
Digression from the textbook
Levels of regional market integration

- Objectives of regional integration of power systems
  - Minimum: to increase the responsiveness of the system to very short-term **contingencies**
  - Intermediate: to optimize the **economic dispatch**
    - operation and planning in the short (intermittency) and medium term (e.g. different seasonalties)
  - Ultimate: **integrated expansion** of both the generation and transmission at the regional level optimization

- Apparently, the objective of the **EU Commission** is to go all the way
- But to what extent the **Governments** of the Member States really want to go?
- Cheating in Solitaire...
CRMs and the EU Internal Electricity Market

CRMs are here to stay

• It is a waste of time to argue if yes or no, we’d better focus on
  – preventing flawed designs and barriers
  – guaranteeing minimum design requirements

• If properly designed, **CRMs could even help** to advance in the
  **integration and efficiency** of the Internal Energy Market

• **But** the current trend is **heading towards the worst** of the scenarios
  – New non-market oriented patches
  – Perpetuation of the current market agents’ structure
    • National, vertical and horizontal
  – Long-term market cross-border segregation
    • The **Internal Electricity Market for Leftovers**
  – Missed (maybe last in many years) opportunity for **demand response**
Uncertainty, not risk: the **future short-term volatility of prices should by no means be a problem** for system adequacy

- **The “missing (or excessive) planning” problem**: the move towards a low carbon power system has boosted the regulator intervention in the capacity expansion decision-making

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**Is there any market left?** Growing irrelevance of the spot market

- “**Why should I be the only one not receiving any sort of regulated financial support?**”
The new EU capacity mechanisms: objectives and design issues
Levels of CRMs harmonization

• Highest level: implementation of a **EU-wide** capacity mechanism
  – Not only extremely unlikely for the moment, but also **unnecessary** from the theoretical and practical point of view

• Regulators in different **Member States** can and **should be allowed** to require different levels of reliability
  – Depending on the expected impact of a potential electricity curtailment in their system.

• To exploit the above-mentioned benefits of market integration, it is of paramount importance to **avoid** the creation of **any regulatory barrier** that may hamper cross-border trades
A question of (good) will
CRMs, cross-border trade and demand response

- Assuming the Target Model is implemented, **CRMs do not interfere with short-term market efficiency and cross-border trade IF**
  - the Article 4.3 of the Security of Supply Directive is respected,
  - **Firm imports and exports** linked to the CRM should have priority over any domestic demand without such commitments
    - Need to allow for firm nominations of cross-border bilateral contracts
      - Implemented in Central America
      - No need for cross-border capacity reservation
  - Limited by the actual interconnection capacity limits (zonal auction)
    - Scarcity is related only to market prices
      - e.g. not to temperatures or discretional decisions of TSOs

- **Demand response** has to play a crucial role
  - TSOs have to open grid codes to take advantage of the DR potential
Thank you very much and excuses