

FCR Cooperation

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FCR Cooperation – historical development



- In 2013, APG and Swissgrid established the first cross-border market for balancing reserves.
- In 2015, the market was enlarged by joining of Germany and the Netherlands
- In 2016, Belgium joined the common market
- In 2017, France joined the common procumement
- Denmark West is preparing accession.

FCR Cooperation today

- Current members: 10 TSOs from 7 countries.
- Common demand of ca. **1.4 GW** in common auction (almost half of RGCE demand).
- TSO-TSO Model: BSPs interact with connecting TSO.
- Common procurement of Frequency Containment Reserve on a voluntary basis.



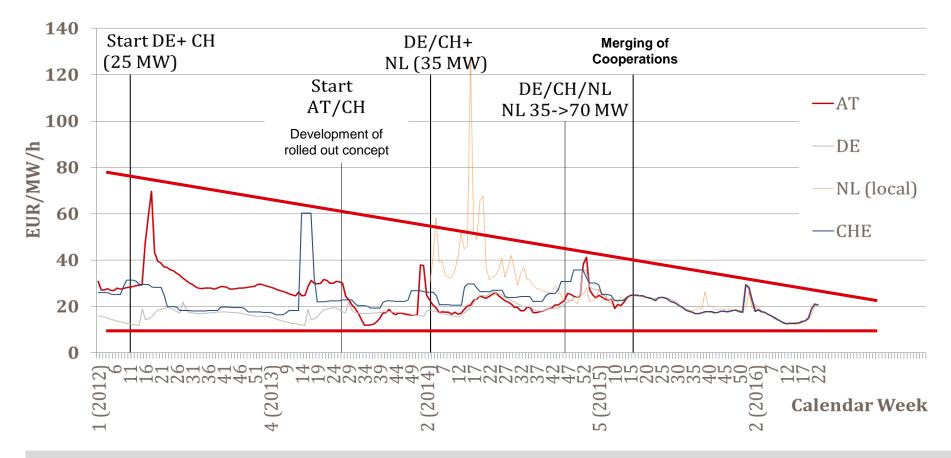
Implementation of EBGL



- There is no target platform or model for FCR.
- **Common and harmonised rules and processes** for the exchange and procurement of balancing capacity were consulted with the market, proposed to and approved by NRAs according to Article 33 of EBGL.
- What are the changes with regards to entry into force of EBGL?
 - Adapted product (24h \rightarrow 4h product)
 - Harmonised product design (divisible and indivisible bids)
 - Marginal Pricing
 - Processes fit with other XB procurement processes and auctions (daily auctions, 4h products)
 - Exemption of secondary market (no crossborder transfer of obligation)
 - \rightarrow Implementation in 2 steps mid-2019 and mid-2020.

Price convergence



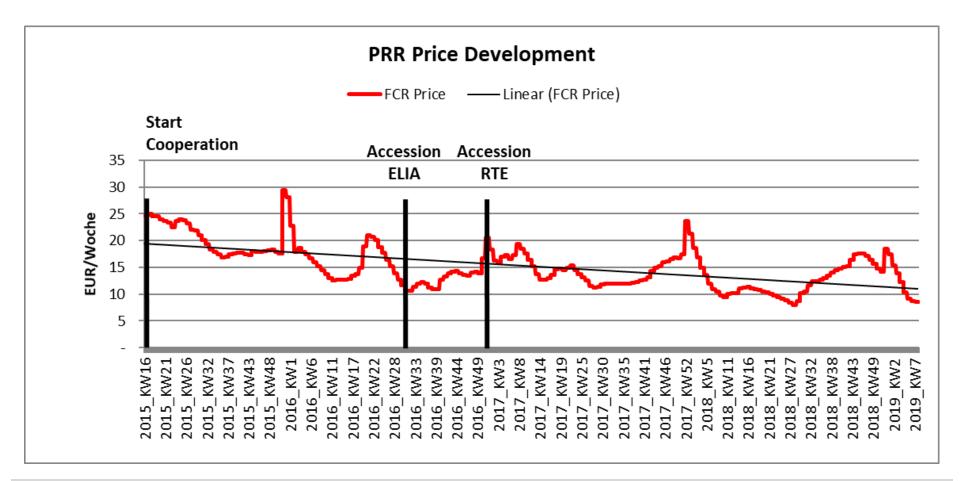


Common market leads to price convergence, more competition and liquidity and costs savings for the whole system

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Price development over time





Price development shows ongoing downward trend

Benefits of the cooperation



- Benefits for importing and exporting countries
 - Import potential for countries with little/expensive FCR offer
 - Export potential for countries with more/competitive FCR offer
 - Overall social welfare gain for all participating market areas
- More efficiency in a common market
 - Harmonised products and market rules aviod market distortions
 - Restricted exchange (core shares)
 - Facilitate exchange (sufficiently high export limits)

Price development

- Stabilisation at competitive, low level
- Fewer and less extreme price peaks

Future development



• Further technical harmonisation is being tackled in 2019

 Topics of aggregation, power measurement location, back-up requirements, monitoring, penalties are being prepared for consultation with market parties later in 2019

• Extension of FCR cooperation

- FCR cooperation is open for further extension
- Newly joining markets to implement approved market design and technical harmonisation
- New obligation to procure FCR via primary market according to CEP. FCR Cooperation may facilitate competitive market environment for this development.

