EXPLORE
Status Update
Balancing Stakeholder Group
November 27th Brussels
Explore

European X-border Project for Long term Real-time balancing Electricity market design

GERMAN TSOs
Background: Analysis common FRR market

1. Common qualitative FRR market comparison on subject of BE-NL-GE Coba
   • Results of study published on TSOs website

2. Austrian, German, Dutch and Belgian TSO decided to proceed with the analysis of a potential common FRR Balancing Market design
   • Work ongoing in newly set up Expert Group

3. Technical and market aspects of such cooperation are studied:
   • the products, technical implementation and processes (bidding, activation, selection, exchange) for the exchange of aFRR and mFRR;
   • interaction with intraday markets;
   • required level of harmonisation;
   • proposed design for the settlement of balancing energy and imbalance;
   • use of cross zonal capacity after ID markets for different balancing processes.

✓ EXPLORE contributes to early implementation of EB GL and CoBa formation
✓ CBA of BE-NL pilot project (phase 3) is temporarily put on hold given this development
BE-NL-DE-AT: natural partners for balancing

No use of replacement reserves:
- (Mostly) reactive balancing;
- EXPLORE TSOs rely on ID markets with short GCT

Nevertheless there are still significant differences to overcome within EXPLORE: pricing, products, activation details,...
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- Important for settlement, pricing, product design,…;
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Majority of the balancing performed by aFRR
- Similar activation strategies;
- Typical for reactive balancing systems.

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Objective and starting assumptions

Objective EXPLORE:
• Develop technical and market concepts for cross-border exchange of Frequency Restoration Reserve (aFRR & mFRR)

Starting points:
• No economic optimization between use of aFRR and mFRR balancing energy:
  – Activation trigger based on technical considerations only (regardless of price);

• Exchanged bids are firm;

• Reserve Replacement is out of scope of present initiative:
  – No consideration of a (local) potential costs optimization between RR and mFRR;

• The proposed market design shall respect to the extent possible:
  – Requirements from the future NC or GL on CACM, Electricity Balancing and LFC&R;
  – local TSOs responsibilities linked to LFC&R Block and LFC&R Area.
Ongoing work in EXPLORE

**Discussions on pricing and settlement fundamentals:**
- Local or cross-border pricing;
- Per product or cross-product pricing;
- Pay-as-bid or pay-marginal;
- Function of imbalance pricing and desired balancing incentives;
- Balancing energy gate closure times;
- Relationship to intraday markets
- ...

→ Prior agreement on these fundamental topics is key for setting up any XB exchange

**Detailed discussions on product design, activation algorithms, use of XZ transmission capacity, ... will be tackled in a second stage (first half of 2016)**
mFRR product design discussions

Current reflections / first ideas of EXPLORE TSOs on the mFRR product design discussions go in following direction (might still change):

- Short minimum delivery period (0 minutes)
- Direct activated product with option for scheduled activation
- Block settlement (no settlement of ramps)
- High level of standardization (identical products on MOL)
Thanks for your attention!