

TERRE – Trans European Replacement Reserves

Facts

- Objective: European Platform for exchange of balancing energy for Replacement Reserves (RR) in line with the Electricity Balancing (EB) Guideline.
- Only balancing energy is traded on the platform, not balancing capacity.
- Contrary to FCR and FRR, not all TSOs in the EU use RR products.
- Currently 11 TSOs participating, thereof 6 operational members, 2 non-operational members and 3 observers.
- After IGCC, TERRE is the second most advanced project with successful Go-Live on 06.01.2020.

Standard Product Characteristics

Harmonization through standard products as defined in the Replacement Reserves Implementation Framework, pursuant to Article 19(1) of the EB regulation.

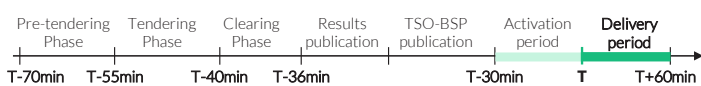
Mode of activation	Manual
Full activation time (FAT) Maximal time between the activation request by the connecting TSO and full delivery of power of the respective balancing energy bid.	30 minutes
Delivery periods The period during which BSP delivers requested change of power in-feed to or withdrawal from connected TSO system.	15/30/45/60 minutes

Bid Types & Bidding Period

Harmonization through standard bids and bidding periods (gate opening & closing times).

Bid Types	(Fully) divisible bid A balancing energy bid that consists of a single quantity and a single price. If fully divisible, it has no minimum quantity. → Fully divisible bids are key product in TERRE market, guaranteeing liquidity & reducing complexity.
	Indivisible/Blockbid A balancing energy bid that consists of a single quantity and a single price. Only the full quantity of an indivisible bid is accepted.
	Complex bids – Linked, Multi-part or Exclusive Must correspond to different single time steps. Bids can have different volumes, prices or directions
Gate Opening (GOT)	70 minutes before the start of the respective activation period.
Gate Closure (GCT)	55 minutes before the start of the respective activation period.

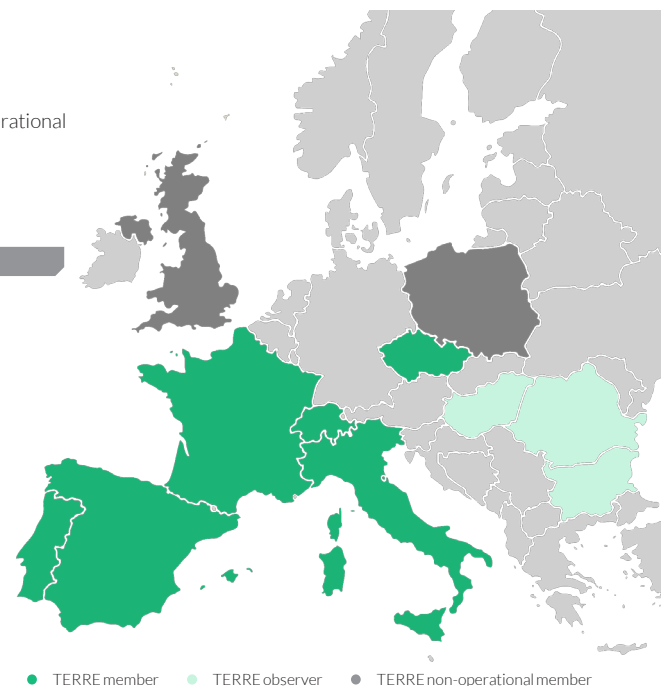
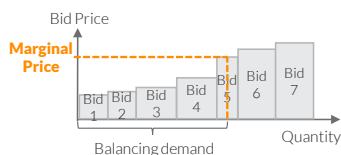
Timeline



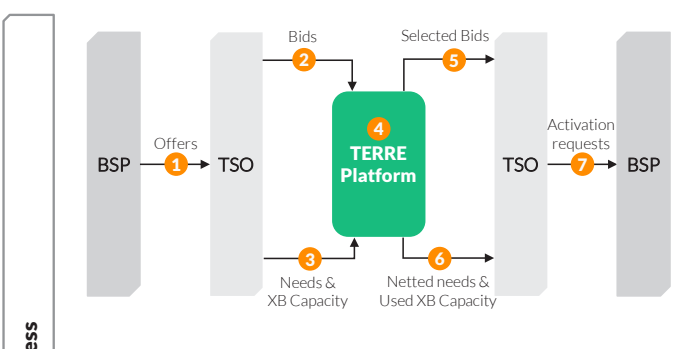
Pricing & Settlement

Harmonization through standard pricing & settlement

- Marginal Pricing (Pay-as-cleared)
- Price of last bid of standard product which has been activated
- Same principle as day-ahead market



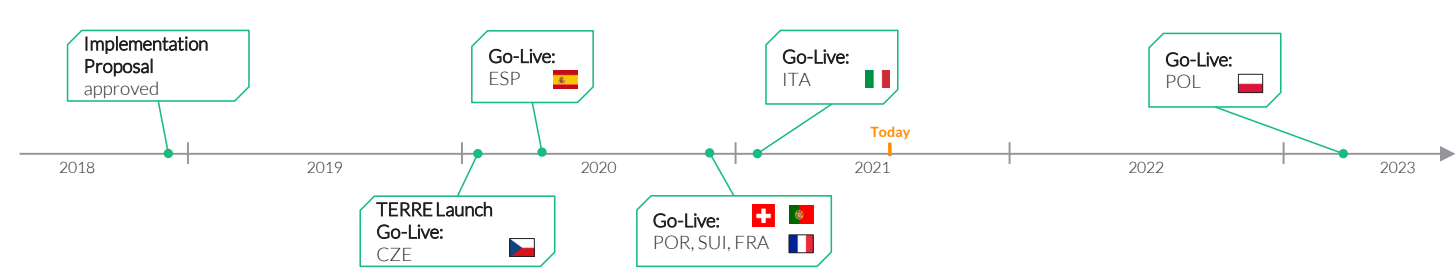
TERRE Process



- TSO receives offers from Balancing Service Providers (BSP) in market balance area.
- TSO forwards Replacement Reserves balancing product bids to platform.
- TSO submits balancing needs and available cross-border capacity (XB).
- Algorithm optimizes clearing of balancing needs against BSP offers.
- Publication of accepted bids and marginal prices.
- Netted needs, resulting XB schedules and remaining XB capacity sent to TSOs.
- TSO request activation of BSP as needed.

Impact: BSPs need to adapt to TERRE in case they want to offer their production as Replacement Reserves. Bids must be compliant to platform bids and strategies have to be developed, making use of the available bid types.

Roadmap, as of 24.04.21



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