Balancing Energy Market (BEM)

These slides are initial thoughts to aid discussion only. They are not in any way meant to signify the views of GEMA, which for the avoidance of doubt has not made any decisions on this particular issue.
Contents

• Reasons for considering an BEM
• Models for discussion
• Model 1: BEM as a balancing tool and incentive
  – Potential benefits
  – Outstanding Questions and Challenges
  – Interactions
• Model 2: BEM as a trading opportunity
• EU Target model interactions
• Summary questions
Reason for considering a BEM

- Energy is traded on a half hourly basis as if demand and supply are constant within the periods and without accounting for constraints.
- Cash-out provides a **default price** for energy generated that is not contracted for.
- Cash-out is calculated in part from trades taken in the balancing mechanism.
- The balancing mechanism is used by national grid to buy a **variety of products**.
- The cash-out price tries to create a price just for half hourly energy.
- A complex system of flagging and tagging attempts to isolate half hourly energy from other purchases eg those taken to resolve constraints.
  - A BEM could provide a more transparent alternative – a market for a homogenous product as close to real time as practical.
Models for discussion

High level features
- Facilitate participants’ remaining trades
- Allow the SO to procure balancing energy
- Reduce the extent to which the SO has to act in real time to balance the system

Models for discussion

Model 1: BEM to set the cash-out incentive and price for energy balancing services
Model 2: BEM as a trading opportunity for participants and the SO
Model 1: BEM as a balancing tool and incentive

- Could use existing bids and offers
- Separate procurement of system and energy balancing products
- Energy balancing products procured based on bids and offers at a point ahead of real time
- Pay-as-clear pricing for balancing services
- Participants cashed-out at single marginal BEM price
- An ex-ante price may encourage more participation, particularly from smaller players and DSR
Model 1: Potential benefits

- Creates two distinct mechanisms for procuring system and energy – mitigates the issue of system pollution
- A single, fully marginal cash-out price
- Transparency and simplicity
- Pooling liquidity near to real time and providing a route to market for uncontracted for energy
Model 1: Challenges

- Loss of simultaneous system and energy balancing synergies?
- Incentive to distort prices by withholding in the BEM?
- Would the existence of an ex-ante price distort behaviour?
- Difficulties of creating an adequate balancing incentive?
- Would a BEM pool liquidity close to real time – would this sap liquidity from other times?
Model 1: Outstanding questions

Would a further balancing incentive be needed?

- Incentive would be based on a forecast, rather than actual balancing actions – would not reflect any subsequent energy imbalances
- Alternative incentives:
  - BEM and a fixed charge? BEM clearing price plus/minus a fixed charge or % differential?
  - Price which reflects system stress (similar to current cash-out)?
- Would the incentive apply to notifications at the beginning of the BEM or the end ie could participants trade out imbalances in the BEM?

Would a BEM require an incentive on participants to submit accurate physical information to the SO?

When would the BEM be held?

How would this fit in with the European Target Model? (slide 11)
Model 1: Interactions with other SCR considerations

- Information imbalance charge
  - Would a charge be necessary to encourage participants to submit accurate FPNs?

- More marginal pricing/single price
  - A BEM could create an energy only, marginal price that could be used for imbalances in both directions.
Model 2: BEM as a trading opportunity

- Pre/at gate closure auction for participants and the System Operator to trade out imbalances
- No requirement on the SO to procure balancing energy in the BEM
- Cash-out incentive set ex-post based on SO balancing actions, as now
- Could complement more marginal cash-out prices – providing an extra opportunity to avoid risk

Potential benefits:
- a final spot market price
- improved opportunities for participants to balance their positions by trading in the market

Outstanding questions
- Interactions with liquidity intervention?
Interactions/ synergies with EU target model implementation?

- **Intraday target model**
  - Exchange based markets providing continuous intraday trading, operating until one hour ahead of real time, linked up using available interconnector capacity

- **Electricity balancing target model**
  - Requires system operators to establish standardised energy balancing products, traded in a common merit order, on a Europe wide or regional basis
  - Push for marginal pricing (pay-as-clear) for balancing energy

- **Constraint management**
  - Requires NRAs to consider optimal definition of price zones
Summary questions

- Would an ex-ante price be appropriate?
- Would an ex-ante price for balancing energy be beneficial?
- If there was an ex-ante price for balancing, how would participants be incentivised to maintain their positions in real-time?
- Would an at-gate-closure trading opportunity be a benefit to industry?
- Would a BEM be compatible with the EU Target Model?
- Are there other models to consider?
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