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# Issue 30 Meeting
## Balancing Markets

5 March 2008

# Introduction

- Alternative methodologies for separating 'energy' and 'system' balancing costs have been debated over the past year
  - EPUS algorithm (P211)
  - Energy market reference (P212)
  - Improved tagging (P217)
- An approach that establishes separate platforms for resolving energy and system imbalances might also be considered

'Energy' = balancing costs that can be targeted at half-hour resolution
'System' = all other SO balancing costs

# Balancing Market

- **Objective**: to separate energy and system actions at the point of execution by creating a separate platform for energy balancing actions
  - May also enable participants to trade later than present markets allow
  - Essentially the approach used in the GB gas market and Dutch and Texas electricity markets
  - Alternative approaches could be adopted including the model proposed by Professor Stephen Littlechild
  - Implementation may be complex but could represent an evolution from existing modifications

# Separating energy and system actions in other markets

- Dutch market
  - Resolution of energy imbalances is clearly separated as a procedure from the resolution of system constraints
  - A single price ladder is built following the resolution of system constraints
  - Volumes are taken as needed in price order
  - Only bids/offers from energy imbalance actions are used in determining cash-out prices
- Texas (ERCOT) market
  - Separate Balancing Energy Service (BES) and Ancillary Services markets (including day-ahead operating reserve)
  - Also separate Transmission Congestion Rights auction
  - Cash-out prices based only on actions taken in BES
  - Ex-ante single cash-out price calculated using scheduling algorithm published 10 minutes before Settlement Period

# Balancing Market – "Littlechild" proposal

- Proposal presented at the second industry cash-out review meeting (26 September 2007)
  - Balancing Market operated by appointed power exchange
  - Parties submit bids and offers for each settlement period
  - At a specified time shortly before the beginning of each half hour period, the SO informs the Balancing Market of the forecast NIV
  - Balancing Market operator ranks and accepts bids and offers in order and calculates market clearing price for that half hour
  - Imbalances of parties are also cashed out at this price
  - SO role otherwise as now

# Balancing Market – potential advantages

- Prof Littlechild identified a number of advantages for a balancing market, including:
  - Separates market-making and price-setting from other more legitimate SO functions
    - More responsive to needs of market participants
    - Extent of SO involvement perceived as part of present problem
  - Pure energy price: simple in concept & in practice, and fully transparent & public
  - Ex ante cash-out price more conducive to demand management than ex-post price
  - Additional market particularly useful for smaller players
    - To prevent such a market distorts competition
    - To enable such a market facilitates competition

# Balancing Market – potential disadvantages

- A number of potential disadvantages with the Littlechild approach were raised:
  - Significant implementation costs
  - Loss of economies of scope from SO resolving both energy and system requirements with one action (at least in the short term)
  - Potential incompatibility with continuous within-day trading: could reduce liquidity in existing markets
  - Requires accurate forecast of NIV which is not currently available at 1 hour gate closure

# Variant 1 – "Split BM"

*Reduces implementation costs associated with Balancing Market*

- Variant on "Littlechild" model using Balancing Mechanism instead of independent power exchange
  - Two Balancing Mechanism phases:
    - Energy balancing – clearing NIV forecast at half-hourly level at fixed time before settlement period
    - System balancing – subsequent real-time balancing as current
  - Simplifies implementation, but loss of independence provided by independent market operator (MO)

# Variant 2 – "continuous trading"

*More compatible with existing markets, more accurate ex-ante price*

- Variant based on continuous trading model:
  - Power exchange appointed to operate Balancing Market over a short period in run up to each settlement period
  - Market used by both parties and SO for energy balancing
  - Cash-out prices set according to trading close to gate closure for each settlement period
  - Gate closure reduced to ½ hour or less
  - Open question whether the market would need to support 'physical' trades in addition to title transfers