

The background features a large, semi-transparent white arrow pointing from the left towards the center. Behind the arrow, there is a faint image of interlocking mechanical gears. The left side of the image has a blue and white color scheme, while the right side is dominated by a warm, golden-yellow light that creates a soft, ethereal glow.

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

