Wholesale Power Market Reflections

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Ingredients for successful liberalisation (1)

Privatisation and liberalisation

- Relationship between the government-owner and government as “sponsor” of regulator
- Commitment to developing competition versus financial benefits to government-owner?
- Timing, order?

Unbundling

- Ownership, management?
- Balancing and other services for competitors?
Ingredients for successful liberalisation (2)

Liberalisation on the supply-side?
- Divestiture of generating capacity by dominant incumbent may be necessary for competition to start
- Auctioning of virtual power plants or long term contracts is possible second best

Cross border trade is an important source of liquidity
- Integration of neighbouring markets helps competition
- Non discriminatory access to cross-border capacity is a challenge

Avoid hidden cross-subsidies
- Bad experience with stranded costs and legacy contracts
- Subsidies may be designed to not distort the market
Ingredients for successful liberalisation (3)

Regulatory authorities must communicate with market participants

• It is impossible for a regulator to anticipate and understand all effects of its intervention or non-intervention; market participants are creative

• Benefit of experience of regulators in earlier liberalised territories
Development of cross-border trading

• Cross-border trading existed before liberalisation
• Different starting times of liberalisation in each country
• Development of cross-border trading together with development of national or regional markets
• NTC and ATC measures of cross-border transmission capacity outdated?
• Non-market-based allocation mechanisms persist
Withdrawal of international competitors

Now the competition environment is mainly composed of asset-based trading units and some financial service providers.

Source: Booz Allen Hamilton, June 2003
Commercial and physical power: Chicken and egg!

- **Operator's view (the “physical” dimension)**
  - Balancing the system
  - Controlling the flows
  - Maintaining security (guaranteed?)

- **Trader's view (the “commercial” dimension)**
  - System is a market place with trading flexibility
  - Potential restrictions should be transparent
  - Control areas are “hubs”; trading between “hubs” subject to physical constraints only

- **Relationship between flows and commercial contracts**
Chicken and egg - continued

• “Border flows” do not coincide with “border commercial exchanges”

• Load and generation schedules needed for accurate prediction of commercial trading capacities

• Schedules are fixed after end of all trades (within hubs and between them)

• In order to trade between hubs, traders need to know the commercially available capacities ...
Price Zones in Europe

Wholesale forward prices in Europe (€/MWh) 2004
(as of October 2003)

Austria, Germany and Switzerland (A/D/CH) are one price zone correlating with the French price

Price zone A/D/CH has the lowest prices in Europe

Price level in eastern and south-eastern European countries already shows correlation to A/D/CH price zone

Peter Styles, Chairman, EFET Electricity Committee
London, 25 May 2004
European Market Prices

Wholesale forward prices in Europe (€/MWh) 2004 (as of December 2003)

Wholesale prices in Europa (€/MWh)
source: cal 04 Platt’s and broker quotations
value date: 13/08/03

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Cross-border constraints in Western Europe

- Many cross-border constraints
- Small # players per area
- Limited cross-border access arrangements

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Explicit auctions

Transmission capacity and energy traded independently

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Market coupling (1)

No cross border flow

Area price difference

Price

Spot Market Area A

Spot Market Area B

Price

Quantity

Quantity

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Market coupling (2)

Prices converge if sufficient capacity

Area price difference

Max import capacity

Max export capacity

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Why are power system imbalances important?

- Electricity is a tradable but not tangible commodity and cannot be stored
- Unpredictable weather conditions and load (demand)
- Trading for the day ahead, and not closer to the delivery time, is most liquid market
- Unpredictable failure of a production unit or transmission line

The solution to maximise efficiency and competition is to establish a balancing market

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A balancing market?

- Handles the unpredictable imbalances between production and consumption as alternative to regulated pricing by TSO / incumbent generators
- Provides buy and sell prices for market participants’ power imbalances
- Enables real-time trading, one hour in advance of delivery/offtake
- Participants will be producers or traders and consumers, who can quickly respond to unanticipated power imbalances
- Should reduce the TSO’s costs of redressing physical imbalances

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Successful operation of a balancing market

- Balancing market prices reflective of the real-time supply-demand situation will underpin a liquid and transparent bilateral contract market

- Good liquidity of standardised products on the day-ahead market is a sign that the balancing market is functioning effectively

- The formation of balancing prices must be described in clear and transparent rules (TSO/ MO / Regulator)