The New European Landscape for Electricity

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Maximising the Availability of Transmission Capacity and Improving Transparency

Peter Styles, Chairman, EFET Electricity Committee
Maximising the Availability of Transmission Capacity and Improving Transparency

- Comments on EU congestion management guidelines under Regulation 2003/1228
- The importance of information transparency
- EFET proposal to maximise available capacity and make allocations firm

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EU Regulation on Cross Border Electricity 2003/1228 (1)

- Market based solutions for congestion
- Efficient economic signals
- Maximum capacity to be made available and “as firm as possible”
- Netting of predicted flows and of schedules
- TSOs to be compensated for costs they incur
EU Regulation on Cross Border Electricity 2003/1228 (2)

- TSOs must use auction revenues for
  - Guaranteeing availability of allocated capacity
  - Network investments
  - Reimbursement to grid users

Article 9
“The regulatory authorities (...) shall ensure compliance with this regulation and the guidelines adopted. Where appropriate to fulfil the aims of this Regulation they shall co-operate between each other and with the Commission.”
Regulation 2003/1228: Existing Guidelines

- Short-run congestions must be solved in a market-based, economically efficient manner.
- Congestion management methods must provide signals or incentives for efficient network and generation investment.
- Price signals which emerge from congestion management procedures should be directional.
- TSOs should offer transmission capacity which is as firm as possible.
- Congestion management procedures with significant effects on power flows in other networks may not be devised unilaterally.
Extent of compliance with Regulation 2003/1228

Source: Barclays Capital / EFET analysis

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New EU Congestion Management Guidelines (1)

- Separate Security and Reliability Guidelines might weaken the Congestion guidelines (e.g. contradictions for maximising capacity?)
  - EFET: All aspects to be considered in both

- The proposed “market operation timetable” reduced flexibility and increased market risk
  - EFET: Shorten the timetable to one day, and envisage intra-day solutions

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Guidelines were framed for co-ordination between just two adjacent TSOs, but:

- Many interconnections suffer loop- or counter-flows affecting several borders
- Congestion may be initiated by third country dispatch or demand changes, not commercial transactions
- Non-EU borders such as those with Switzerland should be taken into account

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Intra-day use of capacity was described in draft as an option, not obligation

- EFET proposed intra-day access using remaining cross border capacity not allocated by day-ahead
- EFET proposed seamless integration of balancing markets, with cross-border bidding
Accurate calculation of the D-1 available capacity is only possible when generation information is available to all TSOs

- EFET: Guidelines are needed to define the required generation data transparency for accurate calculation among TSOs
- ERGEG now envisages such a Guideline for implementation by end of 2006
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- EFET proposal to maximise allocated capacity

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Need for transparency of data about use of infrastructure

- In a competitive market price is a function of the supply and demand balance
- Spot prices impact front products (W+1, M+1)
- Informational advantages to incumbent players result in potential for barriers to market entry
- Trading is a zero sum game, where any structural advantage will deter new entrants
Transparency stimulates market entry

Data transparency
- Ability to explain prices
- Forecasting

Market confidence

Market depth

Entry of new players

Increase in volumes

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Who should be interested in information transparency?

- **System operators**
  - Need to exchange network and dispatch data

- **Regulators**
  - Workable wholesale market as pre-condition for competition at retail level

- **Power exchanges**
  - Generation data stimulates liquidity, facilitates surveillance

- **Wholesale players**
  - Liquidity eases market entry and enables professional risk management
## Transparency in selected countries

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<th>France</th>
<th>Belgium</th>
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<td><strong>Market messages (e.g. outages)</strong></td>
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</tbody>
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*Delivered significantly later*

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Why has transparency not developed?

- Focus of regulatory discussion so far on transmission tariffs and retail
- Distrust between national system operators and on the part of generators
- Importance of wholesale trading ignored by some regulators and governments
Transparency: What needs to happen?

- Regulators take ownership of framework for wholesale market

- System operators release to each other and to wholesale market participants comprehensive data on
  - Load
  - Cross border capacity (*ex ante*) and flows
  - Generation (planned dispatch, outages and *ex post*)
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Flows through Europe with all countries in balance

Values in capacity (MW)

Commercially Export/Import=Zero

(Source: ELIA users’ work group on interconnections, April 2002)
Currently “bottom-up allocation”: Worst or most conservative case determination of capacity, with actual capacity going to short-term allocations

EFET Proposal:

“Top down allocation”: TSOs allocate rights to the maximum likely values of available capacity and buy back from users at times when the system requires reduction of the amount allocated

Divorce of security criteria from allocation amount
EFET Proposal to Maximise Allocated Capacity (2)

- Requires more accurate prediction of the available capacity
  - Closer co-operation between TSOs
  - Extension towards hourly based load flow predictions and use of PTDFs
  - More data exchange between TSOs (ex post and ex ante)
EFET Proposal to Maximise Allocated Capacity (3)

- Requires market based system for buying back cross-border capacity if initially over-allocated

- Requires incentives for TSOs
  - Sales income (partly) used for a “buy back” fund
  - Fund used to “buy back” capacity according to market price impacts
  - (Part of) “buy back” fund may be kept by TSO
Capacity allocation with also day-ahead implicit auctions

- Primary auctions of firm capacity rights
- Continuous secondary market (with TSO participation)
- Deadline for rights transfers
- Capacity nomination: unused capacity “resold” via market coupling & holders retain financial benefit
- Market coupling

Year - n (& Q, M) to D - 1
D - 1
D

- Ability for traders to hedge basis risk 100%
- Secondary market allows capacity rights to be transferred
- Automatic reallocation of unused capacity day-ahead promotes efficient dispatch and prevents hoarding

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Capacity rights transactions and payments

- **Capacity Owners LT**
  - Payment for capacity resold via market coupling (TSO does not get paid twice)
- **Capacity Buyers LT & ST**
- **Secondary Market**
- **Auction Office**
  - TSOs can buy-back unavailable capacity in secondary market
  - Re-digest & counter-trade by TSOs
- **TSOs**
  - 1. Firm capacity guarantees
  - 2. New capacity investment
  - 3. Tariff reductions

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