Achieving a Coherent Pan-European Gas Market – A Generator's Perspective

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3. **How to get to the vision? How the different approaches work?**

4. **Conclusions**

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2. EURELECTRIC's vision of a pan-European gas market

3. How to get to the vision? How the different approaches work ?

4. Conclusions

Basic Facts on the European Power Sector

- Installed EU gas-fired power plant capacity in 2008 was 139 GW (30% of total thermal capacity)*
- Total EU gas-related production in 2008 was 753 TWh (or 41% out of total thermal production)*
- Dependence on gas is set to grow by 2020*
  - **Installed gas capacity reaches 50%** of thermal capacity (239 GW)
  - **Electricity production from gas reaches 48%** of thermal production (886 TWh)
- Looking to the future the only thing which is certain for power station gas buyers is that there will be huge uncertainty
- EURELECTRIC members therefore have a **material interest** in procuring gas for CCGTs flexibly and competitively in a pan European gas market

* Source: EURELECTRIC, Power Statistics 2010

Uncertainty over gas demand & supply, as well as more intermittent RES, leads to…

- Gas plants will be required to **run more flexibly**
- Gas **demand** and **prices become more volatile**
- Greater need for **system flexibility and storage**
- Increased risk from **long-term take or pay contracts** indexed to oil
- **Heightened need for deep and liquid pan European gas market**

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EURELECTRIC's Vision of a Pan-European Gas Market (1)

- **A limited number of consolidated EU market areas**
  - encompassing different networks within and across Member States
  - reflecting the efficient limits of balancing zones
  - entry/exit capacity pricing principles around a virtual hub
  - freedom to ship gas within the market area unhindered by quality or capacity constraints
  - ability to buy and sell gas within the market area at a virtual point
- **Single balancing market operator (BMO) appointed on behalf of all TSOs within the market area**
- **Shippers to be responsible for balancing their inputs and outputs within the market area**
  - BMO takes a residual balancing role which sets imbalance prices
  - Shippers incentivised to balance inputs/outputs through cash out prices

EURELECTRIC's Vision of a Pan-European Gas Market (2)

- **Balancing actions take place at a physically entry/exit point or at the virtual trading point**
- **Multiple short (day ahead – balance of month), medium (month ahead – year ahead) and long (> year ahead) term commodity forward products traded at the virtual point**
- **Deep and liquid forward exchange and OTC markets at the virtual point with cross over to power products (e.g. spark spreads)**
- **Spread trading between consolidated market areas and basis trading for standalone market areas outside the consolidated hub**

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How to achieve a pan-European gas market?
2 approaches

Market coupling

vis-à-vis

consolidated balancing zones

Electricity market coupling: a way to go? (1)

- **Electricity sector is using market coupling to create a pan European electricity market**
- **Market coupling is a mechanism designed to optimise electrical interconnection between market areas thereby minimising the spread between prices**
- **How it works**
  - Market participants in each Market Area post bids and offers on a common power exchange day ahead
  - These are stacked to form a demand and supply curve and a cleared price is determined for each Market Area
  - Where price differentials exist in coupled Market Areas TSOs optimise the use of available interconnection capacity to increase demand in the lowest priced area by exporting electricity to the higher priced area
  - This shifts the respective demand and supply curves of each Market Area creating new cleared prices which are closer together
  - Where sufficient interconnection capacity exists prices will be the same in both Market Areas and markets will effectively become coupled

Electricity market coupling: a way to go? (2)

- **Is this appropriate for gas?**
  - physics differ between electricity and gas transmission
  - gas concentrated in geological areas, electricity generated indigenously
  - absence of storage in electricity places greater responsibility on the TSO to optimise interconnection capacity
  - electricity markets trade hourly with imbalances settled sub-hourly and gate closure is in place – gas markets tend to settle imbalances on a daily basis and re-adjust within the balancing period
  - gas markets more used to continuous trading rather than cleared auctions
  - iterative re-optimisation of electrical interconnection capacity within day is difficult
  - pipelines easier and quicker to build than power lines
  - more use of merchant interconnectors in gas

Consolidated balancing zones - capacity

- **Consolidating networks/market areas means TSOs no longer need to allocate shippers with entry/exit capacity between them**
- **TSOs simply optimise flows through interconnection points as part of the wider market area as they do for flows on national pipes**
- **Steps towards greater cross border flow and consolidation could be**
  - use of interruptible reverse flow at uni-directional interconnection points
  - standard nomination timescales and limited restriction of re-nomination rights at interconnection points to create opportunities for short term forward and reverse flow on a firm basis
  - common methodology and timescales for allocating interconnection capacity
  - TSOs bundling capacity at specific interconnection points into a single financially firm entry/exit capacity product between market areas
  - long term congestion management measures to facilitate speedier consolidation

Consolidated balancing zones - balancing

- **Consolidating networks/market areas requires common balancing arrangements to be applied**
  - end of day balancing within a common gas day is the most favourable for power station gas buyers
- **Shippers require non discriminatory access to consolidated system linepack along with storage and flexible gas**
- **Single cleared gas exchange for BMO balancing actions which can also be used for shipper-shipper trading**
- **Common gas quality parameters within market areas with TSOs resolving any quality differences by blending/treatment**
- **Standard renomination lead times at interconnectors**

Consolidated balancing zones – transportation charges

- **Consolidating networks/market areas requires common methodology to be applied**
  - to calculate entry/exit capacity and commodity tariffs within consolidated zone
  - to apportion costs associated with quality conversion
- **Mechanism to ensure transportation revenue is equitably apportioned between TSOs**
- **Consistency in the way in which investment is triggered and rewarded**
- **Separate revenue pools within TSO price control for system operation and investment could be applied**
- **TSOs could be incentivised to facilitate consolidation and efficient balancing**

Consolidated balancing zones - transparency

- **Demand forecasts day ahead updated within day**
- **Real time flow information at relevant entry points**
- **Real time flow information at relevant exit points to other market areas and possibly at interconnection points within the consolidated market area**
- **Linepack/imbalance information updated regularly within day**
- **Bid/offer prices on the balancing gas exchange plus BMO balancing actions and cash out prices real time**
- **Levels of gas in store**
- **Information on network maintenance and material disruption to supplies at relevant entry/exit points**

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Conclusions (1)

- **EURELECTRIC has a material interest in achieving a pan European gas market**
- **Gas Regulation requires TSOs to cooperate at EU level through ENTSOG to promote completion and functioning of the internal market and cross border trade**
- **Framework Guidelines and Network Codes will provide the catalyst for consolidation of market areas**
- **Market coupling is a electricity centric model which needs further analysis before being transposed to the gas market**
  - Indeed, mere copying and pasting from the electricity experience could lead to non-optimal solutions
- **Consolidation of market areas can only take place to the limit of efficient balancing zones**
  - Unclear at this stage how many or how large consolidated market areas will be

Conclusions (2)

- **Development of a target model for the integration of gas markets should be a learning by doing process, transparent and inclusive**
  - Today's workshop should just be the 1st meeting of a long series…
- **More time is needed to stakeholders to digest, assess, discuss and come up with proposals on the path they think is to be followed to foster the creation of the single market**
- **Cooperation among all Madrid Forum participants is a key pre-requisite. Market participants bear quite an extensive experience of actual markets' functioning and their voice needs to be take into consideration**

Thank you for your attention!