Market Coupling in Gas?

European Gas Target Model – 3rd Workshop

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Agenda

1. Scope and Objectives of the Presentation
2. Experience from Electricity Sector
3. Special Considerations for Gas
4. Hybrid Coupling as a Potential First Step
Scope and Objectives of the Presentation

- Market Coupling - as an implicit allocation mechanism of capacities - has been a successful step towards a truly integrated European electricity market

- Implicit allocation of transmission capacity ensures market-based and non-discriminatory allocation and is part of the discussion on the European Gas Target Model

- Implicit capacity allocation can be implemented in different ways
  - auctions or continuous trading
  - with exclusive access for exchanges or in a competitive manner

- Experience from the electricity sector shows the benefits of implicit allocation, but models implemented cannot be transferred to the natural gas market without changes

- In order to maximize social welfare, capacity allocation has to fit the needs of the market

- Scope of the presentation: Discussion on characteristics of natural gas trading and one possible implementation of implicit capacity allocation
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Benefits of Coupling Energy Markets

- Increasing trading volume and generation of reliable and sustainable price signals
- Optimal utilisation of cross border capacities in order to maximize total social welfare in the coupled markets
- Transparent price signals leading to a reduction of the risk of economic losses for individual traders
- Lower transaction costs by simultaneous trading of commodities and capacities
- Level playing field for all players in the market

Contribution to the realisation of the EU vision of an integrated European energy market
Experience from Market Coupling in Electricity – A Stepwise Evolution

**Where we came from [2006]**

- Concentration of local arrangements and markets
- Day-ahead auctions are a predominant market feature
- Regional approach (European Regional Initiatives)
- Cloudy governance views
- Basic knowledge on market coupling and its implications

**Where we go to [2011/12]**

- Increasing cooperation between power exchanges (EPEX merger, Price Coupling of Regions etc.)
- Pan European Approach (ACER*, ENTSO-E*, PCG* Target Models)
- Well defined allocation of roles and responsibilities
- Deep understanding of market coupling and further practical experience with CWE price coupling

*Feasible Solution: Tight Volume Coupling*

*Feasible Solution: European Price Coupling*

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*ACER= Agency for the Cooperation of Energy Regulators*
*ENTSO-E= European Network of Transmission System Operators for Electricity*
*PCG= Project Coordination Group (Florence Forum)*
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Development of the capacity and commodity markets in Germany

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>01/10/2006: Introduction of entry-exit model</td>
</tr>
<tr>
<td>2006</td>
<td>01/08/2006: Capacity trading in the secondary market via Trac-x platform</td>
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<td>2007</td>
<td>01/07/2007: Gas trade at EEX</td>
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<td>2007</td>
<td>01/07/2007: Future market for one market area</td>
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<tr>
<td>2007</td>
<td>01/10/2007: Day ahead market for two market areas</td>
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<tr>
<td>2007</td>
<td>01/10/2006: 19 market areas</td>
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<tr>
<td>2007</td>
<td>01/10/2007: 14 market areas</td>
</tr>
<tr>
<td>2008</td>
<td>01/10/2009: 6 market areas</td>
</tr>
<tr>
<td>2009</td>
<td>01/04/2011: 3 market areas</td>
</tr>
<tr>
<td>2010</td>
<td>01/10/2012: 2 market areas</td>
</tr>
<tr>
<td>2011</td>
<td>01/08/2011: Capacity trading in the primary and secondary market via Trac-x platform</td>
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MARKET AREAS

- 2006: 19 market areas
- 2007: 14 market areas
- 2008: 6 market areas
- 2009: 3 market areas
- 2010: 2 market areas
The German gas market is characterized by the merging of market areas, which may be coupled in the future

- As of April 1, 2011: Only three market areas, each with one VTP

<table>
<thead>
<tr>
<th>Market Area</th>
<th>Network Operators</th>
<th>Gas Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netconnect Germany</td>
<td>bayernets, ENI Gastransport Deutschland, GRTgaz Deutschland, GVS Netz, Open Grid Europe, Thyssengas</td>
<td>H-Gas and L-Gas</td>
</tr>
<tr>
<td>Gaspool</td>
<td>Ontras/VNG, Wingas, Gasunie, Dong</td>
<td>H-Gas</td>
</tr>
<tr>
<td>Aequamus</td>
<td>Gasunie, EWE, Erdgas Münster</td>
<td>L-Gas</td>
</tr>
</tbody>
</table>

- Trade at VTP is a combination of a OTC trade and Exchange trade
  - OTC: Continuous trade
  - EEX: Day-ahead (auctions and continuous trade) and Within-Day contracts (continuous trade)

- Capacity platform:
  - Obligatory bundling of products at cross market area points and at cross border points on condition that foreign TSO does support the bundling
  - Firm and interruptible capacities
  - Nomination until 2pm
Relevant distinctions between gas and electricity markets in Germany

- Traders are used to flexibility, i.e. renomination rights
- Traders prefer continuous trade
- Dominance of OTC trade
- Existence of different gas qualities
- Cross-border flows are significant as only little gas volume is „generated“ in the country
- Gas flows in the transmission grid are easier to direct compared to electricity
- Balancing requirements are less strict due to the storage capabilities of the gas network

Market Coupling must consider these circumstances in order to increase the acceptability by market parties
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# Goals and functions of Hybrid Market Coupling

## Goals of Hybrid Market Coupling

- Combining the implicit matching of commodities and capacity by exchanges with the explicit trade of capacities by TSOs
- Enabling both power exchanges and OTC traders to participate in explicit capacity auctions
- Allowing power exchanges to conduct implicit auctions for specified capacities (e.g. yearly / quarterly / monthly / day ahead)
- Co-existence with long-term contracts
- Compliance with the ERGEG requirements - „The network code shall not impede potential allocation by means of implicit auctions. “

## Selection of relevant market coupling functions

- Coordinated calculation of the available hub-to-hub capacity
- Coordinated capacity matching procedure (price setting, products, etc.)
- Allocation of the capacity to market parties, incl. Exchanges (capacity matching rules)
- Coordinated commodity matching procedure (price and/or volume setting, products, etc.)
- Allocation of the commodity to market parties (commodity matching rules)
Mechanisms of Hybrid Market Coupling

The Hybrid Market Coupling facilitates auction systems as well as continuous trade

**Capacity Platform**
- Coordinated capacity matching (price setting)
- Allocation of the capacity
- Probably also: Coordinated calculation of the available hub-to-hub capacity

**Auction Office**
- Coordinated commodity matching (volume setting, probably price setting)

**Exchange**
- Allocation of the commodities
- Probably also: price setting
Hybrid Market Coupling

**Pros**
- Coupling of markets with continuous trade and auctions
- Clear separation of commodity trade and capacity trade, the latter under full TSO control
- Equal access to capacity by traders and exchanges
- No restrictions for commodity trading in market coupling

**Cons**
- Determination of available hub-to-hub capacity required and not voluntary
- Matching of commodities and capacity must be timely coordinated
- Auction office must comprise of trading products and rules of all coupled markets

The Hybrid Market Coupling offers a pragmatic solution to Market Coupling taking into account the particularities of the commodity “gas” and thereby offering a maximum degree of flexibility in the design of the coupled markets.