Implicit Auctions / Market Coupling as a possible Element of a Target Model?

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Implicit auctions in the context of other elements of GTM

Step 1: Create market-capable units

- **Market capable units**: sufficient consumption/demand; access to different supply sources (reverse flow); number of wholesale market traders
- Establish **Market Areas**: establishment of one virtual trading point and an exchange; freely allocatable entry-exit capacity, one balancing zone
  - Full **vertical** integration
  - **Merger** of market areas?
- Establish **Trading region**? Only merger of entry-exit zone, separate enduser/balancing zone; no full vertical integration

Step 2: Connect markets

- **Long** and **mid** term markets/ products (yearly, quarterly, monthly)
  - Explicit auctions
  - Bundling of capacity
  - Gas day harmonisation
  - Available capacity (via CMP measures?)
- **Day ahead** spot markets
  - Day ahead *available* capacity (via CMP)
  - Explicit auctions + Bundling, or
  - Implicit auctions
- **Intraday** markets: Auctions or FCFS

Definition of explicit auctions and implicit auctions

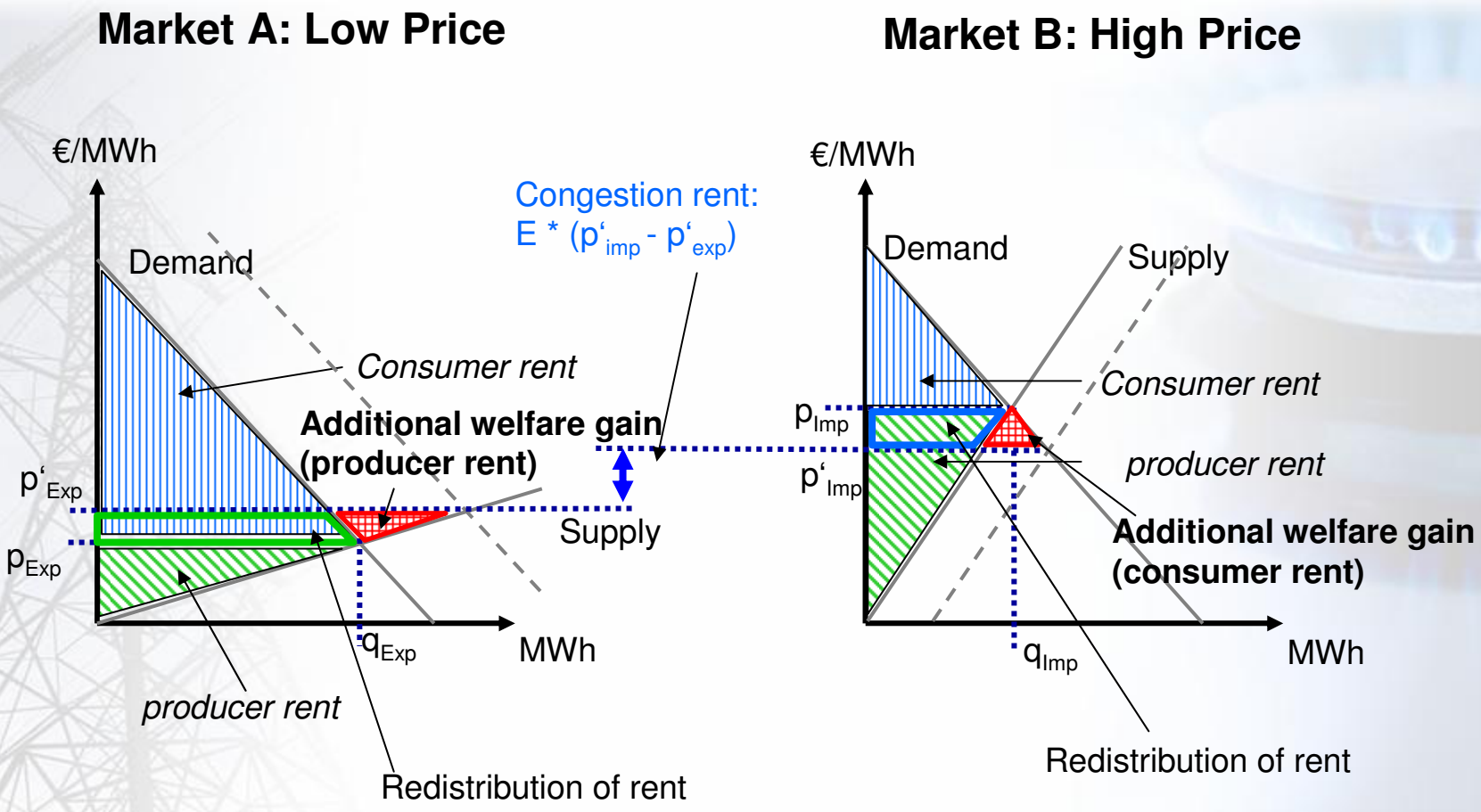
Explicit auctions

- Auctioning of transport capacity
- Traders buy the commodity separately on commodity markets

Implicit auctions

- (one step) Auctioning of commodity (at exchange)
- No separate auctioning of (day-ahead or intra-day?) capacity
- capacity is made implicitly available to the market participants via an organised market/exchanges (together with commodity)

Effects of Implicit Auctions / MC



Scope of application

- For which **market segment** is market coupling thinkable?
  - Solution for connecting **day-ahead markets (or intraday market)**
  - **No** instrument for market integration on **long- and mid-term product** basis (monthly, yearly products)?
    - Long/mid term products are also **essential** market segments in gas!
    - Instruments to connect markets for **long/mid term products necessary**:
- Application only in case of **congestion**?
  - If no congestion at all, less merits of implicit auctions
  - Through CMP always *some* day-ahead capacity will be available (and are necessary)
  - Prior „**regular**“ identification of a concrete congestion is impracticable (if implicit auction considered as a appropriate measure, **general application** as a daily routine)

Reasons for Introducing MC (in electricity)

- Observation of **different prices** in adjacent but obviously disconnected markets
  - → price convergence on spot markets (direct effect)
  - → indirect effects on mid/long term markets
- Observation of **Flows into „the wrong direction**“ (example electricity):
  - → In electricity nominiation of capacity before market price is known; results in „wrong flows“
  - → avoid flows in „wrong direction“; efficient use of capacity
- Reduction of **Transaction costs** (timing problem if gas and capacity is bought separately)

Practical setup of market coupling (Volume coupling)

Example: (EMCC in power)

- **Traders** buy the commodity on the **spot market** through an **exchange**
  - No participation in transmission capacity auction; no nomination of capacity
- **Exchanges** aggregate bids and offers, **calculate supply and demand curves** and determine the equilibrium price
  - No publication of prices at this stage
- **Exchanges** provide these information to an separate entity, the "**auction office**"
- Involved **TSOs** determine spare day-ahead capacity and provide this information to the auction office
  - If amount of spare capacity is differing between adjacent TSO at on IP, smaller number is applicable
  - Auction office has access right to "bundled spare capacity"
- **Auction office** determines on the basis of the provided information (supply and demand curves, spare capacity) use of the available capacity,
  - Calculates via coupling algorithm the volume/quantitiy of flows from one market to the other market; **buys** in the low price market and **sells** in the high price market (flow from low to high price market)
  - Auction office **nominates** capacity
  - Auction office **pays** for the capacity (?)
- The intervention of the auction office is then considered by the **exchanges** as additional bids or offers before they **calculate and publish** the market results.

Practical setup of market coupling (Price coupling)

Example: (CWE in power)

- No auction office is necessary/involved. Each involved **power exchange** receives **all relevant data** every day while only one of them calculates the market results for every market in weekly rotation.
- All involved parties established **contractual relationships** which define responsibilities etc.

Prerequisites for market coupling

Market Conditions

- **Entry-Exit-System** / Virtual Trading points
- Certain degree of **liquidity**
- Day-ahead (or intra-day) capacities **available** in involved markets
- Existance of an **exchange or a platform** necessary (that is able to implement commodity and capacity processes)
- **Renomination rights** in gas: obstacle for implementing implicit auctions or do renomination rights fulfil the purpose of implicit auctions?

Implementation process

- A prerequisite of the launch of a Market Coupling is
  - the harmonization of market rules (e.g. gate closure times, nomination deadlines, data format, trading contracts/products) at interconnection points (IPs)
  - trading procedures as for example one step auctions at IPs; is market coupling compatible with continuous trading?

Is MC appropriate for gas?

- Do we see price spreads in neighbouring gas markets? Are they significant?
- Oberservation of „flows in the wrong direction“ like in power?
  - Reasons for flows in gas are due to long term contracts; large physical import flows
  - Usually/often no change of flow direction but optimisation
- What are the costs for implementing market coupling in relation to benefits?

Timetable for capacity management measures

- **CMP-Implementation**
  - Would lead via restriction of re-nomination rights to available day-ahead capacities
  - → Comitology in 2011; become effective end 2012
- **CAM-Implementation / explicit auctions**
  - Feb 2012 network codes finished
  - End 2012 / early 2013 comitology finished
  - 2013 implementation period
  - Explicit auctions in 2013/2014 in Europe
  - Some countries have explicit auctions earlier: UK (existing), D (end 2011), NL (maybe introduction in 2012/13?)
- **Market Coupling**
  - No experience in gas so far
  - „Coupling“ of PEG Nord and PEG South currently assessed, but not progressed yet
  - Target Model …

Preliminary Conclusions

- Some general questions on Market Coupling still have to be answered
- By **2014** only very few markets will be able to meet criteria. Furthermore implementation periods are long. Therefore: General **obligation** for market coupling **in FG** by 2014 is challenging!
- **Enabling** of market coupling in **FG** usefull (see CAM-proposal, details?)
- In the **long run** implicit auctions for day ahead markets might be/are **desirable** but certain conditions have to be met (e.g. liquidity of markets, establishment of exchanges or „organised markets“, harmonisation of market rules).
- **Pilots** on implicit auctions? **Target** of market coupling for **pilots?** Role of bilateral projects or Regional Initiatives?

Backup

Experiences in the power market (1/2)

EMCC Volume Coupling

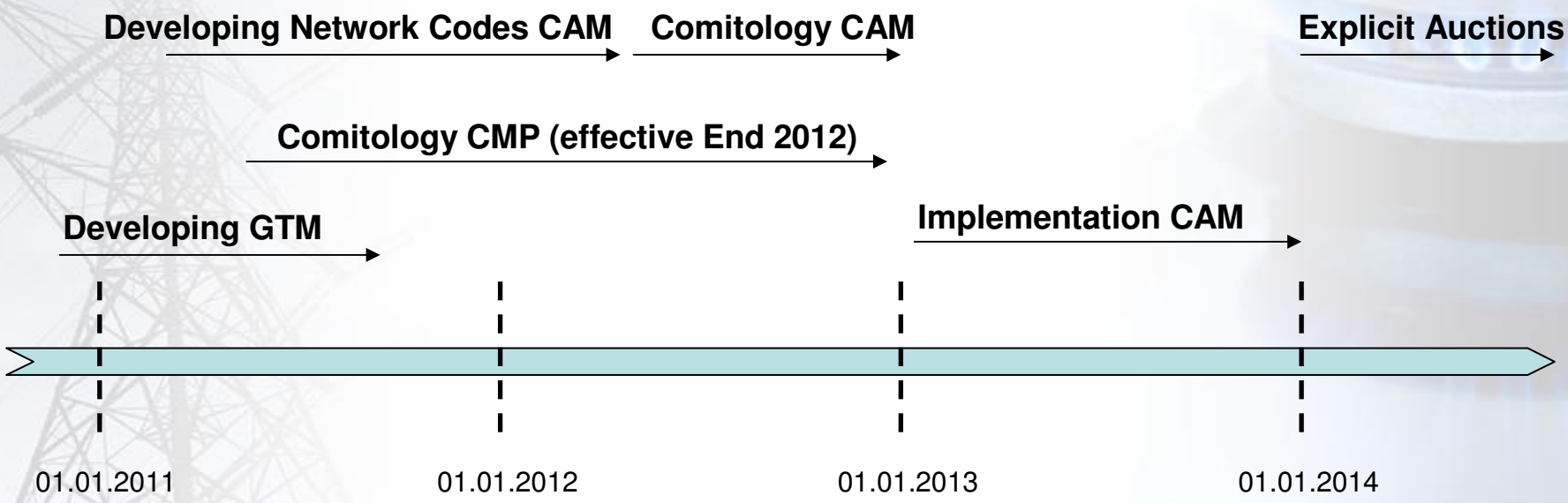
- The first Market Coupling with German participation was between Germany and the Nordic Market (Denmark, Sweden, Finland and Norway)
- In order to set up this project the involved parties founded the European Market Coupling Company (EMCC) located in Hamburg.
- This company receives the relevant data and calculates the respective flows between Germany and Denmark.
- Volume Coupling between the two market first stated 29th September 2008 but was stopped again just after a view days.
- Against expectation the results were not as satisfactory as there were substantial flows in the wrong direction.
- After adjustments of the underlying algorithm and extensive testing the project was re-launched 9th November 2009 and is running smoothly since.

Experiences in the power market (2/2)

CWE (Central West Europe) Market Coupling

- The most ambitious Market Coupling project so far is the setup of the CWE (Central West Europe) Market Coupling that covers France, Belgium, the Netherlands and Germany.
- This project has been set up as a Price Coupling.
- All involved parties established contractual relationships which define responsibilities, competences, decision making and financial obligations concerning the necessary tasks.
- Each involved power exchange receives all relevant data every day while only one of them calculates the market results for every market in weekly rotation.
- One major challenge of the CWE Market Coupling was the needed harmonization with the already running EMCC volume coupling.
- The CWE Market Coupling and the harmonization with EMCC started 9th November 2010.
- The project is running smoothly and produces sound results.

Timeline


Developing Network Codes CAM
Comitology CAM
Explicit Auctions
Comitology CMP (effective End 2012)
Developing GTM
Implementation CAM
01.01.2011
01.01.2012
01.01.2013
01.01.2014

Thank you for your attention!

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