

TOWARDS A TARGET MODEL FOR THE EUROPEAN NATURAL GAS MARKET

The Academic View

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ERGEG Workshop

*Vision for a Conceptual Model for the European
Gas Market*

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THE EUROPEAN GAS TARGET MODEL

- ◆ **A research project developed by**
 - Florence School of Regulation
 - Clingendael International Energy Programme
 - Wagner, Elbling & Co.

- ◆ **with support from:**
 - E-Control, GmbH
 - Bundesnetzagentur
 - Net4Gas

WORKING METHOD (1)

- **The European regulatory process usually follows a bottom up approach:**
 - analyse each area in turn, then assess their interaction and interdependence (Madrid Conclusions)
 - more suitable for political compromise
 - lack of vision → higher risk of mismatching between regulation of integration areas

WORKING METHOD (2)

- **Top-down approach is more logical**
- **Providing a target model vision first**
- **Outlining its main consequences for integration areas**
 - **Capacity Allocation**
 - **Congestion Management**
 - **Balancing**
 - **Tariffs**
 - **Investment**
 - **Interoperability**
 - **Operational Procedures**
- **Exploring links and relationships between the areas**

WORKING METHOD (3)

- **Considering principles of target model where already outlined by ERGEG Framework Guidelines (CA/CM, Balancing)**
- **Analysing main model requirements**
- **Learning from other experiences (US gas market, electricity target model)**
- **A few representatives of institutions, system and market operators, users have been invited to act as discussants under Chatham House rules**

PURPOSE AND OBJECTIVES

- **A non-binding top-down set of principles and characteristics**
- **A tool for guiding and assessing the ongoing process of developing Framework Guidelines and the Regional Initiatives**
- **Taking due account of wider energy policy objectives (Sustainability, Security of Supply)**

POLITICAL GOALS OF THE GTM

- **Sourced from legislation recitals, official documents:**
 - to establish an internal market in natural gas
 - to deliver more cross border trade
 - to ultimately achieve efficiency gains
 - competitive prices
 - to contribute to security of supply and sustainability
 - eliminating restrictions on trade
 - fostering market integration
 - reaching an appropriate level of cross-border gas interconnections capacity

LEGAL CONSTRAINTS

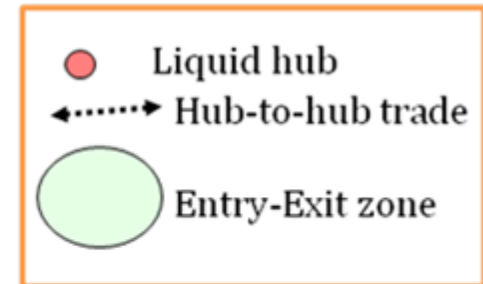
- **Entry-exit systems required**
- **Cost-reflective tariffs providing incentives to invest or value-reflective auctions**
- **Endeavour to harmonize balancing regimes, streamline structure & level of balancing charges**
- **Promote coordinated allocation of cross border capacity**
- **Mandatory market based CA/CM**
- **Implicit auctioning explicitly allowed for short term allocation**

GENERAL MODEL: ERGEG VIEW

“a set of entry/exit market zones with their own virtual hubs connected through a limited number of bundled capacity products identical all over the EU and allocated via auctions”

(Principles on Capacity Allocation Mechanisms and Congestion Management Procedures, 10 Dec. 2009)

GENERAL MODEL: ERGEG VIEW



* Indicative map

AVAILABLE MODELS (1)

- **North American market model**
 - based on distance-related tariffs, federal regulation, physical hubs
 - at odds with some legal constraints and European institutional structure
 - few interstate pipelines in EU
 - virtual hubs, limited federal regulation
 - not feasible

AVAILABLE MODELS (2)

- ***Cross Border Trade model:***
 - strengthened, streamlined CA/CM/trading arrangements
 - separate places of price formation
 - separate balancing accounts
- ***CBT model requirements:***
 - compatible with regulated tariffs, explicit auctions
 - Inter-TSO Compensations needed but easier in principle than for power, thanks to higher flow predictability

AVAILABLE MODELS (3)

- ***Cross Border Balancing:*** CB imbalances maybe offset ex-post
 - requires consistent balancing regimes
- ***Market coupling:*** a market operator (arbitrageur) acting to align market within available capacity limits

AVAILABLE MODELS (4)

- ***Market splitting***: same as market coupling, but the arbitrageur would be the common market operator as well
 - basically one market, split if interconnection capacity is congested
- **MC/MS requirements**: ITC and TSO/MO collaboration, single CA/CM algorithms

AVAILABLE MODELS (5)

- **Zonal aggregation**
 - similar to locational marginal (or nodal) pricing
 - single balancing accounts and price formation
 - price alignment is the rule
 - except in case of congested interconnection(s)
- **Model requirements: ITC, tighter TSO/MO collaboration, single CA/CM algorithms**
- **In all cases, participating markets may be regions that have decided to merge balancing accounts, market operators**

CRITERIA FOR SUCCESS

- **Price alignment, after allowing for marginal transmission costs**
 - reduced % of price spread days
- **Liquidity: ability to buy and sell at market prices, from exchanges or long term contracts**
- **Gas can effectively cross borders**
 - fewer network users complaints
- **Ability to reserve long term capacity**
 - coordinated open seasons and other investment processes

PRELIMINARY ANALYSIS OF MODELS

- **Models based on explicit auctions:**
 - may ensure long term capacity, facilitate investment
 - easier to deal with OTC trades
 - capacity hoarding, market power abuse risk
- **Implicit auctions:**
 - capacity allocation aligned with energy market preferences
 - foster liquidity development
 - new for gas

CRITERIA FOR SUCCESS: TRADE-OFF?

- **Potential conflict between long term capacity (competition) and short term liquidity (price alignment)**
- **Power market proposed solutions:**
 - sell financial transmission rights and ensure their tradability
 - sell physical transmission rights and apply use it or sell it clause
 - regulated TRs by duration until market liquid
- **Other solutions:**
 - harmonized explicit auctions

TRADE-OFF IN GAS TM CHOICE: HOW TO SOLVE IT

- **Power market proposed solutions:**
 - to avoid capacity hoarding, *apply use it or sell it clause*
- **How much physical capacity is needed?**
- **Interconnection growth may be:**
 - limited by increased re-gas capacity, LNG diversion, swaps
 - triggered by TSO action after planning
 - attained through coordinated open seasons, TPA exemptions

THANKS FOR YOUR ATTENTION!

**COMMENTS AND PROPOSALS
WELCOME TO:**

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