

# POLICY *brief*

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## A Gas Target Model for the EU: Florence School Proposes MECOS<sup>1</sup>

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### Highlights

- The discussion about the need for and the pros and cons of a gas target model started around the beginning of 2010 and found its first point of culmination in the conclusions of the 18<sup>th</sup> Madrid Forum in September 2010 which invited stakeholders to start a process to develop a EU Gas Target Model.
- Florence School of Regulation proposes a European gas target model with a special focus on market architectures and investment: The MECO-S Model. The MECO-S is a “**Market Enabling, Connecting and Securing**” Model describing an end-state of the gas market to be achieved over time.
- The common foundation of the MECO-S Model is the economic investment. Investment aims at supporting the other pillars in realizing their respective goals e.g. in contributing to the creation of functioning markets or in contributing to improved price alignment.



Florence School of Regulation

*The Florence School of Regulation (FSR) was founded in 2004 as a partnership between the Council of the European Energy Regulators (CEER) and the European University Institute (EUI), and it works closely with the European Commission. The Florence School of Regulation, dealing with the main network industries, has developed a strong core of general regulatory topics and concepts as well as inter-sectoral discussion of regulatory practices and policies.*

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### Gas Target Model: Definition and Objectives

A Gas Target Model (GTM) is a non-binding, top-down framework of principles and characteristics that are as broad as possible, providing a description of how the market is expected to develop till 2020. This would serve as a tool for guiding and assessing the on-going process of developing framework guidelines and guidelines that are the foundations of the broader Network Codes under the 3<sup>rd</sup> Energy Market Package. In addition, its objective will also be to guide and assess the on-going process of the Gas Regional Initiatives. A GTM will furthermore have to take due account of the wider energy policy objectives with regard to sustainability and supply security. The 3<sup>rd</sup> Energy Market Package set into force in 2010 defines a number of structural elements towards realizing an architecture for the internal market for gas. The most notable among these elements being the mandatory entry/exit organisation of TSO network access and the processes that shall lead to a harmonized system of European TSO network codes.

Now, many different stakeholders at European and national level are working on the implementation of the 3<sup>rd</sup> package. These include: lawmakers in the 25 member states with natural gas; regulators in the 25 member states with natural gas; ACER; ENTSOG; the EU Commission; members of comitology committees; TSOs, DSOs and their associations; suppliers, wholesalers, retailers and traders and their associations.

A challenge for these implementation efforts is that the 3<sup>rd</sup> Energy Market Package does not include a comprehensive vision of the organisation of network access across the European Union. For instance, the 3<sup>rd</sup> Energy Market Package does not say if every single TSO shall set up its own entry/exit system or if the number of entry/exit networks shall be smaller than the number of TSOs, if the TSO balancing system shall include distribution networks or not, if entry/exit network access shall extend from transmission systems down to distribution networks or not, etc.

Depending on the answers to these questions certain issues might need to be addressed on a European level. For instance if the TSO balancing system includes distribution systems, the European balancing harmonization has a much wider scope (and requires much more detail) than otherwise; also national action would be required, obligating DSOs to blend into that system. Or if the entry/exit systems shall include distribution

systems, then action on a national level will be required to deal with the corollary cost (and tariff) issues for DSOs (which may receive a cost allocation from TSOs in such a system).

### The Target Model Coordinating the 3<sup>rd</sup> Package Implementation

Now the risk is that – within a very limited timescale – a lot of policy makers and other stakeholders while doing their best to implement the 3<sup>rd</sup> Energy Market Package – interpret and implement the package in a different way or work on different strands of implementation that – after having been elaborated in great detail – contradict each other. This problem is aggravated by the fact that – inter alia due to resource limitations – not all European network codes envisaged at the moment (e.g. for capacity allocation management, balancing, interoperability, tariffs, etc.) can be developed at the same time.

It is in this potential problem area where a gas target model can play a beneficial role by helping to make visions about the future of the internal gas market transparent and by enabling discussions about unifying those visions. The discussion about the need for and the pros and cons of a gas target model started around the beginning of 2010 and found its first point of culmination in the conclusions of the 18<sup>th</sup> Madrid Forum in September 2010 which invited “*the Commission and the regulators to explore, in close cooperation with system operators and other stakeholders, the interaction and interdependence of all relevant areas for network codes and to initiate a process establishing a gas market target model*”. Based on this conclusion CEER started – by the end of 2010 – the process of developing a gas target model for Europe.

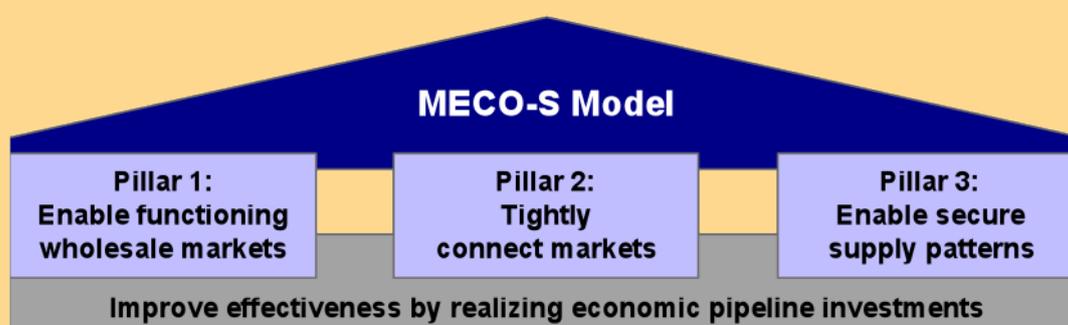
### The MECO-S Target Model

The Florence School of Regulation proposes a European gas target model with a special focus on market architectures and investment. It is termed the MECO-S Model. The MECO-S is a “Market Enabling, Connecting and Securing” Model describing an end-state of the gas market to be achieved over time. The MECO-S Model rests on three pillars that share a common foundation, making sure that economical investments in pipelines are realized

The MECO-S model aims at the creation of a number of func-

**Box 1 - The 3 Pillars of MECO-Target Model**

- **Pillar 1:** Structuring network access to the European gas grid in a way that enables functioning wholesale markets so that every European final customer is easily accessible from such a market.
- **Pillar 2:** Fostering short- and mid-term price alignment between the functioning wholesale markets by tightly connecting the markets through facilitating cross-market supply and trading and potentially implementing market coupling as far as the (at any time) given infrastructure allows.
- **Pillar 3:** Enabling the establishment of secure supply patterns to the functioning wholesale markets.



tioning wholesale markets within the EU (together enabling easy access to all European final customers of gas), at connecting these markets tightly in order to maximize short- and mid-term price alignment between those markets, at enabling secure supply patterns to those markets and at making sure that all economic investments in gas transmission capacity are done.

**First Pillar: Wholesale Markets**

Pillar 1 shall realize the goal of enabling functioning wholesale markets. Such markets are an essential feature of the internal market since they contribute to efficiency in managing gas and gas-related assets such as supply contracts, storage and gas-fired power stations. Additionally and no less importantly, such markets are an essential basis for retail competition. Finally, functioning wholesale markets are a basis for market based balancing and market coupling. Without functioning markets, both of these concepts could not be harnessed.

Pillar 1 is realized by structuring Europe into markets that are sufficiently sized<sup>2</sup> and well connected to sources of gas<sup>3</sup> so

<sup>2</sup> i.e.  $\geq 20$  bcm of final customer consumption

that the emergence of a competitive traded wholesale market is likely. Where necessary with a view to that goal, member states have to create cross-border markets in order to increase market size and connectivity.

**Box 2 - Two models to create cross -borders markets**

- **Market Areas**, that implement integrated balancing zones reaching down to the final customers
- **Trading Regions**, that implement integrated wholesale markets which are tightly connected to national end user zones

The two models to create cross-border market are based on entry/exit systems. Moreover, both models may be used in parallel in Europe, whereby the market area model appears attractive for larger member states and the trading region model has specific merits for smaller member states that need to cooperate cross-border in order to gain sufficient market size and connectivity.

<sup>3</sup> i.e. at least three different sources of gas

## **Second Pillar: Allocation of ‘gas-related assets’ in European Scale**

Pillar 2 aims at maximizing the efficiency of managing gas and gas-related assets on a European scale by making sure that the existing interconnecting infrastructure is put to the best use. The resulting tight connection of markets will lead to price alignment between European markets as far as the – at any time existing – infrastructure allows. Price alignment virtually unifies all European markets by enabling cross-portfolio optimisation via those markets on a European scale. Measures are foreseen so that TSOs do not suffer any loss from price alignment.

Pillar 2 is firstly realized by implementing hub-to-hub transport products and a number of harmonisation measures that make inter-market supply and trading significantly easier. The allocation of hub-to-hub transport products shall be by auction for the mid- and short-term markets and by first come first serve for the intra-day market.

Secondly it is proposed to implement pilot projects for day-ahead market coupling to explore if the potential benefits of market coupling can be realized in practice for gas. If so, day-ahead market coupling would become an integral part of the MECO-S Model.

## **Third Pillar: Security of Supply**

Pillar 3 aims at enabling secure supply patterns to the European markets. Specifically Pillar 3 creates the preconditions for underpinning long-term supply contracts with appropriate transport products, taking into consideration that currently about 30% of all gas consumed in Europe crosses more than one border point. Additionally Pillar 3 aims at providing a market based solution for realizing transport security of supply where collaboration with adjoining markets is required.

Pillar 3 is realized by foreseeing the execution (if demanded by shippers) of new long-term transport contracts. These contracts can be requested periodically in an open season style process for the full term of interest to the shipper, e.g. 15 years. If in the process the demand for long-term capacity proves higher than the availability of such capacities, then capacities will be expanded by investment if they are economical. In order to allow for such investment, the lead time for allocating long-term capacity shall always be at least as long as the time

required for expanding capacity. Since in this structure capacity can always be expanded, long-term capacity is not a scarce good anymore and auctioning of that capacity can be avoided. Allocation questions at the fringe of the allocation problem can be solved by an optimisation procedure.

In order to deal with shippers interested in long-distance transport (e.g. from a European border point to the next but one market) link chain products are introduced. Link chain products are packages of (hub-to-hub) transport products at several border points on a continuous route that may be requested by the shipper as a whole and are allocated at the same level of capacity on all requested border points. After allocation they may be used as separate hub-to-hub capacities.

In the area of transport security of supply the instrument of the fall-back capacity contract is introduced. It provides a means for member states to secure that sufficient capacity in a neighbouring market is made and kept available in order to cater to the security needs of said member states. Under a fall-back capacity contract a TSO (A) of the member state in need of redundant transport capacity (as defined by a competent authority) books the required capacity long term with a neighbouring TSO (B). TSO B charges TSO A only that part of the capacity that is not booked by shippers directly with TSO B (hence the name “fall-back contract”). TSO A allocates the cost for this security measure to final customers in his market.

## **MECO-S Model and network investment**

As highlighted the common foundation of the MECO-S Model is economic investment. Investment aims at supporting the other pillars in realizing their respective goals e.g. in contributing to the creation of functioning markets (by new interconnection to these markets) or in contributing to improved price alignment between markets (by new/expanded interconnection between these markets). Several issues are discussed in the study regarding investment including the structuring of investment appraisal processes, the evaluation of investment in interconnection and intraconnection pipelines and the financing of investment.

**Box 3: The Key Results of MECO-S on Investment**

- Investment appraisal and the allocation of long-term capacity should always (even on existing systems) be an integrated process in the style of an open season (see also above under Pillar 3).
- The quantity of capacity that shall be reserved for the mid- and short-term market shall be created (and hence invested) on top of any investment required to satisfy (economic) long-term capacity requests.
- The economic appraisal of investment shall take into account the return from long-term contracts as well as the value expected to be generated by price alignment due to the capacity reserved for the mid- and short-term markets. The cost for mid- and short-term capacities that are not directly recovered by tariffs shall be allocated to the beneficiaries.
- In case TSOs declare that they can/will not invest in an otherwise economic investment project, the project shall be tendered to the market. The scope of the tender would be to build and finance the pipeline (or other asset) against a yearly fee paid long-term. After construction, the realized project would be integrated into the operational responsibility of the respective TSO.