

GAS MARKET INTEGRATION IN NORTH WEST EUROPE: IS MOVING FROM MARKET COUPLING TO MARKET MERGING NECESSARY?

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Overview

Gas trading at Europe's gas wholesale markets or virtual trading points (VTPs) has made significant progress over the last decade. This is particularly the case in North West Europe, a region which represents more than 55% of the EU gas consumption. It is argued that market coupling is achieved in North West Europe since gas prices at the various VTPs converge. Evidence shows not only convergence of gas prices but also highly correlated price responsiveness and patterns. This achievement is largely the result of solving bottlenecks in the availability of cross-border transmission capacity and improving flexibility of transmission services. In addition, transmission charges set as capacity fees (paid whether or not gas is shipped) rather than commodity fees (paid according to shipped gas) helps to converge to zero marginal transaction costs. Once traders are able to easily arbitrage between markets and get access to liquid markets - what does not mean that each Member State needs necessarily its own highly liquid VTP - the gains from a merge of markets seem less obvious and therefore may raise questions.

It is true that the EU Gas Target Model and Bridge 2025 emphasize market integration but leave open whether this should be through coupling or through merging of VTPs. Coupling of gas market areas aims to eliminate restrictions on cross-border trade in gas and enhance efficient price mechanisms. The European Third Energy Package brings changes to market design, for example the establishment of entry-exit regimes across Europe and provides for European network codes to further harmonize capacity allocation, balancing and trading arrangements. Merging of gas market areas, however, goes a step further and aims at removing borders in order to achieve an integrated cross-border trading zone in which interconnections between market areas are disappeared, at least commercially. Merging may require large investments in transfer capacity in order to establish one integrated cross-border entry-exit and balancing zone. The paper discusses whether a move from market coupling to market merging may generate Pareto improvements. Market integration in the sense of market coupling may achieve, certainly for mature gas markets, the so-called "Law of One Price" if cross-border gas trading faces marginal transaction costs converging to zero. The paper argues that the removal of borders between coupled markets in order to move to one cross-border entry-exit area with one balancing zone and one notional trading point is not necessarily efficient for all market areas and all parties involved.

Market coupling obviously aims efficiency gains and is basically market-driven. This is less evident for market merging which may have an important strategic nature in order to enlarge trading zones in order to attract gas flows and liquidity. This may look as a strategy to valorize as much as possible the infrastructure and to avoid stranded assets, especially in a shrinking market of capacity subscriptions due to lower gas demand as well as more efficient and short-term capacity subscriptions. The paper examines the market need to move to a merge of market areas and which role strategic behavior of transmission system operators (TSOs) may play in this process. Larger market zones may yield economies of scale but it is not obvious whether positive scale effects will outweigh costs. This is certainly a concern when several EU Member States are involved which have their own legal provisions and e.g. security of supply requirements. Costs and benefits of merging of trading areas should carefully be considered together with their distribution among the zones as well as the parties involved.

Method

The paper starts providing empirical evidence to demonstrate that market integration in terms of price convergence and correlated volatility is achieved in North West Europe. The Belgian VTP Zeebrugge Trading Platform (ZTP, including the trading zone Zeebrugge Beach) is considered together with the adjacent VTPs: the British NBP (National Balancing Point), Dutch TTF (Title Transfer Facility), both German VTPs: Gaspool and

NCG (Net Connect Germany) as well as PEG Nord in Northern France. The driving factors behind this achievement of market coupling are discussed as well as the realized efficiency improvements.

Merging of market areas is examined. Benefits and costs are discussed of removing cross-border interconnections, at least commercially. In merged markets e.g. shippers do not have to book and nominate transfer capacity anymore to trade from one area to another but this implies the disposal of sufficient capacity in order to allow the dispatching of all gas flows within the same entry-exit zone. Types of market integration are presented with their pros and cons. Particular attention is given to the interests of the different parties in order to move to merged market areas as well as to the impacts on the market functioning.

The assessment is largely based on ongoing regulatory assessments in the various task forces of national regulatory authorities at EU level which consider trends in European market integration. These assessments contribute to the setting of European targets in e.g. the revision of the EU Gas Target Model and in Bridge 2025 and show the growing importance of cross-border coordination and solidarity in the context of security of supply.

Practical insights are also derived from the ongoing market integration project between Belgium and Luxembourg aiming at the realization of one common entry-exit zone, one common balancing zone and one common virtual trading point on the 1st of October 2015. This project will be the first cross-border merge between two TSOs of two different Member States in the EU.

Results

The paper presents empirical evidence to argue that the “Law of One Price” is largely achieved in the wholesale markets in North West Europe. Especially mechanisms to cope with contractual congestion at cross-border interconnections facilitate the access to markets. Improved flexibility for shippers and traders to get easily transmission services according to their needs and a re-thinking of transmission tariffs help to move to zero marginal transaction costs. Whether there is still room for improving efficiency through merging of market areas in North West Europe is less obvious since merging covers various interests and objectives which are not purely related to market functioning. This in contrast with market coupling which is basically market driven in order to seek efficiency.

Considering the merging of market areas or setting up trading regions which create a common entry-exit zone for transmission, a common balancing area and a single virtual trading point for trading must carefully weigh costs and benefits and consider their distribution between the relevant zones as well as the distribution between the market participants going from the involved TSOs to the final consumers.

Conclusions

The mature gas trading hubs in North West Europe have achieved price convergence as well as correlated price patterns. Measures to cope with contractual congestion at cross-border interconnections allowing traders to freely ship gas between markets and respond to price signals have largely contributed to the coupling of markets. Furthermore, more and more flexible transmission services and tariffs charged according to the capacity booked and not according to the gas shipped, have led to zero marginal transaction costs.

The move from this optimal situation of market coupling to a merging of market areas is a less evident next step. Whether merging of market areas lead to Pareto improvements will depend on the particularities of the merging conditions and rules, especially a complex issue that arises when more EU Member States are involved.