

EU Gas Market Integration: Is more transmission capacity all that is needed?

According to DTe, the Dutch regulator, additional transmission interconnection capacity is a necessary but not sufficient condition for EU gas market integration. Contractual congestion issues should be solved to make capacity available, gas should be encouraged to flow by removing “transaction costs,” and hub trading should be encouraged.

Setting the scene

Creating one competitive internal European wholesale market for natural gas is a pillar of European energy policy. We consider there are two important pre-requisites for the creation of an internal wholesale market: liquid gas hubs and the possibility and incentive for shippers to move gas between these hubs.

Access to interconnection capacity between the different European transmission networks is therefore key. However, several European studies show a lack of available interconnection capacity¹ between the European transmission networks. This shortage of available interconnection capacity has led to a call for the construction of additional physical transmission interconnection capacity between the different European transmission networks.²

However, we argue that physical expansion of interconnection capacity, while necessary,³ is not the only way to

increase supply on and trade between the European hubs. The market potential of the current infrastructure is far from fully utilized. At the moment, many interconnectors suffer from contractual congestion, which implies that not all physical capacity is being used⁴. Secondly, the “transaction costs” of flowing gas are sometimes too high. Thirdly, only a small percentage of gas flowing through Europe actually reaches hubs.

Solving these three bottlenecks will lead to an increase in trade and will be an important step towards the internal European market. Conversely this also implies that physical expansion will only lead to a significant increase in trade, if these bottlenecks are solved. ►



¹A 2006 report of DG TREN (“Priority Interconnection Plan”) signals a lack of available interconnection capacity.

²In the already mentioned DG TREN report of 2006, DG TREN expresses an urgent need for the construction of additional interconnection capacity on a number of European cross-border points.

³E.g. in the “Gasmonitor 2005” DTe expresses a need for additional physical interconnection capacity (in Dutch).

⁴A report of DG Com ‘Sector Inquiry’, published in February 2007, confirms that.

Contractual congestion

In case of contractual congestion, there is physical space on the network, but shippers interested in this capacity cannot obtain it as it has been allocated to someone else. This appears to be an important cause of the lack of availability of interconnection capacity. DG COMP's sector inquiry on the European energy markets (2007) shows how currently significant shares of interconnection capacity are controlled by incumbent shippers through long term (pre-liberalisation) legacy contracts. Very often these incumbent shippers do not utilize all of the capacity rights they control⁵. Firm or interruptible Use-It-or-Lose-It (UIOLI) mechanisms, which enable TSOs or regulators to reclaim capacity rights and re-offer these, appear to be ineffective⁶ in managing contractual congestion.

Secondary markets, on which shippers can sell their unused capacity rights to other interested shippers, are currently too illiquid to solve the allocation issue. An ERGEG study⁷ on the performance of the secondary markets found three reasons for this lack of liquidity. First of all, incumbent shippers appear to lack an 'appetite for trade', on the wholesale

market as well as on the market for transmission capacity. Secondly, there is a lack of positive as well as negative incentives for these incumbents to start offering their capacity on the secondary market. Lastly, there appear to be number of shortcomings in the facilitation of the secondary market by the TSOs. Consequently DG COMP comes to the (quantitatively substantiated) conclusion that the secondary markets are failing in their tasks as an effective congestion management tool.

The Gas Regional Initiative North-West region, led by DTe⁸, initiated a workgroup to attempt to improve the liquidity on NW-European secondary markets⁹. This group adopted EFET's pilot initiative¹⁰ which focuses on secondary trading of day-ahead capacity at the borders of Germany, Netherlands and Denmark. A first success was achieved when relevant TSO's indicated that they could reduce implementation lead-time of secondary trades from 10 days to 3 hours. Most market parties agree that the relatively long time it takes a TSO to transfer capacity makes the trade in secondary capacity on a short-term basis (i.e. day-ahead, week-ahead) practically impossible. ►

⁵A national example is presented in DTe's "Gasmonitor 2005," which finds that although interconnection capacity on a number of Dutch cross-border points was sold out completely in 2005, this capacity was seldom fully utilized, even in winter months.

⁶Market parties indicate the information TSOs provide on the chance of interruption are such that shippers are unable to make reliable risks assessments on the availability of interconnection capacity. For shippers who are unable to take risks (for example retail suppliers) this lack of information makes the interruptible capacity right useless and consequently the interruptible UIOLI mechanism ineffective as a means to create more additional, useful interconnection capacity.

On the effectiveness of the firm UIOLI mechanism, DG COMP as well as ERGEG report that the procedure of taking away future capacity rights of an incumbent on the basis of its historical flow profile (and thus breaking open an existing contract between shipper and TSO) has never been initiated, not by TSOs nor by NRAs. DG COMP explains how a number of TSOs refer to the Article 32 of Directive 2003/55, to explain why they never initiated such a procedure. This article states that older contracts fall under directive 91/296/EEC.

⁷ERGEG's 2006 paper "A roadmap for a competitive single market in Europe; An ERGEG conclusion paper" (Ref: E06-GMI-02-03) identifies the contractual congestion on a number of European interconnection points as a barrier toward creating a competitive single European market. These findings are supported by the outcomes of DG COMP's "sector inquiry energy markets" (published in February 2007), which comes to the same conclusions as the ERGEG study on the matter of contractual congestion.

⁸The Dutch office for energy regulation (DTe) is a directorate of the Dutch competition authority (NMa)

⁹The GRI NW region's paper: "Defintion of workstream: Interconnection: secondary capacity market.", (Ref: GRI-GAS-NNW-GENERAL-01-05), presents an overview of the process and objectives of this workstream.

¹⁰EFET inspired the pilot idea. The TSO's consequently took to work on it with more than expected enthusiasm.

We believe that the current method of allocating new interconnection capacity sustains the contractual congestion problem. Very often¹¹ all additional capacity to be built is allocated FCFS¹² through long term (and high commitment) contracts, often in combination with grandfathering rights. This implies that the control of established shippers over the capacity on the European interconnection points will be sustained into the future. Therefore, new transmission capacity will also be subject to contractual congestion, unless some capacity is being reserved by the TSO for short-term (e.g. a year before flow or less) contracts. Solving or preventing contractual congestion will thus continue to be an important topic.

Encouraging gas flows

Available interconnection capacity only adds to hub liquidity, if gas actually flows. At the moment there are many hurdles resulting from for instance administrative rules and processes, which act as “transaction costs” and make (short term) optimisation of flows prohibitively expensive. Especially harmonization issues must be solved: exit off one system and entry on a connection one should match. Preferably, they should be sold simultaneously as a bundled (and therefore the same) product. While this is the case on many interconnection points on the electricity grid, as a result of TSO cooperation, this

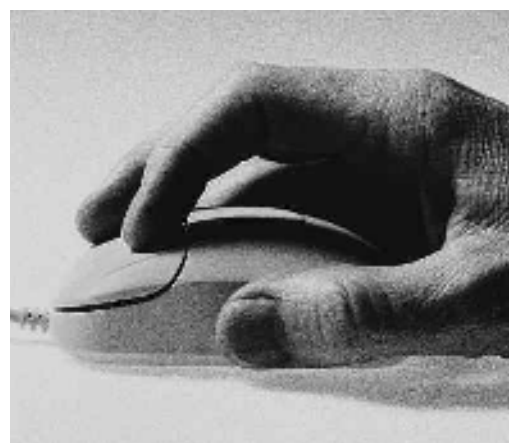
¹¹Some EU members have incorporated a legal provision in their regulation on TPA to the national transmission network which explicitly requires a TSO (or other ‘sponsor’) to reserve a certain percentage of the new capacity to be built for short term booking in the future. An example of such an EU member is the UK.

¹²ERGEG’s paper on guidelines for good practice open season procedures (GGPOS) (Ref: C06-GWG-29-05c), published in May of 2006, explains how TSOs (or other ‘sponsors’) have the freedom to determine the best method for allocating new capacity. Furthermore the paper advises to take future short term booking into account, however this is just a suggestion and so TSOs (or other ‘sponsors’) have no obligation to reserve a share of the new capacity rights for future short term booking.

step has still to be taken for gas interconnections. In a similar fashion, balancing regimes should be harmonized between transmission systems and be made as simple as possible, to make the risk of imbalance manageable for shippers. Lastly, the provision of information, especially on real-time flows and balancing, should be improved dramatically to allow shippers to adequately assess the risks associated with the physical flow of gas. The Gas Regional Initiative deals with many of these cross border issues, which cannot be solved by individual countries.

Gas delivered at hubs

At the moment, the majority of the natural gas transported over the European interconnection points never makes it to national or regional hubs. In many cases, producing shippers deliver their natural gas directly behind the city gates, after which it cannot be returned to the national transmission network and cannot be traded – neither on a physical nor on a virtual hub. This is often a contractual condition imposed on buying shippers by producing shippers. Gas thus delivered has bypassed the hub. We therefore argue that these conditional deliveries significantly reduce the (potential) supply on European hubs. ►



On the buying side, importing shippers often do the same: they import gas for their own end customers (or for transit), and ship this gas behind the city gate. Only in case of an excess of imported gas will this gas be offered on a hub. We argue that the issue of gas reaching hubs could in many cases be solved through addressing the other issues mentioned above, in combination with good trading platforms. Gas will then be drawn to the hubs, and additional measures would not be necessary.

However, "islands" may remain inside the European gas market that do not benefit from increased flow and trade between the major hubs, for instance because of local transmission constraints, or because of gas quality issues. In those cases, players who are small or average sized on a European scale could be dominant on an "island." For instance, the low calorific market in the Netherlands may be such an island. Especially when it is not economically or politically sound to remove the island status – for instance because the investment is too high – and one player is dominant, policy makers and regulators should ensure that the dominant player's gas is delivered to customers where and when these customers wish it to.

Resuming, we have showed that the creation of one internal European gas market requires not only physical expansion of interconnection capacity, but also solving contractual congestion, harmonization of transport procedures, increasing information availability, and good trading platforms. Even so, "islands" within the European gas market may continue to exist, which may require specific regulatory intervention.

Final thoughts

Regulatory stability is an important pre-requisite for the investments needed for security of supply in Europe. While the suggested measures may lead to a more integrated market, loss of institutional trust should be prevented to preserve current and future investment plans. The test needs to be whether parties would make an investment in gas business assets on better terms than they would in the absence of such proposed regulation.

Therefore we argue that a combination of voluntary measures like Gas Regional Initiative Day Ahead Pilot and a carefully weighed set of (transition) mandatory liquidity measures for remaining "islands" are more likely to deliver an effective internal market. ■

