Market-Based Congestion Management on Belgium's Borders

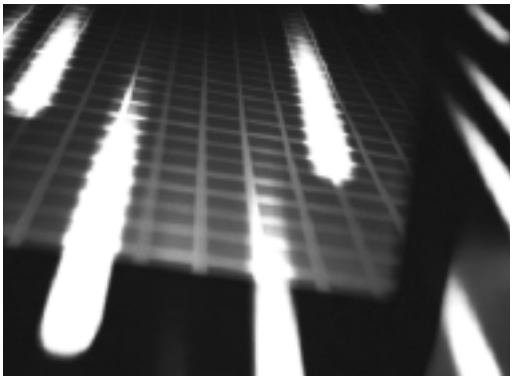
With the new year, explicit auctions of interconnector capacity have begun on the border between Belgium and France, replacing the pre-existing 'first-come-first-served' method of allocating capacity with a market-based system. However, the extension of explicit auctions on Belgium's southern border is only a first step, as the introduction of Trilateral Market Coupling is planned for the day-ahead market later this year. In this article Cécile Pellegrin, responsible for these Market Mechanisms at Belgian TSO Elia outlines progress in the development of auctions-based congestion management.

Explicit auctions launched for trade with France

In accordance with European legislation calling for the establishment of market-based cross-border congestion management, Belgian and French TSOs, Elia and RTE have established a new capacity allocation mechanism for power trade across the Franco-Belgian border. As of 1 January 2006, capacity in both directions is awarded via explicit closed auctions, comprising a single round in which capacity is paid at the lowest bid price that is accepted.

This is an extension of market-based congestion management for Belgium, since on the northern border with the Netherlands, auctions have been in place since 2001. The mechanism allows available capacity to be allocated in both directions over three timeframes (yearly, monthly and daily), in in place of the priority lists principle (the so-called 'first-come-first-served') applied in the past. Unlike the old mechanism, the explicit auctions will make it possible to:

- allocate capacity in an effective manner, to those market operators for whom this capacity is of greatest use
- provide market participants in both countries with immediate access to cross-border capacity
- provide satisfactory economic signals to the market, encouraging appropriate investment both in terms of the network and generation
- make all capacity in both directions available to market operators using a mechanism jointly coordinated by both transmission system operators.



The marginal price principle also ensures that if there is no congestion on the network (i.e. when capacity required is lower than the capacity made available by the transmission system operators), no costs are charged. In this case, the two adjacent national market zones become a single market.

The experience to date

Overall, the results of the auctions held to date are encouraging both as regards the number of participants and as regards the marginal price with which each auction settles.

At the yearly auction held on 16 December 2005, a total of 1,298 MW of interconnection capacity in the France to Belgium direction was awarded to 17 bidders, whilst a total of 799 MW of capacity in the opposite direction of flow went to 9 bidders. Monthly auctions saw 1,450 MW allocated to 15 bidders in a northward direction (France to Belgium), and 520 MW awarded to 6 bidders in a southward direction. In the auction for February, participants rose to 16 and 7 for northbound and southbound flows respectively.

Meanwhile, the price for northbound flows is equal to or even lower than the congestion management fee previously paid to Elia under the old 'first-come-first-served' mechanism. Moreover, in contrast to the old fixed congestion fee, this new mechanism provides an actual overview of the congestion situation on the France-Belgium interconnection.

This congestion has been fairly low during these winter months. This has partly been the result of the expansion to France-Belgium interconnection capacity at the end of 2005. Another contributing factor is the decision taken by Belgian regulator CREG that, with the new auction mechanism becoming operational, priority in assigning capacity will no longer be given to parties with long-term contracts pre-dating electricity market liberalisation.

However, it is also noticeable that day-ahead auctions have seen relatively low marginal prices for cross-border capacity, in comparison with the rest of the market. At the yearly auction, France to Belgium capacity was awarded at €0.76/MWh, with southbound capacity priced at €0.11/MWh. In monthly auctions for January and February, northbound capacity went for €0.22/MWh while southbound capacity raised €0.35/MWh and €0.41/MWh respectively. The much lower price in the daily market stands in contrast to the above, averaging just € 0.0086/MWh in both directions of flow between 6 and 26 January 2006 .

The low price emerging from the daily auctions market segment is worth noting, because it is believed to reflect the abundance of capacity in the day-ahead market segment. This, in turn, is thought to partly result from the 'use-it-or-lose-it' principle, whereby unused yearly and monthly capacity is put back into the daily auctions market segment.

Implicit auctions are the next target

The emergence of under-utilised capacity appears to be at least in part because of precautionary buying on the part of operators seeking to ensure the availability of interconnector capacity. The present explicit auctioning mechanism requires companies trading electricity across the border to purchase the capacity transmission rights separately, inevitably

leading at times to unnecessary buying of capacity on a 'just-in-case' basis, and thus to its inefficient allocation, especially on short-term timescales. A symptom of this is to be found in the presence of power price differentials between Belgium and France even at times when demand for cross-border power flows falls short of available interconnector capacity. In such cases, if all capacity were used, cross-border trade should be able to eliminate any price differential between the two adjacent markets.

Implicit auctions

By directly linking the booking of interconnection capacity to the trade of electricity, implicit auctions remove the scope for 'just-in-case' booking of capacity, ensuring that it is not taken up unnecessarily. Thus whilst daily capacity is seldom fully used under current arrangements, implicit auctions will allow the optimal allocation of daily capacity.

This is why the introduction of explicit auctions is only the first stage of the plan to which Elia, RTE and TenneT are working together with their national power exchanges and regulators (respectively Belpex, Powernext and APX and CREG, CRE and Dte). In the third quarter of 2006, the plan is to launch trilateral market coupling whereby the daily capacity on the Belgium-France and Belgium-Netherlands interconnectors is implicitly allocated via the coupling of the relevant power exchanges.

With implicit auctions taking over in the daily market, explicit auctions will continue in the montly and yearly segments. These two interconnections would therefore have a hybrid combination of short-term implicit auctions and long-term explicit auctions, as recommended in the study undertaken by Consentec and Frontier Economics for the European Commission.

The new arrangements from this coming autumn will offer TSOs and the market an effective means to allocate available capacity on the Belgium-France and Belgium-Netherlands interconnections on a day-ahead basis. This will also allow the implicit netting of import and export flows.

Meanwhile, Elia and RTE are also working towards the following targets:

- extending to the Franco-Belgian border a bilateral secondary market for capacity up to 2-3 days before transmission, such as already operates on Belgium's northern border with the Netherlands.

- allowing reselling of all or part of a capacity allocation to the auction operator up to 2-3 days before transmission, at a price to be set by the auctioning of capacity back onto the market

- allowing the participation of brokers separately from the final party who uses the capacity.

Looking ahead, Elia and its counterparts in France and the Netherlands are studying the possibility of an intra-day capacity allocation market for power, a major new project which may follow the successful start-up of day-ahead trading.