

Intraday cross-zonal capacity pricing: expert reports and workshop

This briefing provides a summary of the reports and workshop we commissioned and held to identify and discuss options to price intraday cross-zonal capacity in the context of the European electricity wholesale market.	From	Ofgem
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Introduction

On 27 October 2014 we held a European energy regulators' stakeholder workshop to present and discuss three expert reports we commissioned to identify possible options to price intraday cross-zonal capacity. This is in the context of the European electricity Target Model and draft guideline on Capacity Allocation and Congestion Management (CACM)¹. This briefing provides the background and summary of this workshop.

Background

The European electricity Target Model establishes common rules to integrate European wholesale markets to ensure the supply of affordable and sustainable electricity. The main features of the Target Model are expressed in the timeframes in which electricity is traded. For the intraday timeframe it requires continuous implicit allocation and reliable pricing of cross-zonal capacity. The draft guideline on CACM establishes the requirements of the Target Model in more detail. In particular, it requires all TSOs to propose a single methodology for pricing intraday cross-zonal capacity.

The intraday market is a vital part of the European electricity market. It allows participants to trade electricity as close to real time as possible to (re-)balance their position in response to forecasts and market conditions. It is of particular importance to accommodate increasing levels of intermittent generation, which may only be able to accurately predict their actual output 4-6 hours before real time.

In addition, the ability for intraday cross-zonal capacity to be priced is an essential component of a well-functioning European intraday market. Capacity pricing provides market signals for the allocation and use of capacity to facilitate market trading across all timeframes. It also provides signals for the efficient operation of, and investment in, current and future interconnection.

There is significant academic literature on the importance of well-functioning and liquid intraday markets, and the importance of pricing intraday cross-zonal capacity to facilitate optimal trading arrangements across all timeframes. NRAs, Transmission System Operators (TSOs), and power exchanges (PXs) have previously held discussions and workshops to discuss intraday cross-zonal capacity pricing. These provided helpful thinking in particular from academics and PXs.

However, the literature and workshops lead us to believe that in the context of the Target Model and draft guideline on CACM there is no solution for pricing intraday cross-zonal capacity in operation or at an advanced stage of development. Given the complexity of the subject, the importance of implementing the Target Model to deliver consumer benefits, and the lack of an obvious current solution, we together with other European energy regulators thought it important to establish more detailed thinking, discussion and possible options to assist TSOs to develop a solution.

¹ The European electricity Target Model is set out in the Framework Guideline on CACM published by the Agency for the Cooperation of Energy Regulators (ACER) in July 2011:

http://www.acer.europa.eu/Electricity/FG_and_network_codes/Electricity%20FG%20%20network%20codes/FG-2011-E-002.pdf. We refer to the public version of the draft guideline for CACM published by the Commission 29 July 2014: http://ec.europa.eu/energy/gas_electricity/electricity/cross-border_committee_en.htm

We therefore commissioned three experts to identify possible options to price intraday cross-zonal capacity in the context of the Target Model and draft guideline on CACM. We also held a stakeholder workshop to present and discuss these reports on 27 October 2014.

The reports and Workshop

The reports, workshop agenda, and workshop presentations are available on our website. In summary the discussion at the workshop focused on three areas:

1. The objectives and purpose of intraday cross-zonal capacity pricing

Discussion focused on what the objective of intraday cross-zonal capacity pricing is, whether pricing is needed and whether it aims to serve the market or network operators. It was argued by some that first come first serve cross-zonal energy trading with a zero cross-zonal capacity price is efficient and allows participants to trade up to real time. This is a key objective of continuous implicit intraday trading required by the Target Model and the draft guideline on CACM. But including a price other than zero may prevent this and serve only to redistribute income to TSOs, with only limited material benefit to TSOs, market participants, or more generally to operational or investment signals.

However, it was also argued that first come first serve with a zero capacity price does not provide fair and efficient allocation of scarce capacity or consistent market arrangements with the other trading timeframes where capacity is priced. While allowing market participants to trade energy as close to real-time as possible is a key objective of continuous implicit trading, the draft guideline CACM also requires fair and efficient allocation of capacity. In addition, while intraday capacity pricing may currently have relatively low materiality, the materiality may increase with increasing intermittent generation and intraday trading.

2. Concept of capacity scarcity

Closely linked to the purpose was discussion about exactly what needs to be priced and when. The draft guideline on CACM requires a capacity charge that reflects congestion. However, in a fully continuous implicit trading environment congestion cannot be observed until the end of the trading period because capacity is either available or not to allow any particular trade. This means the nature of continuous implicit trading must either allow the use of auctions to observe congestion, or capacity must be priced based on an expectation of congestion that reflects the opportunity costs of possible congestion.

This discussion reflects the range of options identified by the experts in their reports, which shows there are two general conceptual ways to price intraday cross-zonal capacity: options that use auctions to observe congestion, or options that apply a methodology to price capacity based on expected congestion reflecting opportunity costs.

3. Development of options and next steps

Attendees stressed the objective of intraday cross-zonal capacity pricing and concept of scarcity need to be clearly explained in any pricing proposal. Any proposal would also benefit from being clear and simple to understand and implement. Finally, options must be developed by TSOs using empirical testing and stakeholder involvement. In particular TSOs should test: the overall economic impact of options to design, implement, and operate any methodology, their interaction with other aspects of the intraday market, such as flow based market coupling, and more generally their impact on liquidity and market power.

Conclusion

We think the options set out in the expert reports together with the guidance provided from the workshop discussions have provided more detailed thinking, discussion, and options on this complex area and will assist TSOs to now develop more detailed options and a proposal. In concluding at the workshop, ENTSO-e said they intend to take work forward on this topic building on the conclusions of this workshop. We now expect TSOs to do this, and involve stakeholders in developing options and a proposal.