Update on the current status of System price calculations in a setting with several NEMOs in the Nordic region

Note to Elmarknadsgruppen from NordREG

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Background

The system price (SYS) is the central reference price in the Nordic electricity market. It is calculated by Nord Pool on an hourly basis based on all bids and offers posted in Nordic bidding zones (+/- any import or export to neighboring areas) in the Day Ahead-market coupling. The system price is calculated and published as the single price that would emerge in the entire Nordic area (the Baltic countries are not included in the system price calculation) if there were no physical congestions in the grid.

In todays' market structure with relatively small price areas, each price area in itself may be too small to sufficiently support a well-functioning independent forward market. The system price was developed as a reference price for the Nordic area, to pool the liquidity from several bidding zones into one contract in order to achieve a more liquid financial market. This has functioned well, and most area prices are relatively well correlated towards the system price, in addition the system price and the forward contracts linked to it yield price signals for the future development of the area prices.

Since there are, most often, grid congestions limiting actual flows between different bidding zones in the Nordic area, the price that is established for a specific bidding zone will differ somewhat from the system price. Deviations might vary between time periods and between bidding zones depending on the actual demand/supply situation. Due to this, the system price is primarily important for and used in the financial market. System price forwards enable the market participant to hedge against future price volatility. In addition, these contracts are successfully combined with EPAD contracts to provide the perfect hedge for area price risk in a specific bidding zone.

New legislation and its' consequences

With the entry into force of CACM GL, provisions are introduced to enable competition between exchanges (called NEMOs) in the European power market. NEMOs will compete for trading liquidity while sharing responsibilities in operating and further developing the market coupling already in place. NEMOs are expected to continue taking turns in running the joint algorithm Euphemia.

The CACM Framework Guideline states that the price coupling shall provide the necessary elements to establish reference prices for the forward markets.[1] The system price is currently calculated by Nord Pool on a voluntary basis as a service to Nordic electricity market participants. There is thus no legislation (not in the

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[1] Art 3.2 «Pricing»,
http://www.acer.europa.eu/en/Electricity/FG_and_network_codes/Electricity%20FG%20%20network%20codes/FG-2011-E-002.pdf

CACM GL or in any other existing legislation) that requires Nord Pool or any other NEMO to calculate the system price. Without any measures taken, the calculation of the system price as of today, will cease to exist.

Nord Pool is designated as a NEMO in the Nordic electricity market. Furthermore EPEX Spot have announced that they are planning to enter the Nordic market and commence offering their trading services during 2017.

Having more than one NEMO in the Nordic market will complicate the calculation of the system price. The calculation requires access to aggregated supply and demand curves from all NEMOs operating in those bidding zones. Without access to aggregated bidding curves, a reference price such as the Nordic System Price, will not be possible for the PX's to calculate.

Several NEMOs operating within a bidding zone and lacking possibilities to calculate a common reference price, might lead to a fragmented and illiquid financial power market. This could be detrimental to possibilities for hedging. This again might lead to a less well functioning organized power market.

Possible options

There are two important steps to ensuring that the system price is published to the Nordic market: Step one is that "the necessary elements are provided", i.e. aggregated bidding curves are available for calculation. Step two, is to ensure the calculation and publication. In the short to medium term Nordic market participants rely on the system price to schedule maintenance, investments and reinvestment in production facilities. Large consumers /industry also use the system price forecast to plan operation. A large number of contracts, financial and also bilateral, physical contracts are tied to the system price.

In the mid- to long term, it is likely that the market will identify other ways to calculate a reliable and relevant reference price to use for financial contracts. In the process leading from the point in time where the system price will cease to exist as we know it today until the point where the market has found a new alternative, there might be a transition period with several reference prices competing for volumes and liquidity. Each one of these will probably gather less trading volumes than today's solution. It is also hard to see that any setup in the foreseeable future will enjoy the same level of trust and liquidity as the system price has done until today. Any signal to the market that the system price may cease to exist in the short term would create uncertainty and a risk of the market based on system price loosing liquidity and credibility. It could have detrimental effects on the possibilities for hedging in the Nordic market.

NordREG is currently, within the so-called CACM Workstream (CACM WS) investigating the possibilities to include a provision for system price (and other reference price) calculations as part of the coming MCO plan, which is to be decided jointly by all NRAs in the EU. The Nordic NRA's have suggested to include a requirement related to access to aggregated bidding curves to accommodate the calculation of the system price (ref. attachment). In addition, we are under the impression that the TSOs will include a requirement in the "all TSO proposal on DA algorithm requirement" that the algorithm should enable calculation of regional prices where requested by relevant parties (i.e. unconstrained prices for specified Nordic region, PUN in Italy, etc).

It is necessary to clarify this issue well in advance before more than one NEMO starts to operate within the relevant bidding zones to avoid uncertainty among the market participants.