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## **The influence of existing bidding zones on electricity markets – PC\_ 2013\_E\_04**

The Finnish Energy Industries is a trade organisation for producers, suppliers, transmission, distributors and sales of electricity, for district heating and district cooling, and for design, implementation, operation, maintenance and construction of networks and power plants.

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### **Answer to the questions**

The responses are mainly general and not related to any specific price zone.

Main points:

- Bidding zones structure shall promote competition and efficiency on electricity derivatives markets and on retail markets. This implies that they should be relatively large and not necessarily restricted by national borders
- Primary method to remove congestions are the grid investments
- TSOs should use redispatching technics in cases there is internal congestion within a bidding zone
- Redispatching technics should also be used to relieve cross-border congestion when cross-border capacity is limited due to grid maintenance or outages
- Cross-border resources should also be used for redispatching when possible

*1) How appropriate do you consider the measure of redefining zones compared to other measures, such as, continued or possibly increased application of redispatching actions or increased investment in transmission infrastructure to deal with congestion management and/or loop flows related issues? What is the trade-off between these choices and how should the costs attached to each (e.g. redispatching costs) be distributed and recovered?*

It is important to distinguish between short term and long term congestion management. New transmission investments are the primary long-term measure in removing grid congestions. Redispatching actions can be used as an intermediate solution, but also on a longer term to support other congestion management techniques. The efficiency of redispatching can be increased by using wider resources through cross-border market integration and through increased contracting of location-specified balancing reserves when needed. Loop flows can in many cases be controlled by remedial measures on grid topology or by installing phase-shifting transformers or by corresponding redispatching measures.

In general large, also cross-border bidding zones are preferred and thus zones should be merged when possible. Only in cases, when a TSO is forced to move internal congestion to borders continuously, smaller bidding zones should be considered.

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2(4)

Costs can be recovered through normal grid tariffs. Locational grid tariffs can be used where structural surplus and deficit areas exist within a bidding area. Each TSO is responsible for congestions resulting from power trade within its own area. When loop flows or cross-area trades cause congestion, the TSOs should agree by themselves, subject to approval by relevant NRAs, on cost sharing.

*2) Do you perceive the existing bidding zone configuration to be efficient with respect to overall market efficiency (efficient dispatch of generation and load, liquidity, market power, redispatching costs, etc.) or do you consider that the bidding zone configuration can be improved? Which advantages or disadvantages do you see in having bidding zones of similar size or different size?*

The existing bidding zone configuration is based on national borders. In Europe it is mainly appropriate for today's power market.

The size of zones should be based on structural bottlenecks and small zones could often be merged to another zone by implementing relatively simple grid investments or just by increasing the use of redispatching measures. Where existing zone can't be controlled without continuously moving internal congestion to the borders, a new configuration should be considered, as was done in Sweden. Small zones can however be challenging with respect to efficiency of forward and retail markets. Hence, instead of splitting existing bidding zones into smaller, it would be better to tackle the issue by moving the bidding zone borders to better reflect structural congestion (instead of creating new borders). Finally, the issues should primarily be dealt with new investments, which also benefit the cohesion of electricity market.

The zones should preferably be rather large, and the zones can thus be of different size. It is also preferable that the zones would be rather balanced with respect to load and generation, and where surplus and deficit areas exist the TSO should strive to combine these areas with the help of grid investments.

*3) Do you deem that the current bidding zones configuration allows for an optimal use of existing transmission infrastructure or do you think that existing transmission infrastructure could be used more efficiently and how? Additionally, do you think that the configuration of bidding zones influences the effectiveness of flow-based capacity calculation and allocation?*

Optimal use of transmission capacity is often overemphasised and functioning of market neglected, especially the effects of bidding zone changes to the forward and retail markets.

The current zone configuration, together with widening cross-border redispatching, would as such allow for quite optimal use of the infrastructure. However, in some cases the TSOs restrict the available cross-border capacity in a non-transparent way e.g. based on wind power forecasts. In such cases it remains unknown for market participants if the redispatching resources are fully used or not. Hence the TSOs should avoid restricting the cross-border capacities and to be a lot more transparent when they do so. Each time cross-border capacity is restricted, it should be reported and reasoned.

The coming flow-based calculation is expected to further optimise the use of the cross-border infrastructure in Continental Europe.

*4) How are you impacted by the current structure of bidding zones, especially in terms of potential discrimination (e.g. between internal and cross-zonal exchanges, among different categories of market participants, among market participants in different member states, etc.)? In particular, does the bidding zones configuration limit cross-border capacity to be offered for allocation? Does this have an impact on you?*

When market follows the principle of implicit auctioning, where the energy and transmission capacity between various bidding areas is allocated in a single process to the parties of electricity trading, the bidding zone configuration cannot be considered as an obstacle for non-discriminated market access. Every market participant has an equal access to the market via electricity spot market.

3(4)

With large enough bidding zones and adequate use of remedial measures, the TSOs can provide equal market access for all market participants. Based on redispatching costs etc., the TSOs also have a financial incentive to invest in additional internal transmission capacity when needed.

However, if there is a situation, where cross-border capacities are systematically restricted due to internal congestion, the authorities should consider whether the bidding zone border could be altered in a way that it better reflects the physical congestion. One case that could be judged, is the Hasle corridor in Norway, if power trade between Norway and Sweden through this corridor continues to be regularly restricted.

*5) Would a reconfiguration of bidding zones in the presence of EU-wide market coupling significantly influence the liquidity within the day-ahead and intraday market and in which way? What would be the impact on forward market liquidity and what are the available options to ensure or achieve liquidity in the forward market?*

When market follows the principle of implicit auctioning, where the energy and transmission capacity between various bidding areas is allocated in a single process to the parties of electricity trading, the bidding area configuration has no influence on the liquidity on the electricity spot markets. The integration of the European day-ahead and intraday markets is currently in an important phase to reach the target of an EU-wide integration. Reconfigurations of bidding zones could possibly delay the process.

The stability of bidding zones is crucial for the financial power market and liquid price hedging options for all market participants. Large enough bidding zones are needed in order to avoid big price spreads and other hedging problems for market participants. In the Nordic countries the liquidity of electricity forward market is ensured by an integrated forward market that uses a price index as the underlying. For to ensure liquidity of forward markets it is recommended to both strive for large bidding zones and to integrate forward markets from national markets to cross-border markets as has been done in Nordic countries.

*6) Are there sufficient possibilities to hedge electricity prices in the long term in the bidding zones you are active in? If not, what changes would be needed to ensure sufficient hedging opportunities? Are the transaction costs related to hedging significant or too high and how could they be reduced?*

In the Nordic market there are sufficient hedging possibilities. The Nordic forward market is considered a very liquid market. Together with CfD contracts the Nordic Forward and Future contracts allow very good hedging possibilities. For the Baltic countries, CfD contracts need still to be introduced for Latvia and Lithuania.

The recent development where new bidding areas were formed (the division of Sweden) has raised the question, whether CfD market for some bidding areas would need more liquidity and whether a TSO should contribute the liquidity of CfD market. This discussion is ongoing and possible alternatives being evaluated. Important is, that whatever action will be taken, it supports the functioning of Nordic forward market and doesn't create unbundling issues for the TSOs.

In a longer term the only alternative is eventually to work for minor price differences between Nordic bidding zones and to promote for larger bidding zones. Having smaller price differences the significance of separate CfD contracts will get smaller. It is unfortunate that important cross border projects have been postponed, namely the western part of the South West Link supposed to increase transmission capacity between Southern Norway and Sweden and the AC-interconnector planned between Northern Finland and Northern Sweden. Having larger bidding zones promotes the liquidity of CfD markets. Hedging transaction costs can be reduced by having liquid markets based on large bidding zones and financial forward trading.

*7) Do you think that the current bidding zones configuration provides adequate price signals for investment in transmission and generation/consumption? Can you provide any concrete example or experience where price signals were/are inappropriate/appropriate for investment?*

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The current bidding zones configuration is adequate and stable enough to provide adequate market price signals for investments. The price differences to be gained by reconfiguring zones for to give further price signals would need to be rather large. In addition to zonal price signals there are other very significant factor that affect investment decisions, eg. heat demand (CHP plants), national policies (RES support) and primary energy sources. Indeed, a significant factor that can lead to challenging investment decision are poorly designed support schemes.

In some countries, e.g. in Sweden and Norway, the grid tariffs have locational components that can give additional price signals for the investments in generation/consumption. In addition if there are challenges within a grid, purchasing balancing and redispatching services, based on location, may provide needed investment signals.

*8) Is market power an important issue in the bidding zones you are active in? If so, how is it reflected and what are the consequences? What would need to be done to mitigate the market power in these zones? Which indicator would you suggest to measure market power taking into account that markets are interconnected?*

The Nordic power market is considered a competitive market. Integration of day-ahead, intraday and balancing markets and market-based demand response promote competition on wholesale power markets irrespective of the size of bidding zones.

However, when considering indicators, the competitiveness should not be considered from solely from spot market perspective. The size of bidding zones affect to competition on electricity derivatives markets and on retail markets. Small zones are not as desirable and competitive as larger zones. The bidding area study in Finland suggested that Northern Finland as an individual bidding zone would not as appealing for electricity retail companies and customers there would receive offers from a less number of companies as they receive today. No single indicator is tough enough in measuring the competition situation. It is also important to consult all market stakeholders.

*9) As the reporting process (Activity 1 and Activity 2) will be followed by a review of bidding zones (Activity 4), stakeholders are also invited to provide some expectations about this process. Specifically, which parameters and assumptions should ENTSO-E consider in the review of bidding zones when defining scenarios (e.g. generation pattern, electricity prices) or alternative bidding zone configurations? Are there other aspects not explicitly considered in the draft CACM network code that should be taken into account and if so how to quantify their influence in terms of costs and benefits?*

The review should focus on where the real congestions are, and thus if trade across zones is hindered by for example local interpretations on priority dispatch rules. It would be fruitful that the starting point would be to consider the integrated market areas as copper plates, and then to study how an optimal bidding zone structure would take into account the congestions. Bidding zone borders should be located to only where transmission constraints reduce the social welfare more than redispatching. Important would then be to take into account the planned transmission projects. The costs for counter trade and redispatch must be transparently accounted for. This must be analysed in conjunction with the used capacities at the borders. The review should aim for reasonably stable and robust bidding zones over time.

It is very important that the impacts of bidding zones on the electricity retail companies and electricity consumers are taken into account.

*10) In the process for redefining bidding zones configuration, what do you think are the most important factors that NRAs should consider? Do you have any other comments related to the questions raised or considerations provided in this consultation document?*

The most important factors are the market liquidity and credibility, also from the retail consumer point of view. The NRAs should also check that the TSOs use adequate remedial measures and have contracted enough balancing reserves in order to avoid restrictions on cross-border transmission capacities due to internal grid stability and adequacy. Stability of the bidding zones is crucial for market parties having long-term contract, hedging and investment commitments.