

## Statement

# ACER consultation “The influence of existing bidding zones on electricity markets”

Public Consultation of the Agency for the  
Cooperation of Energy Regulators,  
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Berlin, 30. September 2013. The internal electricity market needs high investments in transport capacity in order to achieve the economic benefits potentially available. Those investments will generate more economic benefits than congestion management and allocation systems. A redefinition of biddings zones should be very carefully assessed. In highly meshed grids redispatch will often be more efficient and effective. Loop-flows should be taken care of by better capacity calculation methods in the short run and by investments in transport infrastructure in the middle and long term.

A highly integrated European electricity market will benefit Europe as a whole and facilitate the integration of renewable capacity. The limited cross-border transmission capacity limits the economic benefit potentially achievable and it is of utmost importance to remove those limits by investing in transmission capacity. In its recent report “Benefit of an integrated European Energy Market” to the Directorate-General Energy of the European Commission, Booz & Company illustrates the enormous impact new transmission capacity will have and concludes: “But this is much cheaper than the alternative of further investment in generation capacity.”

Without doubt the available transmission capacity has to be used to its full potential in order to fully realize the benefits achievable today. The concept of a zonal market model is one attempt to maximize the available capacity. But congestion management is in no way a substi-

tute for investments in transmission capacity. It clearly falls short of achieving the economic benefits that could be accomplished with more capacity.

The zonal market model is probably not the most efficient capacity management design, but appropriate for the European market. What makes it suited für Europe is the highly meshed grid in combination with limited transport capacity on the national borders, while the internal transport capacity has in general no structural limitations. Because of those characteristics a zonal model with bidding zones taking up the national borders is an effective model for the capacity management in Europe.

Occasional, temporary internal congestion situations within the bidding zones are inevitable and not necessarily a sign of improperly delimited bidding zones. In fact, other measures of capacity management can be more efficient than a redefinition of bidding zones.

**(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?**

The study of Booz & Company has shown, that capacity management, whatever model is chosen, is not capable of reaping the economic benefits of the internal electricity market that could be achieved with investments in transport infrastructure. The study indicates, that at least the ENTSO-E plan of an increase of transport capacity by 40 % in 2020 has to be implemented in order to achieve the greater part of the economic benefits of the internal market and it shows that those investments will be economic.

Congestion management issues and loop flow issues should not be mixed up. While congestion management systems are implemented to make the best use of the available capacity, they cannot generally prevent loop flows. If the capacity calculation method does not include a detailed representation of the grid, it cannot prevent loop flows – for example a zonal capacity management method will still generate loop flows if the capacity calculation is based on the net transfer capacity method.

In a highly meshed grid, which prevails in central Europe, the zonal method could come close to optimal capacity use and minimize loop flows at the same time only with very small bidding zones. But very small bidding zones are not overall economically efficient. A combination of large bidding zones and a detailed flow based capacity calculation could restrain the most urgent loop flow issues, while speeding up grid investments could effectively solve the problem.

Redispatch within large bidding zones can be efficient, if the total amount of energy redispatched is not substantial compared to the total amount of energy consumed in that bid-



ding zone. In a meshed grid, the redispatch of a generation unit close to the congested power line is more effective than a redispatch of a generation unit farer away – in other word, while the change of i.e. 1.2 MW in generation of a close generation unit can influence the congested line by 1 MW, a generation unit located farer away would have to change its generation by 3 to 5 MW in order to influence the congested line by 1 MW. And the redispatch of a generation unit close to the congested line will influence other restrained lines less than a locational indiscriminate price signal within a bidding zone.

Because redispatch can be very effective, it can be very efficient. This depends on the costs of the redispatched power plant and the amount of energy redispatched. With frequent and in relation to total generation in the zone substantial shares of redispatched generation, it eventually becomes less efficient than market price signals in a bidding zone. In short: redispatch is not per se less efficient than a reconfiguration of bidding zones. In many cases, for example in the German/Austrian bidding zone, redispatch is more efficient. For more information to the trade-offs between the different choices, please refer to the study of frontier economics and consentec „Methodische Fragen bei der Bewirtschaftung innerdeutscher Engpässe im Übertragungsnetz (Energie) Abschlussbericht 05.02.2008“

**(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 not efficient in the medium and long term. As the transport capacity is enhanced, the bidding zones should be enlarged. This will enhance overall efficiency, system security, reduce costs of RES integration and mitigate market power.

**(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?**

The problem of non-optimal use of the transmission infrastructure does not stem from the configuration of the biddings zones. Today's problems are the incomplete market coupling, a non-adequate capacity calculation, high technical security margins from TSOs and conservative grid management and operation. In addition, the cooperation of the TSOs could be closer.



The bidding zone configuration could have an effect on the flow-based capacity calculation, but only if very small bidding zones would be implemented. In that case, the flow-based calculation would have to be more detailed – representing the meshed grid in a more realistic resolution. But these very small zones would not be efficient. A highly detailed flow-based capacity calculation could be implemented alongside large bidding zones, thus avoiding all the disadvantages of smaller bidding zones and limiting the effects of loop flows.

**(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?**

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**(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?**

A reconfiguration of bidding zones, especially a split of large bidding zones would most certainly significantly affect the liquidity of the day-ahead and the intraday markets, as a large number of smaller traders will not be able to cope with the additional risks and the additional transactions to reduce the risks associated with energy trades between the zones. A reconfiguration would discourage retailers to compete in all of the formerly united bidding zones, thus reducing demand and reducing competition in the retail markets. A reconfiguration would influence the reserve markets, as offers could only be made within the bidding zone, a pooling of smaller generation would be more difficult.

Forward markets would also be affected, because the lower liquidity in the day-ahead markets and the additional risks of price-spreads – affected by infrastructure investments – could only be managed by very large traders, even if hedging instruments like financial transmission rights were available.

**(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?**

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**(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?**

The existing price signals have historically not yielded sufficient investments in transport capacity. With a highly dynamic transformation of the generation sector, due to RES-deployment and the development of the internal market, in combination with long time frames for planning and realization of transmission investments, it is questionable, if price signals should trigger investment decisions. In other words: it is questionable, if a regime of transmission investments triggered by price signals is dynamically efficient.

The price signals for generation would have to be reliable for long periods in order to incentivize investments. With new transmission capacity being built and subsequently bidding zones being reconfigured or prices realigning, the price signals will not be reliable enough to provide such incentives.

There is no evidence that energy prices can generally affect the choice of the location of consumption investments. For the choice of a location other criteria seem to be predominant. The bidding zone configuration would therefore not provide substantial locational signals to consumers.

**(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?**

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- (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?

An exhaustive account of the criteria to consider can be found in the study of frontier economics and consentec „Methodische Fragen bei der Bewirtschaftung innerdeutscher Engpässe im Übertragungsnetz (Energie) Abschlussbericht 05.02.2008“.

- (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?

One issue not yet addressed is the congruity of control areas and the bidding zones. If the main transmission congestions are not between control areas, the borders of the control areas would not be optimal for a bidding zone. But if the bidding zone does not reflect the control area, the grid operation would be severely hampered. This situation would require a reconfiguration on control areas, which would induce additional implementation costs and would severely extend the implementation period for new bidding zones.