

EFET reaction to DNV GL study on *Liquidity and transaction costs: Methodology to estimate the impact of a bidding zone reconfiguration on market liquidity and transaction costs*



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The European Federation of Energy Traders (EFET)¹ welcomes the fact that the Agency for the Cooperation of Energy Regulators (ACER) is seeking to capture the effects of bidding zone (BZ) changes on market efficiency in general and liquidity and transaction costs in particular. As highlighted in art. 33 of the EU Guideline on Capacity Allocation and Congestion Management (CACM), these are key criteria, which have to be examined in detail when reviewing BZ configurations and as such, they need to be well-understood and measured.

In their effort to provide guidance to the TSOs that will be in charge of carrying out future BZ reviews, ACER commissioned the independent consultant DNV GL to define metrics for the market efficiency analysis in these BZ reviews. We followed with interest the development of the DNV GL study on *Liquidity and transaction costs: Methodology to estimate the impact of a bidding zone reconfiguration on market liquidity and transaction costs*, and interacted at multiple occasions with the consultant to help refine the content of the study. We appreciate that the final version does contain some helpful improvements.

We fully support the view expressed by DNV GL that “liquidity is an important feature of a well-functioning market. Liquid wholesale markets are important in creating competitive pressure in both the retail and wholesale markets. The more liquidity, the better.” We are nonetheless conscious that market efficiency is not limited to liquidity, and that the quest for greater liquidity needs to be balanced with other criteria for market efficiency.

However, we remain concerned about two aspects of the study: 1) the metric used to calculate changes in risk premiums, and 2) the analysis of the effects and possible remedies to liquidity losses as a result a bidding zones redelineation.

¹ The European Federation of Energy Traders (EFET) promotes and facilitates European energy trading in open transparent, sustainable and liquid wholesale markets, unhindered by national borders or other undue obstacles. We currently represent more than 100 energy trading companies, active in over 28 European countries. For more information, visit our website at www.efet.org

With respect to the former, understanding the redistribution effects of BZ changes is interesting as such and the *ex-post* risk premium metric DNV GL propose to use may be useful for this purpose. However, the more important task is to understand how losses in liquidity affect the cost of hedging for market participants (i.e. what **we** call hedging risk premium) and create a welfare loss. For that purpose only an assessment of *ex-ante* risk premiums can work. If this is too complex, the best indicator we have is to capture the cost of hedging and related welfare effects is the bid-ask spreads and the traded volumes for the different market timeframes per bidding zone.

As to the latter, we believe greater market liquidity, in all market timeframes, brings welfare gains. Liquidity losses, together with dwindling competition, would have the opposite effects. It is then important, beyond mere suppositions about market behaviour to truly analyse how far possible increased XB transmission capacities could or not remedy such situation and compensate welfare losses.

Risk premiums: a cost to all who engage in hedging

The assertion that risk premiums do not necessarily represent a cost is wrong. From our point of view, it stems from a **confusion between risk premiums** (i.e. the price of covering a risk in advance of real time, which, like an insurance, is always a cost at that point in time) **and the missed or gained opportunities of hedging decisions**, assessed in the DA timeframe (which is indeed, from an overall market perspective, a null-sum game where some lose and some win). The risk premiums itself can only be calculated taking account of price information and projections at the point in time where the hedging decision is made, while the missed/gained opportunity is calculated *ex-post*, looking at the forward vs. DA, ID and/or imbalance prices.

The hedging risk premium is a cost for all those who engage in hedging, whichever their risk appetite. The risk premium is calculated *ex-ante* by market participants, as it is a key factor in the decision to hedge a position or not. The hedging risk premium basically corresponds to market participants costs of entering into transactions to cover the risks they face in advance of real time (price, volume, regulatory, etc.). This could be summarised as: **price of energy at the time of transaction (forward) minus expected price of energy in DA assessed at the time of the transaction (forward) + transaction costs (broker/PX fees + margining/clearing). In case of cross-border hedging, we need to add the cost of cross-border hedging instruments to this (LTTRs or EPADs)**. So fundamentally, the risk premium is the bid-ask spread + transaction costs + XB capacity as the case may be. Both parties to a hedging transaction incur these costs. The lower the liquidity on a given market, the greater the bid-ask spread, and hence the more costly the risk premium is, for both.

The *ex-post* metric the consultants suggest using could actually be interesting in terms of understanding the redistribution effects within a newly created BZ. But it will never give an indication about risk premiums as such, nor about the effect of liquidity changes on them. Using the suggested *ex-post* metric because it is easier to calculate would give a false sense of capturing an element, while actually it is capturing something quite different.

For the purpose of the BZR, hence, we suggest an analysis based on bid-ask spreads (historical data and modelled scenarios), transaction costs (and the costs of XB hedging instruments in case of cross-border hedging). The objective is to understand market behaviour and effects of liquidity changes on risk premiums. Hence, we do not see a need to have full precision, but rather to focus the analysis on expected dynamics and run a number of quantitative scenarios.

We appreciate that in developing their metric the consultants have looked at studies on forward pricing and we recognise that the quoted studies indeed use a shortcut to the assessment of risk premiums, although each of them recognises that risk premiums constitute the difference between the forward and the expected, not actual, spot prices. However, in the present context this is not sufficient.

Thus, the conclusion that liquidity losses linked to BZR do not increase the cost of trading unless competition dwindles is wrong. This is because the consultants understand (or propose to assess) 'risk premiums' as equivalent to 'missed/gained opportunities.' Missed/gained opportunities of hedging, from an overall electricity market perspective, is indeed a null-sum game, all things equal (incl. competition). But if one really looks at risk premiums, the cost of which increases for all as liquidity dwindles, then there are not just redistributive effect in the market, but more importantly an extra cost (and subsequent welfare loss in the energy market), which is paid by the end-consumer.

Effects and possible remedies to liquidity losses in the context of bidding zones redelineation

We appreciate the emphasis that the study puts on the importance of liquid, competitive markets in all timeframes. This is indeed exactly why the CACM GL and the Electricity Regulation 2019/943 require studying market efficiency alongside dispatch efficiency for bidding zone reviews. However, the statement that liquidity is not an objective *per se* as it does not guarantee that the market will operate efficiently is misleading. Indeed, **liquidity may not be a *sufficient* precondition for efficient market functioning, but it most certainly is a *necessary* one, as it has a considerable impact on the cost of trading and hedging. Hence, the objective of improved market efficiency in general, and liquidity in particular, should be sought after with as strong an intention as that of greater dispatch efficiency in bidding zones redelineations.**

Market efficiency is best summarised as the overall ability of market participants to hedge positions and enter into transactions. **This ability to hedge and trade relies on three main elements: market liquidity, competition and the availability of XB transmission capacity.** Those are the key elements that TSOs will need to scrutinise in their analysis of market efficiency, independently but also how they influence each other.

Looking at each market in isolation, we consider that splitting a bidding zone in two (or more) markets will have rather straightforward effects. These are the three consequences that we observed in previous BZ splits, which are not necessarily clearly presented by the consultants:

- **Lower forward market liquidity in at least one of the markets from the previously joined zones** – Practical experience from the 2018 BZ split of the German-Austrian bidding zone is rather telling in that regard: we observe still significant bid-ask spreads on the Austrian forward market, and sometimes no bids at all. The consultants may note that the DA market is quite active in Austria since the split, but the lack of liquidity and volumes on the Austrian forward market means that an Austrian market participant will have direct access to much fewer liquidity in their home market than before the Austrian and German markets were split.
- **Lower competition in at least one of the markets from the previously joined zones** – Once again, the 2018 BZ split of the German-Austrian bidding zone has resulted in reduced turnover and lower number of market participants on the Austrian forward market, leaving it sometimes without price signal in the forward timeframe. Similar effects can be observed on the local intraday market.
- **Higher XB transmission capacity at the external borders of the previously joined zones but higher limitations to trade between the previously joined zones** – Relieving part of the constraints of the former German-Austrian zone is expected to free up XB capacities at the external borders of the previously joined zone. The ability for Austrian market participants to trade with German counterparts (now limited by XB capacity) is more limited compared to the previous situation when trading was unlimited.

What is more important is to look at how these elements interact with each other, in particular:

- **How liquidity losses affect competition:** liquidity losses as a result of a BZ split will affect competition. Liquidity attracts more activity on the market, both in terms of active market participants, and number of bids. And the reverse is also true: lower liquidity will lead to a decline in the number of active market participants and bids. This decline both in number of active market participants and number of bids can be observed quite clearly on the Swedish forward market, with steadily declining activity on Nasdaq futures since the 2011 BZ split.
- **How increased XB capacities could counteract decreased liquidity and competition:** dwindling liquidity and competition in newly split markets could potentially be remedied by high price convergence and availability of XB transmission capacity between the zones. However, the analysis should go further than what the consultants briefly describe – and appear to take for granted – in their study.
 - o **Price convergence:** when looking at the ability for market participants to hedge positions and enter into transactions, price convergence ought to be looked at principally from the perspective of the forward market. Too often, this analysis stays at the level of the DA market. In case a bidding

zones split leads to a situation of improved price convergence between two zones in the day-ahead (DA) market, this does not prejudge of price convergence in the forward market, where hedging takes place. Price convergence in the day-ahead timeframe is also no indication that the welfare losses incurred due to the lack of forward liquidity is compensated in any manner.

Looking at the example of the 2011 Swedish BZ split, we still see significant price divergence on the futures market, where such a futures price is available at all. In the case of the 2018 DE-AT split, significant spreads can still be observed between the two zones, even if the important XB transmission capacities are guaranteed by a re-dispatch agreement.

Price convergence on local ID and balancing markets is also not straightforward. As a reminder, it is the balancing timeframe that sets the real time value of energy, and constitutes the price signal that trickles down to other timeframes.

For the purpose of future BZR, it will be key to model price convergence in the forward market (and intraday and balancing).

- **Availability of XB capacity:** once again looking at the ability for market participants to hedge positions and enter into transactions, if more BZ are introduced it is vital that XB transmission capacity is just not theoretically available, but that they can access this capacity by way of hedging instruments.

What we have seen after the 2011 Swedish BZ split was, on the contrary, a reduction of the number of EPADs traded to hedge positions between BZ². In the case of the 2018 DE-AT split, significant XB transmission capacity is made available to the market thanks to a re-dispatch agreement. However, to reach the same kind of risk coverage (perfect hedge) as previously, market participants on two sides of the DE-AT border now need LTTRs. Compared to previously estimated transactions between the two countries (in the formerly joined zone), more hedging instruments would be needed to meet market participants' hedging needs. The ability of market participants to form perfect hedges was hence reduced.

For the purpose of future BZR, it will be key to assess the true ability of market participants to hedge positions (fully or partially) across borders.

Hence, we believe that no conclusion should too easily be drawn on increased XB transmission capacities being a one-to-one remedy to liquidity and competition losses as a result of a BZ redelineation. A thorough analysis of the interaction between these elements (liquidity, competition and XB capacity) should be at the centre of future BZR.

² See our EFET memo A reality check on the market impact of splitting bidding zones, dated June 2016 and available at:

https://efet.org/Files/Documents/Electricity%20Market/General%20market%20design%20and%20governance/EFET-memo_Swedish-zones-reform.pdf.

EFET recommendations to the TSOs for upcoming BZ reviews

- The DNV GL study is a good starting point to understand the importance of and capture the effects of liquidity for market efficiency.
- While dispatch efficiency concentrates on day-ahead operations, the study rightly points to the importance of the forward timeframe for the analysis of market efficiency. The majority of traded volumes, and all hedging activities, take place before day-ahead.
- Analysing the welfare effects of changing liquidity in the forward timeframe requires a metric that properly captures the cost of trading and hedging at that point of time: the bid-ask spreads. Whether a forward transaction turned out to be a profitable deal compared a similar one in day-ahead gives no indication on the actual cost of hedging, or the overall welfare effect in the market.
- Further analysis of liquidity changes on the efficiency of intraday and balancing markets should also be conducted, as these timeframes are becoming increasingly important with the growing penetration of RES-E.
- Ensure that the comparison of the effects of liquidity / competition losses and of possibly increasing XB transmission capacity is properly conducted. This should materialise in an analysis of the overall ability of market participants to hedge and trade before and after a BZ redelineation in the previously joined zones and all adjacent zones, taking account of all timeframes.
- TSOs should be in a position to make quantified and monetised projections of liquidity in various BZ redelineation scenarios and should then use the proper metric to calculate welfare effects of liquidity changes. Beyond the analysis of liquidity changes and their effects, the evolution of competition levels in individual markets post-BZ redelineation should also be thoroughly analysed and quantified, as well as remedies that higher XB transmission capacity availability may bring to that in term of market participants' ability to hedge positions and enter into transactions. Such quantifications should allow a balanced comparison with dispatch efficiency indicators, with the objective of reaching an optimal BZ configuration for both market and system.