TSOs’ answers to bzr cg mebers’ questions on bzr indicators

3 March 2023

From: Bidding Zone Task Force (BZ TF)

General comments/questions

1. As mentioned in the past, we believe that all criteria (at least those mandated by CACM), both quantifiable and qualitative, monetized or not, should be taken into account in the assessment. It is important to base the analysis on multiple criteria since some aspects can still not be monetized and may be subject to different interpretations by stakeholders and Member States.
2. We understand that we should not address to ENTSOE our questioning of the indicators described by the methodology which is the responsibility of ACER. However, we are still ignorant and have concerns about the way that ENTSOE is planning to assess those indicators as the explanations are too high level and they are lacking depth. This is especially the case when you mention "implicitly". The methodology provides few equations and quantitative elements and we would welcome if ENTSOE could tell us more in detail how they are intending to carry out the assessment with physical dimensions. We are highlighting below the indicators for which we feel this is necessary.
3. We understand that some indicators are difficult to assess so we highly encourage you to remain modest in the conclusions to be drawn on these indicators, and not to hesitate to say that this assessment presents strong limitations and unclear results.
4. What percentage tolerance will you retain in the comparison of the outcome of the assessment of one indicator for the alternative configurations to the one of the status quo? For instance, if the assessment result for an indicator in alternative configuration A is 90.1 and for the same indicator the result for the status quo is 90, how would you interpret this comparison? Will the benefit be considered equal or greater with alternative configuration A? We think it would be useful to set a tolerance threshold that reflects the structural uncertainty linked to the modelling of 2025.
* ANSWER: It is our understanding that the methodology provides some tolerance, according to the provisions of Article 13 (d) §3 (See text below), allowing the TSOs to choose not the configuration of the highest monetized benefits or even maintain the status quo configuration. This article could indeed apply to situations when no clear “winner” comes from the analysis.

Article 13 (d) §3: *“Alternatively, TSOs may:*

*a. recommend an alternative BZ configuration, among the ‘acceptable’ ones but different from the one with the highest monetised benefits compared to the status quo, if they can duly justify the recommendation; or*

*b. recommend to maintain the status quo configuration, if they can duly justify that this is a better option than any of the ‘acceptable’ alternative BZ configurations.”*

1. The visual representation of the 2-step approach in slide 21 is not clear to us. Could you please clarify how many configurations will pass through the 4 steps (potentially 7+2?), whether the sensitivities will be applied to all configurations?
* ANSWER: Indeed, all configurations (7+2) will pass through the 4 steps of the assessment. The two steps are required as we will need to first assess step 1 for the 7 configurations and based on the obtained results derive the 2 new BZ configurations. Then, we will pass these 2 configurations also from step 1 and proceed with the remaining steps.
* The sensitivities indeed will be assessed for all configurations (7+2).
1. Could you please explain in more detail on what basis you will select the 2 alternative configurations that are combining 2 Bidding Zone reconfigurations following the end of step 1? Will you assess all possible combinations to do so? We hope that it is not based on a linear selection of the “best” results obtained for each configuration since their combination can lead to very different and invalid results compared to the status quo. On the timeline slide, we understand that the selection of alternative BZ configurations will be published on the 7th of July, do you confirm that it is the selection of these 2 additional configurations combining 2 BZ reconfigurations?
* ACER provided specific guidelines for the selection of the combinations from the individual configurations in the Decision 11/2022, based on a linear selections of the best results:

*“(214) First, ACER further clarified how TSOs should select the combinations of individual configurations. In particular, ACER clarified that TSOs are required to consider two combinations on the basis of the individual configurations highlighted in bold in Table 8. To that end, TSOs should build a list of candidate combinations that comprise only two MSs, and then TSOs should* ***rank the candidate combinations according to the sum of the individual monetised benefits*** *estimated by TSOs in the socalled “Step 1” of the BZR study (see Article 13(1) of the BZR methodology).* ***The two first combinations of this ranking should be selected.****”*

Comment by ACER : *« For the sake of any doubt, this process only applies to the ranking for the selection of alternative configurations; the process to evaluate configurations will not be linear and therefore the aggregation of two configurations will not be assessed to perform as the sum of individual performances »*

*We take note of the concern raised regarding the fact that a combination may not lead to a “sum” of the benefits, but discussions on alternative configurations and on the BZR methodology itself, which has been already approved, are out of the scope of the BZR CG”.*

* Regarding timeline: indeed we will publish the 2 extra BZ reconfigurations on the 7th of July.
1. Will the sensitivity scenarios be assessed though the 22 indicators as well?

ANSWER: Yes, as stated in the Methodology Art 4(10)(c): “*Except for the assessment of the ‘Stability and robustness of BZs over time’ criterion, the results of the sensitivity analyses shall be clearly separated from the results of the ‘main study’, as described in Article 13.2(d).*”

1. Comments per indicator

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| **Indicators and Eurolectric’s comments** | **BZ TF answers** |
| 1 – Operational security | No comment |
| 2 – Security of SupplyWe are surprised by the exclusion of this indicator even though the methodology insists on it (Art 15.2 (a) "The [security of supply] evaluation should at least be based on the following indicators: [LOLE EENS VOLL]"). We understand the complexity of the task but would welcome at least a rough assessment at regional level; LOLE/EENS criterion could be at least assessed in small BZ or BZ that are less interconnected. | ANSWER: The methodology does not allow any deviations or simplifications. Please note that the consequences of the high modeling complexity are mentioned in section “Interpretation of results” - Article 13, §2 (c) where it is indicated that *“until the modelling tools to estimate the above described indicators are developed, the alternative BZ configurations may be considered to perform the same as the status quo with regard to the ‘Security of supply’ criterion.”* |
| 3- Uncertainty in cross-zonal capacity calculationImplicitly – could you please explain which dimension based on indicator 4 will allow to assess it implicitly? | ANSWER: According to the methodology Art. 13, §3 the criterion relates to the FRMs of CNECs. The estimation of FRMs is defined in Art. 6, §6. The criterion is considered implicitly monetized, as *“FRMs are inputs for the capacity calculation process, which is in itself an input for the calculation of the ‘Economic efficiency’ criterion”.*  |
| 4 – Economic efficiencyThe description used on the slide to describe this indicator ("change of socio-economic welfare") used for the step 1, seems to us overestimated. We do not estimate here the total welfare but only the efficiency of market dispatch. We recommend to be more specific and humble towards this assessment. We welcome more details and clarity on the way it will be assessed (formulas, quantities that will be used, how the redistributive effects between markets DA/ ID/BAL will be considered, will it be calculated at Member State level as recommended by the methodology? Will economic redistributive effects aggregated at European level among MP (TSOs, Generators, Consumers) be assessed?) as it is a crucial indicator used for the Step 1. | ANSWER: We define the socio-economic welfare in line with the methodology (i.e. the market dispatch corrected for by the redispatch), as stated in Art 15(4): “The assessment of the economic efficiency shall be based on the change of socio-economicwelfare, as follows:i. For each alternative BZ configuration, the change in socio-economic welfare shall be calculated. This change refers to the difference between socio-economic welfare of the said BZ configuration and of the status quo BZ configuration, both calculated at the EU level.ii. The change in socio-economic welfare shall be equal to the sum of:1. the change in the socio-economic welfare derived from the market dispatch, pursuant to Article 7; and2. the change in total additional costs derived from the RAO pursuant to Article 9.16.iii. A breakdown of socio-economic welfare into producer surplus, consumer surplus and congestion revenue shall also be provided.iv. As far as technically possible, a breakdown of socio-economic welfare per MS shall also be provided.”For the point iv – the breakdown per MS – this requires a congestion income distribution over the various MS. This cannot be done in the time available.Indeed, the breakdown of socio-economic welfare into producer surplus, consumer surplus and congestion revenue on an aggregated EU level will be provided. |
| 5- Firmness costs | No comment |
| 6 – Liquidity and transaction costs | No comment |
| 7 – Market concentration and market power, i) in wholesale markets, ii) in TSOs’ mechanisms to resolve physical congestionsii) could you please provide more explanation on the relevance of this sub-indicator and on the feedback from ACER used? Could you please explain how this feedback will be used implicitly to assess this sub-indicator? | ANSWER: According to the methodology though, it is not specifically required to make a separate calculation for congestion management markets. Upon request for clarification, ACER stated that the 'approach is to consider that market power is structural and it does not depend on BZs, but BZs determine the timeframe where market power arise. The methodology only requests to study structural concentration indicators. The conclusions are twofold. In case of a bidding zone change, whereby some of the congestions managed in DA are shifted to the RD timeframe, lower concentration in DA market typically lead to less scope for market power in DA and more in RD and vice versa.' |
| 8- Facilitation of effective competition i) Short term competition, ii) long term competition, iii) competition for cross-zonal capacity | No comment |
| 9- Price signals for building infrastructure i) Generation or demand assets; and ii) network infrastructurei) could you please explain how implicitly it is assessed in indicator 10?ii) we do not see the rationale behind the way it is assessed (a physical quantity is used whereas the term "Price signals" would rather lead us to consider an economic quantity via an estimation of congestion rents). This seems to us to be an incomplete assessment that will not allow to conclude on the need for network infrastructure. For this, a Cost Benefit Assessment for the whole society should be done. This is obviously very complicated, so we encourage you to remain modest in the conclusions to be drawn on this indicator, and not to hesitate to say that this assessment presents strong limitations and unclear results. | ANSWER: The BZR methodology clearly states the rationale behind this implicit connection: *“In order for prices to give relevant signals to build generation and demand assets in a cost-efficient manner, prices shall be accurate and robust. Therefore, the ability of prices to promote efficient investments in generation and demand assets shall be based on the results of the ‘Accuracy and robustness of price signals’ criterion”*.ANSWER: According to the BZR Methodology, the accuracy of price signals for building network infrastructure is linked to the degree that physical congestions are dealt within the market: “In *order for prices to give relevant signals to build network infrastructure, physical congestions should be preferably dealt with in the market.* We will keep in mind your comment regarding the limitation of this approach.Comment by ACER : according to the ACER decision underlying the methodology, the aim of the analysis is not to identify where precisely one should build infrastructure and how much should be built as this would indeed would require CBAs. ACER explained that the purpose of the analysis is to assess the extent to which market congestions and physical congestions are aligned, indicating whether the market provides relevant signals to build network infrastructure, because this better pursues the objectives of providing effective price signals and steering efficiently necessary investment in the first place, in line with Regulation. |
| 10 – Accuracy and robustness of prices signalsWe fail to understand the rationale behind this quantitative assessment and how it will allow to conclude on the robustness of price signals. The correlation calculated will be intrinsic to the way the model has been built to assess zonal prices, and does not attest to the robustness of the price signals needed either for an efficient dispatch or for investment signals. Could you please provide further explanation?Accuracy and robustness of price signals: We see that the BZR methodology requires the assessment of the correlation of the nodal averages with zonal price. However, important details may lie hidden in the averages. Would it be possible to see the distribution (spatial and e.g. seasonal) of the prices per node? Is it possible to assess the changes of the distribution in the nodes between “new” BZs and the status quo? | ANSWER: According to the BZR Methodology, the accuracy of price signals is linked to the degree with which day-ahead prices can act as main price reference for market players, indicating the needs of the system in place and time. To assess this, the methodology assumes that the best reference to use in this exercise is the nodal analysis results, and proposes a correlation analysis of the zonal volume-weighted prices with the respective nodal ones for the same geographic area. We will keep in mind your comment regarding the robustness of price signals.Please do refer to the ENTSO-E BZR website for more details from the LMP analysis:<https://www.entsoe.eu/news/2022/09/06/entso-e-publishes-locational-marginal-pricing-data-items-as-part-of-bidding-zone-review-study/>Please refer to the answer above for the explanation of this indicator. ACER´s comment: the correlation is done per hour, only then averaged out. Doing an average and then a correlation would indeed be erroneous, but this is not what the BZR methodology prescribes. |
| 11 – Transition costs | No comment |
| 12 – Infrastructure costWe failed to understand how exactly this will be assessed and how indicators 10 and 9 will allow implicitly to calculate or assess infrastructure cost. We would greatly appreciate it if you could provide more detailed explanations as this is a very important dimension. | ANSWER: BZR methodology prescribes that the criterion should be assessed implicitly due to the absence of modeling tools to robustly model the effect on investment decisions. ACER´s comment: implicitly means that the focus is on whether the market prices reflect congestions adequately, which allows to take more efficient investment decisions. This is also what the Regulation prescribes. |
| 13 – Market outcomes in comparison to corrective measuresWe would welcome an exhaustive description of all corrective measures concerned. Will non costly measures also be included in this indicator? Non-costly measures are not associated with a high economic cost but should not be neglected. They hold an economic added value that should not be impacted by Bidding Zone Review. |  ANSWER: As stated by BZR methodology in the Art 15(13)(b) “This joint evaluation corresponds to the assessment of the ‘Economic Efficiency’ criterion, as described in paragraph 4 of this article”. Costly and non-costly measures are taken into account in the tool chain, where applicable.  |
| 14 – Adverse effects on internal transactions on other BZs i) flows not induced by cross-zonal trade, ii) impacts derived from inaccurate price signals | No comment |
| 15 – Impact on the operation and efficiency on i) the balancing mechanisms and ii) imbalance settlement processesii- we regret that this indicator has been discarded, it could be considered at least qualitatively. In case of smaller bidding, the imbalance risk can increase, and it is important to assess it. We would have appreciated as well to consider imbalance risk in the market liquidity study. | ANSWER: BZR methodology unfortunately does not allow an alternative assessment.*Discussions on alternative configurations and on the BZR methodology itself, which has been already approved, are out of the scope of the BZR CG”* ACER´s comment: the decision and the methodology say. The methodology allows to make a full assessment of all effects of the balancing timeframe. However, it does not allow to make a partial assessment of some effects. The assessment of imbalance settlement is still possible. If TSOs decide to not assess it explicitly, this indicator is being implicitly assessed when defining the balancing needs for the alternative BZ configurations in the affected MSs (France, Germany, Italy, the Netherlands and Sweden). So you cannot claim that the indicator is not considered at all. |
| 16 – Stability and robustness of price signals over timeCould you please enlighten us on the sensitivities that will be considered? We think that a maximum of sensitivities must be considered. Will you simulate the status quo also for the year 2028 to make the exercise comparable for the appropriate sensitivities?  | ANSWER: For every sensitivity analysis the full assessment should be performed (all climate years x all configurations).For CE we will perform a single sensitivity analysis due to time constraints. The aim here is not to model a new scenario for 2028, but rather the sensitivity to specific dimensions/changes. Key dimension of the analysis is to assess the impact of grid infrastructure evolution. We considered as target year for the infrastructure developments in this respect the year 2028. 🡪 further information provided in the slides.For Nordics, we will perform two sensitivity analyses, one with fuel and CO2 prices, and the other with dry years. |
| 17 – Consistency across capacity calculation time frames | No comment |
| 18 – Assignment of generation and load units to BZsWe fail to understand this criterion, in which concrete case could we have a generation / load that would not be assigned to a single BZ? Could you please share your understanding? | ANSWER: Generation/load modelled in simulations will be assigned to a bidding zone. Each unit is assigned to only one bidding zone per studied configuration. However, there are nodes not depicted in the grid model on lower voltage levels which may not be easily assigned to a bidding zone. Additionally, even if generation and load units are assigned to one zone, in practice e.g. generation units could still feed into two zones. This is generally undesired for measurement technological reasons and needs to be checked. |
| 19 – Location and frequency of congestion, market, and gridThis is a relevant criterion for which it is necessary to include as well “external constraints” applied by some European TSOs at Bidding Zone level (such as IN). | ANSWER: external constraints are not applied in the BZR. However, TSOs would like the question to be clarified by the stakeholders. |
| 20 – Short-term effects on carbon emissions | No comment |
| 21 – Short-term effects on RES integrationResults will very much depend on the modelling; we would appreciate having more details on the calculations/formulas that will be used.An analysis of imbalance risks could also be included in this indicator. We strongly recommend to consider it somewhere in the assessment.  | ANSWER: The key indicator here is the RES infeed after RAO. Imbalance risks are not included in the simulation analysis (perfect foresight).ACER’s comment: In addition, the RAO should be implemented in such a way that Article 13(5)(a) of the Electricity Regulation is fulfilled, meaning that renewable curtailments should not exceed 5% of the annual generation from renewable sources |
| 22 – Long- term effects on low-carbon investmentsWe do not understand how you will assess it through the comparison of the results of indicators 10 and 9, how do these indicators relate to long term effects on low-carbon investments. Could you please provide further explanation. | ANSWER: The BZR Methodology provides clear guidelines on this. ACER´s comment: In order for prices to give relevant signals to build generation and demand assets in a cost-efficient manner, prices shall be accurate and robust. Therefore, the ability of prices to promote efficient investments in generation and demand assets is based on the results of the ‘Accuracy and robustness of price signals’ criterion. |

1. Public consultation scope
* Since the methodology is not restrictive, we insist on the need to include in the consultation the results of the assessment of the 22 indicators for all the alternative configurations (**including the 2 alternative configurations** that combine Bidding Zone reconfiguration that will be selected after Step 1) and not only the impacts of alternative configurations on Market liquidity and transition costs, for the sake of transparency. Moreover, since, as explained above, the way to assess and use/interpretate these indicators are not yet perfectly clear, the public consultation would be a good opportunity to collect feedback from stakeholders.
	+ TSOs consider it not possible to consult on the assessment of the 22 indicators for all alternative configurations. TSOs are required to launch the public consultation once the draft report of the liquidity and transition cost report is done. At this point in time, the evaluation of the indicators will be an ongoing process and not all simulations will be terminated. Please take note that the public consultation is also not meant to re-open the discussion on indicators.
	+ However, we can very well understand your interest in the results and the assessment of the indicators. Therefore, as outlined in the presentation on 14/12/2022, TSOs are committed to sharing and discussing preliminary results with the consultative group.
* We reiterate our request to broaden the scope of block b) (mitigation of negative impacts of bidding zone split) and suggest to include a question into the public consultation on what alternative (policies) measures could be applied to obtain the positive benefits a bidding zone reconfiguration would entail without splitting bidding zones to make it symmetric.
	+ As outlined in the presentation of 14/12/22:
	+ TSOs are willing to consider proposals from the BZR CG, primarily in line with the categories set by the BZR Methodology. The evaluation is bound by the methodology though. Proposals outside these categories might be included in the public consultation but will not be analyzed - yet accounted for in an annex.​
	+ TSOs intend to share the draft of the questionnaire with the consultative group and ACER/NRAs for comments prior to the launch of the public consultation.
1. Any Other Business

Have you received feedback about German fallback configurations? Could you please update us on the status of this decision? We regret that expert advice has been sought at such short notice as it may have a significant impact at PAN-EU level.

* + TSOs received feedback on the German fallback configurations from one Dutch stakeholder who expressed concerns and asked for some clarifications by email. TSOs sent a response by email and offered a bilateral call in case the written feedback would not be sufficient. However, no more explanations were requested after the email was sent by the TSOs.
	+ Therefore, following the ACER decision on the alternative configurations, the Steering Committee of the Bidding Zone Review Region Central Europe decided on 23rd January 2023 to evaluate the German fallback configurations. Specifically, this means that configurations 2, 12, 13 and 14 are assessed in the Bidding Zone Review for Germany.
	+ Stakeholders are of course welcome to pose any remaining questions regarding this topic.