

ACER consultation on All TSO's proposal for the methodology and assumptions that are to be used in the Bidding Zone Review process and for the alternative bidding zone configurations to be considered (article 14.5 CACM Regulation)

EDF Response

24th April 2020

The consultation is divided into two parts. The first one refers to the methodology itself, while the second part refers to the study of alternative configurations.

1. Bidding zone review: Methodology

Pursuant to Article 14(5) of Regulation (EU) 2019/943 TSOs and regulatory authorities must review bidding zones. The review must identify all structural congestions and include an analysis of different configurations of bidding zones in a coordinated manner with the involvement of affected stakeholders from all relevant Member States, in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of Regulation (EC) No 714/2009.

The review must assess current bidding zones on the basis of their ability to create a reliable market environment, including for flexible generation and load capacity, which is crucial to avoid grid bottlenecks, balance electricity demand and supply, and secure the long-term investments in network infrastructure.

Article 33 of the CACM Regulation establishes a list of minimum criteria that shall be considered when performing the bidding zone review and therefore expected to be included in this 'Proposal'. In light of these requirements and the experienced gained in the previous bidding zone review, the following aspects of the methodology are consulted: i) the Pan-European consistency of the methodology, ii) the level of transparency and stakeholders' engagement, iii) the need to ensure a conclusive bidding zone study, and iv) the level of detail, quality and relevance of the methodology.

Topic 1: Pan-European consistency of the methodology

A bidding-zone review methodology must take account of existing regulatory work on the topic, and the reality of the European network, while achieving the necessary standard of European harmonisation.

1.1.1 Please rate your degree of agreement or disagreement with the following statements: 1- Strongly disagree; 2- Disagree; 3- Neither agree nor disagree; 4- Agree; 5- Strongly agree.

	1	2	3	4	5
1. The assumptions and the methodology for the bidding-zone review must remain pan-European to the extent possible. Further consistency between regions must be ensured in the methodology included in the Proposal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
2. While the proposal may accommodate regional aspects when duly justified, pan-European principles that aim to maximise European welfare should be ensured, e.g. concerning capacity calculation principles. In this regard, the methodology should be consistent with recommendations and decisions of ACER regarding capacity calculation (e.g. the ACER Recommendation on capacity calculation and the ACER decision on the Core capacity calculation methodology).	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.1.2. Please detail below which aspects of the Proposal adequately ensure overall pan-European consistency of the bidding-zone review methodology and **should therefore be retained in the final methodology.**

On point 1, EDF would like to recall that in principle, the Bidding Zone Review (BZR) process according to CACM and Electricity Regulations is supposed to be carried out at pan European level and not at the regional level.

In the TSOs' proposal, EDF understands that ENTSO-E's approach consists in focusing on regions where TSOs are used to collaborate, or where pre-existing Bidding Zone Reviews are performed. EDF considers that this approach does not cope with the requirement that the methodology should be applied at pan-European level. Also, it would introduce a discrimination between i) borders between BZR regions that would never be challenged, and ii) borders inside a BZR, which could be challenged as part of the BZR process.

EDF considers that if a regional approach were to be selected, the definition of the BZR regions should be fully transparent and based on solid and objective justifications with the same criteria to delineate every BZR region. The definition of BZR regions within only one country is a challenge in terms of governance (e.g. GB). In this respect, EDF considers that every region should encompass a sufficient number of control areas so that TSOs and NRAs can mutually challenge their proposals.

EDF agrees with point 1 and would like to underline that consistency is also a matter of governance. It means that the bidding zone review should elaborate a unique set of recommendations common to all regions, based on a single set of assumptions, and subject to an approval by all NRAs.

On point 2, the aim of the European principles for cross-zonal exchange capacity calculation should indeed be to maximize European welfare. This does not seem to be the primary motivation of the ACER recommendation and the decision mentioned in the item (which mainly aim to mitigate discriminations between internal and cross-border trades, but resort to arbitrary provisions without well-founded economic justification (e.g. the 70% threshold)). Furthermore, it is to be noted that ACER recommendation does not have legal value as such.

Up-to-date capacity calculation approaches should be considered in the simulations performed as part of the BZR to assess some of the quantitative BZR criteria. From this perspective it is equally important to simulate up-to-date approaches for efficient redispatching and countertrading for example.

Also, EDF would like to stress that relying on theoretical data as input can introduce a bias in the results. Applying the 70% MACZT regardless of a potential limitation by a Regional Coordination Center when available remedial actions are insufficient to ensure secure operation could be unrealistic. It would then unduly induce a very high level of redispatching and countertrading.

1.1.3. Please detail below which aspects of the Proposal hamper overall pan-European consistency of the bidding-zone review methodology, and **should therefore be amended in the final methodology.**

Overall pan-European consistency is indeed key for EDF to build a relevant analysis of the BZR results, and to feed right and robust decisions subsequently. Different aspects do not go towards this direction:

- Regional approach to define possible BZ configuration scenarios: As mentioned earlier, the principle to make a distinction about borders between regions and borders inside regions does not allow to ensure pan-European most relevant scenarios to be studied, from a system point of view.
- Regional approach for setting assumptions and running simulations: The proposed approach consists in applying different degrees of simplification to neighboring regions, which by definition generates uncertainties for the pan-European overview. Acknowledging complexity and computational dimensions, EDF would like to stress out that this process with potential high impact requires the most advanced modelling methods and the most effective tools, to ensure for stakeholders reliable outcomes.

A minima, a high level of transparency is needed to set out what is called negligible impact from neighbouring regions, in particular for connected ones, for example like BZR region Central Southern Italy and Central Europe. In particular, in addition to grid simplification, it is not clear why market modelling simplification is also envisaged for complexity purposes. Justifications shall be given about concrete complexity and computational barriers that are faced in this process.

The methodology behind the “disaggregation to nodal level” is also crucial and has to be coordinated and justified, because of the great impact it has on the system modelling, for redispatching and countertrading assessment, and for locational prices analysis. Starting from zonal generation and load data ENTSO-E database, it is mentioned that each TSO can use its own methods for disaggregation. It is, according to EDF, better and more relevant to build a coordinated and harmonized pan-European methodology instead.

1.1.4. Please add any comment on the need to ensure pan-European consistency.

First, EDF would like to recall that changing the bidding zone configuration may have severe welfare redistribution effects. From this perspective, it is important that any update of the bidding zones is subject to a comprehensive study and to an approval by all NRAs of the countries where network operators or network users can be affected by the decision. From this perspective, developing a pan-European approach of the BZR can at least be useful to identify the NRAs that need to be involved in a particular proposal to update a bidding zone.

Second, EDF would like to stress the severe impact expected also on long-term horizons towards investment perspectives. The proposed criteria focus mainly on short-term system operations, more than long-term system behavior, in particular considering European objectives. On principle first, an instability on bidding-zones delineation with regular reviews and assessments reduces visibility for investors, in particular for capital intensive infrastructures. Then, a BZ evolution would have a structural impact on investment signals, their levels of course, but also their readability and interpretability. And finally, such scenarios can provide significant uncertainties and limitations for the development of technologies having geographical constraints: wind potential, solar irradiation, hydraulic configuration, availability of cold sources, etc. The maximization of European welfare and achievement of European targets has to be measured also, and perhaps mostly, on the long run.

EDF also highlights the need for consistency with the longer term exercises such as Ten Year Network Development Plan (TYNDP) and European Resources Adequacy Assessment (ERAA).

Topic 2: Transparency and stakeholders' engagement

In the context of a bidding zone review, aimed at assessing existing bidding zones against possible ones in order to better ensure the above mentioned objectives, Article 14(3) of Regulation (EU) 2019/943 sets that the review should involve ‘*affected stakeholders from all relevant Member States*’.

1.2.1 Please rate your degree of agreement or disagreement with the following statements: 1- Strongly disagree; 2- Disagree; 3- Neither agree nor disagree; 4- Agree; 5- Strongly agree.

	1	2	3	4	5
1. Maximum transparency must be guaranteed at all stages of the bidding zone review. In particular, all data, assumptions and relevant parameters used in the review should be published, subject to confidentiality issues and aggregation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
2. There is a need for enhanced involvement of stakeholders during the bidding zone review process. This involvement should be described in the methodology.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

1.2.2. Please detail below which aspects of the Proposal adequately ensure transparency and stakeholders'

engagement, and **should therefore be retained** in the final methodology.

EDF considers that the transparency dimension is crucial for interpretability, replicability and confidence of such studies. EDF thus welcomes the principle of the explanatory document providing more insights in the methodology.

EDF considers that this Proposal does not ensure stakeholders engagement about transparency, and even less about data publication perspectives. However, EDF sees this BZR, with such transversal market and grid dimensions, as the opportunity to build an example about transparency and data publication, in particular in the current dynamic of open-source software and open-data platforms. All data and tools not concerned by confidentiality issues shall be made available.

1.2.3. Please detail below which aspects of the Proposal hamper transparency and stakeholders' engagement, and **should therefore be amended in the final methodology.**

Regarding point 1, indeed maximum transparency should be guaranteed at all stages of the process. A significant step forward to reach that goal would be that economic assessments are carried out on the basis of an open source model, and that the full dataset is made available. Transparency is crucial for market participants to assess the impact of a reconfiguration, and make them in a position to react and adapt. Building the assessment with an open-source software would also make it possible for researchers and stakeholders to propose improvements of the methodology and develop complementary studies.
















Regarding point 2, it is essential that effective stakeholder involvement happens at all stages of the process. A common work stream should be ensured through the creation of an ad hoc advisory group attached to the Market European Stakeholder Committee (MESC). A few public consultations is not enough to ensure a satisfactory involvement. Larger information sharing and input collection / feedback could also be organized through a few public workshops along the process.



















1.2.4. Please add any comment on the topic of transparency and stakeholders' engagement.

Topic 3: Need to ensure a conclusive bidding zone study

The steps and descriptions included in the methodology should be sufficiently clear and precise to ensure that the bidding zone study delivers an outcome that allows for an informed decision on whether to maintain or change the bidding zone configuration.

1.3.1 Please rate your degree of agreement or disagreement with the following statements: 1- Strongly disagree; 2- Disagree; 3- Neither agree nor disagree; 4- Agree; 5- Strongly agree.

	1	2	3	4	5
1. Quantifiable, possibly monetised criteria should be the focus of the bidding zone review.					
2. The assumptions and data used as inputs for the bidding zone review should be, as much as possible, checked against reality; the methodology should be based on realistic expectations about the future.					
3. While methodological simplifications may be necessary to enable a timely delivery of the bidding zone study, they should not decrease the quality and relevance of the underlying analysis and indicators. In general, methodological simplifications should be sought when they are not expected to impact the results of the study.					

4. The current TSOs' proposal to assess market liquidity mainly focuses on possible changes of liquidity in day-ahead markets. While liquidity of day-ahead markets is important, an assessment of liquidity impacts across all timeframes should be included. In particular additional indicators to capture the impact of a bidding zone reconfiguration on forward markets liquidity in a holistic manner should be considered.					
5. In the first bidding zone review pursuant to CACM, significant efforts were put in simulating cross-zonal capacity calculation in a very detailed manner. In view of the 70% minimum target of cross-zonal capacity envisaged in the CEP, which will be taken into account in the bidding zone review, the role of capacity calculation may be less crucial than in the first bidding zone review. As a consequence, some simplifications in simulating cross-zonal capacity calculation should be envisaged, which would allow to increase the efforts on other important aspects of the review.					
6. The current TSOs' proposal for the simulation of short-term welfare effects seems to exclusively rely on the changes in generation dispatch and related costs, while demand-side response is mostly disregarded. Given that a bidding zone configuration may have relevant impacts on the patterns of day-ahead market prices, DSR (including day-ahead demand elasticity) should be more robustly considered.					
7. The current TSOs' proposal for the simulation of short-term welfare effects seems to highly depend on the difference between the costs of scheduling generation (and residually demand) units in day-ahead markets and the costs of (re)scheduling generation (and residually demand) units in the re-dispatching timeframe. Some assumptions included in the Proposal such as considering full cross-zonal coordination for re-dispatching or the insufficient consideration of the difference between the costs incurred in day-ahead and the re-dispatching timeframe may lead to conclude that all alternative bidding zone configurations deliver the same short-term welfare results as the status quo configuration. Such strong assumptions should be revised and aligned with the envisaged reality for the time horizon of the study as much as possible.					

1.3.2. Please detail below which aspects of the Proposal adequately ensure the bidding zone review to be conclusive and **should therefore be retained** in the final methodology.

1.3.3. Please detail below which aspects of the Proposal prevent the bidding zone review from being conclusive and **should therefore be amended** in the final methodology.

Regarding point 1, in line with article 33 of CACM Regulation listing many assessment criteria of the Bidding Zone reconfiguration, TSOs foresee a final assessment based on a multi-criteria analysis. On this point, EDF welcomes the three steps approach followed for the final assessment in order to conclude with a recommendation to adapt or maintain the current BZ configuration: i) step 1: economic efficiency versus transition/transaction costs (which are key criteria in EDF's opinion, and should be regarded alongside with the (non-compensated) welfare losses incurred by certain players, calculated with the simulation outputs of the short term economic efficiency assessment, which are likely to generate stranded costs); ii) step 2:

Assessment of all other criteria; and iii) step 3: Assessment of the final recommendation (and potential further assessment of the severity of the criteria being assessed as negatively impacted).

EDF considers that all the criteria, both quantifiable and qualitative, monetized or not, should be focus of the study. Indeed, it is all the more important to keep multiple criteria as many aspects still cannot be monetized and maybe subject to different interpretations by stakeholders and Member States. And in fact, if we look back at the first BZR process, it is the quantitative analysis of the economic welfare that was not conclusive.

Generally speaking, by trying to monetize/quantify everything, stakeholders are forced to make very strong hypotheses, simplifications that do not provide at the end a satisfactory and reliable aggregated result. Most of all, it weakens the robustness of this result to the input parameters. As long as, for certain criteria, the robustness of quantitative assessment is not demonstrated, EDF believes that a qualitative analysis is the best option to identify the potential impacts of changing for an alternative BZ configuration. TSOs should consider not only the relatively restrictive list of criteria defined by the CACM Regulation, but also other insightful ones, as the social and political costs of defining different Bidding Zones in the same country and the potential impact it can have, for example, on territories' economic development (e.g. due to differences in electricity prices in different regions of the same country), and on the sense of belonging to a national community. EDF, though, notes that among the qualitative criteria mentioned, some are more "political" (for instance the RES integration criteria used in addition to the CACM criteria) which could be considered as arbitrary or irrelevant for the purpose of the BZ reconfiguration and some are also redundant.

Considering the criteria, EDF would also like to take the opportunity to provide some detailed comments on the different criteria taken into account in the methodology:

i) On the ability of bidding zone configurations to ensure "operational security":

EDF considers that operational security should not depend on the bidding zone configuration. Concerning short-term operations (which should be the core dimension for assessing network security): Regardless of the BZ configuration, TSOs can use remedial actions to correct any dispatch that do not match with the capability of the grid. EDF acknowledges that constraining cross-zonal exchanges (or designing smaller bidding zones) may limit the use of remedial actions, but be it dispatched based on market signals or through remedial actions, the same level of capacity should be available to solve potential congestions.

Concerning investment (this dimension is already considered under criteria "price signals for building infrastructure" and "accuracy and robustness of price signals") and should therefore be disregarded from the analysis on network security): EDF expects that investments in regulated network assets aim at maximizing social welfare at European scale, i.e. for a given demand, minimizing CAPEX and OPEX to serve the demand irrespective of BZ configuration. As of investment in generation/demand assets, BZ configuration can indeed influence market fundamentals and deliver a more local signal. However, the more local the more sensitive the signal is with respect to network development, or demand/generation evolutions. Therefore, smaller bidding zones could not always deliver sufficiently reliable signals for local investments and cannot be considered as more efficient to address structural congestions in the long term.

ii) On the ability of bidding zone configurations to ensure "security of supply":

For the same reasons as for criteria "operational security" (i.e. in the short term, markets + remedial actions should lead to the same possibilities regardless of the BZ configuration. In the long term, investments in regulated transmission infrastructure should be independent of BZ configurations. Small bidding zones do not systematically provide reliable signals for investments necessary to meet security of supply targets). And security of supply criteria may be defined at national level and not at bidding zone level. Therefore, **EDF considers that bidding zone configuration should not be considered as one of the main tools to ensure security of supply.**

iii) On the degree of uncertainty in "cross-zonal capacity calculation":

EDF considers that uncertainty in cross-zonal capacity calculation is not a relevant criteria for the bidding zone review. Uncertainty in cross-zonal capacity calculation results most frequently from its variability, which is related to the accurate consideration of the electricity system conditions for every market time unit. From this perspective, uncertainty in cross-zonal capacity calculation can even be considered positively. EDF

recognizes however that creating new borders (i.e. splitting bidding zones) generates additional cross-zonal capacities, whose settings might be difficult to predict.

iv) On any increase or decrease in “economic efficiency” arising from the change:

EDF considers that economic efficiency is a key criterion for the bidding zone review. EDF agrees with TSOs’ opinion that remedial actions (i.e. a combination of countertrading and redispatching actions) should only be triggered in case of congestion. In practice, TSOs have to set cross-zonal capacities for every border between bidding zones, which constrains market coupling. Those capacities should ideally reflect physical limitations for each market time unit: i) If they are more conservative than necessary, they may limit economic efficiency as TSOs will not be allowed to manage redispatching in case there is no physical congestion ; ii) If the cross-zonal capacity is too loose, then TSOs face a congestion that they will have to solve by correcting the outcomes of the market, thus restoring security through efficient remedial actions. In practice, operational uncertainties impose TSOs to operate frequently under the first situation. Hence, the more borders are created in the bidding zone configuration, the highest is the risk of a less efficient generation dispatch.

v) On the cost of “guaranteeing firmness of capacity”

EDF considers that the cost of guaranteeing firmness of capacity is not a relevant criterion for the bidding zone configuration. In EDF’s view, the cross-zonal capacity considered as firm has been previously allocated by TSOs, which already collected the corresponding value from market participants. Hence, the average expenses by TSOs to guarantee firmness should theoretically correspond to their income when allocating the corresponding capacities. From this perspective, guaranteeing firmness of capacity should not be considered as a cost from a system-wide perspective.

vi) On “market liquidity”:

EDF considers that market liquidity is a key criterion, especially in the forward timeframes, as it is key for investors to be able to hedge their revenues in proper conditions. An insufficient liquidity would mean higher hedging costs and reduced profitability. This could in fine either deter investment globally and lead to security of supply issues (which comes at a cost in terms of global welfare), or skew investments towards assets that are less risky but have higher running costs, which also has a negative impact on global welfare.

vii) On “market concentration and market power”

EDF considers that market concentration and market power is not a relevant criterion for the bidding zone configuration. First, EDF considers irrelevant, the HHI indicator used by the involved TSOs, as the evaluation of market concentration should account for cross-zonal exchange capacities and the related competition with entities located in other bidding zones. Second, in case of a (physical) congestion, market concentration and market power (which are not a problem per se, as long as the dominant entity does not abuse from the situation) can exist at a smaller scale than a bidding zone. In this view, the reference to the pivotal supplier indicator and residual supply index is an improvement of the analysis.

viii) On the facilitation of “effective competition”

EDF considers that facilitating the effective competition is a relevant criterion for the bidding zone review. Consistent with the analysis of criterion “economic efficiency”, EDF believes that the more borders are created, the higher is the risk of unnecessary restriction of cross-border exchanges (and hence reduction of cross-zonal competition). On the contrary, in large bidding zones the risk of distorted competition is lower as long as all assets located in the same bidding zone face the same price, even in case of remedial action. Hence, the more are the borders in the BZ configuration, the less effective the competition tends to be.

ix) On “price signals for building infrastructure”

EDF considers that price signals for building infrastructure is not a relevant criterion. EDF expects that investments in regulated network assets aim at maximizing social welfare at European scale, i.e. for a given demand, minimizing CAPEX and OPEX to serve the demand. BZ configuration should not be regarded when taking investment decisions in transmission infrastructure.

x) On the “accuracy and robustness of price signals”:

EDF considers that economic efficiency is a relevant criterion that can hardly be quantitatively assessed. Regarding the accuracy of price signals for short-term operation, EDF tends to consider that the most efficient dispatch can be easier achieved with the largest possible bidding zones, as creating additional borders encompasses the risk of setting cross-zonal exchange capacities too low. The consequence of this could, not only, result in inefficient short term operational decisions, but also, in possible distortions of investment decisions if the cross-zonal capacity made available is calculated in a too conservative way. More generally, concerning investment in generation/demand assets, bidding zone configuration can indeed influence market fundamentals and deliver a more local signal. However, the more local the more sensitive this price signal is to network development and operation, or demand/generation evolutions. Therefore, smaller bidding zones do not always deliver sufficiently reliable signals for local investments and cannot be considered as more efficient to address structural congestions in the long term.

xi) On “transaction and transition costs”

EDF considers that transaction costs and transition costs are two key criteria that should be considered separately. EDF generally recognizes that any change in BZ configuration generates transaction costs. Nevertheless, these associated costs are proportional to the number of bidding zones directly impacted by the change. From this perspective, considering marginal evolutions of the BZ configuration can be an insightful option for a new bidding zone review. EDF also wants to highlight the dramatic impact that a change of BZ configuration can have on market fundamentals, influencing to a very large proportion the value of price-sensitive assets: for example, if a single bidding zone encompasses the two ends of a merchant line, then its market value drops virtually to zero. The fact that BZ configuration can change is per se a regulatory risk that is very difficult to anticipate for investors and the financial risks leads to additional investment costs. Stability is key to limit financial risk, and EDF calls therefore for considering transition costs (as the amount of potential stranded costs associated with a change in configuration) as a major dimension in the bidding zone review.

xii) On the “cost of building new infrastructure” which may relieve existing congestion

EDF considers that the cost of building infrastructure to relieve existing congestion is not a relevant criterion and welcomes the fact that TSOs recognizes that infrastructure costs are independent of the BZ configuration.

xiii) On the need to ensure that the market outcome is feasible without the need for extensive application of economically inefficient remedial actions:

EDF considers that the need to ensure that the market outcome is feasible without the need of economically inefficient remedial actions is not a relevant criterion. First, the feasibility of the market outcome should not be an objective per se. An inefficient market outcome that does not generate any congestion is not desirable. EDF calls therefore for disregarding this criterion. Second, EDF does not understand why TSOs would apply economically inefficient remedial actions. SOGL should foresee for the coordinated management of congestions and the selection of the most efficient remedial actions. Considering that TSOs succeed in coordinating themselves to trigger remedial actions efficiently, EDF does not see any significant impact of the BZ configuration on the use of “economically-inefficient” remedial actions.

xiv) On any adverse “effects of internal transactions on other bidding zones”:

EDF considers that it is not a relevant criterion. Consistent with its view on the efficiency of the dispatch, EDF tends to consider that the matter on loop flows is mainly related to the sharing of congestion rents and of congestion management costs between TSOs. In EDF’s view, as long as the most efficient dispatch is achieved, this is mainly a redistribution topic, with winners and losers, and can be hardly used as the main justification of a BZ reconfiguration. However, it might be insightful, when the simulations are robust enough, to illustrate the allocation of congestion rents and congestion management costs between TSOs in each potential configuration.

xv) On the “impact on the operation and efficiency of the balancing mechanisms and imbalance settlement” processes.

EDF considers that the impact of BZ configuration on balancing mechanisms is not a relevant criterion. EDF considers that the implementation of the EBGL will reduce the differences between balancing mechanisms and lead to a harmonization of imbalance settlement processes. Apart from the transition costs associated

with changing the IT of network operators, BRPs and BSPs, EDF believes that changing the bidding zone configuration would have a limited impact on the efficiency of the balancing mechanisms. In practice however, EDF notes that the costs of contracting balancing reserves and balancing activations tend to be higher (per consumed MWh) in small bidding zones.

xvi) On the need for “bidding zones to be sufficiently stable and robust over time”

EDF considers that stability is a key criterion. EDF wants to highlight the dramatic impact that a change of BZ configuration can have on market fundamentals, influencing to a very large proportion the value of price-sensitive assets: for example, if a single bidding zone encompasses the two ends of a merchant line, then its market value drops virtually to zero. The fact that BZ configuration can change is per se a regulatory risk that is very difficult to anticipate for investors and the financial risks leads to extremely high costs. Stability is key to limit financial risk, and EDF calls therefore for considering transition costs (as the amount of potential stranded costs associated with a change in configuration) as a major dimension in the BZR.

xvii) On the need for bidding zones to be “consistent for all capacity calculation time-frames”

EDF generally agrees with ENTSO-E on this matter and considers that the consistency of bidding zone configuration with the time frames for capacity calculation is not a relevant criterion. If BZ configuration were to be changed after capacities have been allocated, this would generate transaction costs. This dimension should thus be accounted under the transaction costs dimension.

xviii) On the need for each “generation and load unit to belong to only one bidding zone” for each market time unit”:

EDF considers that the unicity of bidding zone configuration is more a prerequisite than a criterion.

xix) On the “location and frequency of congestion” (market and grid)

EDF considers that the location and frequency of congestion is a relevant criterion. This includes also “external constraints” applied by some European TSOs at bidding zone level. EDF considers that the occurrence and depth of congestions, as well as the volume of remedial actions triggered to manage them, should be subject to full transparency by TSOs in accordance with their transparency obligations under Transparency and REMIT regulations.

xx) On the “RES integration”, and the analysis of integrated amount of energy from RES and qualitative evaluation of long-term effects

EDF considers that the RES integration and the analysis of integrated amount of energy from RES and qualitative evaluation of long-term effects is not a relevant criterion. The criteria chosen should be objective and neutral and should not prioritize a technology compared to another one. The adjunction of such a “political” criteria in addition to the one foreseen in CACM guidelines is thus questionable. There are also other means than the BZ reconfiguration to tackle the challenge of RES integration in the system.

On point 2, EDF of course agrees on the importance of basing decision on realistic expectations of the future and wishes to underline the risk to start reconfiguring bidding zones, purely on the basis of historical data. Indeed, flows on the transmission grids do not only depend on the grid topology and interconnectors, but also on the activities of connected power plants, consumers and now also distributed generation. Large changes have been experimented during the last years and will continue in the next 3 to 5 years: power plants not running because of negative spark spreads or even closing, industry in crisis and a boom of distributed renewable generation. These changes have an impact on the flows and the available interconnector capacities.

On point 3, EDF considers that quality considerations should prevail over speedy or too simplified results and short processes, because these would raise the question of the reliability and accuracy of the results, and thereby the acceptance of the final recommendation.

On point 4, EDF fully agrees that liquidity must be assessed. On forward markets, it is even more essential than on the day-ahead market, because it has an impact on hedging possibilities and thus on investment risk, with a resulting effect in terms of welfare creation or destruction – and not only in terms of welfare transfers (by the way it is not clear whether OTC trades are targeted – for the day-ahead auction, the concept of

liquidity would need to be further defined, since this term is usually used for continuous markets). Assessing liquidity is a complex task and requires further work as well as a thorough methodological investigation. In that perspective, the first elements presented by ACER at the last MESC on the interim results of a study commissioned to DNVGL are far from being conclusive.

On point 5, EDF does not agree with the simplification, in particular if the potential need for redispatching and countertrading is an important dimension of the short-term efficiency assessment. In addition, EDF considers that the capacity calculation used in the study should aim at maximizing welfare based on the actual network capabilities, and should therefore be decoupled from the legal requirements stemming from the Clean Energy Package, in particular the application of the 70% threshold, which is arbitrary and has no well-founded economic justification. Thus, EDF does not agree that capacity calculation is not “crucial” compared to the first BZR, especially if a cost discrimination is still integrated between day-ahead and intra-day dispatching. Capacity calculation is crucial to get realistic exchange capacities linked to the physics, and a reliable BZR need such realistic constraints.

Regarding point 6, there is indeed no obstacle to taking Demand Response into account in the model proposed. Regarding the realistic character of the elements to be taken into account, it must be underlined that there are a lot of things that TSOs do not know how to model. EDF would recommend therefore to align the assumptions and model with the approach developed as part of the ERAA and TYNDP studies. Regarding price robustness, investment/financial risks are not taken into account in the scenarios, neither is price volatility.

Regarding point 7, the most part of the difference in short term welfare results from the fact that when you apply less constraint in day-ahead (e.g. due to large bidding zones, or due to the application of the 70% MACZT rule), TSOs may face congestions that they need to manage with redispatching and countertrading, increasing thereby the associated congestion management costs.

It is key to remind at this stage that remedial action costs are not a loss of welfare but an economic transfer between market participants. There is therefore no reason to consider that redispatching or countertrading is inefficient, unless it is demonstrated that it leads to unnecessary dispatch of expensive units (which would mean that TSOs’ congestion management is inefficient).

The BZR should be realistic about the future operation of the system, but wherever redispatching and countertrading are really coordinated, they should be considered as economically efficient as a self dispatch based on day-ahead prices. Therefore, penalizing them is unnecessary. The practices should be corrected. Redispatching and countertrading actions must be based on a coordinated approach and a reasonable cost. Wherever they are applied in compliance with CACM and SOGL regulations provisions, there should be no penalizing. The implementation of these provisions is in the remit of ACER’s mission and depends on ACER decisions. Theoretically, the CACM and SOGL guidelines were supposed to foster regional coordination in congestion management with highly-efficient process. EDF acknowledges that these objectives have been poorly addressed up to now in many of the related methodologies, and the ACER decision for the CORE region is unfortunately expected to allow for major delays in this regard. It is therefore difficult to believe that the redispatching and countertrading methodologies that will be effectively applied in 2025 will be highly efficient on all borders in Europe (unless TSOs achieve major progress in the very next years). So, if the penalizing principle is maintained, EDF recommends a minima that the efficiency of redispatching and countertrading could be defined at CCR level based on a detailed analysis of the related TSOs practices and TSOs should justify with more details the way they envisage penalizing redispatching and countertrading.

1.3.4. How do you think that the inclusion of experts’ views should be organised and could help ensure a conclusive bidding zone review?

EDF would like to stress the need for a relative stability of bidding zones over time to avoid excessive regulatory uncertainties, which will deter investments and have a strong negative impact on the availability of hedging products in forward markets. EDF would also like to emphasize that the status quo is one possible conclusion which is perfectly admissible, and that may result from the inability to identify a BZ configuration that would rank better than the current one on all criteria (possibly weighted). Such a case should not be considered as an “inconclusive BZR”, and TSOs should not strive to reduce the number of dimensions of the

review (since BZ configuration is a complex topic which indeed encompasses numerous dimensions) for the sole sake of providing an unequivocal recommendation as regards BZ reconfiguration.

If a robust assessment can be performed, EDF considers that the same simulation framework used to assess economic efficiency of new possible bidding zone configurations (i.e. simulation of dispatch, energy prices in every bidding zone, and redispatching needs) should be used to assess potential stranded costs/windfall profits for capital intensive assets such as merchant lines and generation assets. Such an assessment will provide insightful figures as of the financial risk that can be associated with pending recommendation on bidding zone configuration.

In the same vein, EDF observes that the notion of generation optimisation is absent from the analysis. Yet, smaller zones would generate more volatility and disparity of electricity prices, and then would require a stronger internalization of price risk for Balance Responsible Parties (BRP) to organize their production plan. This price risk management, with internal forecast processes, will be added to inherent technical and geographical constraints of generation assets, for operations, maintenance decisions, fuel management, etc. This dimension would generate additional uncertainties for BRPs, translated into an additional system cost.

Assessing the social and economic welfare at EU level should not be the sole focus. In fact, transparency should also be made on those TSOs and countries getting the benefits and those getting the costs of a bidding zone reconfiguration, i.e. transfers between those supposed to win and those supposed to lose. Assessing the effectiveness of the related forecasts would also be of interest.

1.3.5 Please specify how specific the final recommendation of the TSOs should be:

- TSOs should specify whether the bidding zone configuration should be maintained or changed and in case of the latter, specify their preference for one alternative bidding zone configuration.
- TSOs should specify whether the bidding zone configuration should be maintained or changed and then present a number of possible options, highlighting the benefits and shortcomings of different options, subject to the considerations of other aspects (e.g. implementation timeline, minimum 'lifetime' of the alternative bidding zone configuration to ensure the benefits exceed the transitional costs, measures to mitigate certain impacts, etc.).
- Other possible ways of presenting the final recommendation.

Please specify

1.3.6. Please add any comment on the topic of ensuring a conclusive bidding zone review, which adequately supports the decision making process.

EDF would like to recall that changing BZ configuration has significant socio-economic impacts, and should not be mandated without a robust assessment. This is all the more true that in EDF's view, structural congestions can also be efficiently managed through alternative coordinated measures, such as capacity calculation and allocation, countertrading and redispatching, targeting a maximization of the socio-economic welfare at regional scale. The implementation of network codes and guidelines, in particular CACM, is the right framework to make sure that cross-zonal capacities reflect the actual capability of the power system to accommodate the dispatch resulting from zonal prices.

Total stranded costs in both generation and DSR should be quantified and taken into account in each scenario, as well as redistribution among TSOs of congestion rents and congestion management costs, compared to the actual situation.

The study should illustrate the evolution of congestion income for the various TSOs in each scenario. These can be well quantified based on the proposed economic assessment.

And again, assessing the social and economic welfare at EU level should not be the sole focus. Transparency should also be made on those TSOs and countries getting the benefits and those getting the costs of a bidding

zone reconfiguration, i.e. transfers between those supposed to win and those supposed to lose. Assessing the effectiveness of the related forecasts would also be of interest.

As already stressed out earlier, many generation technologies have locational constraints. In order to achieve European targets, consistent and concerted development of grid infrastructures and generation infrastructures is a way to maximize collective welfare at the end. BZ evolution could however compromise the development of assets despite their economic and environmental relevance. Therefore, EDF considers that it is essential to build a holistic overview of the system interest, in particular in the long run, especially by better taking into account financial risks for investors of all kinds. Otherwise, it could jeopardize a conclusive BZR.

Furthermore and more broadly, considering the recurrence of the BZR process mandated by the legal framework and the effective time needed to provide a robust and reliable study on alternative configurations, there is a risk that long term markets could become irrelevant and that markets could then lose their efficiency. All actors need stability and confidence in the market for a proper hedging of long-term position.

2. Definition of alternative Bidding Zone configurations

The definition of alternative bidding zone configurations to the existing ones has proven a difficult aspect of the Proposal. In particular, the Proposal does not include any alternative bidding zone configuration for Central Europe.

2.1 According to the Article 14(1) of Regulation (EU) 2019/943, "*Bidding zone borders shall be based on long-term, structural congestions in the transmission network.*" Moreover, the same article mentions that "*The configuration of bidding zones in the Union shall be designed in such a way as to maximise economic efficiency and to maximise cross-zonal trading opportunities in accordance with Article 16, while maintaining security of supply.*"

In order to delineate bidding zones, there are at least two possible approaches. A first approach is a top down (expert-based) one, whereby experts propose alternative bidding zone delineations, which could potentially yield more efficient outcomes than the current bidding zone configuration (the status quo). A second approach is a bottom up one (model-based) where locational marginal pricing (LMP) simulations are performed with a view to clustering nodes (e.g. based on similar marginal prices) into bidding zones. TSOs informed ACER that persisting problems with data input and modelling impede the possibility of using model-based approaches for the upcoming bidding zone review.

Given the above and the difficult to reach agreements, configurations were not submitted for several regions, including regions where structural congestions persist. In view of this, an expert-based approach (possibly supported by some elements of modelling) seems the main option available to propose bidding zone configurations for the upcoming bidding zone review. In the absence of a model-based option, ACER believes that some quantitative aspects should still be considered when considering alternative bidding zones, namely:

- An identification of the network elements, which are more frequently congested and lead to costly remedial actions the most.
- An identification of the geographical areas (bidding zones) which contribute the most to congestion on network elements. These areas could be a bidding zone where the congested element is located (in case of congestions caused by internal exchanges mainly) or other bidding zone (in the case of loop flows).
- (If available), a LMP simulation to support the expert-based delineation of bidding zones (e.g. to confirm, refine and/or prioritise the delineation of the previously defined expert-based configurations).

Please provide your views on the relevance of the above-proposed principles, which aim to support an expert based delineation process.

The CACM regulation foresees both a nodal price model and an expert based delineation process. The results of the model based approach did not prove conclusive during the first BZR process.

Regarding the modelling approach, EDF considers that it should be improved in two main directions: (i) making realistic nodal prices, and (ii) computing energy prices and dispatch (resulting from the market and prior to costly remedial actions) resulting from zonal markets consistent with operational practices.

The expert based delineation process was based on the administrative borders and forward-looking structural congestions, as seen in the other forecasts by ENTSO-E (considering e.g. ERAA and TYNDP). They should prepare the future and not the past.

1.2 The Proposal envisages a locational marginal pricing (LMP) simulation as an optional element of the bidding zone review.

2.2.1 Should a LMP simulation be a mandatory element of this bidding zone review?

- ☐ Yes
- ☐ No

2.2.2 Should a LMP simulation be used as an input for proposing alternative bidding zone configurations?

- ☐ Yes
- ☐ No

2.2.3 If so, how do you think a LMP simulation can be used to support the proposal of alternative bidding zone configurations?

- ☐ It should be used to support the expert-based approach to delineate bidding zone configurations (i.e. the expert and model-based approach should complement each other).
- ☐ It should be used as the main element to delineate bidding zone configurations together with techniques for clustering nodes into alternative bidding zones (i.e. a purely model-based approach should be used).
- ☒ Other



Please specify

EDF considers that in order to be a reliable/trustworthy input to the BZR process, the locational marginal pricing (LMP) model must deliver a successful back-testing on the past. Otherwise there is no reason to see it as a valuable input.

To assess the robustness of simulations for future scenarios, conducting back testing of the simulation methodology with past scenarios and historical data is indeed essential. EDF recommends transparency on the methodology used, on the benchmark year applied and on the results of this analysis. For this benchmark, the analysis could compare the simulations' results with historical figures (e.g. issued from the ENTSO-E technical report) on the location of congestions in the network and on the order of magnitude of congestion management costs. It is only when simulations are sufficiently robust compared with past scenarios, that they could meaningfully be applied to forecasted scenarios.

2.2.4 Please indicate other possible benefits of including a mandatory LMP simulation during the bidding zone review

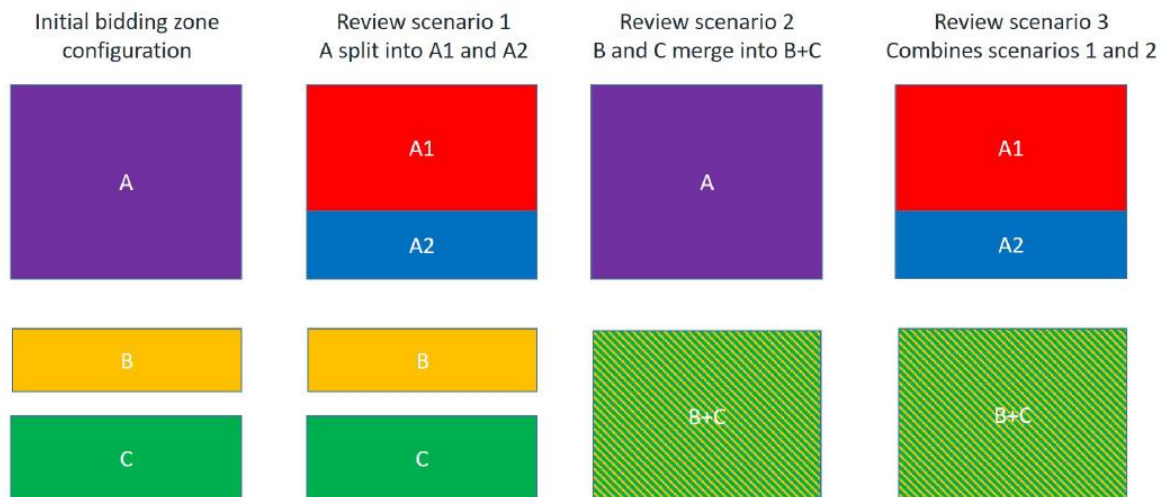
A mandatory LMP simulation could contribute to a realistic assessment of efficient redispatching and countertrading measures, likely to optimize congestion management.

2.3 When proposing bidding zone configurations, do you see the need to ensure that the incremental effects of combined bidding zone configurations are identified (see the example below)? Please, provide your views on possible pros and cons of such an approach.

In the following example, from three existing bidding zones A, B and C, experts assess the split of a bidding zone "A" into bidding zones "A1" and "A2", as well as the merger of bidding zones B and C. To

assess potential incremental effects, the following three alternative configurations should be analysed:

1. Split into A1 and A2 only
2. Merger of B and C only
3. Split into A1 and A2 in combination with the merger of B and C



EDF recommends an incremental approach by assessing the marginal impact of each possible evolution in Bidding Zone configuration instead of assessing packages of changes.

2.4 Which other criteria should in your view be considered when proposing alternative bidding zone configurations?

Other criteria

As already said, BZ reconfiguration can take different shapes (splitting, merging, ...), each of these solutions bringing its own cost/risks and benefits and for which a proper cost benefit analysis should be performed. Redefining bidding zones could lead to significant and extensive consequences for all stakeholders (market participants, generators, consumers) that should be duly justified and taken into account in the reviewing process.

Switching to any alternative configuration is likely to generate significant transition costs (e.g. adaptation of existing contracts, limitation of hedging opportunities in the transition period, IT developments,...) for all stakeholders. It might in some cases constitute a step back in the market integration process. Redefining, more critically splitting, bidding zones could also lead to reduce forward hedging opportunities and to deter incentives for investors. Besides, it could send a negative signal to investors who would face a risk with no way to hedge against. Investments are not driven by current price levels but by the expectation of future prices affected by regulatory uncertainties. As a general rule, all types of regulatory uncertainties that investors cannot hedge against tend to deter investment by increasing the risk level of projects.

As other criteria, the following could be mentioned:

Legal feasibility: there could be a bunch of legal feasibility issues. The legislation defined at national level differs from a Member State to another. For example, merging bidding zones could introduce a distortion between suppliers or customers governed by different legislations within a newly created bidding zone.

Price equalization: it is implemented by some Member States to pursue the political objectives of ensuring equal treatment of their citizens and land use planning could be jeopardized by the bidding zone review process.

Technical feasibility: in case of BZ splitting inside a country, EDF acknowledges that keeping a single price on consumer side at country level is not completely impossible – this is for example the case in Italy – but the algorithmical requirements to allow this on wholesale market (e.g. use of the PUN product in Italy) are known to be very challenging in terms of complexity. Therefore, one cannot take for granted that such an approach would be technically feasible on a large scale.

Conclusion

3. Please provide any further comment
