For information only

Evaluation of responses to the public consultation on the high-level approach for the identification of alternative bidding zone configurations to be considered in the bidding zone review process

1 Introduction

Pursuant to Article 14(5) of the Electricity Regulation[1], the European Network of Transmission System Operators for Electricity (ENTSO-E), on behalf of all TSOs, published and submitted to regulatory authorities on 7 October 2019 a proposal for the methodology and assumptions that are to be used as well as for the alternative bidding zone (BZ) configurations to be considered in the bidding zone review (BZR) process. Regulatory authorities identified shortcomings in the proposal. In particular, the proposal did not include any alternative BZ configuration for Central Europe. Regulatory authorities requested that TSOs amend the proposal before 20 February 2020. ENTSO-E, on behalf of all TSOs, published and submitted to regulatory authorities on 18 February 2020 an amended proposal. By letter of 13 July 2020, the Chair of the Energy Regulators' Forum, on behalf of all regulatory authorities, informed ACER that they were unable to reach a unanimous decision on all TSOs' updated BZR proposal and that the updated BZR proposal was considered as referred to ACER as of 7 July 2020, pursuant to Article 14(5) of the Electricity Regulation.

With its Decision No 29/2020, adopted on 24 November 2020, ACER decided on the BZR proposal as far as the methodology and assumptions for the BZR process are concerned and adopted a pan-European BZR methodology, referring the decision on alternative BZ configurations to a later stage.

In order to take an informed decision and in accordance with Article 14(6) of the ACER Regulation[2], ACER launched a public consultation on 6 July 2021 inviting all interested stakeholders to provide comments on the high-level approach for the identification of alternative BZ configurations to be considered for the BZR process. The closing date of the public consultation was 3 August 2021.

[1] Regulation (EU) 2019/943 of the European Parliament and the Council of 5 June 2019 on the internal market for electricity.
[2] Regulation (EU) 2019/942 of the European Parliament and of the Council establishing a European Union Agency for the Cooperation of Energy Regulators.

More specifically, the public consultation invited stakeholders to comment on the following aspects of the approach:

- Main objectives for the identification of alternative BZ configurations;
- Indicators for the selection of the target BZ/Member State (MS);
- Boundary conditions for the clustering algorithm; and
- Combination of identified individual alternative BZ configurations to study their joint impact.

2 Responses

By the end of the consultation period, ACER received comments from 27 respondents.

This evaluation paper summarises all of the respondents' comments and how these were considered by ACER. The table below is organised according to the consultation questions and provides the respective views of the respondents, as well as a response from ACER clarifying how their comments were taken into account in the present Decision.

ACER highlights that it might have slightly streamlined the text of some observations for the sake of brevity and clarity. ACER strove to respect the content of the responses provided, but to avoid any possible misunderstanding arising from summarising the observations received, the names of the respondents are not explicitly provided in the table below. For transparency reasons, full access to the original and non-confidential responses to the public consultation, including the name of the stakeholder, is provided at the following link: https://extranet.acer.europa.eu/Official_documents/Public_consultations/Pages/PC_2021_E_07-Public-consultation-on-the-high-level-approach-for-the-identification-of-alternative-bidding-zone-configuratio.aspx.

Respondents' views	ACER views
Topic 1: Main objectives for the identification of alternative bidding zone configurations	
Question 1.1: Do you agree that the identification of alternative bidding zone configurations should mainly seek the following three objectives: 1) Minimisation of structural congestions within bidding zones; 2) Maximization of economic efficiency and 3) Maximisation of cross-zonal trading opportunities?	
26 respondents provided an answer to this question.	
Respondents' answers: • 1 – Strongly disagree: 4% • 2 – Disagree: 46% • 3 – Neither agree nor disagree: 42% • 4 – Agree: 4% • 5 – Strongly agree: 4%	
Question 1.2: Please provide any comments on the main objectives to be considered when identifying and prioritising alternative bidding zone configurations.	
27 respondents provided an answer to this question.	
According to 17 respondents, the three objectives proposed here by ACER stem from Article 14(1) of the Electricity Regulation. However, the Electricity Regulation and CACM Regulation include other objective criteria to be considered for a BZR. In particular, according to recital 19 of the Electricity Regulation, '*Bidding zones therefore should be defined in a manner to ensure market liquidity, efficient congestion management and overall market efficiency*'. In addition, Article 14(1) of the Electricity Regulation also refers to '*maintaining security of supply*'. With regard to the CACM Regulation, Article 33 refers, among others, to criteria such as market liquidity, market concentration, transaction and transition costs.	**Answer 1** ACER observes that the Electricity Regulation emphasises that the trigger and the main objective of a BZR is to tackle structural congestions (Article 14(1)). This is further underlined by the link that the Electricity Regulation establishes between the minimum 70% cross-zonal capacity target (such target aims to tackle structural congestions) and the need to undergo a BZ change. Further, Article 14(1) of the Electricity Regulation sets out 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*

Respondents' views	ACER views
	security of supply'. The two first objectives were used by ACER to identify alternative BZ configurations. In ACER's view, the third objective (maintaining security of supply) is not, a priori, a distinctive element for the selection of alternative configurations, but rather a prerequisite to be met by any alternative configuration. Moreover, the issue of security of supply is to be analysed during the BZR as required by the CACM Regulation. With regard to other criteria included in the CACM Regulation (e.g. market liquidity), ACER's view is that such criteria are to be analysed during the subsequent step, i.e. the BZR study to be undergone by TSOs following this Decision. This is prescribed by Article 34(4)(b) of the CACM Regulation, which lays down that *'In the second step, the TSOs participating in a review of bidding zone configuration shall: assess and compare the current bidding zone configuration and each alternative bidding zone configuration using the criteria specified in Article 33'*.
3 respondents argue that the three objectives listed above go in the same direction of favouring smaller BZs and they are not complementary/orthogonal at all. As such, the iterative algorithm will only favour a configuration targeting minimal congestions within BZs.	**Answer 2** ACER considers that these objectives stem directly from the Electricity Regulation and that eliminating or minimising structural congestions is one of them. In particular, Article 14(1) of the Electricity Regulation sets out that '*Bidding zones shall not contain such structural congestions unless they have no impact on neighbouring bidding zones, or, as a temporary exemption, their impact on neighbouring bidding zones is mitigated through the use of remedial actions and those structural congestions do not lead to reductions of cross-zonal trading capacity in accordance with the requirements of Article 16'*.
5 respondents argue that ACER should remove the minimization of structural congestions as a guiding criterion from the analysis, because	**Answer 3** See Answer 1 and Answer 2.

Respondents' views	ACER views
EU law states that structural congestions are acceptable as long as the concerned MS complies with the 70% rule. BZs may contain structural congestions as long as they have no negative impact on neighbouring BZs (permanently or temporarily mitigated through remedial actions) or do not lead to reductions of cross-zonal trading capacity in accordance with the requirements of Article 16 of the Electricity Regulation. In addition, according to 2 respondents, Article 16(8) of the Electricity Regulation already lays down the 70% target and MSs either comply with it or present action plans on how to overcome structural congestions to eventually reach the target. With this lead project implemented, there is no need to include this objective as one of the main objectives of identifying alternative BZ configurations.	Additionally, ACER observes that, as long as the network elements that are considered in the current Decision represent constraints in the capacity calculation processes, congestions on those elements do have an impact on neighbouring BZs.
4 respondents claim that, in view of the Green Deal and the current developments at European level, the impact of alternative BZ configurations on renewable energy investments and its penetration into the grid should also be considered as a relevant factor when identifying alternative BZ configurations.	**Answer 4** ACER observes that the list of criteria to be analysed during the BZR is given by the CACM Regulation. Moreover, the current BZR methodology approved by ACER has added a criterion that considers the impact of alternative configurations on renewable energy.
According to 5 respondents, alternative BZ configuration should be practically implementable. To this end, it would be preferable to leave existing control areas/distribution grids intact when delineating new BZs.	**Answer 5** ACER observes that this aspect has been taken into account before adopting this Decision. In particular, some of the configurations have been adapted to consider difficulties in implementation related to TSOs and/or DSOs boundaries.
4 respondents provided comments on the time horizon of the BZR. According to one respondent, Article 14(3) establishes, among others, that BZs shall be assessed on the basis of their ability to create a reliable market environment. 3 respondents argue that most forward contracts have a maturity of maximum three to five years in the current context and that the development of long-term PPAs for renewable electricity, often	**Answer 6** ACER observes that, pursuant to the Electricity Regulation, the review should be based on structural congestions that are not expected to be overcome within the following three years, which determines the relevant time horizon of the review.

Respondents' views	ACER views
concluded for a period of five to ten years, will be particularly affected by changes in BZ delineations. As such, both set of respondents believe that BZ reconfigurations should foresee a lead time of at least five years from the moment of the redelineation decision and, to this end, Locational Marginal Pricing (LMP) data from an additional target year (e.g. 2030) should be considered.	
7 respondents claim that the maximisation of economic efficiency could be a relevant objective, but in the current proposal it is not sufficiently detailed and might cover a large set of notions, some of which can hardly be quantitatively assessed.	**Answer 7** ACER considers that, in the context of the BZR, economic efficiency relates to the efficient use of the available supply and demand resources. ACER observes that the LMP simulations is an adequate input to estimate the scope for improving economic efficiency and to propose alternative BZ configurations. A more accurate estimation of economic efficiency should be performed during the BZR study.
Topic 2: Indicators for the selection of the target bidding zone/member state	
Question 2.1: Do you agree with the proposed indicators?	
26 respondents provided an answer to this question.	
Respondents' answers: • 1 – Strongly disagree: 27% • 2 – Disagree: 58% • 3 – Neither agree nor disagree: 4% • 4 – Agree: 12% • 5 – Strongly agree: 0%	
Question 2.2: In light of the objectives listed in Topic 1, please indicate other possible indicators for the selection of the target bidding zone/member state.	

Respondents' views	ACER views
27 respondents provided an answer to this question.	
According to 3 respondents, one single appropriate indicator to identify structural congestions is sufficient. In line with the objective to delineate BZs in order to limit structural congestions, one could simply place borders at larger congestions foreseen on the target year, with the price differentials as indicator. This would allow getting a range of BZ delineations by exploring different levels of congestion (using different levels of price differentials).	**Answer 8** ACER observes that the two main objectives and related indicators proposed by ACER to identify alternative BZ configurations are complementary. In particular, besides the indicators on price differentials, the indicators on flows that reduce the amount of cross-zonal capacity available for trade are crucial to identify how a given BZ has impacts on neighbouring areas and how alternative delineations of BZs could contribute or hinder the objective of maximising cross-zonal capacity.
2 respondents argue that LMP differentials are not informative about economic efficiency, as they do not entail any information on the welfare effects of pooling or separating LMPs of different value. Furthermore, LMP differentials in the day-ahead timeframe alone do not reflect the overall efficiency of the system, as other cost-influencing factors such as intraday price differentials or redispatch costs are ignored. Finally, using LMP differentials will simply make the algorithm prefer small BZs over large BZs.	**Answer 9** ACER observes that using LMP differentials as a basis to identify alternative BZ configurations is a state-of-the-art method. By way of example, some recent studies undergone by TSOs have used this method, e.g. the study titled 'The impact of German HVDC lines on the European Electricity Market'[3].
4 respondents stress that economic efficiency (with its various facets) should establish a reduction of structural congestion as long as the reduced redispatch costs outweigh the transitional costs, transaction costs, additional costs due to contingency margins on investments, improvement in liquidity and robustness of price signals, etc. The term economic efficiency must furthermore clearly understood as long-run economic efficiency.	**Answer 10** See Answer 9. Additionally, ACER reminds that overall market efficiency, which includes economic efficiency and several other elements, is analysed during the BZR study (see also Answer 1).

[3] See https://www.tennet.eu/fileadmin/user_upload/Company/Publications/Technical_Publications/English/2020-01_EW_Beitrag_HVDC_Lines_final_englisch_01.pdf.

Respondents' views	ACER views
3 respondents emphasise that all segments of the markets should be scrutinised. In particular, the efficiency of forward markets should not be forgotten, as they still represent over two-thirds of transactions on the European electricity markets. Effects of BZ reconfigurations on intraday and balancing timeframes, as well as on retail markets should also be analysed, as they suffer when the liquidity of wholesale markets decreases.	**Answer 11** See Answer 1 and Answer 10.
1 respondent believes that nodal prices could be meaningful, but that in the high-level approach it is unclear how and more precisely which values and thresholds will be used, so that an evaluation is impossible. 2 respondents argue that the choice of the thresholds below which BZ/MS is selected to be split should be clarified and fixed by ACER before ENTSO-E and TSOs will provide the input data to be used, namely the LMP simulation results. This will prevent any biased choice that would depend on the data themselves. This is for sake of transparency and reliability of the approach.	**Answer 12** ACER observes that: • The thresholds used in ACER's high-level approach aim overall to indicate the level of efficiency and cross-zonal capacity (based on the respective indicators used as proxies) beyond which configurations are no longer sought. These thresholds are based on either the Electricity Regulation (i.e. the one referring to cross-zonal capacity) or the best performing configurations (i.e. the price dispersion indicator) for the status quo, as a benchmark. • Within the computational analysis made by ACER, the said thresholds were not reached; instead, the limiting factor was computational time and therefore such thresholds played a limited role in ACER's Decision. • The crucial issue was rather how to prioritise configurations among the many possible choices and within the said thresholds. To address this issue, ACER's high-level approach established an orderly process to prioritise configurations based on the improvements (in terms of efficiency and cross-zonal capacity) observed for each of the identified alternative configurations.

Respondents' views	ACER views
1 respondent argues that using LMP simulations as a basis for the estimation of BZ configurations sets high requirements to the input data to be used. As there are currently no historical trading data specified per node available from the markets, using the dispersion of nodal prices from these simulations entails a high level of uncertainty and is therefore not sufficient as one out of two indicators.	**Answer 13** ACER observes that: • Most of the challenges associated to LMP simulations are similar to those that TSOs will face during the BZR study. • Most of the input data used for the LMP analysis is directly taken from other pan-European studies carried out by TSOs/ENTSO-E (e.g. the ten-year network development plan). • The additional modelling assumptions have been discussed with TSOs before the adoption of this Decision.
According to 4 respondents, the stop criterion on the share of internal flows and loop flows is arbitrary and biased by the current set up on the 70% rule. This would as well pre-empt the outcome of national action plans. Furthermore, 6 respondents believe that neglecting remedial actions is expected to structurally lead to proposing smaller BZs than necessary to fulfil the 70% target.	**Answer 14** ACER observes that: • As long as there are action plans in place, there are evidences of structural congestions for a relevant part of Europe. • The 70% rule stems from the Electricity Regulation and it is not therefore an arbitrary choice. Nevertheless, it did not play a crucial role in ACER's Decision as the configurations proposed do not necessarily guarantee that the 70% rule is met without the application of remedial actions (though possibly less intensively than in the 'status quo' configuration). • It is for the BZR study (subsequent to this Decision) to assess the economic balance between congestion management in day-ahead markets and through remedial actions.
6 respondents argue that assessing the 70% criterion (both trigger and stop criterion) with a flow decomposition based on historical data, as part of the proposed iterative process, is not precise. The analysis neglects that dispatch and flows of historical data would have differed	**Answer 15** ACER observes that: • To identify alternative configurations, using flow decomposition with unchanged market outcome is an acceptable assumption. For

Respondents' views	ACER views
significantly in case a different BZ configuration would have been in place. To assess whether a BZ configuration is compliant with the 70% target as well as to rank BZs based on the amount of internal flows and loop flows, a full simulation chain comprising market simulation and remedial action optimization would ideally be performed.	example, the assumption of unchanged market outcome was acknowledged as reasonable during a workshop among the regulatory authorities, TSOs and ACER held on 8 January 2020. • The full zonal simulation chain, including market outcome and remedial action optimisation, is only foreseen for the BZR study.
1 respondent claims that the 23% stop criterion is appropriate only where the network element under consideration is fully utilized. In case there is idle capacity on the network element (i.e. the physical flow is smaller than its thermal capacity), the stopping threshold needs to be relaxed to a higher value accommodating more than 23% of internal flows and loop flows. This comes from the Electricity Regulation, which allows internal and loop flows to assume higher shares than 23% (or 30%, depending on the treatment of the reliability margin) wherever possible without violating Article 16(8) of the Electricity Regulation.	**Answer 16** ACER observes that: • Article 16(8) of the Electricity Regulation deals with capacity offered to the market, rather than with the amount utilised following market allocation. • The same article sets out that 'the total amount of 30 % can be used for the reliability margins, loop flows and internal flows on each critical network element'.
1 respondent suggests that, in addition to the LMPs for 2025, a thorough zonal-market simulation for 2025 (status quo) should be performed in order to provide information about location of network elements that are foreseen to constitute commercial or physical congestions or elements that are unlikely to satisfy the 70% requirement in 2025.	**Answer 17** ACER observes that the full zonal simulation chain, including market outcome and remedial action optimisation, is only foreseen for the BZR study.
1 respondent finds inappropriate to use historical data to derive optimal alternative BZ configurations in the future. 2018 is eight years away from the target year, which is a very large time span with respect to changes in the grid topology.	**Answer 18** ACER observes that: • The latest available technical report drafted by ENTSO-E, prior to this BZR, is based on the same historical period (2018-2020). • The historical data has a moderate role in the current Decision, as it only influences (partly) one of the two indicators used to prioritise configurations. However, it has the advantage of relating

Respondents' views	ACER views
	to actual information as opposed to simulations for future scenarios that are always subject to assumptions.
1 respondent suggests to link the value of the reliability margin to the one effectively established in the capacity calculation methodologies at CCR level (instead of the 10% share used as a reference). Therefore, it should be allowed to consider a broader share for internal flows and loop flows, while respecting the maximum value admitted by the Electricity Regulation.	**Answer 19** ACER observes that: • ACER was not provided with information on the reliability margin used in capacity calculation for each network element. • Partly due to the above reason and partly due to the fact that action plans would still residually apply for 2025, a conservative approach was taken. Such an approach allows a 30% share of capacity for internal flows and loop flows, which is equivalent to assuming no reliability margin or a reliability margin considerably lower than 10% (the latter, in case of an action plan).
1 respondent argues that, from a welfare perspective, loop flows should be accepted until the cost of their management is higher than the gain associated with more capacity for cross-zonal trade. The focus should be on how TSOs coordinate in order to manage loop flows and ensure economically efficient decision-making. The sole measurement of loop flows and their associated costs does not demonstrate a welfare loss as such and should not be presented in this manner.	**Answer 20** See Answer 17.
1 respondent questions how the presence or absence of agreements with third countries affects the stop criterion linked to the 70% target.	**Answer 21** ACER observes that: • ACER's approach did not focus on measuring whether the 70% of the capacity would be available for cross-zonal trade within the EU and potentially with third countries too. • Instead, ACER's approach focuses on whether the remaining 30% capacity was consumed by exchanges that do not relate to cross-zonal trade. In this respect, ACER took a conservative approach

Respondents' views	ACER views
	and did not consider that trades with third countries were part of that 30%, which is equivalent to considering that agreements with third countries would be generally in place. As such, ACER's approach is prudent and avoids penalising MSs affected by exchanges with third countries for which an agreement might not be in place in 2025.
Topic 3: Boundary conditions for the clustering algorithm	
Question 3.1: Do you agree that member state borders should be considered as boundary condition for the clustering algorithm?	
26 respondents provided an answer to this question.	
Respondents' answers: • 1 – Strongly disagree: 19% • 2 – Disagree: 31% • 3 – Neither agree nor disagree: 27% • 4 – Agree: 23% • 5 – Strongly agree: 0%	
Question 3.2: Please indicate other possible geographical boundary conditions for the clustering algorithm, including pros and cons of such approach.	
27 respondents provided an answer to this question.	
According to 11 respondents, it would be worthwhile to consider full mergers of existing BZs across MS borders, leading to a joint BZ covering the MSs entirely, if such a merge would not contain structural congestions and would comply with the stop criteria.	**Answer 22** ACER observes that: • Ideally, the identification of alternative BZs should not be constrained by existing political (i.e. MS) borders; instead, it should aim to seek BZ borders leading to the most efficient management of congestions. Thus, the possibility for mergers of

Respondents' views	ACER views
	BZs beyond MS borders should not be, a priori, excluded in a generic BZR process. However, for this specific BZR, ACER considered that the best approach was to focus on reconfigurations (splits) within a MS rather than on possible combinations of BZs (mergers) across MS borders, for the reasons described below. • First, such approach allows tackling the primary goal of a BZR, which is to eliminate or reduce structural congestions within BZs, as envisaged in Article 14(1) of the Electricity Regulation. Second, it leads to propose configurations that that face less implementation challenges, in the sense that the implementation challenges remain within a single jurisdiction. Third, it does not exclude the possibility of future mergers across MSs, once the main structural congestions are efficiently managed. • Finally, ACER explored the possibility of considering a 'greenfield' configuration (i.e. a configuration disregarding MS borders); however, this was found by regulatory authorities much more difficult, if possible at all, to implement in practice, and TSOs explained that it would be 'extremely difficult' to analyse such a configuration within the timeline of this BZR. ACER acknowledges that a 'greenfield' configuration could be investigated in the future, but that a gradual approach (i.e. starting with configurations that face less implementation challenges) is advisable.
2 respondents fully endorse the proposal to consider MS borders as boundary condition of the clustering algorithm, as BZ configurations regardless of administrative boundaries have little chance of success from a political point of view.	**Answer 23** See Answer 22.

Respondents' views	ACER views
9 respondents argue that boundary conditions such as MS borders are to be avoided, since they restrict the insight into the real structure of the congestions in the electricity market and do not allow the algorithm to detect truly optimal, i.e. economically efficient, reconfigurations. Furthermore, there is no provision in the Electricity Regulation or CACM Regulation to maintain MS borders when defining alternative BZ configurations.	**Answer 24** See Answer 22.
1 respondent questions the approach that selects individual target BZ/MS on which to run the clustering algorithm and suggests considering configurations per Bidding Zone Review Region (BZRR), also allowing mergers.	**Answer 9** See Answer 22.
3 respondents suggest the following alternative boundary conditions: a minimal market size (i.e. minimum thresholds on both supply and demand), a certain ratio of demand and supply in each BZ and a maximum/minimum number of BZ configurations to be achieved. Furthermore, 1 respondent proposes to introduce a ratio between the smallest and the largest BZ.	**Answer 26** ACER observes that setting a minimum value for supply and demand, a certain ratio between them, or a maximum/minimum number of BZs would entail the need for discretional choices that are not easy to agree upon.
1 respondent suggests considering a boundary condition allowing to have congestions on BZ borders, e.g. by using not only LMPs but also nodal Power Transfer Distribution Factors (PTDFs) as clustering features. Furthermore, the nodal PTDFs clustering may rely not only on congestions from nodal simulations but also on congestions from zonal simulations.	**Answer 27** ACER observes that: • With the assistance of an external consultancy firm, ACER explored different clustering features (e.g. nodal prices or PTDFs). • Using nodal prices as a clustering feature was found adequate for this BZR, as it allows to calculate indicators that are easy to understand and can be used as proxies for economic efficiency, in line with the objectives of the Electricity Regulation.

Respondents' views	ACER views
Question 3.3: Do you think that having bidding zones with homogenous size in terms of total generation and consumption should be an objective when identifying alternative bidding zone configurations?	
26 respondents provided an answer to this question.	
Respondents' answers: • Only for newly-defined bidding zones: 4% • Always: 12% • Never: 85%	
Question 3.4: Please provide any comments on this boundary condition.	
26 respondents provided an answer to this question.	
15 respondents claim that homogenous size per se should not constitute an objective for the identification of BZ configurations, as it is not mentioned in the regulation as a criterion. Furthermore, according to 4 respondents, homogeneity raises questions such as how size would be defined and what size is considered optimal. Finally, 6 respondents believe that the size of generation capacity provides no useful information with regard to the homogeneity of BZs.	**Answer 28** ACER observes that: • The issue of similar size of BZs may be a relevant criterion, in the context of the so-called flow-factor competition issue. • Introducing such criterion would require to make an arbitrary choice on an 'adequate' BZ size, which is difficult to agree upon. • Hence, ACER decided not to use a boundary condition on the homogenous size of BZs in the clustering algorithm.
7 respondents argue that the homogeneity requirement is not necessary as, if the methodology and the objectives are well defined and implemented, the resulting alternative configurations would fulfil the defined optimization objective and the size of BZs should be an outcome of it.	

Respondents' views	ACER views
According to 6 respondents, flow factor competition should not be a driver for identifying alternative BZ configurations, since the issue is handled by an appropriate mechanism.	
Topic 4: Combination of identified individual alternative bidding zone configurations to study their joint impact	
Question 4.1: Please provide any comments on the approach to combine the incremental effects of individual alternative bidding zone configurations to study their joint impact.	
23 respondents provided an answer to this question.	
5 respondents argue that it might be more relevant to use the limited time to study high potential configurations instead of a multitude of sensitivity configurations. Increased simulation efforts for each additional configuration could make the BZR infeasible in the time requested by the regulation.	**Answer 29** ACER observes that: • The 12-month period devoted to the BZR study does not allow for a large set of alternative configurations to be studied. • It is practical and more realistic to prioritise those combinations that have the potential to yield sizable benefits with a limited number of BZ changes.
In the view of 7 respondents, the set of alternative BZ configurations to be considered in the BZR study should be sufficiently numerous and contrasted, including extreme configurations.	See Answer 22 and Answer 29.
1 respondent believes that the proposed approach in which it is always the BZ from the top of the ranking being selected at each iteration narrows down the solution domain of potential BZ configurations analysed by the algorithm. It is thus suggested to expand the search among possible configurations by exploring splits made not only on the poorest performing BZ at a given iteration but on e.g. the top 5 poorest performing BZs. After making those 5 splits, an evaluation of the	**Answer 30** ACER observes that: • The iterative approach used by ACER already factors in the fact that after each iteration, the raking of MSs/BZs candidate for a BZ redelineation is updated.

Respondents' views	ACER views
performance of those new BZs would show which split results in the highest increase of the objectives' indicators in that iteration, yielding a better proxy for a path to a final configuration which maximizes the objectives.	• At the end of the iterative process, ACER indeed made an overall ranking to identify alternative configurations that maximise benefits based on the indicators used as a proxy for such benefits.
1 respondent believes that the best approach to identify more than one alternative configuration without lowering the transparency of the process is to select, on top of the last configuration identified in the last iteration of the process, also some of the configurations produced in the previous steps. This means starting from the first iteration and going forward or, alternatively, from the last one and going backward.	**Answer 10** ACER observes that: • The process is transparent as it is based on indicators that were deemed relevant. • The overall ranking (see Answer 30) allows to identify an adequate choice of alternative configurations.
5 respondents question the benefit of including other configurations other than the one obtained when the stop criteria are met, as none of those configurations comply with all stop criteria. As a preferred approach for the inclusion of other configurations, it is suggested to relax the stop criterion linked to the 70% target, e.g. to account for remedial actions, so that all obtained configurations are at least compliant with the other stop criteria.	**Answer 32** See Answer 14, Answer 22 and Answer 29.
Question 4.2: In your view, how many alternative bidding zone configurations per bidding zone review region should be analysed during the bidding zone review to ensure an adequate level of representativeness, while still allowing transmission system operators to comply with the timeline set out in Article 14(6) of the Electricity Regulation?	
26 respondents provided an answer to this question.	
Respondents' answers: • Less than 5: 19% • Between 5 and 10: 35% • More than 10: 46%	

Respondents' views	ACER views
Topic 5: Other comments	
Question 5: Please provide any other comments on the high-level approach and add a sufficient explanation.	
25 respondents provided an answer to this question.	
6 respondents request TSOs to be consulted before the final alternative BZ configurations are proposed.	**Answer 33** ACER observes that indeed TSOs and regulatory authorities were consulted on ACER's preliminary position on the alternative BZ configurations before ACER adopted this Decision.
12 respondents ask for clarification regarding publication, consultation and stakeholder involvement for this BZR. They argue that all data, assumptions, relevant parameters and descriptive methodologies used in the review should be published and made available to all market participants. Furthermore, they suggest that the critical decisions related to the BZR are discussed and approved by an advisory committee including representatives of the concerned industry and member states.	**Answer 34** ACER observes that these elements are laid down in ACER Decision No 29/2020. In particular, see Article 16 and Article 17 of Annex I and Annex Ia.
5 respondents believe that the high-level approach should further clarify how the model-based approach interacts with expert-based approach.	**Answer 35** ACER observes that: • The current Decision is mainly data-driven in the sense that it largely relies on the results of the LMP simulations undergone by TSOs. • When other considerations, including e.g. the views of TSOs or regulatory authorities in light of the configurations derived from ACER's approach, or the actual configurations proposed by TSOs, were taken into account for the Decision, such considerations and the underlying reasoning were clearly described in the current Decision.

Respondents' views	ACER views
1 respondent asks to clarify how the potential of offshore BZs would be included in the analysis preceding a BZR.	**Answer 36** ACER observes that offshore BZs are out of scope of this specific BZR, but they may be considered in upcoming BZRs.
According to 7 respondents, a neutral third party should be in charge to deliver TSOs data, monitor the whole analysis and check the quality of the results.	**Answer 37** ACER observes that: • The Electricity Regulation sets clear roles and responsibilities to each party involved in the BZR process. • Regulatory authorities and stakeholders in general will be consulted during the BZR study with a view to ensure sufficient quality, transparency and neutrality in the outcome of the BZR.
1 respondent favours a more significant redesign of the European market by moving from a zonal model towards a locational one, thereby avoiding the need for ex ante definition of BZs and all the implications this entails.	**Answer 38** ACER observes that a nodal European market design is currently not envisaged in the Electricity Regulation.

3 List of respondents

Organisation	Type
50Hertz Transmission GmbH	TSO
Amprion GmbH	TSO
Bundesnetzagentur	National regulatory authority
BDEW - German Association of Energy and Water Industries	Association
BMWi - German Federal Ministry for Economic Affairs and Energy	Ministry
EDF	Energy company
Edison s.p.a.	Energy company
EFET- European Federation of Energy Traders	European association
Energie AG Oberösterreich Trading GmbH	Energy company
Energie-Nederland	National association
ENTSO-E / All TSOs	European association
EPEX SPOT SE	Power Exchange
Eurelectric	European association
European Energy Exchange AG	European association
Europex	European association
IFIEC Europe	European association
Market Parties Platform (MPP)	European association
Nord Pool European Market Coupling Operator AS	Power Exchange

Organisation	Type
Oesterreichs Energie	National association
PSE S.A.	TSO
RWE Supply & Trading GmbH	Energy company
TenneT TSO GmbH	TSO
Terna Rete Elettrica Nazionale S.p.A.	TSO
TIWAG - Tiroler Wasserkraft AG	Energy company
TransnetBW	TSO
UFE	National association
UNIPER SE	Energy company