Contribution ID: 08e46f3c-ce56-4b69-bf85-bb0884881fbf
Date: 29/07/2021 08:46:35

Public consultation on the high-level approach for the identification of alternative bidding zone configurations to be considered for the bidding zone review

Fields marked with * are mandatory.

This consultation is addressed to all interested stakeholders.

Replies to this consultation should be submitted by **3 August 2021, 23:59 hrs (CET)**.

Questions should be addressed to ACER-ELE-2020-001@acer.europa.eu.

Contact information

* First Name

[redacted]

* Last Name

[redacted]

* Company / Institution

EDF

Affiliation

- European association
- National association
- TSO
- NRA
- DSO
- Shipper or energy trading entity
- End-user
- Other (e.g. Power Exchanges, Storage Operator, etc)

Address

22-30 avenue de Wagram 75008 Paris

* Email

[redacted]

Contact phone

[redacted]

Country

FR - France

☑ I confirm that I have read the data protection notice in this link and accepted.

* Is your input into this consultation confidential?

- ○ Yes
- ◉ No

ACER will publish all non-confidential responses.

ACER will process personal data of the respondents in accordance with Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, taking into account that this processing is necessary for performing ACER's consultation task. For more details on how the contributions and the personal data of the respondents will be dealt with, please see ACER's Guidance Note on Consultations and the specific privacy statement attached to this consultation.

Related documents

- Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators ('ACER Regulation')
- Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast) ('Electricity Regulation')
- Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management ('CACM Regulation')
- Regulation (EU) 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council Text with EEA relevance
- All TSOs' 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 in accordance with Article 14(5) of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5th June 2019 on the internal market for electricity

- ACER Decision on 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 (ACER Decision 29-2020)
- ACER Guidance Note on Consultations

Introduction

This consultation aims to gather views and information from stakeholders on the high-level approach for the identification of alternative bidding zone (BZ) configurations to be considered for the bidding zone review (BZR) process, pursuant to Article 14(5) of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity ('The Electricity Regulation').

This consultation follows the one launched in April 2020, whose scope was to gather views and information from stakeholders on selected aspects of the proposal developed in accordance with the above-mentioned article.

The definition of alternative BZ configurations has proven a difficult aspect of the proposal. In particular, the proposal did not include any alternative BZ configuration for Central Europe. In light of the insufficient technical information available for ACER to take an informed decision on alternative BZ configurations, with its Decision 29-2020 (the 'Decision'), issued on 24 November 2020, ACER adopted a pan-European BZR methodology and requested Transmission System Operators (TSOs) to carry out a Locational Marginal Pricing (LMP) simulation. Based on the results of this LMP simulation, ACER will be able to take a separate decision on alternative BZ configurations at a later stage.

When it comes to delineating BZs, there are at least two possible approaches. A first approach is a top-down (expert-based) one, whereby experts propose alternative BZ delineations, which could potentially yield more efficient outcomes than the current BZ configuration (the status quo). Based on available data and, whenever feasible, by performing certain market/network simulations, those alternative delineations are then confirmed or refined and finally prioritised. A second approach is a bottom-up (model-based) one, whereby LMP simulations are performed with a view to clustering nodes into BZs. Subject to certain delineation constraints, the clustering exercise yields alternative BZ configurations. By requesting TSOs to perform a LMP simulation, ACER intends to adopt a model-based approach for identifying alternative BZ configurations, as further elaborated in this document.

Taking stock of lessons learnt from previous BZRs, ACER is gathering views from stakeholders in an attempt to identify improvements to the high-level approach for the identification of alternative BZ configurations to be considered for the BZR.

In the following, the context of this public consultation is first presented. Subsequently, the general approach is described and the detailed process explained in detail. At the end, the questions for consultation are listed.

Context

Background

Pursuant to Article 14(5) of the Electricity Regulation, 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 BZ configurations to be considered for the 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 29-2020 (the 'Decision'), issued 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.

Legal framework

Pursuant to Article 14(1) of the Electricity Regulation, "*Bidding zone borders shall be based on long-term, structural congestions in the transmission network. 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. 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 addition, Article 33 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (‘the CACM Regulation’) includes a list of minimum criteria that the BZR shall consider.

While the BZR study has to consider all the criteria listed in the CACM Regulation, the following three elements are explicitly mentioned in the Electricity Regulation as objectives to be pursued when delineating BZs. Moreover, these three elements can be quantified and, as such, more efficiently compared. These elements are:

- Minimisation of structural congestions within BZs;
- Maximisation of economic efficiency;
- Maximisation of cross-zonal trading opportunities.

A fourth element mentioned in the Electricity Regulation is security of supply, which is difficult to quantify during the identification of alternative BZ configurations. This element will however be considered during the BZR study as envisaged in the CACM Regulation.

General approach

The approach to identify alternative BZ configurations depends on the available data.

As reported in paragraph 150 of the Decision, results derived from LMP simulations are adequate to inform on the decision on alternative BZ configurations and in particular on the three objectives derived from Article 14(1) of the Electricity Regulation.

With regard to the objective 'Minimisation of structural congestions within BZs', LMP simulations shed light on whether BZs contain structural congestions or not. In particular, LMP simulations, together with clustering and flow decomposition techniques, allow establishing a cause-effect relationship between physical congestions and the network areas that, by exchanging energy, significantly contribute to such congestions. This is in line with Article 2(4) of the Electricity Regulation that describes congestion as "*a situation in which all requests from market participants to trade between network areas cannot be accommodated because they would significantly affect the physical flows on network elements which cannot accommodate these flows*". How the results of the LMP simulations and clustering techniques can be combined to identify the relevant network areas contributing to congestions is further described in the following section.

With regard to the other two objectives to be pursued when delineating BZs:

- Maximisation of economic efficiency: The results derived from LMP simulations provide a good opportunity to incorporate the economic efficiency criterion in the identification of alternative BZ configurations. While economic efficiency will be more accurately modelled in the BZR study itself, it is possible to use a proxy for economic efficiency when defining alternative BZ configurations. For example, a more efficient dispatch is expected to be attained when there are no or very limited nodal price differentials within a BZ. This is because the absence of nodal price differentials suggests that intra-zonal congestions are not expected to severely constrain the results of the market.

- Maximisation of cross-zonal trading opportunities: First, the minimum 70% target introduced in Article 16(8) of the Electricity Regulation is a binding requirement to be satisfied as of 1 January 2026, which could lead to a BZ change if not met, pursuant to Article 15(5) of the Electricity Regulation. Second, such minimum target is easier to meet when the flows that do not result from capacity allocation, i.e. loop flows and internal flows, consume a relatively small share of the capacity of network elements. In this context, a flow decomposition analysis is an adequate tool to identify whether alternative BZ configurations are able to limit the amount of flows that do not result from capacity allocation and to achieve the legally required targets.

As a summary, results derived from LMP simulations, complemented with flow decomposition analyses, will

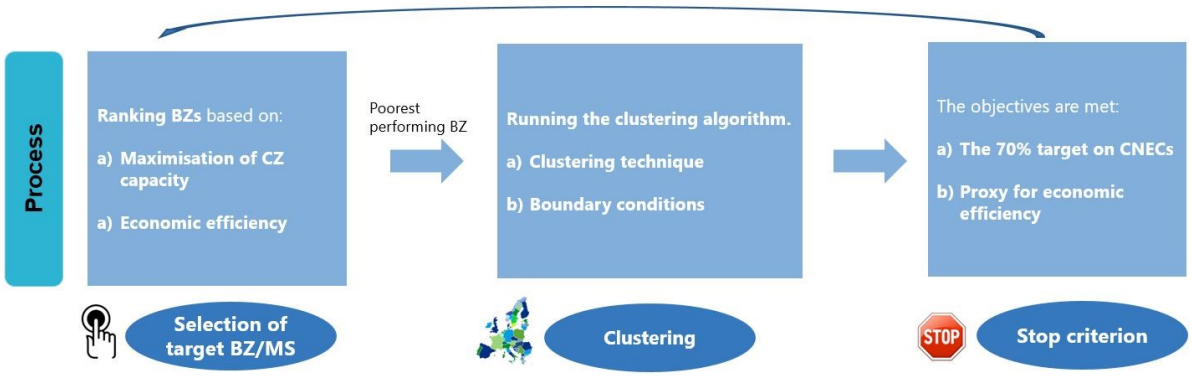
be used to assess whether different alternative BZ configurations contribute to the objectives envisaged in the Electricity Regulation for the design of BZs. This includes the presence, or the lack thereof, of structural congestions within BZs and the maximisation of economic efficiency and cross-zonal trading opportunities.

In the following, the detailed process leading to the definition of alternative BZ configurations is presented.

Detailed process

The process proposed to identify alternative BZ configurations is an iterative one that comprises three steps: i) the selection of the target BZ/Member State (MS), ii) the clustering and iii) the stop criterion, as presented in Figure 1. An additional fourth step that is not part of the iterations is also required to combine the identified individual alternative BZ configurations to study their joint impact. For the sake of clarity, an individual BZ configuration refers to e.g. the split of a given BZ A into two BZs A1 and A2, while an alternative BZ configuration may consider the joint impact of such split with another individual BZ configuration, e.g. the merge of BZ B and BZ C into a single BZ. This fourth step is described at the end of this section.

Figure 1 – High-level approach for the definition of alternative BZ configurations



The process is designed in such a way that each iteration focuses on one single BZ or one single MS, based on the ranking built in the first step (‘the selection of the target BZ/MS’), as further described below. This is an important feature of the process as it imposes the MS borders as a boundary condition to the process. In practical terms, this implies that both splits and mergers of BZs as alternative configurations are possible as long as the new BZ remains within existing MS borders, with the only exception of maintaining already existing BZs comprising more than one MS (essentially Germany and Luxembourg).

This choice does not exclude the possibility for mergers beyond MS borders in future BZRs. However, such a possibility is not considered for this BZR for the following reasons. First, in light of the Electricity Regulation, the main trigger and objective of a BZR is to address structural congestions and/or facilitate the attainment of the minimum 70% target. In view of the significant presence of congestions in Europe and the significant efforts still needed to meet the 70% target, it seems efficient to focus on configurations that help to meet this target. Second, it was found that it would be difficult to reach an agreement on which mergers to prioritise, if any, and to introduce specific arrangements that MS mergers would entail. Hence, as the number of configurations to be studied needs to remain limited, it is efficient to focus on alternative configurations for which an agreement is likely to be found.

The iterative process is conducted separately for each area where a joint LMP analysis is carried out by the TSOs. In the following, each step is presented in detail.

The first step, 'the selection of the target BZ/MS', aims to identify the BZ (or the MS to which the BZ belongs when several BZs belong to the same MS, as further elaborated below) that is selected in each step for the identification of alternative configurations in such BZ. Such identification is based on a ranking built on the following two indicators:

- Amount of burdening internal flows and loop flows per BZ on relevant network elements; and

- An indicator on economic efficiency, as further detailed below.

With regard to the first indicator, the amount of burdening internal flows and loop flows per BZ is derived from a flow decomposition analysis. An internal flow or a loop flow caused by a given BZ is considered to be burdening if it is in the same direction as the sum of all internal flows and loop flows on the considered network element. Flow decomposition is performed on all cross-zonal network elements as well as internal network elements used in capacity calculation, based on best available data and computational capabilities. This analysis covers the most recent three years (i.e. 2018, 2019 and 2020) of the latest ENTSO-E's technical report on structural congestions and other major congestions as well as the target year of the BZR, i.e. 2025. The lower the amount of burdening internal flows and loop flows on network elements originated in a given BZ, the higher the BZ scores with regard to this indicator.

With regard to the second indicator, different indicators, which can be used as a proxy for economic efficiency, are currently being considered. An example of this could be the dispersion of nodal prices. In such a case, the lower the dispersion of nodal prices in a given BZ, the higher the BZ scores with regard to this indicator.

Then, BZs are first ranked according to each of the two indicators and then a single ranking is built by combining the positions of each BZ in both rankings, while considering that the two proposed indicators are equally important for the purpose of the aggregated ranking. At each iteration, the geographic area where alternative BZ configurations are investigated is the BZ which performs the worst in the aggregated ranking. If the MS already includes multiple BZs, the identification of alternative BZ configurations for the MS as a whole may be investigated. This allows the possibility of considering mergers of BZs within MSs that currently comprise more than one BZ. When a MS with multiple BZs is selected for the first time in step 1, then the algorithm would seek to identity two BZs within the MS. If the MS is selected again in a subsequent step 1, then the algorithm would seek to identify three BZs within the MS and so on.

The second step corresponds to the application of a clustering algorithm, aiming to group nodes into BZs. Additional considerations regarding this step are as follows:

- First, this step is based on the results of the LMP simulations, which is solely conducted for the target year of the BZR, i.e. 2025.

- Second, currently two types of clustering methods, namely graph-based and constrained clustering, are being considered for the selection of the most adequate clustering algorithm. The final selection will depend on the outcome of the consultancy study on the matter.

- Third, the identification of sub-BZs within a BZ is subject to an additional boundary condition: the size, in terms of total generation and consumption of the newly identified BZs, should not be too different. This is needed to mitigate the issue related to the so-called flow-factor competition that could arise in case of very diverse BZ sizes.

The third step, the ‘stop criterion’, aims to determine whether the iterations for the identification of additional BZ configurations should continue or not. In line with the objectives envisaged in the Electricity Regulation, the iterations stop when the following two targets are simultaneously met:

- For all the considered network elements and market time units, the share of internal flows and loop flows taken together is lower than or equal to 23% of the thermal capacity of the network element. This value is obtained by assuming a 10% share for reliability margins and a contribution of this share in the ratio 20/70 to internal flows and loop flows.

- The indicator used as a proxy for economic efficiency reaches the target for all considered BZs. For example, if the dispersion of nodal prices is considered as a proxy, the target would be set to a residual value.

If, after each iteration, the stop criteria are not met, then the process restarts from step 1, to identify a new BZ to be selected for the identification of alternative configurations in such BZ. For each step, a new list of BZs is used as an input. Such list comprises: i) the BZs of the status quo, except those that were altered in previous iterations and ii) the BZs proposed in any of the previous steps. For MSs with multiple BZs, the BZs to be considered in each step are the ones identified during the latest iteration when the MS was selected in step 1.

The fourth and final step concerns the combination of the identified alternative BZs into alternative configurations to be studied. A list of maximum 10 alternative configurations per bidding zone review region is envisaged. This list includes a limited number of:

- Individual alternative BZ configurations;

- Combination of two individual alternative BZ configurations;

- Combination of three (or more) individual alternative BZ configurations

selected among all possible combinations of individual alternative BZ configurations that lead to the highest incremental improvements for the considered indicators.

Questions

Topic 1: Main objectives for the identification of alternative bidding zone configurations

Article 14(1) of the Electricity Regulation establishes that "*Bidding zone borders shall be based on long-term, structural congestions in the transmission network. 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. 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".*

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?

at most 1 choice(s)

- ☐ Strongly disagree
- ☑ Disagree
- ☐ Neither agree nor disagree
- ☐ Agree
- ☐ Strongly agree

1.2 Please provide any comments on the main objectives to be considered when identifying and prioritising alternative bidding zone configurations.

4999 character(s) maximum

The three objectives proposed here by ACER stem from the E-Reg Article 14(1). EDF would also like to draw the attention on CACM Article 33 which includes 20 objective criteria to be considered when assessing the BZR. EDF understands ACER first wants to take into account a limited number of objectives at this stage of the BZR process (delineation phase), dedicated to the identification of the alternative configurations to be considered in the BZR assessment study, and that, during the BZR study in itself, ACER intends to assess the different configurations based on a multi-criteria analysis, using all CACM criteria.

Comments on the way to proceed in the delineation identification phase:
It is important to keep in mind that no experience has yet been gathered with the actual assessment of the efficiency of different BZ configurations. Therefore, and especially as the upcoming review will be the first actual review, it is crucial that a sufficiently wide range of BZ configurations is selected for review (mirroring different futures). The selection should however not be based on guessing the outcome of the assessment analysis to come.
At this stage of the delineation identification phase, no prior assessment analysis is needed. The only

objective is to get a reliable set of alternative BZ configurations (to be further assessed during the BZR study in itself), using clustering techniques and based on the LMPs simulation results for the target year 2025 to be provided by TSOs in Q4 2021. According to the dedicated methodology, those LMPs shall be provided at least for all the nodes at nominal voltage level greater than or equal to 220 kV that are included in the grid models.
For this first implementation of the new methodology, the criteria for the delineation of BZs should be rather basic and based on a common sense approach. EDF considers that the choice of one single appropriate indicator to identify structural congestions is sufficient (cf. “objective 1)”. Price differentials between nodes provide a good proxy of the efficiency of congestion management. In line with the objective to delineate BZ in order to limit structural congestions, one could simply place borders at larger congestions foreseen on the target year, which is supported by clustering of nodal prices (simulated LMPs), with the price differential as indicator. The “dispersion of nodal prices” is one of the indicator proposed by ACER for the selection of BZs in Topic 2. This would allow to get a range of BZ delineations by exploring different levels of congestion (using different levels of price differentials).

Comments on the three objectives introduced by ACER:
The three objectives mentioned go in the same direction of favoring smaller bidding zones and they are not complementary / orthogonal at all. As the approach is presented (see as well Topic 2), the iterative algorithm will only favor a configuration targeting minimal congestions within BZs.
EDF considers that only the objective “1) Minimisation of structural congestions within BZ” is appropriate as it stands in ACER’s proposal. Pursuant E-Reg Article 14(1) and in connection with the CACM criterion called “location and frequency of congestion”, the identification of long term structural congestion is a relevant criteria to delineate BZ, while taking into account network development. EDF yet recalls that this should target long term structural congestions (and not short term ones). Indeed, short term structural congestions can be efficiently addressed through congestion management measures foreseen in CACM, such as efficient capacity calculation and allocation, and remedial actions such as countertrading and redispatching. In addition, there is real potential way to improve social welfare when investing in infrastructure, whereas BZR reconfiguration just implies redistribution among TSOs/market participants.
EDF would like to stress that objective 3) Maximisation of cross-zonal trading opportunities” is not an objective per se, but rather a criterion to be respected in the capacity allocation, cf. the 70% threshold for MACZT in E-Reg . Of course, CZT opportunities could be evaluated in the assessment phase; but at this stage, it is absolutely not relevant to consider an indicator on the amount of internal flows and loop flows contributing to congestions. Moreover, this would be redundant with previous indicator on LMPs differentials. Should ACER nevertheless want to use this indicator, it is key that the BZR reflects well the variety of approaches applied in practice based on the CACM and SOGL methodologies. Applying the 70% constraint in a straightforward way (which would be theoretical as there are still derogations and there might be reductions related to operational security reasons) would not be reflective of the practical approaches and could significantly distort the BZR results.

EDF believes that objective “2) Maximisation of economic efficiency” is relevant, b

Topic 2: Indicators for the selection of the target bidding zone/member state

To ensure that the objectives listed in Topic 1 are met, and based on the data available to ACER, the following indicators are proposed:

- The amount of internal flows and loop flows contributing to congestions, per bidding zone and on network elements included in capacity calculation, for the maximisation of cross-zonal trading opportunities; and

- The dispersion of nodal prices, i.e. assessing the level of homogeneity of nodal prices within the same bidding zone, for the maximisation of economic efficiency.

2.1. Do you agree with the proposed indicators?

at most 1 choice(s)

- [x] Strongly disagree
- [ ] Disagree
- [ ] Neither agree nor disagree
- [ ] Agree
- [ ] Strongly agree

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.

4999 character(s) maximum

The indicators in question are the one used for selecting/ranking MSs/BZs (step 1) but as well for the stop criterion (step 3). Hence, in the ACER proposal, they are determining drivers for the choice of BZ configurations delineation resulting from splitting MSs/BZs. The reliance on these two indicators used at two different steps of the process creates a risk of inconsistency and non-robustness depending on the way ACER implements it concretely, while the precise parameters and thresholds of the approach are not yet published by ACER.

Comments on the approach:
As the approach is presented, the iterative algorithm will only favor a configuration targeting minimal congestions within BZs. EDF believes that only one of the two indicators proposed by ACER (“dispersion of nodal prices”) is of some relevance for this delineation identification phase but requires further specifications. On the contrary, the second (“amount of internal flows and loop flows contributing to congestions”) is not appropriate since this aims just at assessing BZ configurations w.r.t. a 70% criteria without any operational security consideration and with a structural assumption about the likelihood of a coordinated capacity calculation and congestion management approach with third countries. Moreover, ACER says that it will aggregate the two indicators by weighting equally both indicators to rank BZs, which is questionable. Finally, the stop criterion is very constraining as it stands in the ACER proposal and as well inconsistent with the selection/ranking criterion, since the iterative process of splitting BZs continues, if, after each iteration, both criteria are not met (i.e. the two targets on the two indicators simultaneously).

Comments on the indicators introduced by ACER:
ACER indicates economic efficiency could be represented as a proxy by the “dispersion of nodal prices”, namely based on price differentials between nodes. EDF considers that this is not a measure for economic efficiency, but rather for congestion levels, and a proxy of efficiency of congestion management. While it can be viewed probably as a better way to delineate BZ in this identification step (see our answer to Topic 1), EDF would like to stress that:
- This will allow for an assessment of structural congestions only from a short term perspective since ACER says the analysis will cover historical data from 2018, 2019, 2020 together with the target year 2025. On the contrary, EDF believes that BZR should adopt a longer term perspective, in line with its position on

BZ stability and robustness over time.

- No stop criterion is mentioned by ACER. With no fixed threshold, the optimum is a nodal decomposition of the considered BZ/MS.
- 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.
- Instead of such an iterative process, as presented in answer to Topic 1, BZ delineations could rather be obtained by using several levels of prices differentials to target different level of congestions.

As mentioned in Topic 1, EDF considers that the evaluation of CZ trading opportunities not to be relevant at this stage. Hence, EDF strongly requests that the "amount of internal flows and loop flows contributing to congestions, per bidding zone and on network elements included in capacity calculation" is not used in the delineation phase to select BZ configurations. Indeed:

- This is an assessment indicator of BZ configurations (cf. respect of the 70% rule) which is not relevant at this stage. It should be only assessed during the BZR study itself.
- Structural congestions can be simply better identified with the dispersion of LMPs.
- The stop criterion proposed (cf. "for all the considered network elements and market time units, the share of internal flows and loop flows taken together is lower than or equal to 23% of the thermal capacity of the network element") is arbitrary and biased by the current set up on MACZT 70% rule. This would as well pre-empt the outcome of national plans.
- EDF understands that the computation would be made excluding third countries internal flows and using a capacity calculation based on the current set up (when an agreement exists), whereas the target year of the BZR is 2025 and hence ACER shall not leave out a possibility of different coordinated set up with third countries.

According to EDF, as explained in answer to Topic 1, if ACER wants to include some BZ assessment already in this delineation identification step, it should favor an indicator relating to market efficiency.

Topic 3: Boundary conditions for the clustering algorithm

The high-level approach is designed in such a way that each iteration focuses on one single bidding zone or one single member state, based on the ranking built in the first step ('the selection of the target bidding zone/member state'). In practical terms, this implies that both splits and mergers of bidding zones as alternative configurations are possible as long as the new bidding zone remains within existing member state borders, with the only exception of maintaining already existing bidding zones comprising more than one member state.

3.1. Do you agree that member state borders should be considered as boundary condition for the clustering algorithm?

at most 1 choice(s)

- [ ] Strongly disagree
- [ ] Disagree
- [ ] Neither agree nor disagree
- [x] Agree
- [ ] Strongly agree

3.2 Please indicate other possible geographical boundary conditions for the clustering algorithm, including pros and cons of such approach.

4999 character(s) maximum

The question is about a very technical feature of the clustering algorithm. Since the iterative procedure starts from BZs corresponding to MSs, MS borders are truly a natural option for boundary conditions of the clustering algorithm. We acknowledge this common sense approach, which seems relevant since BZ configurations regardless of administrative boundaries have little chance of success from a political point of view.

An additional boundary condition of the clustering algorithm is introduced, according to which the size, in terms of total generation and consumption of the newly identified bidding zones, should not be too different. This is needed to mitigate the issue related to the so-called flow-factor competition that could arise in case of very diverse bidding zone sizes, as further elaborated below. The competitive position of one bidding zone with respect to the others in the access to cross-zonal capacity is determined by the zonal Power Transfer Distribution Factors (PTDFs). A so-called flow-factor competition issue arises whenever zone-to-zone PTDFs between two bidding zones are systematically larger than between any other pair of bidding zones. In those circumstances, the concerned bidding zones have fewer chances to access the available cross-zonal capacity and, under scarcity circumstances, this could in turn lead to security of supply issues.

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?

at most 1 choice(s)

- [ ] Only for newly-defined bidding zones
- [ ] Always
- [x] Never

3.4 Please provide any comments on this boundary condition.

4999 character(s) maximum

Currently, BZs do not have homogeneous size in Europe. Furthermore, the flow factor competition between BZs should not be a driver for identifying alternative BZ configurations, since the issue is handled by an appropriate patch in the market coupling algorithms for FB regions. Should the BZR in its whole (from the identification to the assessment) impose the homogeneity of BZs' size, this would create an additional constraint potentially undermining the maximization/minimization of the objective functions while a solution is already in place today.

Topic 4: Combination of identified individual alternative bidding zone configurations to study their joint impact

An individual bidding zone configuration refers to e.g. the split of a given bidding zone A into two bidding zones A1 and A2, while an alternative bidding zone configuration may consider the joint impact of such split with another individual bidding zone configuration, e.g. the merge of bidding zone B and bidding zone C into a single bidding zone.

A list of maximum 10 alternative configurations per bidding zone review region is envisaged. This list

includes a limited number of:

- Individual alternative bidding zone configurations;
- Combination of two individual alternative bidding zone configurations;
- Combination of three (or more) individual alternative bidding zone configurations.

selected among all possible combinations of individual alternative bidding zone configurations that lead to the highest incremental improvements for the considered indicators.

The need to set a limit to the maximum number of alternative configurations to be studied is derived from the time window available to transmission system operators to perform the bidding zone review. This is laid down in Article 14(6) of the Electricity Regulation, according to which "*On the basis of the methodology and assumptions approved pursuant to paragraph 5, the transmission system operators participating in the bidding zone review shall submit a joint proposal to the relevant Member States or their designated competent authorities to amend or maintain the bidding zone configuration no later than 12 months after approval of the methodology and assumptions pursuant to paragraph 5*".

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.

4999 character(s) maximum

The set of alternative BZ configurations to be considered in the BZR assessment study should be sufficiently numerous and constrasted, with a sufficiently diverse range of combinations and including extreme configurations (combinations of the smallest BZs up to combinations of the largest BZs).
It will also allow to test the BZR methodology – which will be applied for the first time, and demonstrate or improve the robustness of the approach developed by ACER to gain credibility.
ACER mentions "alternative bidding zone configurations [to be considered] per bidding zone review region". There is a need to clarify and bring transparency on the notion of bidding zone review regions to be considered and on the criteria to be used to define them.

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?

at most 1 choice(s)

- ☐ Less than 5
- ☐ Between 5 and 10
- ☑ More than 10

Topic 5: Other comments

5 Please provide any other comments on the high-level approach and add a sufficient explanation.

4999 character(s) maximum

Transparency, consultation process and stakeholder involvement
EDF asks ACER to clarify how it intends to proceed in terms of publication, consultation and stakeholder involvement for this BZR. EDF supports maximal transparency and strong involvement of market participants during all steps of the BZR.

- All data, assumptions, relevant parameters, descriptive methodologies used in the review should be published and made available to all market participants.
- This is the case as well for the delineation phase for all assumptions and parameters of the approach, which should be published before the LMPs simulation results will be provided by the TSOs.
- A similar process should be in place as the one in the last BZR with a stakeholder group of representative organisations advising the team performing the review.
- The critical decisions related to the BZR should be discussed and approved by an advisory committee including representatives of the concerned industry and the Member States;
- EDF requests the organization of public workshops after each stage of the process (providing transparent information to the stakeholders and allowing to consider their views/proposals) and public consultations at each critical stage.
- The stakeholder group should also be involved in the assessment of the result and the consideration of respective criteria. The assessment should be complemented by a broader European consultation.

Considerations about market liquidity
Although strictly speaking out of scope of this consultation, EDF would like to re-iterate its concerns following two studies on liquidity (from DNV-GL early 2020 and the ASSET study in 2021). First, the liquidity in particular of forward products that are important for hedging is necessarily bigger in larger bidding zones. Secondly, even if innovative hedging instruments are introduced to hedge the locational price risk, those will not be liquidly traded and hence the gain in terms of liquidity and welfare still needs to be demonstrated. Third, assessing the welfare impacts of lower or higher liquidity is a complex but necessary task that requires further work as well as a thorough methodological investigation.

Contact

ACER-ELE-2020-001@acer.europa.eu