Second amendment of Methodology for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process

in accordance with Article 30(1) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing

31 January 2024

Purpose:	☐ methodology draft ☒ for ACER approval	☐ for public consultation ☐ for final publication
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TSO approval:	☐ for approval	☒ approved
NRA approval:	☐ outstanding	☐ approved

All TSOs, taking into account the following:

Whereas

(1) This document provides an amendment to the Methodology for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process in accordance with Article 30(1) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing ("EB Regulation") following the ACER decision No. 01/2020 of 24 January 2020 on the methodology to determine prices for the balancing energy that results from the activation of balancing energy bids as amended by the ACER decision No. 03/-2022 of 25 February 2022 on the amendment to the methodology for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process (hereafter both referred to as the "Pricing Methodology").

(2) European TSOs strongly support the European target model defined by the EB Regulation for integrated balancing energy markets, especially the implementation of the European platforms for the exchange of balancing energy and see significant advantages resulting from it.

(3) On amending maximum and minimum balancing energy prices

   a. Due to developments and observations on balancing energy markets across Europe, All TSOs identified that technical price limits are needed for the efficient functioning of the market. Therefore, All TSOs consider it necessary to introduce the proposed amendment of the Pricing Methodology, namely the introduction of permanent maximum and minimum prices for balancing energy below the future level of the current technical price limit for balancing energy.

   b. Article 10(1) second sentence of Regulation (EU) 2019/943 allows for technical price limits which may be applied in the balancing timeframe. Therefore, All TSOs understand that Regulation (EU) 2019/943 does not restrict the possibility, provided by the Article 30(2) of the EB Regulation of introducing technical price limits in the balancing timeframe, if it is deemed necessary by the TSOs. This amendment to the pricing methodology proposes the technical price limits for balancing energy prices, including both bidding and clearing prices, equal to ±15,000 €/MWh. These price limits are not lower that the limits imposed within the day-ahead and intraday timeframes and are not considered to restrict price formation. Concerns of disproportionality are also resolved by the fact that a mechanism for an automatic adjustment of the technical price limits for balancing energy prices will be proposed by All TSOs at latest 42 months after the implementation deadline of the European balancing platforms. This approach was chosen because the adjustment mechanisms applied in the DA and ID markets are not considered as an equally suitable, less intrusive means for the balancing market due to its specific market conditions. Additionally, it is not possible for All TSOs to develop an appropriate approach within a short period of time, i.e. within 2024. Therefore, the foreseen timeframe ensures sufficient stakeholder involvement, allows the results of the

assessment of the functioning of the balancing market (which is to take place 36 months after the implementation deadline of the European balancing platforms) to be considered, and guarantees a suitable adjustment mechanism to be available at latest 48 months after the implementation deadline of the European balancing platforms also respecting the legal deadline of six months within that the Agency shall adopt a decision according to Article 6(2) of EB Regulation.

c. The balancing energy market is designed to allow TSOs to efficiently balance the system in real-time. To be efficient, this market needs to be sufficiently deep to allow TSOs to cover their demand for balancing energy, and sufficiently diversified to ensure competition between balancing service providers. Such competition is essential to ensure a price formation that reflects the true value of balancing energy (i.e., the marginal cost of the marginal asset providing balancing energy). In principle, this can be achieved with prices well below the Value of Lost Load (VoLL). If price stays below that level, such a market will be more efficient than an inelastic market with even a perfectly optimal level of adequacy. Resulting, All TSOs do not consider that a maximum price for balancing energy of ±99,999 EUR/MWh ensures an efficient functioning of the balancing energy market.

d. A maximum price for balancing energy protects consumers from excessively high prices for balancing energy. Without such regulation, uncontrolled bidding might drive up prices to unsustainable levels, leading to increased costs for consumers and potential affordability issues. By implementing a maximum balancing energy price and thus keeping imbalance costs at an acceptable level, energy markets can maintain affordability and accessibility for all consumers, including households and businesses. This also effects collaterals of market participants which must be huge in case of extreme imbalance prices, which would create unjustified market entry barriers. Insufficient collaterals would on the contrary imply socialising the risk of a BRP's bankruptcy, which may be considered unfair.

e. Balancing services are essential for reliable system operation, which is why TSOs have established technical requirements for them. This ensures that the service is provided at the required quality and that the European interconnected power system can be operated reliably. At the same time, the justified requirements for this indispensable "insurance service" also lead to a smaller group of participants than in the regular energy market. Therefore, only a limited number of BSPs are present in the local balancing energy potentially leading to high local market concentration levels. The integration of balancing energy markets via the European balancing platforms may lead to additional competition but is not guaranteed as CZC is not available by default for the exchange of balancing energy. Sufficient competition is essential for an efficiently functioning market. However, the local balancing energy markets are too concentrated, as reported by All TSOs to ACER and NRAs in accordance with Article 9 of the Pricing Methodology. In such cases BSPs face little competition and have the potential to exercise market power. Such market power may lead to strategic bidding, meaning financial/economic withholding, which involves

bidding in prices higher than the marginal bid expected under perfect market conditions. The principle that the market will regulate so that BSPs offer just above their marginal costs may therefore not apply to a significant number of bids. As presented by All TSOs during EBSG meetings, more than 10% of the submitted bids for positive aFRR energy exceeded 7,500 €/MWh over a period of several months. Additionally, stakeholders have acknowledged that BSPs consider strategic aspects, e.g., the possibility of a congestion, in their bids.

f. All TSOs have already stated that there has been no shortage of bids in the recent past, which leads to the conclusion that the marginal costs for balancing energy are therefore below the currently valid transitory price limit. Otherwise, BSPs would have left the balancing market, which was the case for some with the introduction of the complex EB Regulation target market design but not with the changes in price limits and much lower local price limits. However, it seems appropriate to consider the possibility that other price levels due to underlying cost developments may exist in the energy and balancing markets in the future. Therefore, All TSOs commit to develop and propose for approval an alternative adjustment mechanism applicable from ±15,000 EUR/MWh as a starting point after the expiry of the transitory price limit. This allows All TSOs to thoroughly develop an appropriate adjustment mechanism considering the special conditions at balancing markets and discuss it with relevant stakeholders.

g. The objective of EB Regulation to integrate national balancing energy markets assumes available CZC to increase competition across borders. However, EB Regulation does not guarantee a sufficient amount of CZC for the exchange of balancing energy by default – instead balancing platforms should consider CZCs remaining after the single intraday coupling. This holds true for the current situation in which very few TSOs are connected to the European balancing platforms but is likely to continue in the future even when European balancing platforms are mature. The overall energy market design, setting out a sequential utilisation of CZC will always result in most of the CZC being allocated to previous timeframes, notably day-ahead and intraday, while leaving little to no CZC to the balancing timeframe. Even if the CZC issue would be solved and if opportunities trigger investments to participate in the balancing energy market and result in additional liquidity at a reasonable price, such process needs time between the observation of opportunities on the market and the actual participation of (new built) flexibility. The moment when sufficient competition will emerge is unknown, and mitigation measures are necessary in the meantime to limit the potential damages caused by a lack of competition.

h. The necessity of harmonised maximum and minimum prices for balancing energy also results from the fact that the balancing energy market is not subject to the same free price formation as is the case in the day-ahead and intraday market. In a wholesale market, energy providers and consumers can determine the quantity and prices they are willing to pay. This is not the case in the balancing energy market. While providers can set the quantity and price of the energy, they are willing to offer, there is – at least for most TSOs´ a/mFRR demands – no price sensitivity on the demand side, as TSOs balance the system at any costs, i.e., TSOs are required to take whatever amount is necessary to

restore system balance (Inelastic demand side). The amount required is determined by an external variable, namely the sum of feed-in and withdrawal of the system's energy. In scarcity situations, whether the scarcity is real, forced by BSPs or caused by errors, balancing energy markets are likely to be inefficient because BRPs are not flexible and cannot participate in the price formation, which is determined solely by the bids of BSPs (oligopolistic supply side). In these circumstances, BSPs are not given the incentive to submit balancing energy bids representing their marginal costs but see the possibility of maximising their profits by submitting strategically motivated bids, limiting the all-around price flexibility.

i. The balancing energy gate-colure times take place repeatedly, once every 15 minutes, with similar bidders and similar volumes put out to tender. Following market theory, the organisation of balancing energy markets constitutes a repeated game rather than a one-shot game between the bidders, which has an influence on incentives and expected outcomes of the market. The presence of multi-unit-supply bidders in balancing energy markets deciding based on their own self-interest and preferences aiming to maximise their profits would only encourage efficiency and fair competition in case of bidding the underlying marginal costs (including opportunity costs). Balancing energy market design established through EB Regulation together with structure of supply and demand side may likely result in strategic bidding behaviour and thus inefficient market results.

j. The evaluation of the submitted balancing energy bids shows a significant number of bids not related to the level of wholesale energy prices (or a low ratio of them), as presented by All TSOs to Stakeholders during the EBSG Meeting dated 25/05/23. This is further underlined by the "ACER report on the progress of EU electricity wholesale market integration" published in November 2023, stating that on average, prices in the day-ahead and intraday timeframes correlate the best (0.97), followed by prices in the intraday and balancing timeframes (0.84). The correlation between prices in the day-ahead and balancing timeframes is the lowest (0.83). ACER states in their report, that the numbers are justified by the fact that in theory, market prices in day-ahead and intraday timeframes share the same main driver: economic efficiency, where security of supply is a strong fundamental in the balancing timeframe. From All TSOs' point of view, it is at least questionable whether such a decoupling of fundamental spot-market prices and balancing energy bids is justified, where bidding close to marginal costs should take place across all markets and thus also in the balancing energy market according to the fundamentals of the applied market design established through EB Regulation. As ACER acknowledges fundamental differences with regards to the drivers of prices at day-ahead and intraday markets and balancing energy markets, All TSOs consider that these fundamental differences also need to be acknowledged by market design aspects, such as price limits.

k. The transitional maximum and minimum prices for balancing energy of ±15,000 EUR/MWh were introduced before the balancing energy platforms were launched. Since then, the TSOs have observed the submission of a high

number of bids with prices above 50% of the transitional price limits. Comparing to the price levels observed at Day-Ahead and Intraday markets, All TSOs consider that these prices observed due date may not always reflect the underlying marginal cost (including opportunity costs) and thus may not reflect the real cost of energy, as the assumptions behind the EB Regulation target market model suggest they should.

l. The measures that can be taken pursuant to the REMIT Regulation are not an equally suitable means of preventing market manipulation and thus the efficient formation of prices.
According to Article 7 REMIT Regulation, ACER and NRAs are obliged to monitor the market. If ACER and NRAs find infringements of Articles 3, 4 and, in particular, Article 5 REMIT Regulation, the NRAs can impose sanctions. However, proving conduct with the aim of market manipulation as distinct from lawful business conduct is extremely difficult because the underlying strategies are often very complex. It is therefore to be expected that many behaviours may not be detected, even though they would influence the price formation and could therefore be considered as a behaviour in line with Article 5 REMIT Regulation. Moreover, such proceedings are often very lengthy, which is why, from a preventive point of view, investigative proceedings are insufficient. Timely investigation plays a central role in the prevention of possible further violations. However, if there is a long period of time between the indictable behaviour and the sanction, sanctioning miss part of its preventive power because market participants cannot see a connection between the offence and the sanction.
In contrast, by setting a maximum price for balancing energy bids, the regulatory authorities may discourage many attempts to distort the market ex ante by effectively limiting the consequences of strategic bidding. The harmonised maximum and minimum prices for balancing energy proposed by All TSOs can therefore be considered as a risk mitigation measure that increases the efficiency of the market. This helps maintaining a level playing field and ensures that market participants compete fairly, without further distorting the market dynamics.

m. The determination of an ideal maximum and minimum balancing energy price is done by approaching it from both sides of the supply and demand side, converging somewhere in between. In doing so, the interests of the BSPs are considered as well as the interests of the TSOs and BRPs.
Therefore, any maximum and minimum balancing energy price below the marginal costs of BSPs would be inefficient, as it would force BSPs into operating below their costs. As a result, BSPs would leave the balancing energy market and TSOs would not have sufficient supply to meet their demand. Therefore, the maximum and minimum prices for balancing energy should not limit the minimum volume required for TSOs to balance their systems (lower bound). At the other end of the interval a balancing market would become inefficient if the costs exceeded the price BRPs would be willing to pay before preferring load shedding. Any value above the VoLL would increase the consequences of an inefficient pricing while not bringing benefits to the market functioning (upper bound).

Thus, marginal costs form the initial lower bound, while the VoLL describes the upper bound. Within this margin, the TSOs take the following arguments into account in the further determination: On average, harmonised maximum and minimum prices for balancing energy today are relatively low (probably lower than the harmonised maximum and minimum prices that apply in the single intra-day coupling, currently at 9.999 €/MWh) and are expected to remain low on average in the coming few years. For upward balancing, it has been qualitatively demonstrated that efficient balancing services should be provided by thermal units with marginal costs close to the day-ahead spot price, which leads to lowest opportunity costs and thus lowest system balancing costs. When looking further in the future, All TSOs cannot exclude that higher harmonised maximum and minimum prices for balancing energy may become necessary to access the required volume of reserves. To cover such possibility, All TSOs propose a higher level of permanent harmonised maximum and minimum balancing energy prices, in line with the VoLL, and commit to propose an alternative adjustment mechanism. Therefore, All TSOs propose to introduce a temporary harmonised maximum and minimum prices for balancing energy of ±10,000 €/MWh until July 2026 and higher harmonised maximum and minimum prices for balancing energy afterwards, starting from ±15,000€/MWh and adjusted according to a mechanism to be developed also considering the assessment of the functioning of the balancing market at latest 42 months after the implementation deadline of the European balancing platforms. This time frame was chosen to consider the Agency's approval period of six months as defined in EB Regulation for the proposal of the adjustment mechanism.

n. Therefore, All TSOs propose to introduce a temporary harmonised maximum and minimum prices for balancing energy of ±10,000 €/MWh until July 2026 and permanent harmonised maximum and minimum prices for balancing energy of ±15,000 €/MWh afterwards together with an appropriate adjustment mechanism considering the special conditions at balancing markets and at the same time, uncertain future price developments. 10,000 €/MWh is the lowest value (i.e., the higher risk mitigation for BRPs and system costs) that guarantees sufficient volumes to satisfy TSOs' needs while being above harmonised maximum and minimum prices for single intra-day coupling.
The proposed transitional harmonised maximum and minimum prices for balancing energy of +/- 10,000 €/MWh are not considered to restrict the free price formation as balancing energy prices that exaggerate their underlying costs distort price signals and incentives to market participants, which may lead to disruptive imbalance settlement prices, not reflecting the real-time value of energy anymore.
Additionally, All TSOs consider that the proposed level still facilitates the development and investment in new technologies and are no undue barriers to entry for new entrants as required by Article 3(e) of the EB Regulation. For instance, tremendous investments are observed (e.g., in batteries) for a participation to the aFRR market, even in countries currently having harmonised maximum and minimum prices for balancing energy much lower than the considered +/- 10,000 €/MWh. On the other hand, new market entries may not be efficient if motivated by distorted (exaggerated) high price signals, which may

indicate a need not for new capacity, but for the efficient use of existing capacity.

If the harmonised maximum and minimum prices for balancing energy led to BSPs only covering their marginal costs, there will not be enough revenue to cover the fixed costs of their units/portfolio. As the maximum price for the intraday timeframe has not materialised until today, All TSOs consider that the +/- 10,000 €/MWh ensure that marginal cost (including opportunities) behind balancing energy bids can sufficiently be covered. Based on TSOs' experience in national markets, sufficient liquidity is available at prices below 10,000 €/MWh, meaning that this harmonised maximum and minimum balancing energy price is above the marginal cost of the marginal asset that is necessary to balance the system. This has been clearly observed e.g., in Germany, where the increase of the harmonised maximum and minimum prices for balancing energy to 99,999 €/MWh followed by a decrease to 9,999 €/MWh and an increase again to 15,000 €/MWh had no significant impact on the volume of balancing energy bids. Consequently, there is no demonstrated need at this stage that additional volumes offered at a price higher than 10,000 €/MWh are necessary to fulfil efficiently the role of the balancing market.

o. The proposed level of minimum and maximum prices for balancing energy of ±15.000 EUR/MWh allows for intraday trading of storage up to the intraday maximum and minimum price limits of ±9.999 EUR/MWh including losses of 33%, which is higher than the actual round trip-losses of batteries or pumped hydro. Typically, there is no full activation of a single storage over an extended period (hours) for provision of reserves. In addition, the time granularity of the balancing energy market of 15 minutes, together with the GCT of T-25 minutes, allows BSPs to adjust balancing energy bids shortly before delivery, thus controlling activation via changing opportunity costs and avoiding storage depletion or guaranteeing the provision of balancing capacity over the contracted period. If portfolio bidding is allowed in a Member State, this also provides more flexibility to the BSP, as it can decide to wait for periods of lower intraday prices to recharge storage and allow reserves to be provided by other assets in its portfolio.

   As a result, it is assumed that the proposed level of minimum and maximum prices for balancing energy of ±15.000 EUR/MWh will not restrict BSPs from offering their opportunity costs. Furthermore, it is assumed that the proposed level of transitory minimum and maximum prices for balancing energy of ±10.000 EUR/MWh does not restrict BSPs as the average intraday prices are well below the intraday price limits, which only materialize very rarely.

p. With the massive development of intermittent RES, All TSOs expect an increase in needs for balancing reserves although real experience shows that this effect can be reduced through short-term market access for market participants, netting of imbalances and the improvement of renewable forecasting errors. This may imply to capture more flexibility in the balancing energy market and to invest to develop more liquidity. The level of harmonised maximum and minimum prices for balancing energy that would still allow this is unknown at this stage. TSOs cannot exclude that it would be higher than the transitory harmonised maximum and minimum prices for balancing energy of

± 10,000 €/MWh. In any case, there is no valid reason why harmonised maximum and minimum prices for balancing energy should be higher than the VoLL (for which a value of 15,000 €/MWh was considered by ENTSO-E as a base case for the former European resource adequacy assessment). The VoLL differs per Member State. Nevertheless, All TSOs consider it as given that the same price limit applies to all Member States participating in the single European balancing energy market to ensure a level playing field for all market participants. As a result, All TSOs propose ± 15,000 €/MWh as the higher bound to secure that such needed investments can take place, while still mitigating the risks related to high harmonised maximum and minimum prices for balancing energy as identified above. Considering the challenge to determine a unique, stable reference value for the VoLL that would be relevant for all European balancing energy markets, the value of 15,000 €/MWh may have to be adjusted in future. Therefore, All TSOs commit to develop and propose for approval an alternative adjustment mechanism applicable from ±15,000 EUR/MWh as a starting point after the transitory price limit expires. This allows All TSOs to thoroughly develop an appropriate adjustment mechanism considering the special conditions at balancing markets and discuss these with relevant stakeholders.

q. On the All TSOs proposal to delete the provisions with regard to the application of the pricing methodology by TSOs participating in the RR platform in Article 9(2) and 9(3) of the Pricing Methodology, All TSOs would like to clarify that to their understanding this provision is obsolete as the pricing methodology is now applied by TSOs participating in the RR platform.

(4) On amendments for the determination of the aFRR cross-border marginal price (CBMP):

a. The determination of the CBMP for positive (negative) energy by the aFRR Platform is currently set by the highest (lowest) price of all aFRR bids selected by the aFRR platform activation optimisation function (AOF) in the same uncongested area. As the aFRR bids selected by the aFRR platform AOF are only used as input of the frequency restoration controller within each LFC area, this leads to situations where the CBMP does not reflect the price of the bids that are locally activated. In such case the CBMP is a theoretical value, not corresponding to the value (nor the bid price) of the balancing energy activated. The operational experience with aFRR platform operation and the reports established in accordance with the first amendment of the Pricing Methodology show high activations costs and a significant number of aFRR price incidents (meaning that the aFRR CBMP exceeds the threshold of 7,500 EUR/MWh). The observed price incidents mostly occur only for a small time ≤ 1 min.

b. Due to the distortive effect of these price peaks on the balancing energy markets, a short-term solution to reduce these price peaks, which often correspond to a CBMP that does not reflect the value of the activated aFRR balancing energy bids, is seen as beneficial. Under the current conditions the aFRR CBMP can be determined by a bid that is not even considered for activation by a local frequency restoration controller. The occurrence of aFRR related price incidents of short duration can be reduced by considering the local setpoints for automatic FRR activation within the determination of the CBMP.

This allows the CBMP to better reflect the locally activated aFRR balancing energy bids.

c. Short term imbalances may not lead to any activation of aFRR. Therefore, it is considered as not efficient to determine the CBMP just based on the price of the aFRR bids selected by the aFRR platform AOF regardless of their activation by the local frequency restoration controller; doing so would exaggerate the true value of real aFRR activation. Therefore, the proposed measure aims to avoid aFRR CBMP to be set at the price of an aFRR bid that is selected by the aFRR platform AOF for a period that is too short to result in any setpoint for automatic FRR activation (LFC outputs) of TSOs, leading to unnecessarily high costs. The revenues resulting from short term price spikes are thus to be considered as "random profits" of (typically large) BSPs distributing aFRR balancing energy bids across the whole MOL and that were already activated (providing aFRR) before the price peak and similarly affects TSO-TSO financial exchanges. The already provided aFRR will then be remunerated with a very high CBMP, while the BSPs having set this very high CBMP did not receive any activation signal due to the proportional-integral behaviour of frequency restoration controller and will hence not receive any remuneration although their aFRR bid was selected (for short time) by the aFRR platform AOF. Therefore, the aFRR CBMP should not be built only on the pure input data of the LFCs, as it is currently the case. Moreover, for investors, price spikes are not attracting investments given the low probability of earnings.
d. Observed aFRR price peaks may thus not reflect actual activation of balancing energy, nor the required aFRR to solve the imbalances based on the local setpoints for automatic FRR activation (output of the frequency restoration controller of the LFC area) and in this way give a misrepresentation of scarcity and actual aFRR need in the system. Resulting, the CBMP should also consider each LFC area setpoint for automatic FRR activation to better reflect real activation needs of aFRR.
e. To better consider local activation within the CBMP in a manner that allows fast implementation, All TSOs propose to adjust the determination of the aFRR CBMP by the AOF. It is important to note that all other steps of the AOF algorithm remain unchanged compared to the current situation, in particular:
    i. The bid selection is unaffected.
    ii. The determination of power interchange between LFC areas is unaffected.
    iii. The determination of the uncongested area is unaffected.
f. It is proposed to keep a single aFRR CBMP for each optimisation cycle per uncongested area, in the direction of the aFRR bid selection by the aFRR platform AOF within the uncongested area (also in the case where there are local activations in multiple directions), and to determine the aFRR CBMP considering both, the local setpoint for automatic FRR activation (LFC Outputs) and the AOF selected volume (LFC inputs) of each LFC area in the direction of the aFRR demand in the uncongested area. This means that also the determination of the direction for the aFRR CBMP is the same as in the current situation. In addition, the adjusted aFRR CBMP will be used for TSO-TSO settlement in the same way the current aFRR CBMP is used today.

g. The adapted aFRR CBMP determination will better reflect real activation of bids by including the setpoints for automatic FRR activation as input. This will reduce overall activations costs and price incidents.

h. The AOF selected volume (LFC inputs) remains an input to the aFRR CBMP determination. This will:
    i. reduce cross-border impact of differences in controller settings. With keeping the AOF selected volume included bids that are no longer selected by AOF will not affect the aFRR CBMP;
    ii. prevent that the aFRR CBMP is determined by bids that are unforeseeably activated (e.g., due to local unavailability of bids or controller overshoots); without including the AOF selected volume, local unforeseeably activated bid will have a negative impact on the aFRR CBMP of the whole uncongested area;
    iii. further reduce price peaks' duration and activation costs (depending on bidding behaviour);
    iv. increase the amount of volumes that require pay-as-bid remuneration compared to the situation without AOF selected volume; then the only volumes requiring pay-as-bid remuneration are due to differences between the output of the controller and the accepted bid volumes, depending on local arrangement.

(5) The measures proposed herein will only have full effect together with the proposed amendments within the framework of the aFRRIF Amendment. They are designed to jointly address the challenges resulting from the experience of the operation of the European balancing energy markets. As each of them is only able to address one of the challenges, a holistic introduction is required.
While the adaption of the determination of the aFRR CBMP aims mostly at reducing price peaks often corresponding to an aFRR CBMP that does not reflect the value of activated aFRR balancing energy bids, it cannot prevent the submission of exaggerated balancing energy bids.
While the introduction of partly elastic aFRR demand may (if applied) bring some elasticity to the aFRR demand side, part of the TSOs' aFRR demand must stay inelastic and thus will be covered at any cost.
Finally, the need for adapted maximum and minimum prices for balancing energy results from the fact that neither of the above-mentioned measures can sufficiently limit exaggerated bids for balancing energy. Therefore, All TSOs propose to amend the currently valid harmonised maximum and minimum balancing energy prices.

(6) The amended Pricing Methodology contributes to the objective of an efficient functioning of the market set out in Article 30(2) EB Regulation and to the objectives set out in Article 3 EB Regulation. In particular, by

a. fostering effective competition, non-discrimination, and transparency in balancing markets (Article 3(1)(a) EB Regulation) by limiting potential market abuse as sufficient competition is essential for effective market outcomes.
The proposed determination of the aFRR CBMP results in a price better reflecting the real activation of bids and as such supports efficient and transparent markets. Additionally, accurate prices encourage participants to submit

bids that reflect their true willingness to provide or consume energy. This reduces the likelihood of strategic bidding and thus fosters effective competition.

b. enhancing efficiency of balancing as well as efficiency of European and national balancing markets (Article 3(1)(b) EB Regulation) by introducing harmonised maximum and minimum prices in a marginal pricing market characterised by imperfect competition. This market design aspect can limit market power and strategic bidding by preventing dominant players from excessively raising prices. Strategic bidding, where participants exaggerate their bids to influence prices, becomes less effective as the price cannot exceed the cap. This reduces the potential impact of anticompetitive behaviour, benefiting both consumers and the overall market. Strategic bidding can be considered a form of market manipulation. It involves participants intentionally submitting bids in a way that doesn't reflect their true preferences or costs, with the goal of influencing market prices in their favour. This behaviour may distort market outcomes, reduces competition, and harms the efficiency of the market. Therefore, the All TSOs proposal increases the efficiency of the market in general, as bids are motivated to be closer to their real underlying costs.
   At the same time, All TSOs acknowledge the need for a sufficiently high harmonised maximum and minimum prices for balancing energy in order not to force out of the market BSPs whose liquidity is necessary to secure the system but whose marginal costs would be higher than the selected harmonised maximum and minimum prices for balancing energy. This, in turn, would have a negative impact on security of supply, as the amount of available balancing energy might not be sufficient to meet demand. Resulting, proposed harmonised maximum and minimum prices for balancing energy also must be relatively high and above harmonised maximum and minimum prices for SDAC and SIDC. This increases welfare as compared to the situation without harmonised maximum and minimum balancing energy prices, as the harmonised maximum and minimum prices for balancing energy eliminate or reduce the incentive to withhold in high demand scenarios and thus increase the efficient functioning of the market.
   With regard to the proposed changes to the aFRR CBMP determination, this will result in aFRR CBMPs more accurately reflecting the cost of the aFRR bid activated to balance the system by including each LFC area setpoint for automatic FRR activation in the aFRR CBMP determination. It avoids an overremuneration of the BSP in case of expensive selected bids that are not part of the local setpoint for automatic FRR activation. This ensures that participants are compensated appropriately for their actual contributions to maintaining system stability and avoids grid users to pay for non-activated bids which ensures efficient balancing.

c. integrating balancing markets and promoting the possibilities for exchanges of balancing services while contributing to operational security (Article 3(1)(c) EB Regulation) by contributing to maintain grid stability in a cost-efficient way, particularly during periods of high balancing energy demands. With the proposed harmonised maximum and minimum prices for balancing energy, the TSOs can activate the necessary balancing energy without facing unjustified high costs. In addition, the likelihood of exercising market power is greater

when total demand is close to total supply capacity during peak demand periods.

d. contributing to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union while facilitating the efficient and consistent functioning of day-ahead, intraday and balancing markets (Article 3(1)(d) EB Regulation) by giving market participants more certainty about the potential costs associated with balancing their energy needs. This stability encourages long-term investment in renewable energy sources, storage technologies, and demand response programs. Investors are more likely to finance projects when they have reasonable assurance that energy market prices will not skyrocket unexpectedly. Not addressing the risk of extreme price levels is likely to lead to urgent regulatory interventions at some points which is highly unpredictable and represents a significant risk for investors in balancing energy markets. Market participants have already expressed their concerns about frequent changes in market design during past consultations on EB Regulation related methodologies. Therefore, reliable market conditions are considered necessary. Additionally, the stakeholders' feedback on sudden market interventions in the context of the energy crisis was much restrained.

e. ensuring that the procurement of balancing services is fair, objective, transparent and market-based, avoids undue barriers to entry for new entrants, fosters the liquidity of balancing markets while preventing undue distortions within the internal market in electricity (Article 3(1)(e) EB Regulation) by limiting consequences of failures observed caused by humans or algorithms. For example, All TSOs' proposal limits the consequences of a "fat finger error", what may otherwise have dramatic consequences but also provide erroneous price signals to the market and possibly result in inadequate market reactions and thus inefficient market outcomes.

f. facilitating the participation of renewable energy sources and support the achievement of the European Union target for the penetration of renewable generation (Article 3(1)(g) EB Regulation) by limiting the risk for balancing responsible parties to be faced with exaggerated high imbalance settlement prices. This facilitates the investment into renewables (sustainable low carbon generation) and fosters their market entry as they are by nature very prone to imbalances and are unprotected against them despite the best possible forecast.

(7) The proposed amendments additionally fulfil the principles regarding the operation of electricity markets listed in Article 3 REGULATION (EU) 2019/943 of the European Parliament and of the council of 5 June 2019 on the internal market for electricity (“Electricity Regulation”). In particular,

a. the proposed level of maximum and minimum prices for balancing energy does not limit that prices are formed on the basis of demand and supply. TSOs and NEMOs are to set maximum and minimum clearing prices for SIDC and SDAC in accordance with Article 54 CACM. If setting a maximum/ minimum price in a market which is deemed to have sufficient liquidity so as to avoid any potential abuse of market power, where both seller and buyer may adjust both the amount of energy they are willing to sell or buy and the price they are

willing to pay or sell for, is deemed legally compliant, this - a fortiori - must be true for the balancing energy market, in which both of the above mentioned requirements are not fulfilled.
With regard to the proposed amendment of aFRR CBMP determination, it will result in an aFRR CBMP more accurately representing the cost of the bid activated to balance the system and thus ensures that aFRR CBMP is formed on the basis of demand and supply.

b. the proposed level of maximum and minimum prices for balancing energy limits the risk for BRPs to be faced with exaggerated high imbalance settlement prices. This facilitates the investment into renewables (sustainable low carbon generation) and fosters their market entry as they are by nature very prone to imbalances and are unprotected against them despite the best possible forecast. Thus, they are very risk sensitive regarding the threat of exaggerated high balancing energy prices.
The proposed amendment of aFRR CBMP determination will result in an aFRR CBMP more accurately representing the cost of the bid activated to balance the system and thus decreases exaggerated aFRR CBMP compared today. This will reduce the risks of high imbalance prices and thus may not negatively impact the market entry decision of renewables.

c. introducing the proposed level of maximum and minimum prices for balancing energy facilitates fair competition thus ensuring security of supply by limiting potential market abuse.

d. proposed level of maximum and minimum prices for balancing energy limits ensures effective regional cooperation by ensuring effective balancing energy market outcomes and limiting exaggerated prices for balancing energy through application of the EB Regulation target model. This is additionally supported by the proposed amendment of aFRR CBMP determination.

e. the proposed level of maximum and minimum prices for balancing energy allows balancing responsible parties to be protected against non-sustainable price volatility risks and thus ensure efficient functioning of the balancing energy market. This is further supported by the proposed amendment of aFRR CBMP determination.

(8) For the purposes of this second amendment to the Pricing Methodology, the terms used have the meaning given to them in Article 2 of the Electricity Regulation, Article 2 of the EB Regulation and Article 3 of the SO Regulation and the definitions set out in Article 2 of Annex I of the Decision No 01/2020 of the Agency for the Cooperation of the Energy Regulators of 24 January 2020 on the Pricing Methodology.

(9) Article 30(1) of the EB Regulation requires All TSOs to develop the Pricing Methodology. The TSOs who are responsible for the development of the proposal and for its submission to ACER are the following: APG - Austrian Power Grid AG, VÜEN - Vorarlberger Übertragungsnetz GmbH, Elia - Elia Transmission Belgium S.A., ESO – Electroenergien Sistemen Operator EAD, HOPS - Croatian Transmission System Operator Ltd, ČEPS - ČEPS, a.s., Energinet - Energinet, Elering - Elering AS, Fingrid - Fingrid OyJ, Kraftnät Åland Ab, RTE - Réseau de Transport d'Electricité, S.A, Amprion - Amprion GmbH, TransnetBW -TransnetBW GmbH, TenneT GER - TenneT TSO GmbH, 50Hertz - 50Hertz Transmission GmbH, IPTO - Independent Power

Transmission Operator S.A., MAVIR ZRt. - MAVIR Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság ZRt., EirGrid - EirGrid plc, Terna - Terna SpA, Augstsprieguma tïkls - AS Augstsprieguma tïkls, LITGRID - LITGRID AB, CREOS Luxembourg - CREOS Luxembourg S.A., TenneT TSO - TenneT TSO B.V., PSE - PSE S.A., REN - Rede Eléctrica Nacional, S.A., Transelectrica - C.N. Transelectrica S.A., SEPS - Slovenská elektrizačná prenosovú sústava, a.s., ELES - ELES,d.o.o, REE - Red Eléctrica de España S.A.U, Svenska Kraftnät - Affärsverket Svenska Kraftnät, SONI System Operator for Northern Ireland Ltd.

SUBMIT THE FOLLOWING PROPOSAL FOR AMENDMENT OF THE PRICING METHODOLOGY TO ACER

Article 1
General Principles on maximum and minimum balancing energy prices

Article 3 – General Principles – of the Pricing Methodology shall be amended as follows:

a) The paragraph 3 shall be amended and be read accordingly:

> «The maximum technical price limit shall be 15,000 €/MWh. The minimum technical price limit shall be -15,000 €/MWh. If the harmonised maximum clearing price for the single intraday coupling in accordance with Article 54(1) of Commission Regulation (EU) 2015/1222 increases above 9,999 €/MWh, the maximum technical price limit shall automatically increase by the same amount. In this case, the lower minimum technical price limit shall automatically decrease by the same absolute value. »

Article 2
General Principles on aFRR CBMP formation

Article 7 – Additional provisions for the pricing of standard aFRR balancing energy product bids– of the Pricing Methodology shall be amended as follows:

a) The paragraph 2 shall be amended and be read accordingly:

> «For each aFRR MTU a single CBMP shall be determined in each uncongested area. This shall either be a CBMP for positive balancing energy in accordance with paragraph 3 of this article, or a CBMP for negative balancing energy in accordance with paragraph 4 of this Article, or a CBMP determined for the case with no bids selected by the AOF in the direction of any of the LFC area setpoints for automatic FRR activation within the uncongested area in accordance with paragraph 5 of this Article. »

b) The paragraph 3 shall be amended and be read accordingly:

«The CBMP for positive standard aFRR balancing energy product bids in an uncongested area shall be determined as the maximum of all prices for positive aFRR per LFC area in the uncongested area. The price for positive aFRR per LFC area in the uncongested area shall be determined per LFC area by taking the minimum of:

i) The result from comparing the setpoint for automatic FRR activation of positive standard aFRR balancing energy product bids of the considered LFC area with the respective local merit order list for positive aFRR; and
ii) The result from comparing the volume of positive standard aFRR balancing energy product bids selected by the aFRR AOF within the considered LFC area with the respective local merit order list for positive aFRR.»

c) The paragraph 4 shall be amended and be read accordingly:

«The CBMP for negative standard aFRR balancing energy product bids in an uncongested area shall be determined as the minimum of all prices for negative aFRR per LFC area in the uncongested area. The price for negative aFRR per LFC area in the uncongested area shall be determined per LFC area by taking the maximum of

i) The result from comparing the setpoint for automatic FRR activation of negative standard aFRR balancing energy product bids of the considered LFC area with the respective local merit order list for negative aFRR; and
ii) The result from comparing the volume of negative standard aFRR balancing energy product bids selected by the aFRR AOF within the considered LFC area with the respective local merit order list for negative aFRR. »

d) The paragraph 5 shall be amended and be read accordingly:

«Where the aFRR AOF selects no positive or negative aFRR balancing energy product bids in an uncongested area, or where the AOF selects no aFRR balancing energy product bids in the direction of any of the LFC area setpoints for automatic FRR activation within the uncongested area, the CBMP shall be equal to the middle point between the lowest positive and highest negative available standard aFRR balancing energy product bids. »

Article 3
Transitory maximum and minimum prices for balancing energy

Article 9 – Implementation timeline– of the Pricing Methodology shall be amended as follows:

a) The content of paragraph 2 shall be deleted.

b) The paragraph 3 shall be amended and be read accordingly:

«Once the European balancing platforms are implemented in a Member State, and for a transitional period of up to 48 months from the implementation deadline pursuant to paragraph (1):

a. The transitional upper price limit shall be 10,000 €/MWh and the transitional lower price limit shall be -10,000 €/MWh;
b. If the harmonised maximum clearing price for the single intraday coupling in accordance with Article 54(1) of Commission Regulation (EU) 2015/1222 increases above 9,999 €/MWh, the transitional upper price limit in accordance with subparagraph (a) shall automatically increase by the same amount. In this case, the transitional lower price limit shall be decreased to the same absolute value.'

Following the transitional period, the technical price limits from Article 3(3) shall apply. »

c) Paragraph 4 shall be amended and be read accordingly:

«If the cross-border marginal price during the transitional period pursuant to paragraph (3) reaches at least 75% of the transitional upper or lower price limit, all TSOs shall prepare a joint report and submit it to ACER and all the regulatory authorities within a month following this event. This report shall include an analysis of the event and the indicators of the balancing energy market concentration level including at least Residual Supply Index (RSI), Herfindahl - Hirschman Index (HHI) and the market shares of 5 largest BSPs from the BSPs for which the participating TSOs have forwarded balancing energy bids.»

d) A new paragraph 7shall be included and be read accordingly:

«All TSOs shall propose a mechanism for an automatic adjustment of the technical price limits for balancing energy prices at the latest 42 months after the implementation deadline of the European balancing platforms pursuant to paragraph (1) taking into account the maximum and minimum clearing prices for day-ahead and intraday timeframes pursuant to Regulation (EU) 2015/1222, prices for balancing energy materialising at the European platforms and the special characteristics and specific conditions at balancing markets. »

Article 4
Implementation Timeline

1. All TSOs shall implement the amendments to the Pricing Methodology related to the maximum and minimum prices for balancing energy latest within one month after the publication of the decision by the Agency for the Cooperation of Energy Regulators.
2. All TSOs shall implement the amendments to the Pricing Methodology related to

the determination of the aFRR CBMP latest either 24 months after the implementation deadline of the European balancing platforms pursuant to Article 9(1) of this Methodology or one month after the publication of the decision by the Agency for the Cooperation of Energy Regulators.

Article 5
Publication of the Amendment

All TSOs shall publish this amendment to the Pricing Methodology without undue delay pursuant to Article 7 of EB Regulation after a decision has been taken by the Agency for the Cooperation of Energy Regulators in accordance with Articles 5(2)(a), of the EB Regulation and Articles 5(2) Regulation (EU) 2019/942 establishing a European Union Agency for the Cooperation of Energy Regulators

Article 6
Language

1. The reference language for this amendment to the Pricing Methodology shall be English.

2. For the avoidance of doubt, where TSOs need to translate this amendment to the Pricing Methodology into their national language(s), in the event of inconsistencies between the English version published by the TSOs in accordance with Article 7 of the EB Regulation and any version in another language, the relevant TSOs shall be obliged to dispel any inconsistencies by providing a revised translation of this amendment to the Pricing Methodology to their relevant national regulatory authorities.