

# **EXPLANATORY DOCUMENT ON PROPOSAL FOR AMENDING 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

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## INTRODUCTION

European TSOs strongly support the European target model for integrated balancing energy markets, especially the implementation and Go-live of the platforms for the exchange of balancing energy, and see significant advantages resulting from it. However, due to developments and observations on balancing energy markets across Europe, all TSOs identified that technical price limits are needed for efficient functioning of the market. Therefore, all TSOs consider it necessary to introduce the proposed amendment of the Pricing Methodology, namely an adjustment of the maximum and minimum balancing energy prices.

The EU target design for balancing energy markets according to COMMISSION REGULATION (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing ("EB Regulation") requires that there is a critical mass of balancing service providers via the connecting TSOs or contracting TSOs on each balancing energy platform for the market to function effectively and efficiently. All TSOs do not consider this requirement as fulfilled at the legal deadline for the implementation of the European FRR balancing platforms due to the expected derogations to be granted to several TSOs based on Article 62(1)(a) EB Regulation.

Market participants need time to adjust to the new market rules and to anticipate the new market conditions and TSOs also need time to become operationally familiar with the new processes to be established. This may lead to transitory effects, e.g. significant mark-ups on bids submitted by balancing service providers together with limited competition on the balancing platforms. With regard to all the derogations expected to be granted and resulting in delayed connections to the platforms, all TSOs expect that the market will only function maturely after a certain period of time when all relevant TSOs have joined the respective platforms. Additionally, it is not foreseeable how balancing energy prices, which might be exaggerated high materialising from local transitory effects, spill over to other bidding zones when starting the cross-border exchange of balancing energy via the balancing energy platforms in parallel to local market design changes. This leads to a huge risk for balance responsible parties to be charged with an unusual and not reasonable high imbalance settlement price not correlating with the locally observed system situation and thus with the real time value of energy anymore. In a last consequence, this would lead to higher barriers for entering the energy market, especially for RES and investments into RES which are very sensitive to the risk of high imbalance settlement prices, as of the uncertain nature of their generation.

The implementation of the EU target design for balancing energy markets means a significant change and evolutionary step from the existing local market designs. The associated fundamental and transitory risks should be mitigated in order to ensure a smooth transition to European integrated balancing energy markets foreseen by EB Regulation and thus to facilitate a successful go-live of the balancing platforms. Therefore, TSOs consider it as necessary to implement complementary measures to give comfort to all market participants and TSOs to get used to the new European wide balancing energy market design.

## REASONING TO INTRODUCE A MAXIMUM PRICE FOR BALANCING ENERGY

The implementation of the marginal pricing scheme is a key feature of the European target design for balancing energy markets. In accordance with the pricing methodology, the marginal price for activated balancing energy will not only be valid in a single bidding zone, the same price (cross border marginal price) will be applied for a whole uncongested area which may consist of several bidding zones for each market time unit. This means that the activation of a balancing energy bid in one imbalance price area in a last consequence sets the imbalance settlement price for balancing energy in another imbalance price area.

There are fundamental substantial risks resulting from applying marginal pricing in the balancing energy market, which are detailed in the scientific study attached to this document. The imbalance settlement price shall guarantee a reliable incentive for balancing responsible parties (BRPs) to remain balanced by procuring the quantities at the wholesale energy markets to balance their position. Therefore, the imbalance settlement price is intended to reflect the real-time value of energy which requires that balancing energy prices are true scarcity prices. Fundamentally, there are historically evolved and thus heterogeneous structures of the energy markets in all EU member states. This makes it very difficult to predict which effects will emerge at the platform level by introducing an EB Regulation compliant balancing energy market design in each member state. The heterogeneous structures of the energy markets bring also the fact that BSPs with market power are present which brings the risk of market abuse and may lead to exaggeratedly high balancing energy bids to be submitted and activated. Balancing energy prices that exaggerate the real-time value of energy distort price signals and incentives to market participants. This may lead to disruptive imbalance settlement prices, not reflecting the real-time value of energy anymore, from which BRPs and customers are unprotected under the current conditions of the EU target design for balancing energy markets to an unacceptable extent. In addition, it needs to be taken into account that BSPs may also be (associated with) BRPs but not necessarily vice versa. It may happen that BRPs are driven into bankruptcy through no fault of their own which does not represent an efficient functioning of the market. This fundamental risk for BRPs of being charged with exaggeratedly high imbalance settlement prices may also lower the willingness to invest into renewables and to enter into the energy markets in general.

A smooth and successful transition to European integrated balancing energy markets must be guaranteed to facilitate a timely connection of all TSOs. According to the study attached to this document, fundamental substantial risks are present by default when applying the balancing energy market design as foreseen by EB Regulation. TSOs consider the materialisation of these risks being uncontrollable and unpredictable when participating in the cross-border exchange of balancing energy via the balancing energy platforms. Thus, they should be limited to a reasonable level in order to ensure a smooth transition to integrated balancing energy markets as foreseen by the EB Regulation and, to facilitate a successful implementation of the integrated balancing energy market foreseen by EB Regulation as well as an efficient functioning of the market.

Additionally, the foreseen changes in balancing energy market design may bring transitory effects resulting from comprehensive changes of local balancing energy market design and an adaption phase for all market participants as well as TSOs implementing the new market design nationally and cross-border. Changing a market design towards a complex integrated balancing energy market is not a process which is carried out from one day to the other. There is always a longer transition period coming along with transitory effects as market participants need time to adapt their processes to the new market design and to anticipate the new

market conditions. While the EB Regulation target market design increases marketing opportunities, it also increases complexity significantly. This may also increase the vulnerability to errors for all parties involved. It may take time until all market participants can fully exploit the new possibilities given by the EB Regulation target market design. The changes will therefore only become visible in the medium term.

Confidence of market participants in a reliable and efficient functioning market is of utmost importance for them to continue to participate or even enter the market. Therefore, a robust market design, giving reliable perspectives and incentives to all market participants, is considered as indispensable by all TSOs. The underlying heterogeneous structures of the energy markets in all EU member states may also lead to different behaviour of market participants as they all adopt the new harmonised market rules on their own way. Thus, it is hard to predict how the market participants will anticipate the new market conditions. As a consequence, all TSOs consider the risk of materialising transitory effects (e.g., price spikes not correlating with the real-time situation) being very likely as market design changes will take place in parallel in several countries, due to the ongoing connections to the balancing energy platforms. In addition, all TSOs assume that the transitory effects will also result in the above-mentioned fundamental risks materialising more frequently during the upcoming transition period of several years.

Especially in the initial phase of the European FRR balancing energy platforms and during a certain period around the connection of each relevant TSO, there is a significant risk of artificial scarcity situations. These situations may for instance result from insufficient liquidity on the platforms caused by an IT issue as observed in TERRE (see section on TERRE operational experience) or corrupted input data. Artificial scarcity situations materialising in exaggerated high imbalance settlement prices not reflecting the real-time value of energy anymore. The balancing energy platforms need a critical mass of balancing service providers via the connecting TSOs or contracting TSOs in order to be fully effective and efficient. With regard to the published accession roadmaps for PICASSO<sup>1</sup> and MARI<sup>2</sup> all TSOs consider this condition not being fulfilled even after the legal deadline for implementing the platforms. Furthermore, the derogations mainly result from significant market design changes in the national balancing energy market resulting in high implementation efforts for TSOs and BSPs. In addition, the application of ISHM changes the conditions for BRPs.

Therefore, all TSOs consider it as indispensable to implement accompanying operational measures during the Go-Live phase of the balancing energy platforms. TSOs will not start the platforms with full exchange of balancing energy from the first day of connection to the platforms. Connected TSOs will stepwise increase the exchanges of balancing energy over time to ensure a secure system operation and thoroughly gaining operational experience with the exchange of balancing energy. In addition to these indispensable technical measures TSOs propose to introduce adjusted maximum and minimum balancing energy prices to limit negative effects on the efficient functioning of the market taking into account the immaturities of establishing operational measures and thus to give comfort to all parties involved to get used to the new market design. The implementation of the EU target design for balancing energy markets is strongly supported by all TSOs but means a significant change and an evolutionary step from the existing local market designs for most member states which should be carried out thoughtfully and well-considered in order to succeed.

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<sup>1</sup>[https://eepublicdownloads.entsoe.eu/clean-documents/Network%20codes%20documents/Implementation/picasso/210427\\_PICASSO\\_3rd\\_Accession\\_roadmap.pdf](https://eepublicdownloads.entsoe.eu/clean-documents/Network%20codes%20documents/Implementation/picasso/210427_PICASSO_3rd_Accession_roadmap.pdf)

<sup>2</sup>[https://eepublicdownloads.azureedge.net/clean-documents/Network%20codes%20documents/NC%20EB/2021/210424\\_MARI\\_Accession\\_roadmap\\_Update\\_v3.pdf](https://eepublicdownloads.azureedge.net/clean-documents/Network%20codes%20documents/NC%20EB/2021/210424_MARI_Accession_roadmap_Update_v3.pdf)

Each market participant must be given sufficient time and comfort to anticipate the new market conditions. Within this transitory period, it is common that transitory effects materialise, which may result in price spikes not correlating with the real-time-value of energy anymore (artificial scarcity situations). There is also the possibility of market abuse due to strong market players being present at the supply side and a mostly inelastic demand side of the balancing energy market, which may generally materialise in exaggerated balancing energy prices. Based on the cross-border exchange of balancing energy there is a high risk of these effects spilling over to other market areas, which might limit the comfort to connect to the platforms for TSOs and the willingness of NRAs to grant the adaptation of national T&Cs enabling the implementation of a corresponding market design nationally.

From all TSO's point of view, an adjusted maximum price for balancing energy is a measure which mitigates the mentioned fundamental and transitory risks and thus gives comfort to every market participant to anticipate the new market design and connect to the platforms. One reason for that is that BRPs and consumers will be protected from disruptive prices to be reflected in imbalance prices (especially with MP). To ensure efficient functioning of the balancing energy market, the level of the adjusted maximum and minimum balancing energy prices shall not restrict the pricing of the BSP in an unreasonable manner and, on the other hand, must limit the risk of being charged with imbalance settlement prices threatening the BRP's existence to an acceptable level for the BRP. Such a trade-off supports and enables a smooth transition towards integrated balancing energy markets and does not harm the market entry of new participants and the willingness to invest into renewables.

## LEVEL OF MAXIMUM AND MINIMUM PRICES FOR BALANCING ENERGY

To ensure efficient functioning of the balancing energy market, the level of the adjusted maximum and minimum balancing energy prices shall not restrict the pricing of the BSP in an unreasonable manner and, on the other hand, must limit the risk of being charged with imbalance settlement prices threatening the BRP's existence to an acceptable level for the BRP. In order to ensure the correct incentives for BRPs to remain balanced by market actions, the maximum balancing energy price shall be above the maximum clearing prices for the day-ahead and intraday timeframes pursuant to Regulation (EU) 2015/1222 (3000 EUR/MWh day ahead and 9999 EUR/MWh intraday). This leads to a lowest possible maximum balancing energy price of (currently) 10,000 EUR/MWh, which is one Euro more than the maximum intraday clearing price. Additionally, the timeframes for Intraday market and balancing energy market are close or even overlapping in some countries<sup>3</sup> which argues in favour of somewhat consistent technical price limits. In principle, a free price formation is possible at the integrated balancing energy market. However, an efficient price formation may be affected by a price inelastic demand side (majority of TSOs are price takers as they will not submit a price sensitive demand to the FRR balancing energy platforms) and an oligopolistic supply side (limited and small number of BSPs per member state). In addition, the balancing service providers should not be unreasonably limited in rationally calculating their balancing energy bids based at least on their true operational costs. To ensure this and to provide incentives to BRPs by an appropriate imbalance settlement price to stay balanced even in scarcity situations, all TSOs consider that slightly higher price limits than on DA and ID markets are reasonable. This ensures both, the correct incentives to BRPs to remain balanced and a rational bidding calculus of the BSPs. TSOs consider that such kind of trade-off mitigates the fundamental and transitory risks associated with the implementation of the balancing energy market design foreseen by EB Regulation in an appropriate manner.

All TSOs consider it not being efficient from a market/welfare point of view to activate bids that have a price significantly higher than local Value of Lost Load (VoLL). To assess an upper bound representing the maximum imbalance price that can be charged to BRPs all TSOs took into account the VoLL. ACER published domestic VoLL estimates for Europe in a Report in 2018<sup>4</sup>, where the Agency stated that the median value of domestic VoLL across all of Europe is 6 040 €/MWh, where the minimum VoLL was 1 500 €/MWh and the maximum VoLL was 22 940 €/MWh. The median of estimated non-domestic VoLLs ranged from 310 €/MWh for the manufacture of Basic Metals to 17 760 €/MWh in the construction sector. As an average approach, ENTSO-E considers 15 000 €/MWh VoLL as a base case for the European resource adequacy assessment.

All TSOs thus conclude that a maximum balancing energy price of 15 000 €/MWh is appropriate and does not unduly limit the efficient functioning of the market. This is underlined by the study attached to this explanatory note as the maximum balancing energy price proposed here lies within the interval suggested in the study.

Nevertheless, in order to maintain a consistent link between the intraday and balancing energy markets, and the corresponding incentives for the BRPs to balance their position in intraday rather than relying on the balancing market, all TSOs propose to include a mechanism of automatic adjustment of the maximum balancing energy price in case the maximum price on the single intraday coupling market is increased. Their proposal foresees that a difference of 5 000 €/MWh between these maximum prices will always be

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<sup>3</sup> ID trading within a bidding zone is still possible in some countries after the harmonised balancing energy GCT

<sup>4</sup>STUDY ON THE ESTIMATION OF THE VALUE OF LOST LOAD OF ELECTRICITY SUPPLY IN EUROPE - ACER/OP/DIR/08/2013/LOT 2/RFS 10

guaranteed. If balancing energy is frequently activated above the intraday maximum price as a result of a supply-demand equilibrium correctly revealing the true value of energy in real-time, it is expected that these high prices will back-propagate into the wholesale energy market, which results in an increase of the intraday maximum price and, indirectly, an increase of the maximum balancing energy price. If such back-propagation does not take place, it may mean that the very high prices on the balancing market are not reflecting the true value of energy in real-time or are too exceptional to justify an increase of the maximum balancing energy price (and the corresponding risk for BRPs). This could happen for several reasons, such as a mistake by a BSP (e.g. a large BSP not offering available flexibility in an illiquid market) or by a TSO (e.g. a TSO asking for much more energy than actually needed), an abuse of dominant position by one or several BSP(s) (which should then trigger a REMIT investigation), an unusual drop in available transmission capacity resulting in the isolation of a small market which uses to benefit from the liquidity of other markets that it uses to be coupled to, etc. Such reasons are often complex to assess and the decision to then adapt the technical price limit needs in-depth, timely analysis, often in dialog with the concerned market parties. Therefore, no automatic adjustment of the maximum balancing energy price other than in case of an increase of the maximum intraday price has been proposed.

All TSOs will regularly assess the efficient functioning of the market as included in the proposal for amending the Pricing Methodology. The report resulting from the report obligation included in the amendment proposal shall justify, duly taking into account the feedback of market parties, whether the proposed maximum and minimum balancing energy prices should be maintained or amended for the respective balancing energy products. In addition, all TSOs will monitor the impact of the technical price limits applicable to balancing energy in the annual report on integration of balancing markets established and published in accordance with article 59 of EB Regulation.

## TIMELINE

All TSOs propose that no later than 18 months after the deadline for all relevant TSOs to join the respective FRR balancing energy platforms, all relevant TSOs shall prepare a report and proposal for amendment, if applicable, and invite stakeholders to submit comments. For avoidance of doubt, the referred deadline shall be the date when the latest derogation granted according to Article 62(2)(b) EB Regulation expires. The final report and proposal for amendment, if applicable, shall be submitted to ACER no later than 2 years after the deadline for all relevant TSOs to join the respective FRR balancing energy platforms. This timeline respects the accession of a large number of TSOs to the respective platform after the legal deadline. This is underlined by the published accession roadmaps of MARI<sup>5</sup> and PICASSO<sup>6</sup> platforms. In addition, the proposed timeline ensures giving comfort to all relevant TSOs and market participants to calmly adapt to new market rules to enable a smooth transition and confident implementation of EB Reg. target design. It also reflects possible negative effects on the efficient functioning of the market by connecting TSOs stepwise increasing the exchanges of balancing energy over time to ensure a secure system operation and thoroughly gaining operational experience with the exchange of balancing energy.

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<sup>5</sup>[https://eepublicdownloads.azureedge.net/clean-documents/Network%20codes%20documents/NC%20EB/2021/210424\\_MARI\\_Accession\\_roadmap\\_Update\\_v3.pdf](https://eepublicdownloads.azureedge.net/clean-documents/Network%20codes%20documents/NC%20EB/2021/210424_MARI_Accession_roadmap_Update_v3.pdf)

<sup>6</sup>[https://eepublicdownloads.entsoe.eu/clean-documents/Network%20codes%20documents/Implementation/picasso/210427\\_PICASSO\\_3rd\\_Accession\\_roadmap.pdf](https://eepublicdownloads.entsoe.eu/clean-documents/Network%20codes%20documents/Implementation/picasso/210427_PICASSO_3rd_Accession_roadmap.pdf)



Within the report to be drafted and submitted, all TSOs will justify whether the then valid maximum and minimum balancing energy prices should be maintained or amended. Due to the mentioned uncertainties and the fundamental risks of the EB Regulation target market design identified in the external report attached to this explanatory note, all TSOs cannot currently assume that the market will be mature and thus function effectively and efficiently once all relevant TSOs have joined the respective FRR balancing energy platforms. Therefore, with the proposed wording, all TSOs will only propose a further amendment of the maximum minimum balancing energy prices if they consider that their currently proposed level of maximum and minimum balancing energy prices limits BSPs to rationally calculate their bids or that the market is mature enough to be able to deal with the risks listed.

## TERRE OPERATIONAL EXPERIENCE

The operational experience gathered in the context of the TERRE platform is a very good example of how BSPs/market participants as well as TSOs need time to adapt to new market rules leading to transitory effects. These transitory effects are common but may create artificial scarcity situations (e.g., insufficient bids available on platform due to IT issue) or can limit the efficient functioning of the market. Both can lead to exaggerated high imbalance settlement prices for BRPs not being able to forecast and counter such situations. The high prices observed in TERRE were transferred to other countries via cross zonal activation of balancing energy bids.

There were market transitory effects (e.g. new bidding formats), including also IT issues either operational (i.e., IT implementation issues) or structural (i.e., BSPs not fully ready yet), which was particularly evident during the Go-Live and connection phase.

Resulting from the complex IT system and more frequent processes to be established when implementing a new market design there is inherently a higher risk for IT issues either on TSO or BSP side that can create artificial scarcity. As an example, in TERRE an IT issue resulted in a TSO only submitting its demand and no bids which lead to an artificial scarcity situation. This lead to activation of high priced bids at the end of the MOL available via other participating TSOs, which is an irrational outcome during normal system operation. Additionally, market players with strong market power may abuse their power by gambling on such situations. These artificial scarcity situations cause significant negative impact on overall welfare especially through spilling over to all participating bidding zones resulting from the cross-border exchange.

TERRE operational experience shows that transitory measures are needed to keep operational and IT risks under control. TERRE introduced among others the following transitory measures: reduction and stepwise increase of ATC, limited demand submitted and limited amount of bids submitted. These transitory measures are indispensable for system security and creating confidence to IT tools and the new market design. It is a common procedure for TSOs to introduce new cross border processes step by step and to establish operational measures limiting the exchange over a certain time for instance though limiting profile limits or available cross-zonal capacity. These measures create limiting effects on the market side but are indispensable to guarantee secure and stable system operation. TERRE operational experience, IGCC experience and experience in further existing cooperations confirm this procedure.

## **APPENDIX - EXTERNAL REPORT**