[Titel]
1. **Whereas**

This document is a common proposal developed by all TSOs regarding the development of a proposal to further specify and harmonise imbalance settlement in accordance with Article 52(2) of the ACER Decision on the imbalance settlement harmonisation methodology: Annex I.

Methodology for the harmonisation of the main features of imbalance settlement

in accordance with Article 52(2) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as “EBGL”). This proposal is hereafter referred to as the “ISHP”.

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Contents

Whereas........................................................................................................................................................... 3

TITLE I General provisions ............................................................................................................................... 6
Article 1 Subject matter and scope .................................................................................................................. 6
Article 2 Definitions and interpretation .......................................................................................................... 6

TITLE II Specification and harmonisation of imbalance calculation ................................................................. 7
Article 3 The calculation of a position ............................................................................................................... 7
Article 4 The calculation of an allocated volume .............................................................................................. 7
Article 5 The calculation of an imbalance adjustment ..................................................................................... 8
Article 6 Functions of the mFRR-Platform ...................................................................................................... 9

TITLE III Specification and harmonisation of imbalance price calculation ..................................................... 9
Article 7 The use of single imbalance pricing ............................................................................................... 9
Article 8 Establishing the direction of the total system imbalances and the character of a BRP imbalance in an imbalance price area ............................................................................................................. 11
Article 9 Determination of the imbalance price for positive and negative imbalance .................................... 12
Article 10 The value of avoided activation of balancing energy from frequency restoration reserves or replacement reserves .................................................................................................................. 13

Article 11 Definition of conditions and methodology for applying dual imbalance pricing ..................... 14

TITLE IV Final provisions .................................................................................................................................. 16
Article 12 Publication and implementation of the imbalance settlement harmonisation methodology ............ 16
Article 13 Language ............................................................................................................................................ 16

Whereas.............................................................................................................................................................. 53

TITLE I General provisions ............................................................................................................................... 106
Article 1 Subject matter and scope .................................................................................................................. 106
Article 2 Definitions and interpretation .......................................................................................................... 106

TITLE II Specification and harmonisation of imbalance calculation ................................................................. 127
Article 3 The calculation of a position ............................................................................................................... 127
Article 4 The calculation of an allocated volume .............................................................................................. 127
Article 5 The calculation of an imbalance adjustment ..................................................................................... 138
Article 6 The calculation of an imbalance ...................................................................................................... 149

TITLE III Specification and harmonisation of imbalance price calculation ..................................................... 159
Article 7 The use of single imbalance pricing ............................................................................................... 159
Article 8 Establishing the direction of the total system imbalances and the character of a BRP imbalance in an imbalance price area ............................................................................................................. 161
Article 9 Determination of the imbalance price for positive and negative imbalance .................................... 163
Article 10 The value of avoided activation of balancing energy from frequency restoration reserves or replacement reserves .................................................................................................................. 165
Article 11 Definition of conditions and methodology for applying dual imbalance pricing ..................... 167

TITLE IV Final provisions .................................................................................................................................. 2315
Article 12 Publication and implementation of the imbalance settlement harmonisation methodology ............ 2315
Article 13 Language ............................................................................................................................................ 2315
imbalance settlement harmonisation methodology

Article 8 Establishing the direction of the total system imbalances and the character of a BRP imbalance in an imbalance price area ................................................................. 10

Article 9 Determination of the imbalance price for positive and negative imbalance .................. 11

Article 10 The value of avoided activation of balancing energy from frequency restoration reserves or replacement reserves .................................................................................. 13

Article 11 Definition of conditions and methodology for applying dual imbalance pricing .......... 14

TITLE IV Final provisions .............................................................................................................. 15

Article 12 Publication and implementation of the imbalance settlement harmonisation methodology .............................................................................................................. 15

Article 13 Language ......................................................................................................................... 15

The ISHP
Whereas

(1) This document provides the methodology to further specify and harmonise imbalance settlement (hereafter referred to as the “imbalance settlement harmonisation methodology”) in accordance with Article 52(2) of the Commission Regulation (EU) 2017/2195 establishing a guideline on electricity balancing (hereafter referred to as the “EB Regulation”).

(2) The imbalance settlement harmonisation methodology takes into account the objectives of the EB Regulation, as set in the recitals and in Article 3 of the EB Regulation, and takes into account the general principles of the settlement processes, as set in Article 44 of the EB Regulation.

(1) The objectives of the EBGL are, inter alia, to foster effective competition, non-discrimination and transparency in balancing markets; and to enhance efficiency of balancing, as well as efficiency of European and national balancing markets. The general principles of the settlement processes are, inter alia, to establish adequate economic signals which reflect the imbalance situation; to ensure that imbalances are settled at a price that reflects the real-time value of energy; to provide incentives to BRPs to be in balance or help the system to restore its balance; to avoid distorting incentives to BRPs, BSPs and TSOs; to support competition among market participants and to provide incentives to BSPs to offer and deliver balancing services to the connecting TSO.

(2) Articles 52(2) and 52(4) of the EBGL constitute the legal basis for the ISHP.

(3) Article 52(2) of the EBGL requires all TSOs to develop a proposal that, pursuant to Article 5(2)(j) of the EBGL, is subject to approval by all relevant regulatory authorities in accordance with Article 37 of Directive 2009/72/EC, to further specify and harmonise, at least:

(a) the calculation of an imbalance adjustment pursuant to Article 49 of the EBGL and the calculation of a position, an imbalance and an allocated volume following one of the approaches pursuant to Article 54(3) of the EBGL;

(b) the main components used for the calculation of the imbalance price for all imbalances pursuant to Article 55 of the EBGL, including, where appropriate, the definition of the value of avoided activation of balancing energy from frequency restoration reserves or replacement reserves;

(c) the use of single imbalance pricing for all imbalances pursuant to Article 55 of the EBGL, which defines a single price for positive imbalances and negative imbalances for each imbalance price area within an ISP;

(d) the definition of conditions and methodology for applying dual imbalance pricing for all imbalances pursuant to Article 55 of the EBGL, which defines one price for positive imbalances and one price for negative imbalances for each imbalance price area within an ISP, encompassing:

i. conditions on when a TSO may propose to its relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC the application of dual pricing and which justification must be provided;

ii. the methodology for applying dual pricing.
(4) Article 52(4) of the EBGL requires the ISHP to provide an implementation date no later than eighteen months after approval by all relevant regulatory authorities in accordance with Article 5(2) of the EBGL.

The imbalance settlement harmonisation methodology respects the EB Regulation and takes into account the following harmonised elements of imbalance settlement established within the EB Regulation:

(a) The imbalance area equals the scheduling area, except in case of a central dispatching model, where the imbalance area may constitute a part of the scheduling area.

(b) There are no exemptions to balance responsibility in accordance with Article 53 of the EBGL.

(c) The ISP is 15 minutes in accordance with Article 52(2)(c) of the EBGL.

(d) In a central dispatching model, a BRP can have several final positions per imbalance area in accordance with Article 54(3)(c) of the EBGL.

(e) All balancing energy activated by each connecting TSO for frequency restoration process and reserve replacement process shall be included:

(i) in case of self-dispatching model, in the imbalance adjustment of the BRPs to whom the related balancing energy bid of the BSP has been assigned by the BSP itself to calculate this imbalance adjustment, in accordance with Article 18(4)(d) and Article 49 of the EBGL.

(ii) in case of central dispatching model, in the imbalance adjustment of the scheduling units of the concerned BRPs to whom the related balancing energy bid of the BSP has been assigned by the BSP itself to calculate this imbalance adjustment, in accordance with Article 18(4)(d) and Article 49 of the EBGL.

(f) The use of single imbalance pricing per ISP for all imbalances in an imbalance price area in accordance with Article 52(2)(c) of the EBGL.

(g) Each relevant regulatory authority ensures that all TSOs under its competence do not incur economic gains or losses with regard to the financial outcome of the settlement processes pursuant to the Chapters 2, 3 and 4 of the Title V of the EBGL over the regulatory period as defined by the regulatory authority, and ensures that any positive or negative financial outcome as a result of the settlement processes pursuant to the Chapters 2, 3 and 4 of the Title V of the EBGL shall be passed on to network users in accordance with the applicable national rules, in accordance with Article 44(2) of the EBGL.

(3)(4) The ISHP takes note of the following provisions from the EB Regulation:

(a) The ISHP distinguishes, where appropriate, between self-dispatching models and central dispatching models in accordance with Article 52(3) of the EBGL.
imbalance settlement harmonisation methodology

(b) Each TSO may develop a proposal for an additional settlement mechanism with BRPs separate from imbalance settlement to settle the procurement costs of balancing capacity pursuant to the Chapter 5 of the Title V of the EBGL, administrative costs and other costs related to balancing in accordance with Article 44(3) of the EBGL.

(c) Terms and conditions for BSPs and BRPs in accordance with Article 18 of the EBGL remain a responsibility of each TSO but have to respect the EBGL and the methodologies pursuant to it.

(d) Each TSO shall set up the rules to calculate the imbalance price in accordance with Article 55(1) of the EBGL.

(e) A regulatory authority may, at the request of a TSO, grant the application of dual pricing for all imbalances, based on the conditions established in the ISHP imbalance settlement harmonisation methodology. The proposal for application of dual pricing shall include a justification pursuant to the provisions of the ISHP imbalance settlement harmonisation methodology.

(f) A regulatory authority may, at the request of a TSO or at its own initiative, grant the relevant TSOs a derogation from one or more provisions of the EBGL:

(i) the deadlines by which a TSO shall use the European platforms pursuant to Articles 19(5), 20(6), 21(6) and 22(5) of the EBGL;

(ii) the harmonisation of the ISP to 15 minutes in accordance with Article 53 of the EBGL;

(iii) the implementation of the requirements pursuant to Articles 45, 46, 47, 48, 49, 50, 54, 55 of the EBGL.

(g) The regulatory authorities of the relevant synchronous area may, at the joint request of the TSOs of the synchronous area, grant the exemption from the harmonisation of the ISP to 15 minutes in accordance with Article 53 of the EBGL.

(h) A TSO may delegate all or part of any tasks with which it is entrusted under EBGL to one or more third parties according to Article 13(1) of the EBGL.

(i) A Member state, or where applicable a relevant regulatory authority, may assign tasks or obligations entrusted to TSOs under the EBGL to one or more third parties according to Article 13(4) of the EBGL. In the event that tasks and obligations are assigned to a third party by a Member State, or a regulatory authority, references to TSO in this ISHP imbalance settlement harmonisation methodology shall be understood as referring to the assigned entity in respect of the assigned tasks and obligations.

(j) TSOs responsible for developing a proposal for terms and conditions or methodologies, or regulatory authorities responsible for their adoption in accordance with Articles 5(2), 5(3) and 5(4) of the EBGL, may request amendments of those terms and conditions or methodologies, in accordance with Article 6(3) of the EBGL.

(4)(5) The ISHP contributes to the objectives stated in Article 3 of the EBGL as follows:

(b) The ISHP fulfills the requirements of Articles 52 of the EBGL.

(a) The ISHP contributes to the objective for fostering non-discrimination and transparency in balancing markets as stated in Article 3(1)(a).
imbalance settlement harmonisation methodology

of the EB Regulation, by further specifying and harmonising the rules for the calculation of the BRP imbalance and the subsequent settlement.

(b) This imbalance settlement harmonisation methodology enhances efficiency of balancing in accordance with the objective stated in Article 3(1)(b) of the EB Regulation by providing to the BRPs the right incentives to either be in balance or help the system to restore its balance, through the different options for calculating the imbalance price, in accordance with the objective stated in Article 3(1)(b) of the EB Regulation.

(c) This imbalance settlement harmonisation methodology contributes to the objective stated in Article 3(1)(c) of the EB Regulation for integrating balancing markets and promoting the possibilities for exchanges of balancing services, by harmonising the rules for settling the BRP imbalance, based on prices that will be the outcome of the European platforms for the exchange of balancing energy.

(d) This imbalance settlement harmonisation methodology contributes to the objective of consistent functioning of day-ahead, intraday and balancing markets as stated in Article 3(1)(d) of the EB Regulation, since the final commercial trade schedules are used for the calculation of the position of each BRP, which is then used as the basis for the calculation of the BRP imbalance.

(e) This imbalance settlement harmonisation methodology contributes to the objectives stated in Article 3(1)(e) of the EB Regulation, since the settlement methodology is fair, objective, transparent and avoids undue barriers to entry for new BRPs as it does not favour a specific technology or portfolio. Moreover, this imbalance settlement harmonisation methodology is market based, since the calculation of the imbalance price is based on the balancing energy price including the outputs of the activation optimisation function of the European platforms for the exchange of balancing energy, once they are implemented.

(f) The imbalance settlement harmonisation methodology serves the objective of market operation and facilitation of demand-side response and renewable energy sources in accordance with the EBGL Articles 3(1)(c), 3(1)(f) and 3(1)(g), by neither allowing nor introducing discriminatory requirements.

(d) The ISHP takes several steps in harmonising the imbalance settlement schemes across Europe in order to improve pricing consistency and move towards a level playing field when integrating the balancing markets by providing an exhaustive list of the components for the calculation of the imbalance price based on real-time balancing energy prices, and limiting the number of additional components.

Additionally, for self-dispatching models, the specification of single position per imbalance area and single imbalance pricing per imbalance price area serves to move towards a level playing field for small market players and renewables and is an important step when facilitating an efficient framework for aggregation and storage.

In conclusion, the ISHP contributes to the general objectives of the EBGL.
2. Abbreviations

The list of abbreviations used in this ISHP is the following:

- **BSP**: balancing service provider
- **BRP**: balance responsible party
- **DSO**: distribution system operator
- **HVDC**: high-voltage direct current
- **ISP**: imbalance settlement period
- **TSO**: transmission system operator
imbalance settlement harmonisation methodology

TITLE 1I
General provisions

Article 1
Subject matter and scope

(1) This ISHP is the common proposal of all TSOs in accordance with Article 52(2) of the EBGL.

(2) The ISHP shall apply to all imbalance areas and to all imbalance settlement periods and all system states defined in Article 18 of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as the "SO GL", the "SO Regulation"), except for those imbalance areas and imbalance settlement periods:

1. for which market activities have been suspended, pursuant to Article 35 of the Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration (hereafter referred to as the "NC Regulation"); and

2. for which the concerned TSO has received approval from the relevant regulatory authority to apply rules for imbalance settlement and settlement of balancing energy and balancing capacity that deviate from the rules it applies for normal operations, pursuant to Article 39(1) of the NC Regulation.

Article 2
Definitions and interpretation

1. For the purposes of the ISHP, terms used in this document shall have the meaning of the definitions included in Article 2 of the EBGL, of the Regulation (EC) No 714/2009, of the Regulation (EU) 2019/943 (hereafter referred to as the "Electricity Regulation"), of the Directive 2009/72/EC, of the Commission Regulation (EU) No 543/2013, the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (hereafter referred to as the "CA CM Regulation"), and in Article 3 of the SO GL and of the NC Regulation.

2. In addition, in the ISHP, the following terms shall have the meaning below:
imbalance settlement harmonisation methodology

(a) 'single imbalance pricing' means that, for a given ISP in a given imbalance price area, the price for negative imbalance and the price for positive imbalance are equal in sign and size.

(b) 'dual imbalance pricing' means that, for a given ISP in a given imbalance price area, the price for negative imbalance is not equal to the price for positive imbalance in sign and/or size.

(c) ‘scheduling unit’ means a unit representing a power generation module, a demand facility or a group of power generating modules and/or demand facilities which is used in the integrated scheduling process to reflect locations of these assets when needed for which a position, an imbalance adjustment, an allocated volume, an imbalance and an imbalance settlement based on imbalance price formulation are determined in a central dispatching model.

(d) ‘value of avoided activation’ means a reference price that can be calculated by the TSO or TSOs of a given imbalance price area after the balancing energy gate closure time for a given ISP, at least when there is no balancing energy demand for that imbalance price area for that ISP or no balancing energy activation in the direction of the balancing energy demand for that imbalance price area for that ISP.

(a) 'net volume of balancing energy demand' means the sum of all balancing energy needs for replacement reserves, all balancing energy needs for frequency restoration reserves with manual activation and all balancing energy needs for frequency restoration reserves with automatic activation of the connecting TSO.

(b) 'aggravating imbalance' means, in case of self-dispatching models, the imbalance of a BRP in a given imbalance price area and a given ISP, that is opposite in sign to the net volume of balancing energy demand and, where approved by the relevant regulatory authority, the net volume of unintended exchange of the connecting TSO or connecting TSOs for that imbalance price area and ISP. In case the net volume of balancing energy demand of the connecting TSO or connecting TSOs for that imbalance price area and ISP equals zero (0), any imbalance of a BRP, is accounted as aggravating imbalance.

'aggravating imbalance' means, in case of central-dispatching models, the imbalance of a scheduling unit of a concerned BRP, in a given imbalance price area and a given ISP, that is opposite in sign to the net position of the imbalance price area equal to net volume of the internal and external commercial trade schedules as well as imbalance adjustments minus total allocated volume of all scheduling units located in the concerned imbalance price area. In case the net position of the imbalance price area for a given ISP equals zero (0), the imbalance of a scheduling unit located in this imbalance price area is accounted as aggravating imbalance.

3. In the ISHP: In the imbalance settlement harmonisation methodology, unless the context requires otherwise:

(a) the singular indicates the plural and vice versa;

(b) the notation 'EUR/MWh' stands for the locally applicable currency unit per MWh;

(a) BRP stands for balance responsible party;

(b) BSP stands for balancing service provider;

(c) ISP stands for imbalance settlement period;

(d) TSO stands for Transmission System Operator;
imbalance settlement harmonisation methodology

(c) the table of contents and headings are inserted for convenience only and do not affect the interpretation of the ISHP; imbalance settlement harmonisation methodology;

(d) any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it when in force;

(e) any reference to an Article without an indication of the document shall mean a reference to the ISHP; imbalance settlement harmonisation methodology.

TITLE 2II
Specification and harmonisation of imbalance settlement calculation

Article 3
The calculation of a position

1. Each connecting TSO applying a self-dispatching model shall calculate in each imbalance area for each ISP one single final position for each BRP as equal to the sum of its external and internal commercial trade schedules pursuant Article 54(3)(a) of the EB Regulation.

2. Each connecting TSO applying a central dispatching model shall calculate, in each imbalance area for each ISP, one single final position for each scheduling unit of each BRP as equal to the sum of scheduling unit’s external and internal commercial trade schedules pursuant to Article 54(3)(c) of the EB Regulation.

Article 4
The calculation of an allocated volume

1. Each connecting TSO shall calculate the total allocated volume to each BRP in case of self-dispatching model, or to each scheduling unit of concerned BRP in case of central dispatching model, in each imbalance area for each ISP, over all injections and withdrawals for which the BRP is financially responsible in accordance with Article 17(2) of the EB Regulation, as the netted volume of:

   (a) the volumes or aggregated volumes that are metered with a granularity of the ISP for the connections to a TSO grid;

   (b) the volumes or aggregated volumes that are metered with a granularity of the ISP for the connections to a DSO grid;

   (c) the aggregated volumes that are not metered with a granularity of the ISP;

   (d) where applicable, according to each Member State’s terms and conditions for BRPs, all corrections to points (a), (b) and (c) of this paragraph that constitute the volumes assigned per ISP to market participants bearing balance responsibility or that have contractually delegated their balance responsibility to a BRP of their choice; and

   (e) where applicable, according to each Member State’s terms and conditions for BRPs, the aggregated volumes related to all residual energies resulting from incorrect or incomplete allocations of the volumes of point (a) and (b) and resulting from the allocation of the volumes of point (c) on the basis of predefined profiles or grid losses.

2. When required by each Member State's terms and conditions for BRPs, the volumes or aggregated volumes in accordance with Articles 4(1)(b), 4(1)(c), 4(1)(d) and 4(1)(e) shall be delivered to the connecting TSO by the relevant DSO in accordance with Article 15(2) of the EB Regulation, or by other
imbalance settlement harmonisation methodology

3. Each connecting TSO shall report without undue delay the total allocated volume to the concerned BRP in case of self-dispatching model, or to each scheduling unit of concerned BRP in case of central dispatching model, and this allocated volume shall be finalised no later than set by each Member State's terms and conditions for BRPs in accordance with Article 18(6)(h) of the EB Regulation.

Article 5
The calculation of an imbalance adjustment

1. Each connecting TSOs shall calculate the imbalance adjustment to the concerned BRP shall be calculated by the connecting TSO in each imbalance area for each ISP as the netted volume of:
   (a) all activated volumes of balancing energy volumes determined in accordance with Article 45 of the EB Regulation from all activated bids in that imbalance area for that ISP that assign these balancing energy bids to the concerned BRP;
   (a) all volumes activated by the connecting TSO for that ISP for purposes other than balancing pursuant to Article 29(3) of the EB Regulation, that are assigned to the concerned BRP.

2. Additional imbalance adjustments to the concerned BRP shall, where relevant, be calculated by the connecting TSO in each imbalance area for each ISP as the netted volume of at least:
   (a) all energy volumes involved in the system defence plan instructions as issued by the connecting TSO to significant grid users and defence service providers in accordance with the system defence plan procedures provided for in point (b) of Article 13(5) of the NC ER Regulation and specified in the Member State's terms and conditions for BRPs;
   (b) the energy involved in all allocated cross-zonal capacity that is curtailed by the connecting TSO on the external trade schedules of the concerned BRP for that ISP in accordance with Article 72(1) of the CACM Regulation;
   (c) all energy volumes of further energy allocations between BRPs due to dispatching actions or to energy from renewable sources according to each TSO's Member State's terms and conditions for BRPs.

3. For each connecting TSO applying a central dispatching model, the imbalance adjustment referred to in Articles 35(1) and 35(2) of this ISHP shall be calculated by the connecting TSO in each imbalance area for each ISP for each scheduling unit of the concerned BRP. Each BRP can have several scheduling units with a separate imbalance adjustment, pursuant to Article 49(2) of the EB Regulation and for each position in accordance with Article 3(2).

4. The applied imbalance adjustment shall be reported by the connecting TSO without undue delay to the concerned BRP in case of self-dispatching model, or to each scheduling unit of concerned BRP in case of central dispatching model, without undue delay and this imbalance adjustment shall be finalised no later than set by each TSO's Member State's terms and conditions for BRPs in accordance with Article 18(6)(h) of the EB Regulation.
**Article 4**

The calculation of a position, an imbalance and an allocated volume

(1) Each connecting TSO applying a self-dispatching model shall calculate, in each imbalance area for each ISP, one single final position for each BRP as equal to the sum of its external and internal commercial trade schedules pursuant to Article 54(3)(a) of the EBGL.

(2) Each TSO applying a central dispatching model shall calculate, in each imbalance area for each ISP, one single final position for each scheduling unit of each BRP as equal to the sum of scheduling unit’s external and internal commercial trade schedules pursuant to Article 54(3)(c) of the EBGL.

(3) The total allocated volume to each BRP in case of self-dispatching model, or to each scheduling unit of concerned BRP in case of central dispatching model, shall be calculated by the connecting TSO, in each imbalance area for each ISP, over all injections and withdrawals for which the BRP is financially responsible in accordance with Article 17(2) of the EBGL, as the netted volume of:

(a) the volumes or aggregated volumes that are metered with a granularity of the ISP for the connections to a TSO grid;

(b) the volumes or aggregated volumes that are metered with a granularity of the ISP for the connections to a DSO grid;

(c) the aggregated volumes assigned to that BRP in case of the self-dispatching model or scheduling unit of concerned BRP in case of the central dispatching model per ISP over injections and withdrawals that are not metered with a granularity of the ISP;

(d) where applicable, according to each TSO’s terms and conditions for BRPs, all corrections to Articles 4(3)(a), 4(3)(b) and 4(3)(c) of this ISHP that constitutes the volumes assigned per ISP to market participants bearing balance responsibility or that have contractually delegated their balance responsibility to a BRP of their choice; and

(e) where applicable, according to each TSO’s terms and conditions for BRPs, the aggregated volumes assigned to that BRP, in case of the self-dispatching model, or scheduling unit of concerned BRP, in case of the central dispatching model, per ISP related to all residual energies.

(4) When required by each TSO’s terms and conditions for BRPs, the volumes or aggregated volumes in accordance with Articles 4(3)(b), 4(3)(c), 4(3)(d) and 4(3)(e) of this ISHP shall be delivered to the connecting TSO by the relevant DSO in accordance with Article 15(2) of the EBGL, or by other parties.

(5) The total allocated volume to each BRP in case of self-dispatching model, or to each scheduling unit of concerned BRP in case of central dispatching model, shall be reported to the concerned BRP by the TSO without undue delay and shall be finalised not later than set by each TSO’s terms and conditions for BRPs in accordance with Article 18(6)(h) of the EBGL.

(6) The imbalance shall be calculated as equal to the energy volume representing the difference between the allocated volume and the final position, including any imbalance adjustment, in accordance with the definition of imbalance pursuant Article (2)(8) of EBGL.

1. Each TSO applying a self-dispatching model shall calculate, in each imbalance area for each ISP, the imbalance of each BRP, as the energy volume representing the difference between the allocated volume
attributed to that BRP and the final position of that BRP (or to that scheduling unit in case of central dispatching model), calculated in accordance with Article 4, and the final position of that BRP (or to that scheduling unit in case of central dispatching model), calculated in accordance with Article 3, including any imbalance adjustment applied to that BRP (or to that scheduling unit in case of central dispatching model), calculated in accordance with Article 5, within a given ISP.

(a) Each TSO applying a central-dispatching model shall calculate, in each imbalance area for each ISP, the imbalance of each scheduling unit of each BRP as the energy volume representing the difference between the allocated volume attributed to that scheduling unit and the final position of that scheduling unit, including any imbalance adjustment applied to that scheduling unit, within a given ISP.

2. Each connecting TSO shall report without undue delay the calculated imbalance to each BRP in case of self-dispatching model, or to each scheduling unit of concerned BRP in case of central dispatching model, over each ISP for each imbalance area, shall be reported by the TSO to the concerned BRP without undue delay and this imbalance calculation shall be finalised no later than set by each TSO's Member State's terms and conditions for BRPs in accordance with Article 18(6)(h) of the EBGLEB Regulation, taking into account the rules for claiming the recalculation of the imbalance by a BRP in accordance with Article 54(4)(e) of the EBGLEB Regulation.

### Article 5

**Components used for the calculation of the TITLE III Specification and harmonisation of imbalance price calculation**

(1) After the TSO becomes participating TSO all of the European balancing platforms to which they are mandated to become participating TSOs pursuant to Articles 19, 20 and 21 of the EBGL, imbalance prices shall be calculated using only components mentioned in Articles 5(2), 5(4) and 5(5) of this ISHP. Before the TSO becomes participating TSO of the respective balancing platform, TSO may use as a main component of the imbalance price the prices and volumes resulting from balancing actions.

The main components for calculating the imbalance price for Article 7 The use of single imbalance pricing

1. Each connecting TSO shall implement the use of single imbalance pricing in accordance with Article 55 of the EB Regulation for all imbalances, as described in paragraphs 3 to 5 below, except for the specific or all ISPs where a regulatory authority approves the application of dual imbalance pricing in accordance with Article 11.

2. Each connecting TSO shall use the following main components for the determination of the imbalance price for each ISP, its imbalance price area(s) and each direction: the imbalance price for positive imbalance and/or the imbalance price for negative imbalance calculated pursuant to Article 9, the VoAA pursuant to Article 10 and the direction of the imbalance pursuant to Article 8.

3. Each connecting TSO shall set the imbalance price for all imbalances for each ISP and its imbalance price area(s) in one of the following ways depending on the activation of balancing energy from frequency restoration reserves or replacement reserves for its satisfied balancing energy demand:
(a) In case only positive balancing energy from frequency restoration reserves or replacement reserves has been activated, this TSO shall set the imbalance price for all imbalances for this ISP equal to the imbalance price for negative imbalance as calculated in Article 9(1).

(b) In case only negative balancing energy from frequency restoration reserves or replacement reserves has been activated, this TSO shall set the imbalance price for all imbalances for this ISP equal to the imbalance price for positive imbalance as calculated in Article 9(2).

(c) In case both positive and negative balancing energy from frequency restoration reserves or replacement reserves has been activated, this TSO shall establish for this ISP the direction of the total system imbalances, in accordance with Article 8(2), and:

(i) in case of imbalance price area shortage, this TSO shall set the imbalance price for all imbalances for the specific ISP and its imbalance price area(s) equal to the imbalance price for negative imbalance as calculated in Article 9(1), while

(ii) in case of imbalance price area surplus, this TSO shall set the imbalance price for all imbalances for the specific ISP and imbalance price area equal to the imbalance price for positive imbalance as calculated in Article 9(2).

(d) In case of no positive or negative balancing energy from frequency restoration reserves or replacement reserves has been activated, this TSO shall set the imbalance price for all imbalances for this ISP equal to the imbalance price for positive or negative imbalance as calculated in Articles 9(1) and 9(2) respectively.

In addition to the provisions in Article 55(3) of the EB Regulation, all TSOs in a given imbalance price area and ISP area shall jointly determine the imbalance price for:

(a) the each ISP;

(b) this imbalance price or prices area;

(c) each imbalance direction.

Article 8
Establishing the direction of the total system imbalances and the character of a BRP imbalance in an imbalance price area

1 When determining the direction of the total system imbalances the connecting TSO shall calculate for its imbalance price area(s), for a specific ISP, and for each direction the sum of the volumes per direction listed in Article 9(5) and it may include one or more of the volumes per direction listed below:

(a) the volume or volumes of unintended exchanges of energy;

(b) volume for the satisfied balancing energy demand of the connecting TSO or connecting TSOs of this imbalance price area for this ISP as calculated in the European platform defined in accordance with the Article 22 of the EB Regulation;

(c) volume resulting from the frequency containment process;

(d) volume resulting from remedial actions pursuant to Article 22, paragraph 1, letters (h) and (j) and paragraph 2, of the SO Regulation;

(e) volume resulting from Inter-TSO assistance in emergency state pursuant to Article 14 of the ER Regulation.
2. This TSO shall establish for the specific ISP, the direction of the total system imbalances of its imbalance price area(s) based on the difference between the aggregated volumes for each direction, as calculated in paragraph 1. The total system imbalances for a specific ISP and imbalance price area shall alternatively:

   (a) have a negative sign, indicating an imbalance price area shortage, when the aggregated volume for positive direction is greater in absolute value than the aggregated volume for negative direction,

   (b) have a positive sign, indicating an imbalance price area surplus, when the aggregated volume for negative direction is greater in absolute value than the aggregated volume for positive balancing direction,

   (c) be equal to zero, indicating an imbalance price area in balance.

3. TSOs of the same LFC area that calculate the frequency restoration control error as the frequency deviation pursuant to Article 143(2)(b) of the SO Regulation, may determine the total system imbalances as specified in paragraphs 1 and 2, for sets of their imbalance price areas.

4. The calculated character of the imbalance to each BRP in case of self-dispatching model, or to each scheduling unit of concerned BRP in case of central dispatching model, for each ISP, for each imbalance price area, shall be alternatively:

   (a) non-aggravating imbalance, when the BRP imbalance is opposite to the direction of the total system imbalances;

   (b) aggravating imbalance, when the BRP imbalance has the same direction as the total system imbalances;

   (c) in case no direction can be established both positive and negative BRP imbalances shall be deemed as aggravating.

**Article 9**

**Determination of the imbalance price for positive and negative imbalance**

1. Each connecting TSO shall use for the imbalance price for negative imbalance, the weighted average approach and/or the maximum price approach, based on the prices and respective volumes listed in paragraphs 3 and 5 for positive activated balancing energy. Each connecting TSO may also use additional components listed in paragraph 6 for determining the imbalance price for negative imbalance, as long as the boundary condition of Article 55(4) of the EB Regulation is respected. For the calculation of the boundary condition, in case it is not always fulfilled, based on the imbalance price calculation approach, each connecting TSO shall use all the available prices and the respective volumes for positive activated balancing energy listed in paragraphs 3 and 5 to calculate the weighted average price for positive activated balancing energy pursuant to Article 55(4)(a) of the EB Regulation. In case there is no positive balancing energy activated for this connecting TSO, then the value of avoided activation of balancing energy calculated in accordance with Article 10, shall be the lower bound for the imbalance price for negative imbalance.

2. Each connecting TSO shall use for the imbalance price for positive imbalance, the weighted average approach and/or the minimum price approach, based on the prices and respective volumes listed in paragraphs 3 and 5 for negative activated balancing energy. Each connecting TSO may also use additional components listed in paragraph 6 for determining the imbalance price for positive imbalance, as long as the boundary condition of Article 55(5) of the EB Regulation is respected. For the calculation of the boundary condition, in case it is not always fulfilled, based on the imbalance price calculation approach,
imbalance settlement harmonisation methodology

each connecting TSO shall use all the available prices and the respective volumes for negative activated balancing energy listed in paragraphs 3 and 5 to calculate the weighted average price for negative activated balancing energy pursuant to Article 55(5)(a) of the EB Regulation. In case there is no negative balancing energy activated for this TSO, then the value of avoided activation of balancing energy calculated in accordance with Article 10, shall be the upper bound for the imbalance price for positive imbalance.

3. The prices for determining the imbalance price for a given ISP, imbalance price area and per direction are:
   (a) where applicable, the price or prices, for the satisfied balancing energy demand of connecting TSO or connecting TSOs of this imbalance price area for this ISP, as calculated by the activation optimisation function of the European platform defined in accordance with the Article 19 of the EB Regulation;
   (a) where applicable, the price or prices, per direction and product for the satisfied balancing energy demand of the connecting TSO or connecting TSOs of this imbalance price area of this ISP, as calculated by the activation optimisation function of the European platform defined in accordance with the Article 20 of the EB Regulation;
   (b) where applicable, the price or prices, per direction for the satisfied balancing energy demand of connecting TSO or connecting TSOs of this imbalance price area for this ISP, as calculated by the activation optimisation function of the European platform defined in accordance with the Article 21 of the EB Regulation;
   (c) where applicable, the price or prices for balancing energy resulting from the activation of specific products for frequency restoration or reserve replacement process;
       (a) where applicable, the price or prices for balancing energy resulting from the integrated scheduling process.
   (b) the value of avoided activation of balancing energy calculated in accordance with Article 6 of the ISHP;
   (d) where applicable, the prices of further remedial actions of the TSO, which contribute to the system balance and are bids that do not correspond to standard or specific products or to integrated scheduling process bids, for frequency restoration or reserve replacement process;
   (e) where applicable, the price or prices resulting from the integrated scheduling process.

4. Each connecting TSO shall use one or more of the main components balancing energy prices listed in this ISHP 5(2)paragraph 3 for calculating the imbalance price taking into account that:
   (a) Each connecting TSO may shall use the prices in accordance with ISHP 5(2)points (a), (b) and (c) only of paragraph 3 in case the TSO is participating in the corresponding platform.
   (b) Each connecting TSO may shall use the prices for specific products only in accordance with point (d) of paragraph 3 in case the TSO is using the specific products for balancing.
   (c) Each connecting TSO may shall use the prices for integrated scheduling process only in accordance with point (f) of paragraph 3 in case the TSO is using the integrated scheduling process.

5. Each connecting TSO may shall use the following volumes per direction for calculating the imbalance prices pursuant to paragraphs 1 and 2 in case calculating it is using the weighted average price
and/or for establishing the direction of imbalances in a given imbalance price area: approach or needs to calculate the boundary condition:

(a) volume, per direction, for the satisfied balancing energy demand of the connecting TSO or connecting TSOs of this imbalance price area for this ISP, as calculated by the activation optimisation function of the European platform defined in accordance with the Article 19 of the EBGL:

(b) volume, per direction and product, for the satisfied balancing energy demand of the connecting TSO or connecting TSOs of this imbalance price area for this ISP, as calculated by the activation optimisation function of the European platform defined in accordance with the Article 20 of the EBGL:

(c) volume, per direction, for the satisfied balancing energy demand of the connecting TSO or connecting TSOs of this imbalance price area for this ISP, as calculated by the activation optimisation function of the European platform defined in accordance with the Article 21 of the EBGL:

(d) volume, per direction, for the satisfied balancing energy demand of the connecting TSO or connecting TSOs of this imbalance price area for this ISP, as calculated in the European platform defined in accordance with the Article 22 of the EBGL:

(e) volume, per direction, for the satisfied balancing energy demand of the connecting TSO or connecting TSOs of this imbalance price area for this ISP of the activations of specific products for frequency restoration process or reserve replacement process:

(f) where applicable, the volumes resulting from the integrated scheduling process.

The connecting TSO or connecting TSOs of an imbalance price area may propose in the relevant Member State’s terms and conditions for BRPs the conditions and a methodology to calculate additional components, to be included in the imbalance price calculation. In that case, this TSO or these TSOs shall propose one or more of the following additional components, to be included in the imbalance price calculation:

(a) a scarcity component to be used in nationally defined scarcity situations;

(b) an incentivising component to be used to fulfill nationally defined boundary conditions;

(c) a component related to the financial neutrality of the connecting TSO.

Where the relevant NRA regulatory authorities have approved in the terms and conditions for BRPs the conditions and the methodology to apply one or more additional components in accordance with Article 5(3) of this ISHP paragraph 6, the value of the additional components shall be published by the TSO for those ISPs in which the additional components were applied no later than publication of the final imbalance settlement price.
(1) The connecting TSO, or the connecting TSOs, of an imbalance price area shall calculate the imbalance price respecting the boundary conditions in accordance with Article 55(4), (5) and (6) of the EBGL. In the calculation of any weighted average price in accordance with the boundary condition, in case there are several prices for the processes due several products used, all the relevant prices according to Article 5(3) of this ISHP and volumes resulting from the frequency restoration process and the reserve replacement process the TSO is using, shall be taken into account, including, where relevant, those resulting from specific products and from integrated scheduling process.

(1) An imbalance price area, as delineated in each TSO's terms and conditions for BRPs, shall be equal to one or more imbalance areas as delineated by a single TSO, or a combination of imbalance areas delineated by different TSO within a bidding zone.

(2) In addition to the provisions in Article 55(3) of the EBGL, all TSOs in a given imbalance price area shall jointly determine the imbalance price for:

(a) each ISP;
(b) this imbalance price area;
(c) each imbalance direction.

**Article 6 Article 10**

The value of avoided activation of balancing energy from frequency restoration reserves or replacement reserves

1. The value of avoided activation shall:
   (a) set the boundary conditions to the imbalance price in accordance with the Articles 55(4)(b) and 55(5)(b) of the EBGL Regulation;
   (b) set, where relevant, the boundary conditions to the imbalance price for non-aggravating imbalance in accordance with Article 8(21)(4)(b)(i) of this ISHP; and
   (c) be calculated taking into account the general settlement principles in accordance with Article 44(1) of the EBGL Regulation.

2. Each connecting TSO shall calculate the value of avoided activation from frequency restoration reserves or replacement reserves for at least each ISP during which there has been no activation of balancing energy in either direction for the imbalance price area, in accordance with Articles 55(4)(b) and 55(5)(b) of the EBGL Regulation.

3. If the TSO applies dual imbalance pricing in accordance with Article 52(2)(d) of the EBGL Regulation, the TSO may calculate two values of avoided activation, one value for each direction, for each imbalance period during which there has been no activation of balancing energy in either direction in the imbalance price area. These two values may be equal.

4. For calculating the value or values of avoided activation in accordance with Articles 6(paragraph 2) or 6(3) of this ISHP, each connecting TSO may only, if relevant, use the following prices:
   (a) the bid price or bid prices, per direction, for balancing energy for frequency restoration process available to this TSO for this ISP from BSPs connected to this TSO, or from the integrated scheduling process;
imbalance settlement harmonisation methodology

(b) the bid price or bid prices, per direction, for balancing energy for replacement reserve process available to this TSO for this ISP from BSPs connected to this TSO, or from the integrated scheduling process.

Article 7
The use of single imbalance pricing

Each TSO shall implement the use of single imbalance pricing in accordance with Article 55 of the EBGL for all imbalances, except for the specific or all ISPs where a NRA approves the application of dual imbalance pricing in accordance with Article 8 of this ISHP.

Article 8
Definition of conditions and methodology for applying dual imbalance pricing

1. Each connecting TSO may propose to its relevant regulatory authority the application of dual imbalance pricing in an imbalance price area based on one of the following conditions, as required by Article 52(2)(d)(i) of the EB Regulation, where relevant:

(a) For specific ISPs in which the TSO subsequently requests activation of both positive and negative balancing energy from frequency restoration reserves, if dual imbalance pricing is justified as a mitigation measure to avoid negative effects on FRCE target parameters in accordance with Article 128 of SOG the SO Regulation, frequency stability in accordance with Article 3(34) of SOG the SO Regulation and/or the ability to maintain power flows within the power flow limits in accordance with Article 32(1) and (2) of SOG the SO Regulation as a result of BRPs acting on price incentives...

(b) For specific ISPs in which imbalance price calculated according to Article 55(3) of the EBGL taking into account the main components according the ISHP Article 5 and the price calculated by activation optimisation function does not provide a locally adequate incentive in individual ISPs as the imbalance area is near balanced. In such ISPs, dual pricing is justified as a mitigation measure to avoid negative effects on FRCE target parameters. TSOs applying the dual pricing based on this condition shall detail in terms and conditions the threshold subject to approval of the relevant regulatory authority within which the imbalance area is considered near balanced.

(c) For specific ISPs in which the component in accordance with Article 5(59)(6)(a) of the ISHP is larger than EUR zero (0) /MWh.

(d) For central dispatching model for specific ISPs where the application of single imbalance pricing does not provide correct incentives to scheduling units to respect unit commitment and dispatch instructions issued by a TSO within the integrated scheduling process in order to ensure a secure system operation.

(a) For all ISPs where the imbalance settlement period is longer than or equal to 30 minutes due to an exemption from the requirement pursuant to Article 53 of the EBGL or based on derogation in accordance with Article 62(2)(d) of the EBGL.

(2) In case of application of EB Regulation, if dual imbalance pricing pursuant to Article 8(1) of this ISHP is justified as a mitigation measure to improve incentives to BRPs and avoid oscillations that may occur in case the TSO shall calculate an self-regulation response by BRPs, which is linked to the longer ISP, overcompensates for the system imbalance price.
imbalance settlement harmonisation methodology

(a) for aggravating imbalances in accordance to the national methodology for calculating a single imbalance price for that ISP, pricing based on the components pursuant to Article 5 of this ISHP, and including, where relevant the components pursuant to the Article 5(5) of this ISHP;

(e) for non-aggravating imbalances, which in accordance to either:

i. the methodology for calculation of the value of avoided activation pursuant to Article 6 of this ISHP, and including, where relevant the components pursuant to the Articles 5(5) of this ISHP; or

ii. in accordance with the national methodology for single imbalance pricing based on the components and boundaries pursuant to Article 5 of this ISHP, and including, where relevant the components pursuant to the Article 5(5) of this ISHP.

2. The proposal for application of dual pricing pursuant to Article 8(1) of this ISHP paragraph 1 shall provide a justification for applying dual pricing, including at least an assessment on:

(a) the negative impacts of not applying the dual pricing as proposed by this TSO in terms of operational security;

(b) other possible impacts of applying the dual pricing as proposed by this TSO.

3. A justification pursuant to Article 8(3) of the ISHP paragraph 2 shall be based on operational and economic reasoning and criteria taking into account:

(a) the objectives of the EBGLEB Regulation pursuant to Article 3 of the EBGLEB Regulation,

(b) the objectives of the SOGLSO Regulation pursuant to Article 4(2) of the SOGLSO Regulation, and

(c) the general settlement principles of the EBGLEB Regulation pursuant to Article 44 of the EBGLEB Regulation.

4. In case the relevant regulatory authority approves the application of dual imbalance pricing pursuant to Article 52(2)(d)(i) of the EB Regulation, the TSO shall calculate an imbalance price:

(a) for aggravating imbalances in accordance with the imbalance price calculated pursuant to Article 9;

(b) for non-aggravating imbalances in accordance to either:

(i) the methodology for calculation of the value of avoided activation pursuant to Article 10, and including, where relevant the components pursuant to the Article 9(6); or

(ii) the imbalance price calculated pursuant to Article 9.
**TITLE 3IV**
Final provisions

**Article 912**
Publication and implementation of the ISHP imbalance settlement harmonisation methodology

1. The TSOs shall publish the ISHP imbalance settlement harmonisation methodology without undue delay after all relevant regulatory authorities have approved the proposed ISHP or a decision has been taken by the European Union Agency for the Cooperation of Energy Regulators, in accordance with Article 7 of the EBGL.

2. Each TSO shall implement the Articles of the ISHP imbalance settlement harmonisation methodology, relevant to their dispatching model, self-dispatching or central dispatching, in accordance with Article 52(4) of the EBGL, no later than eighteen months after approval by all relevant regulatory authorities.

3. Following the European report on integration of balancing markets published by ENTSO-E, pursuant to Article 59(1) of the EB Regulation, two years after the implementation deadline of the European Platforms for the exchange of balancing energy pursuant to Articles 20(6) and 21(6) of the EB Regulation, all TSOs shall assess the need for further harmonisation of the imbalance settlement, in line with the objectives of Article 3 of the EB Regulation, based on the assessment of the consequences and possible distortions due to non-harmonisation, pursuant to Article 59(3)(i) of the EB Regulation. The TSOs shall publish this assessment and invite stakeholders to submit comments on that. One year after the publication of this European report, all TSOs shall submit their final assessment together with the comments received by the stakeholders to all regulatory authorities and ACER.

**Article 13**
Language

The reference language for the ISHP imbalance settlement harmonisation methodology shall be English. For the avoidance of doubt, where TSOs need to translate the ISHP imbalance settlement harmonisation methodology into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 7 of the EBGL and any version in another language, the relevant TSOs shall, in accordance with national legislation, provide the relevant national regulatory authorities with an updated translation of the ISHP imbalance settlement harmonisation methodology.