

Framework Guidelines on Electricity Balancing

Draft for consultation

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This Document contains the draft Framework Guidelines on Electricity Balancing, which the Agency for the Cooperation of Energy Regulators (ACER) is preparing pursuant to Article 6 of Regulation (EC) No 714/2009 and on the basis of a request from the European Commission.

The draft Framework Guidelines contained in this document are issued for consultation to ENTSO-E and other relevant stakeholders, who are invited to submit their comments by:

25 June 2012

by sending them to the following address:

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This document contains a number of specific questions for consultation. Stakeholders are invited to address the issues raised in the questions, as well as provide comments on other aspects of these draft Framework Guidelines.

Related Documents

ACER/CEER/ERGEG documents

- Framework Guidelines on Electricity Grid Connections, 20 July 2011, Ref: FG-2011-E-001; http://www.acer.europa.eu/portal/page/portal/ACER_HOME/Public_Docs/Acts%20of%20the%20Agency/Framework%20Guideline/Framework%20Guidelines%20On%20Electricity%20Grid%20Connections/110720_FGC_2011E001_FG_Elec_GrConn_FINAL.pdf
- Framework Guidelines on Electricity System Operation, 2 December 2011, FG 2011-E-003; http://www.acer.europa.eu/portal/page/portal/ACER_HOME/Activities/FG_code_development/Electricity/FG-2011-E-003_02122011_Electricity%20System%20Operation.pdf
- “Framework Guidelines on Capacity Allocation and Congestion Management for Electricity, 29 July 2011, FG-2011-E-002; [http://www.acer.europa.eu/portal/page/portal/ACER_HOME/Public_Docs/Acts%20of%20the%20Agency/Framework%20Guideline/Framework_Guidelines_on_Capacity_Allocation_and_Congestion_M/FG-2011-E-002%20\(Final\).pdf](http://www.acer.europa.eu/portal/page/portal/ACER_HOME/Public_Docs/Acts%20of%20the%20Agency/Framework%20Guideline/Framework_Guidelines_on_Capacity_Allocation_and_Congestion_M/FG-2011-E-002%20(Final).pdf)
- “ERGEG Guidelines of Good Practice for Electricity Balancing Market Integration“, ERGEG, 9 September 2009, Ref: E09-ENM-14-04; http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/New%20GGP%20Balancing%20Markets%20Integration/CD/E09-ENM-14-04_RevGGP-EBMI_2009-09-09.pdf
- “Implementing the 3rd Package: next steps“, CEER/ERGEG, 18 June 2009, Ref. C09-GA-52-06a; http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_ERGEG_PAPER_S/Cross-Sectoral/2009/C09-GA-52-06a_Implementing_3rdpackage_18-Jun-09.pdf

- ACER Work Programme 2011,
http://www.acer.europa.eu/portal/page/portal/ACER_HOME/The_Agency/Work_programme/ACER%20Work%20Programme%202011.pdf
- Electricity Balancing, Initial Impact Assessment,
- ERGEG final advice on Comitology Guidelines on Fundamental Electricity Data Transparency, Ref. E10-ENM-27-03, 7 December 2010, ERGEG; http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/Comitology%20Guideline%20Electricity%20Transparency/C/D/E10-ENM-27-03_FEDT_7-Dec-2010.pdf

External Documents

- European Commission: mandate for starting the work in the area of electricity balancing,
- Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC.
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0055:0093:EN:PDF>
- Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators.
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0001:0014:EN:PDF>
- Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003:
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0015:0035:EN:PDF>

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1 General Provisions

1.1 Scope

The Framework Guidelines on Electricity Balancing aim at setting out clear and objective principles for the development of network codes pursuant to Article 6(2) of Regulation (EC) No 714/2009 (henceforth referred to as the “Electricity Regulation”). They cover the areas pursuant to Article 8 (6) (h) and (j) of the Electricity Regulation, i.e. the rules for trading related to technical and operational provision of system balancing and the balancing rules including network-related power reserve rules, with the objective to contribute to non-discrimination, effective competition, efficient functioning of the market, completion and functioning of the internal market in electricity and cross-border trade, security of supply, benefits for customers, participation of demand response, EU’s targets for penetration of renewable generation as well as to ensure the optimal management and coordinated operation of the European electricity transmission network. To this end, these Framework Guidelines will strive for integration, coordination and harmonisation of the balancing regimes in order to facilitate electricity trade within the EU in compliance with the Electricity Regulation and Directive 2009/72/EC (henceforth referred to as the “Electricity Directive”).

The Network Code(s) developed according to these Framework Guidelines (henceforth referred to as the “Electricity Balancing Network Code(s)”) have to be in line with these Framework Guidelines and also with relevant EU legislation. In particular, they shall take due account of the objective – mentioned above – and the requirements under the Electricity Regulation and the Electricity Directive, such as the need of establishing objective, fair, transparent and non-discriminatory rules for balancing in a cost-reflective way and of creating appropriate incentives for network users and *transmission system operators* (hereinafter referred to as “TSOs”) for more efficient balancing (see e.g. Article 15(7), 37(6) and 37(8) of the Electricity Directive).

The Framework Guidelines on Electricity Balancing specifically address the roles and responsibilities of stakeholders involved in electricity balancing, the procurement of *frequency restoration reserves* and *replacement reserves*, the activation of *balancing energy* from *frequency restoration reserves* and *replacement reserves* and *imbalance settlement*.

ACER will evaluate the Electricity Balancing Network Code(s) pursuant to Article 6(7) and (9) of the Electricity Regulation with regard to compliance with these Framework Guidelines and relevant EU energy legislation. For this evaluation, ACER will particularly take into account the contribution of the Electricity Balancing Network Code(s) to the above mentioned objectives of these Framework Guidelines.

The Electricity Balancing Network Code(s) shall set the minimum standards and requirements needed for a competitive, harmonised and effective EU-wide balancing market, concerning cross-border and market integration issues. In particular, it shall define the necessary level of harmonisation of the design elements of national balancing regimes necessary to foster European balancing market integration.

1.2 Links and dependencies

ACER recognises the close interrelationship between issues related to electricity balancing, system operation and capacity allocation and congestion management, as well as electricity grid connection. In drafting the Electricity Balancing Network Code(s), ACER expects the European Network of Electricity Transmission Operators for Electricity (ENTSO-E) to take into consideration, at least, the following principles and to propose separation of issues in the relevant network code(s):

- **Electricity System Operation** – With respect to:
 - a) Network Code on Operational Security: the Electricity Balancing Network Code(s) shall deal with market-based selection of *balancing services* for load frequency control and, where relevant, real-time congestion management and take into consideration rules and processes to be defined in the network code on operational security;
 - b) Network Code on Operational Planning and Scheduling: with regard to the maintaining of the security of supply and selection and cross-border exchange of *balancing services*, the Electricity Balancing Network Code(s) shall deal with the procurement and product specifications of these services and take into consideration operational planning and scheduling procedures to be defined in the network code on operational planning and scheduling;
 - c) Network Code on Load-Frequency Control and Reserves: with regard to the technical requirements for *balancing services* and their utilisation, the Electricity Balancing Network Code(s) shall ensure an efficient and market-based selection of *balancing services* and take into consideration technical processes, requirements and sizing principles to be defined in the network code on load-frequency control, as well as the technical and operational limitations for cross-border exchanges of *balancing services* to be defined in the network codes on load-frequency control and possibly on operational security.
- **Capacity Allocation and Congestion Management for Electricity** – With respect to the Network Code(s) on Capacity Allocation and Congestion Management for electricity: the Electricity Balancing Network Code(s) shall take into account the interactions with *intraday* and *day-ahead* time-frames, in particular *gate closure times*, and shall be consistent with them in terms of calculation of and access to *cross-border capacities*, when using them for *cross-border balancing* and balancing market integration.
- **Electricity Grid Connection** – With respect to the Network Codes for Requirements for Grid Connection applicable to all Generators and for the demand connection, the Electricity Balancing Network Code(s) shall take into account these technical requirements, where relevant, to define the product specifications for generators and load needed for the provision of *balancing services*.

Similarly, issues addressed in these Framework Guidelines on Electricity Balancing may have an impact on electricity system operation, capacity allocation and congestion management and electricity grid connection. Therefore, this impact shall be taken into account while drafting or revising the corresponding network codes to ensure that the provisions foreseen in these Framework Guidelines on Electricity Balancing and in the Electricity Balancing Network Code(s) are applicable in practice to maximise the efficiency of balancing while safeguarding operational security.

In drafting the relevant network code(s), ENTSO-E shall ensure that these issues are appropriately coherent and compatible.

Issues which are relevant to more than one Framework Guidelines are as a minimum mentioned in each relevant Framework Guidelines and, where necessary, also specified in more detail. Some redundancy might emerge from this approach, but priority has been given to the avoidance of omission of important aspects.

Finally the Electricity Balancing Network Code(s) shall ensure an adequate level of transparency for market participants, in consistency with ERGEG final advice on Comitology Guidelines on

Fundamental Electricity Data Transparency and possible Comitology Guidelines on Fundamental Electricity Data Transparency.

1.3 Definitions

For the purposes of these Framework Guidelines, the definitions contained in Article 2 of the Electricity Directive and Article 2 of the Electricity Regulation shall apply.

The following definitions are intended to clarify the provisions of these Framework Guidelines and are without prejudice to the definitions that shall be provided in the Electricity Balancing Network Code(s).

- **ACER** – Agency for the Cooperation of Energy Regulators, as established by Regulation (EC) No 713/2009.
- **Annual report** – report to be published by ENTSO-E on a yearly basis, in accordance with Section 2.5 of these Framework Guidelines.
- **Balancing** – all actions and processes through which TSOs ensure that the total electricity withdrawals are equalled by the total injections in a continuous way, in order to maintain the system frequency within a predefined stability range.
- **Balancing Energy** – energy (MWh) activated by TSOs to maintain the balance between injections and withdrawals.
- **(Balancing) Reserves** – power capacities (MW) available for TSOs to balance the system in real time. These capacities can be contracted by the TSO with an associated payment for their availability and/or be made available without payment. Technically, Reserves can be either automatically or manually activated.
- **Balancing Services** – *balancing reserves or balancing energy*.
- **Balance Responsible Party (BRP)** – a market participant or its chosen representative responsible for its *imbalances*.
- **Balance Service Provider (BSP)** – a market participant providing *balancing services* to one or several TSOs within one or several *control area(s)*.
- **Bidding zone** – the smallest geographical area for which one single clearing price in the *day-ahead* market is always applicable, in accordance with the Network Code on Capacity Allocation and Congestion Management.
- **Control Area** – a coherent part of the interconnected system, operated by a single TSO responsible for *load-frequency-control* for physical loads and generation units connected.
- **Cross-border balancing** – exchanges of *balancing energy* and/or *reserves* between *control areas* and/or between *bidding zones*.
- **Cross-border (Transmission) Capacity** – a capacity to transfer the energy from one congestion management *bidding zone* to another one. Reservation of *cross-border transmission capacity* indicates (a portion of) available *cross-border capacity*, which is reserved for cross-border exchange of *balancing reserves* and thus is not accessible to market participants for cross-border energy trade.
- **Day-Ahead** – market timeframes occurring in D-1.
- **Frequency containment reserves** – operating *reserves* necessary for constant containment of frequency deviations (fluctuations) from nominal value in order to constantly maintain the power balance in the whole synchronously interconnected

system. Activation of these *reserves* results in a restored power balance at a frequency deviating from nominal value. This category typically includes operating *reserves* with the activation time up to 30 seconds. Operating *reserves* of this category are usually activated automatically and locally.

- **Demand response** - changes in electric usage by end-use consumers from their normal consumption patterns in response to changes in the electricity price or to a request from a supplier or aggregator.
- **Frequency restoration reserves** – operating *reserves* used to restore frequency to the nominal value and power balance to the scheduled value after sudden system *imbalance* occurrence. This category includes operating *reserves* with an activation time typically up to 15 minutes (depending on the specific requirements of the synchronous area). Operating *reserves* of this category are typically activated centrally and can be activated automatically or manually.
- **Gate Closure Time** – deadline for the participation to a given market or mechanism.
- **Imbalances** – deviations between generation, consumption and market deals (in all timeframes – market deals include sales and purchases on organised markets or between *BRPs*) of a *BRP* within a given *imbalance settlement period*.
- **Imbalance Settlement** – a financial settlement mechanism aiming at recovering the costs of *balancing* applicable to *imbalances* of *BRPs*.
- **Imbalance Settlement Period** – time units used for computing *BRPs' imbalances*.
- **Intraday** – market timeframe beginning after the *day-ahead gate closure time* and ending at the *intraday gate closure time*.
- **Merit Order List** – in the *balancing* market a *merit order list* is a list of all valid *balancing* bids submitted by *BSPs* and sorted in order of their bid prices.
- **Program Time Unit** – time units used for scheduling and programs.
- **Replacement Reserves** – operating *reserves* used to restore the required level of operating *reserves* to be prepared for a further system *imbalance*. This category includes operating *reserves* with activation time from 15 minutes up to hours.

All defined terms are in *italic* in these Framework Guidelines.

1.4 Application

The Electricity Balancing Network Code(s) shall take precedence over relevant national frameworks (legislation, regulation, codes, standards, etc.) for cross-border and market integration issues. National frameworks shall accordingly be adapted, to the extent necessary, to ensure the implementation at national levels of the Electricity Balancing Network Code(s).

The Electricity Balancing Network Code(s) shall be without prejudice to the Member States' rights to maintain or introduce more detailed measures, provided such measures are compatible with the provisions of the Electricity Balancing Network Code(s).

The Electricity Balancing Network Code(s) shall also be without prejudice to the Member States' rights to establish national network codes which do not affect cross-border trade, in accordance with Article 8(7) of the Electricity Regulation, provided such national codes do not prevent the application and implementation of the Electricity Balancing Network Code(s).

Where the standards and requirements introduced in the Electricity Balancing Network Code(s) significantly go beyond the principles and objectives of these Framework Guidelines, ENTSO-E shall provide ACER with a justification of these standards and requirements, including a cost-benefit analysis.

The Electricity Balancing Network Code(s) shall concur with the competences of national regulatory authorities (hereinafter referred to as “NRAs”), deriving from Article 37(6)(b) of the Electricity Directive, to fix or approve, sufficiently in advance of their entry into force, at least the methodologies used to calculate or establish the terms and conditions for the provision of *balancing services*. The fixing or approval shall be realised according to objective, non-discriminatory, fair and transparent procedures, including public consultations with relevant stakeholders. In case the *balancing services* affect other national energy market areas, the relevant NRAs shall closely consult and cooperate with each other.

The Electricity Balancing Network Code(s) shall be without prejudice to the competences and powers of NRAs pursuant to the Electricity Directive, particularly pursuant to Article 35 et seq., which notably include, further to the competences regarding the terms and conditions, or at least the methodologies for their calculation or establishment, for the provision of *balancing services* in accordance with the above, competences and powers for monitoring, disputes settlements and information requests.

The Electricity Balancing Network Code(s) shall be applied by TSOs, taking into account possible public service obligations in application of Article 3 of the Electricity Directive and without prejudice to the regulatory regime for cross-border issues pursuant to Article 38 of the Electricity Directive.

The standards and requirements of the Electricity Balancing Network Code(s) shall apply after the expiration of a transitory period to be determined in the Electricity Balancing Network Code(s). The determination of the transitory period shall be subject to consultation with relevant stakeholders. This period shall not exceed three years starting on the day of publication of the relevant the Electricity Balancing Network Code(s) in the Official Journal of the European Union.

After the expiration of the transitory period, the standards and requirements of the Electricity Balancing Network Code(s) shall also apply to agreements related to electricity *balancing* that were concluded between TSO and relevant grid users (such as *Balance Responsible Party (BRP)* and *Balance Service Provider (BSP)*) before the day of publication of the relevant Electricity Balancing Network Code(s) in the Official Journal of the European Union and/or until the expiration of the transitory period.

1.5 Derogations

The Electricity Balancing Network Code(s) shall describe the process and criteria to apply for derogation. This process is applicable to TSOs which would be unable to implement some provisions of the Electricity Balancing Network Code(s) within the timeframe(s) required by this(these) Network Code(s) pursuant to the hereby Framework Guidelines for the reason that:

- a) either the concerned TSO would be, at the day of entry into force of the provisions it requests derogation from, in a significantly different situation from other TSOs in Europe in terms of national balancing arrangements;
- b) or the implementation of the provisions for which derogations is requested would result in significant problems in *balancing* the *control area* of the concerned TSO.

Derogations shall have the effect to allow those *TSOs* to benefit from transitional arrangement for the implementation of the provisions for which derogations was granted.

Derogations may be allowed only for a maximum period of 2 years and for specific provisions of the Electricity Balancing Network Code(s). The Electricity Balancing Network Code(s) shall expressly identify provisions for which a derogation may be granted. When identifying these provisions ENTSO-E shall provide detailed justifications with regard to the conditions mentioned above.

The Electricity Balancing Network Code(s) shall foresee that the application process for derogations shall be completed prior to the day of application of the relevant provisions.

The Electricity Balancing Network Code(s) shall provide that the derogation process is transparent, non-discriminatory, non-biased, well-documented and based on a reasoned request demonstrating the fulfilment of the conditions mentioned above.

The format and methodology of the reasoned request shall be prescribed in the Electricity Balancing Network Code(s). They shall prescribe that the reasoned request shall also include a detailed plan and timeline as to how the *TSO* requesting derogations shall address the reasons underlying its request for derogation and thus ensure the implementation of the concerned provision of the Electricity Balancing Network Code(s) after expiration of the derogation period. The reasoned request shall additionally take into account the consequences on adjacent markets and the fact that the derogation shall not jeopardise the integration of *balancing* markets across Europe.

During the derogation application process, the concerned *TSO* shall be deemed as compliant.

The relevant NRA shall decide whether to grant or not a derogation, based on the *TSO's* reasoned request.

The decision of the NRA shall be notified to ACER and published at their web page. ACER shall monitor the granting of derogations.

Each NRA shall also maintain a register in which derogations are recorded, together with the reasons for their granting and the consequences of the derogations.

1.6 ACER involvement

The Electricity Balancing Network Code(s) shall provide that ENTSO-E or *TSO(s)*, as relevant, submit to ACER, without delay, all the relevant information and documents related to the opening of any approval procedure by NRAs, as introduced in Sections 1.5, 3.2.1, 3.2.2, 3.3.1 and 4.3 of these Framework Guidelines. The Electricity Balancing Network Code(s) shall also require relevant NRAs to inform ACER of the outcome of such procedures. The competences of ACER pursuant to Regulation (EC) No 713/2009, and particularly its Articles 4, 6 and 7, shall remain unaffected.

2 General principles

2.1 General principles pursued in the Electricity Balancing Network Code(s)

In an integrated *cross-border balancing* market, *TSOs* balance the system in a coordinated way in order to use the most efficient *balancing* resources taking into account *transmission*

capacities. This section describes the principles to ensure and facilitate an integrated *balancing* market across Europe.

The national *balancing reserve* and *balancing energy* procurement specifications and *cross-border balancing* exchanges shall pursue the following objectives:

- safeguarding operational security of supply;
- fostering competition in *balancing* markets;
- facilitating wider participation of *demand response* and renewable sources of energy;
- increasing overall social welfare;
- promoting *cross-border balancing* exchanges.

In addition, it shall be ensured that these specifications are consistent and take into account interactions with other market timeframes (e.g. *intraday*, *day-ahead*).

2.2 Role of TSOs in *balancing*

The Electricity Balancing Network Code(s) shall specify unambiguously the roles and responsibilities of *TSOs* regarding electricity *balancing*, including the tasks and requirements specified in this section.

TSOs are responsible to organise *balancing* markets and shall strive for their integration, whilst keeping the system in balance in the most efficient manner and following the general objectives defined in section 2.1 of these Framework Guidelines. To do so, they shall work with each other in close cooperation and coordinate their activities as much as necessary.

TSOs shall be responsible for procuring needed *balancing services* from *BSPs*. The Electricity Balancing Network Code(s) shall define common principles for the procurement of *reserves* and *balancing energy* in order to ensure that:

- it is non-discriminatory, fair, objective, transparent and market based;
- it is set to foster liquid *balancing* markets and avoid undue entry barrier for new entrants;
- there are limited distortions between adjacent markets that use different procurement mechanisms.

TSOs shall coordinate with other system operators when *balancing* offers are activated in their system.

2.3 Terms and conditions related to *balancing*

The Electricity Balancing Network Code(s) shall foresee that the *TSOs* shall adopt terms and conditions for *balancing* markets in accordance with the Electricity Balancing Network Code(s) and European and national legislation.

The Electricity Balancing Network Code(s) shall foresee that these terms and conditions include requirements for *BSPs* and *BRPs*.

The Electricity Balancing Network Code(s) shall foresee that the terms and conditions for *balancing* markets allow for load entities (whether through aggregators or not) as well as generation units from renewable and intermittent energy sources to become *BSPs*. These terms and conditions, including the underlying requirements, shall, in particular, be set in order to facilitate the participation of *demand response*, renewable and intermittent energy sources in the *balancing* markets, while respecting the other objectives mentioned in section 2.1 of these Framework Guidelines.

The Electricity Balancing Network Code(s) shall require *TSOs* to establish a framework for discussion with and information to relevant stakeholders as well as a formal process for public consultation and the possibility for *BSPs* and *BRPs* to propose amendments to the terms and conditions for *balancing* services.

The Electricity Balancing Network Code(s) shall foresee that the terms and conditions for *balancing* markets, including the rules and tariffs, shall be established pursuant to a methodology compatible with the competences of the *NRAs* pursuant to Article 37(6b) of the Electricity Directive to fix or approve, sufficiently in advance of their entry into force, at least the methodologies used to calculate or establish the terms and conditions for the provision of *balancing services*, in accordance with section 1.4 of these Framework Guidelines. When submitting the terms and conditions to the *NRAs*, the *TSOs* shall enclose, where appropriate, the results of the consultation with the stakeholders. In this context, the notion of tariffs refers to modalities to recover costs linked to *balancing* (e.g. *imbalance settlement*, *balancing* charges, *balancing services* costs).

The Electricity Balancing Network Code(s) shall foresee that the *TSOs* shall ensure that all users in the *control area*, including *BSPs* and *BRPs*, meet the requirements set in the terms and conditions for *balancing* markets to ensure operational security of the system.

2.4 Transparency

The Electricity Balancing Network Code(s) shall require the *TSOs*, or where applicable operators of *balancing* markets, to publish on their websites at least:

- the terms and conditions for *balancing* markets, including rules and tariffs;
- the information needed to become a *BSP* or a *BRP*;
- the necessary data to ensure an economically-efficient functioning of *balancing* markets and provide symmetrical information to all interested market parties: this includes volumes and prices of all *balancing energy* bids – possibly in an aggregated format – as well as volumes and prices of activated *balancing energy* bids of the previous *imbalance settlement period*; delays for publication shall be shortened in order to ensure that interested market parties are able to take this information into account in an efficient manner and shall not be longer than one hour.

This information shall be made available in an efficient manner and shall be gathered in a single interface where relevant.

The Electricity Balancing Network Code(s) shall provide that *TSOs* take into account ERGEG final advice on Comitology Guidelines on Fundamental Electricity Data Transparency.

2.5 Reporting

The Electricity Balancing Network Code(s) shall require ENTSO-E to publish an *annual report* on an annual basis monitoring and analysing the implementation of the Electricity Balancing Network Code(s) as well as the progress made in terms of harmonisation and integration of *balancing* markets. The Electricity Balancing Network Code(s) shall allow ENTSO-E to stop publishing this *annual report* once the harmonisation and integration is fully achieved.

On the basis of this *annual report* relevant *NRAs*, in coordination with ACER, could envisage whether additional measures may be needed to foster the integration and the harmonisation of *balancing* markets.

The following sections specify certain topics which are required to be included in this *annual report*.

3 Procurement of *balancing services*

3.1 Role of *BSPs* in *balancing*

The *BSPs* shall meet the requirements set in the terms and conditions adopted by the *TSO*. They shall ensure the proper functioning of all services to the extent they have committed to.

The *BSPs* shall provide all necessary data and information needed by the *TSO* and/or Distribution System Operator to evaluate the *balancing* service provided, at both the pre-qualification stage¹ and real-time operation of the system.

3.2 Activation and cross-border exchanges of *balancing energy*

Unless specified otherwise, the following section refers to *balancing energy* from *frequency restoration reserves* and *replacement reserves*, and does not address the *balancing energy* used from *frequency containment reserves*.

3.2.1 Activation of *balancing energy*

The Electricity Balancing Network Code(s) shall define common standard *balancing energy* products with the aim to achieve high liquidity of these products and the objectives mentioned in section 2.1 of these Framework Guidelines. The characteristics of *balancing energy* products (including technical constraints, speed of activation, duration, minimum bid size, etc.) shall satisfy the needs of the *TSOs* to balance the system and take into account the technical characteristics of available *balancing* resources across Europe, in particular from demand and renewable generation units, as well as smaller generation units. When defining these products, ENTSO-E shall foster cross-border competition and avoid undue market fragmentation.

The Electricity Balancing Network Code(s) shall also allow for specific *balancing energy* products, as long as this does not create significant inefficiencies and distortions in national or cross-border adjacent markets. In such cases, *TSOs* using these specific products shall justify the specific needs and seek the approval of their *NRAs*. In addition, they shall analyse in the *annual report* the costs and benefits and the possible inefficiencies and distortions of having these specific products in terms of competition and market fragmentation, facilitation of *demand response* and participation of renewable energy sources, integration of *balancing* markets and side-effects on other electricity markets. In any case, *TSOs* shall make such products available for cross-border exchanges as addressed in section 3.2.2 of these Framework Guidelines.

The Electricity Balancing Network Code(s) shall define common principles regarding the pricing method and the selection process, to enable an efficient *balancing* of the system on a non-discriminatory, fair, objective and transparent basis.

The Electricity Balancing Network Code(s) shall provide that the activation mechanism is based on a *merit order list* and optimises the use of *balancing* resources and maximise overall social welfare, taking into account network constraints.

¹ The pre-qualification stage refers to a possible step for a *TSO* to test and validate the capability of a potential *BSP* to actually provide the *balancing services* considered

The Electricity Balancing Network Code(s) shall provide that the pricing method of the *balancing energy* products is harmonised and ensure an economically efficient dispatch of generation and an efficient use of *demand response* and *balancing* resources. The method shall be based on marginal pricing (pay-as-cleared).

Q1: Do you consider that harmonisation of the pricing method is a prerequisite to establish a TSO-TSO model with common *merit order list* for *balancing energy*? Do you support the use of the pay-as-cleared principle?

The Electricity Balancing Network Code(s) shall provide that TSOs harmonise the *gate closure times* until which BSPs can place and/or update their bids and schedules. It shall be as close to real time as possible, take into account the *gate closure times* of the other cross-border energy markets and promote the liquidity of markets.

The Electricity Balancing Network Code(s) shall allow TSOs to require information on unused generation capacity after *day-ahead* and *intraday* markets and require them to promote the offer of this capacity in the *balancing* markets. The Electricity Balancing Network Code(s) shall require TSOs to perform and share amongst them close-to-real-time short-term predictive forecasts of system conditions (generation, load, reserve requirements, transmission network, etc.) in a harmonised way, in order to coordinate and optimise the *balancing* actions taken.

The Electricity Balancing Network Code(s) shall oblige TSOs to allow the participation of non-pre-contracted *reserves* at least to provide *balancing energy* that are used as *replacement reserves*, as well as from manually-activated *frequency restoration reserves*.

The Electricity Balancing Network Code(s) shall require ENTSO-E to assess, in the *annual report*, the progress in harmonisation of *balancing* products and rules for activation of *balancing energy* and integration of *balancing* markets. This *annual report* shall analyse the effects of remaining non-harmonisation.

3.2.2 Cross-border exchanges of balancing energy

The Electricity Balancing Network Code(s) shall set all necessary features to facilitate the development of cross-border exchanges of *balancing energy* and stipulate that these are made possible on every border.

As a first step, the Electricity Balancing Network Code(s) shall oblige TSOs to coordinate in order to minimise, when economically efficient, counteracting activation of *balancing energy* between adjacent *control areas*, taking into account *cross-border capacities* (i.e. netting of *imbalances*).

As a second step the Electricity Balancing Network Code(s) shall oblige TSOs to coordinate and optimise the activation of *balancing energy* from resources that are used as *replacement reserves*.

As the final step the Electricity Balancing Network Code(s) shall oblige TSOs to coordinate and optimise the activation of *balancing energy* from resources that are used as *frequency restoration reserves*.

To achieve these steps the Electricity Balancing Network Code(s) shall define that exchanges of *balancing energy* shall be based on a TSO-TSO model with common *merit order list*. In this model, TSOs share their *balancing* resources and optimise their activation in order to minimise the cost of *balancing* by gathering in a common list *balancing* bids and offers that are available in

their *control areas* and activate them according to the common *merit order list* subject to technical constraints, including the availability of transmission capacities. Access of *balancing* bids and offers to the common list and their activation shall be non-discriminatory, fair, objective and transparent. An optimisation process shall be used to allow for a concrete and efficient implementation of a common *merit order list* with different products and technical constraints.

The Electricity Balancing Network Code(s) shall provide a full description of the models to exchange *balancing energy*, including the prerequisites (e.g. contractual or operational) and the technical requirements to implement them. In particular, the Electricity Balancing Network Code(s) shall describe:

- the principles according to which *TSOs* share and activate *balancing* bids and offers. These principles shall ensure non-discrimination and avoid distortions between markets. The declination of these principles at the national level shall be non-discriminatory, objective, fair and transparent and submitted to *NRAs* for approval;
- the adaptation of processes needed to allow for exchanging *balancing energy*;
- the settlement rules between *TSOs*;
- the responsibilities of the different parties that are involved.

The Electricity Balancing Network Code(s) shall foresee that the settlement rules include financial compensation for *balancing energy* exchanged implicitly, in particular due to the netting of *imbalances* and due to unintentional deviations (difference between the *control area* schedules and tie-line flows), based on the prices of *balancing energy*.

The Electricity Balancing Network Code(s) shall define standard features for the exchange of *balancing energy* both from *replacement reserves* and from *frequency restoration reserves* – including the products needed and the characteristics of a common optimisation process – so as to ensure compatibility between different implementation projects towards the solutions required in these Framework Guidelines. The Electricity Balancing Network Code(s) shall oblige the *TSOs* involved in these projects to develop *cross-border balancing* in close coordination so that these projects remain compatible.

The Electricity Balancing Network Code(s) shall describe the modalities of activation and coordination between *frequency restoration reserves* (in particular when manually activated) and *replacement reserves* in order to allow an efficient utilisation and arbitrage between these *balancing* resources across markets.

Cross-border exchanges of balancing energy from replacement reserves

The Electricity Balancing Network Code(s) shall foresee that, three years after its entry into force at the latest, a *TSO-TSO* model with common *merit order list* and margins is implemented for the exchange of *balancing energy* from resources that are used as *replacement reserves*.

The Electricity Balancing Network Code(s) shall foresee that, in this model, *TSOs* may decide not to share a certain amount of the most expensive *balancing* bids (referred as “*margins*” in the following paragraphs) gathered in their *control area* in the common *merit order list*. The Electricity Balancing Network Code(s) shall specify the principles of the methodology to evaluate the amount of unshared bids and shall take into account the requirements from the Network Codes on Load-Frequency Control and Reserves and on Operational Security. The principles shall avoid any free-riding behaviour from participating *TSOs* and allow for a reciprocal and efficient sharing and activation of *balancing* resources. The methodology shall take into account the availability (e.g. using a statistical or probabilistic approach) of the bids from the common *merit order list*.

In such a case, the Electricity Balancing Network Code(s) shall impose that the definition and application of the methodology at the national level is submitted to public consultation and that TSOs seek the approval of NRAs and justify the amount of unshared bids. The methodology and its application may be reviewed and updated every year to improve its efficiency, after public consultation and NRAs' approval.

Q2: Do you think the “*margins*” should not exceed the reserve requirements needed to meet the security criteria which will be defined in network code(s) on System Operation?

The Electricity Balancing Network Code(s) shall foresee that, seven years after its entry into force at the latest, a European-wide TSO-TSO model with common *merit order list* and without margins for the activation of *balancing energy* from *replacement reserves* shall be established, unless a cost-benefit analysis is performed and demonstrates that it does not deliver positive net benefits for the overall system. The Electricity Balancing Network Code(s) shall specify that, if the cost-benefit analysis is performed:

- its methodology is submitted by TSOs to NRAs for approval;
- it is performed by TSOs;
- its results are presented to NRAs;
- NRAs shall decide on the way forward.

Cross-border optimised activation of balancing energy from frequency restoration reserves

The Electricity Balancing Network Code(s) shall foresee that, five years after its entry into force at the latest, the activation of *balancing energy* from *frequency restoration reserves* is coordinated between adjacent TSOs in order to optimise their use and reduce *balancing costs*. It shall also be coordinated with the activation of *balancing energy* from *replacement reserves* to ensure an optimisation of the use of *balancing resources* as well as an efficient arbitrage between the different types of *balancing reserves*.

The Electricity Balancing Network Code(s) shall foresee that, seven years after its entry into force at the latest, a European-wide TSO-TSO model with common *merit order list* for the activation of *balancing energy* from *frequency restoration reserves* shall be established unless a cost-benefit analysis is performed and demonstrates that it does not deliver positive net benefits for the overall system. The Electricity Balancing Network Code(s) shall specify that, if the cost-benefit analysis is performed:

- its methodology is submitted by TSOs to NRAs for approval;
- it is performed by TSOs;
- its results are presented to NRAs;
- NRAs shall decide on the way forward.

The Electricity Balancing Network Code(s) shall specify that ENTSO-E includes in the *annual report* an assessment of the progress of coordinating the activation of *balancing energy* from *frequency restoration reserves* and from *replacement reserves* and clearly addresses in the *annual report* the status of the projects in which each TSO is involved.

Q3: Do you support to aim at similar target models for *frequency restoration reserves* and for *replacement reserves*? Do you think a distinction should be made between manually-activated and automatically-activated *frequency restoration reserves* in terms of models of exchanges and/or timeframes for implementation?

Q4: Do you support the timeframes for implementation?

Q5: Do you consider regional implementation objectives as relevant milestones which should be aimed at in these framework guidelines on electricity balancing and the Electricity Balancing Network Code(s)?

3.3 Procurement and exchanges of contracted reserves

This section only deals with *balancing reserves* – both *frequency restoration reserves* and *replacement reserves* – contracted in advance by TSOs. The Electricity Balancing Network Code(s) shall foresee that the TSOs can contract *reserves* ahead of real time to ensure that sufficient reserve capacity is available to balance their system.

BSPs offering contracted *reserves* shall then bid on the *balancing energy* market. In case of contracted *reserves*, the corresponding *balancing energy* bids shall be shared in the common *merit order list*, unless it is specified otherwise when defining the unshared energy bids.

In this section, *frequency containment reserves* are not considered. However, the Electricity Balancing Network Code(s) shall allow *frequency containment reserve* exchange. In such a case, similar principles to those described in this section shall apply.

3.3.1 Procurement of contracted reserves

The Electricity Balancing Network Code(s) shall define common standard reserve products used to balance the system, coherent with the Network Codes on Load-Frequency Control and Reserves. The characteristics of reserve products (including technical constraints, minimum bid size, etc.) shall satisfy the needs of the TSOs to balance the system, while taking into account the objectives defined in section 2.1. In particular, sufficient standardisation of products is necessary to avoid undue market fragmentation and facilitate cross-border exchanges.

The Electricity Balancing Network Code(s) shall also allow that specific products may be used by TSOs, as long as this does not create significant inefficiencies and distortions in adjacent markets. In such cases, TSOs using these specific products shall justify the corresponding needs and seek the approval of their NRAs. In addition, TSOs shall publish a yearly report which includes an analysis of the costs and benefits, as well as the possible inefficiencies and distortions coming with having these specific products in terms of competition and market fragmentation, facilitation of *demand response* and renewable energy sources participation, integration of markets and side-effects on other electricity markets.

The Electricity Balancing Network Code(s) shall require TSOs to coordinate in determining the amount of *reserves* which is necessary in their *control area*, taking into account potential gains from sharing of *reserves* and *balancing energy* as foreseen in sections 3.2.2 and 3.3.2 of these Framework Guidelines. TSOs shall publish an annual report in which they justify the amount of procured *reserves* with respect to these considerations.

The Electricity Balancing Network Code(s) shall define common principles for the procurement of *reserves* in order to ensure that it is non-discriminatory, fair, objective, transparent, market-based and economically efficient, and that there are limited distortions between adjacent markets that use different procurement mechanisms.

The Electricity Balancing Network Code(s) shall provide that the timeframes and the duration of reserve procurement are defined – for instance, by limiting the duration of reserve contracts – so that it facilitates participation of new entrants, *demand response* and renewable generators as well as small generators.

The Electricity Balancing Network Code(s) shall oblige *TSOs* to allow the collateralisation of *reserves*: a *BSP* who contracted with a *TSO* to provide *reserves* shall be allowed to purchase *reserves* from another *BSP* in shorter timeframes, as long as the *TSO* is informed and the other *BSP* is able to provide the required reserve product physically. To allow for this, *TSOs* shall define the modalities of collateralisation of *reserves*, which shall be included in the rules and/or modalities of reserve procurement. These modalities shall include responsibility/liability arrangements.

The Electricity Balancing Network Code(s) shall foresee that rules and/or modalities of reserve procurement are made public and submitted to *NRAs* for approval after public consultation.

The Electricity Balancing Network Code(s) shall require ENTSO-E to assess in the *annual report* the progress of harmonisation of products and rules for procurement of contracted *reserves*. This report shall analyse the effects of the non-harmonisation.

3.3.2 Cross-border exchanges of contracted reserves

The Electricity Balancing Network Code(s) shall allow cross-border exchange of *reserves*. Cross-border exchange of *reserves* shall respect the requirements defined in the Network Codes on Load Frequency Control and Reserves and on operational planning and scheduling.

The Electricity Balancing Network Code(s) shall specify that cross-border exchanges of *reserves* are possible only in situations where reservation of *cross-border capacity* is not necessary, or, if such reservation is allowed, under conditions defined in the Electricity Balancing Network Code(s) according to section 4 of these Framework Guidelines. The Electricity Balancing Network Code(s) shall define under which conditions cross-border exchanges of *reserves* may be allowed without reservation of *cross-border capacity* (e.g. no congestion, probabilistic approach).

The Electricity Balancing Network Code(s) shall define and allow the following models for exchanging *reserves*, as well as their prerequisites in terms of coordination, arrangements and guaranteeing operational security:

- to exchange surpluses of *reserves* through a bilateral reserve trading model: this model refers to bilateral exchanges of *reserves* between two adjacent areas in which reserve procurement processes have not been integrated, nor harmonised;
- to implement a multilateral reserve trading model involving *TSOs* and *BSPs* of two or more *control areas*, through a common procurement process: this model refers to multilateral exchanges of reserve between two or more adjacent areas in which reserve procurement processes have been harmonised and integrated into a common procurement process.

The Electricity Balancing Network Code(s) shall also define and allow the sharing of *reserves*. The sharing of *reserves* refers to a common and fully coordinated use and activation of *reserves*, which enables the participating *TSOs* to size their *reserves* and possibly procure them together in the most efficient manner. The sharing of *reserves* shall allow to diminish the amount of contracted *reserves* while keeping the same level of security, by using them more efficiently and limiting risks of *imbalances*. The Electricity Balancing Network Code(s) shall foresee that the sharing of *frequency restoration reserves* is envisaged by adjacent *TSOs*. *TSOs* shall provide their *NRAs* upon request with a cost-benefit analysis on the implementation of such a model. Based on this analysis, *NRAs* shall decide on the extent to which sharing of *reserves* shall be implemented.

The Electricity Balancing Network Code(s) shall oblige *TSOs* to define modalities for exchanges of *reserves* and to submit them to relevant *NRAs* for approval after public consultation. The Electricity Balancing Network Code(s) shall impose that these modalities are transparent, objective, fair, non-discriminatory, market-based, and allow for an economically efficient cross-border procurement of *reserves*.

The Electricity Balancing Network Code(s) shall require ENTSO-E to assess in the *annual report* the development of cross-border exchanges of contracted *reserves*.

4 Reservation and use of *cross-border capacity* for *balancing*

4.1 Underlying grid model and *cross-border capacity* calculation for *balancing*

The Electricity Balancing Network Code(s) shall impose that, when *balancing* the system and exchanging *balancing energy*, *TSOs* take into account the physical capabilities of the network and make the most efficient use of these network capabilities. To do so, *TSOs* shall use a *cross-border capacity* calculation method at least as precise as in previous timeframes. Load flow calculations in *balancing* time-frame shall be considered, if applicable, and *TSOs* shall avoid any aggregated approach which would deteriorate the economic efficiency of *balancing*, unless it is thoroughly and transparently justified to *NRAs* and *ACER*.

The Electricity Balancing Network Code(s) shall allow locational information of *balancing* resources to be used to further optimise the *balancing* of the system and avoid congestions. The functioning of common *merit order list* shall technically enable *TSOs* to benefit from locational information of *balancing* resources.

4.2 Use of *cross-border capacity* for *balancing*

The Electricity Balancing Network Code(s) shall foresee a mechanism that allows *TSOs* to allocate *cross-border capacities* for exchange of *balancing* on an efficient, market-based, fair, objective, non-discriminatory and transparent basis in case of congestion or scarce *cross-border capacities*. Consistency with other timeframes shall be sought.

The Electricity Balancing Network Code(s) shall prohibit any charge for the use of *cross-border capacity*, where *TSOs* utilise unused or netted *cross-border capacity*, which remains available after the *intraday cross-border gate closure time*, for the exchange of *balancing energy*. This rule shall not prevent cost recovery for exempted interconnectors² - if foreseen in their exemption – if they are used to facilitate the exchange of *balancing energy*, in consistency with other timeframes.

4.3 Reservation of *cross-border capacity* for *balancing*

Frequency containment reserves are used and shared in synchronous areas. Taking this into account and insofar as *frequency containment reserves* are procured within each *control area* following the minimum requirements defined in the Network Code on Load-Frequency Control and Reserves, this section does not apply to the reliability margin, as defined in the Network Codes on Capacity Allocation and Congestion Management and on Operational Security. Due to the small volumes at stake, cross-border exchanges of *frequency containment reserves* may not require additional *cross-border capacity* reservation. Nonetheless, should the reliability margin be

² As defined in Article 17 of Electricity Regulation

increased for the purpose of cross-border exchanges of *frequency containment reserves* or should it require a specific *cross-border capacity* reservation, then this section shall apply.

The Electricity Balancing Network Code(s) shall forbid *TSOs* to reserve *cross-border capacity* for the purpose of *balancing*, except for cases where it can be demonstrated that such reservation would result in increased overall social welfare and is subject to a robust evaluation of costs and benefits. The modalities for the assessment of *cross-border capacity* reservation shall be defined in the Electricity Balancing Network Code(s) such that there is no undue discrimination between *TSOs* and market participants using the *cross-border capacity* in particular with regard to firmness. These modalities shall also take into account, for highly meshed areas with interdependent interconnections, particularities linked to flow based capacity calculation and allocation and the necessary regional coordination.

The Electricity Balancing Network Code(s) shall foresee that any decision on *cross-border transmission capacity* reservation for *balancing* shall be taken on a case-by-case basis supported by a full cost-benefit analysis and market consultation, in a transparent, non-discriminatory, fair and objective manner.

The Electricity Balancing Network Code(s) shall establish a general methodology for the cost-benefit analysis required to support *cross-border capacity* reservation. The methodology shall, amongst other things, require assessment of the expected costs and welfare loss on other electricity markets and the expected benefits and welfare gain on *balancing* market and shall also consider the distribution of both among markets and *TSOs*. The cost-benefit analysis shall, as far as possible, be undertaken on the basis of market data and consider the impacts on neighbouring markets.

The Electricity Balancing Network Code(s) shall foresee that, sufficiently in advance before the period of reservation, *TSOs* request a *cross-border capacity* reservation to relevant *NRAs* for approval, specifying reservation period, maximum amount of *cross-border capacity* to be reserved, the expected purpose of the reservation and providing cost-benefit analysis based on the methodology described in the Electricity Balancing Network Code(s). Prior to the decision the relevant *NRAs* shall consult with market participants. In case *cross-border capacity* is not used for a given purpose, it shall be given to the market at the next allocation.

The Electricity Balancing Network Code(s) shall allow the implementation of a method which combines and co-optimises *cross-border capacity* reservation for *balancing* purposes and *cross-border capacity* allocation for other electricity market purposes. In such cases, the cost-benefit analysis may be simplified and it would facilitate *NRAs'* approval as it should ensure that social welfare is maximised.

The Electricity Balancing Network Code(s) shall oblige that the relevant *TSOs* publish:

- before the start of the reservation period, the amount of *cross-border transmission capacity* reserved and the duration of this reservation, as well as the price at which the *cross-border capacity* was reserved, where relevant;
- every day, the actual use of this reserved *cross-border capacity* on an hourly basis.

The Electricity Balancing Network Code(s) shall foresee that the relevant *TSOs* provide the data and analyses to *NRAs*, if requested, for the purpose of ex-post monitoring of realised costs and benefits.

The Electricity Balancing Network Code(s) shall require ENTSO-E to prepare and present in the *annual report* an ex-post analysis of the realised costs and benefits of all reserved *cross-border*

capacities. Based on this report ACER will prepare a yearly review of all capacity reservations, comparing expected and realised costs and benefits.

5 Balance responsibility and *imbalance settlement*

5.1 General principles

The Electricity Balancing Network Code(s) shall describe that the general objective of *imbalance settlement* in national *balancing* mechanism is to ensure that *BRPs* support the system's balance in an efficient way and incentivise market participants in keeping and/or helping to restore the system balance.

Imbalance settlement refers to the *imbalance settlement period*, the definition of *imbalance*, *imbalance* calculation and *imbalance* pricing.

The Electricity Balancing Network Code(s) shall define *imbalance settlement* and ensure that *imbalance settlement* is made on a non-discriminatory, fair, objective and transparent basis and that there are limited distortions between adjacent markets induced by differing settlement mechanisms. Settlement mechanisms shall be part of the terms and conditions that are to be fixed or approved ex ante by the *NRAs* and be transparent and published.

The Electricity Balancing Network Code(s) shall foresee that *imbalance settlement* rules are defined in a way that supports competition among market participants by creating a level-playing field and does not unduly discriminate against participants without generation facilities or foreign participants.

5.2 Role of *BRPs*

The Electricity Balancing Network Code(s) shall specify the role of *BRPs*, including the requirements specified in this section.

All injections and withdrawals shall be covered by *balancing* responsibility.

The *BRPs* shall meet the requirements set in the terms and conditions defined by the *TSO* and contractually agreed upon.

The *BRPs* shall provide all necessary data and information needed by the *TSO* and/or Distribution System Operator to evaluate the *balancing* service needs both for the planning and balance settlement purposes.

The *BRPs* shall ensure the procedures for proper *imbalance* handling. The *BRPs* shall be obliged to provide a balanced program in the *day-ahead* time frame and be incentivised to be balanced in real time. *TSOs* and *NRAs* may also decide to incentivise them to help to restore system balance.

The Electricity Balancing Network Code(s) shall impose that generation units from intermittent renewable energy sources do not receive special treatment for *imbalances* and have a *BRP* which is financially responsible for their *imbalances*.

5.3 *Imbalance settlement*

Imbalance settlement period

The *imbalance settlement period* is the time unit used for computing *BRPs' imbalances*. The Electricity Balancing Network Code(s) shall provide that it is consistent with *program time unit* and encourage *BRPs* to be balanced as close to the physical reality as possible or help the system to restore its balance. *Imbalance settlement period* shall not exceed 30 minutes. ENTSO-E shall carry out a cost-benefit analysis on whether *imbalance settlement period* shall be harmonised across Europe and report its results to ACER.

Imbalance calculation

The Electricity Balancing Network Code(s) shall define harmonised principles for calculating *imbalances*. All *imbalances* shall be subject to compensation via the *imbalance pricing*.

Imbalance pricing

The Electricity Balancing Network Code(s) shall define the principles for *imbalance settlement pricing*. *BRPs* shall have the right incentives to manage their own balance close to real time. Therefore, in order to incentivise *BRPs* to support the system's balance in an efficient way, *imbalances* shall be settled in a non-discriminatory, transparent, fair and objective way, at a price that reflects the costs of *balancing* the system in real time. *Imbalance pricing* shall at least include the costs of activated *balancing energy* (from *frequency restoration reserves* and *replacement reserves*) in *imbalance settlement period*, including the costs of *balancing energy* exchanged implicitly.

The Electricity Balancing Network Code(s) shall describe the necessary information to be published by the *TSOs* that is needed for *BRPs* to be able to help to balance the system and/or to restore its balance.

The Electricity Balancing Network Code(s) shall impose that the main features of the *imbalance settlement* are harmonised at the latest when the *TSO-TSO* model with common *merit order list* is implemented for all *balancing energy* exchanges.

The Electricity Balancing Network Code(s) shall require ENTSO-E to assess in the *annual report* the progress of harmonisation of *imbalance settlement* arrangements.

Q6: Do you consider important to harmonise *imbalance settlement*? Do you think these Framework Guidelines on Electricity Balancing should be more specific on how to do it?