Revised ERGEG Guidelines of Good Practice for Electricity Balancing Markets Integration (GGP-EBMI)

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European Regulators' Group for Electricity and Gas
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INFORMATION PAGE

Abstract

On 20 January 2009, ERGEG launched a public consultation on revised Guidelines of Good Practice on Electricity Balancing Markets Integration (Ref: E08-ENM-07-03). The draft GGP outline a number of proposals to enhance cross-border balancing markets in electricity.

This document (E09-ENM-14-04) contains the final revised GGP and accompanies the Evaluation of Responses document (E09-ENM-14-04a), thereby concluding the 2009 revision of the GGP-EBMI.

Target Audience

Energy suppliers, traders, gas/electricity customers, gas/electricity industry, consumer representative groups, network operators, Member States, academics and other interested parties.

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Treatment of Confidential Responses

In the interest of transparency, ERGEG

i) will list the names of all respondents (whether confidential or not) or, alternatively, make public the number (but not the names) of confidential responses received;

ii) requests that any respondent requesting confidentiality submit those confidential aspects of their response in a "confidential appendix". ERGEG will publish all parts of responses that are not marked confidential.

For further information on ERGEG's rules, see ERGEG's Guidelines on Public Consultation Practices[1].

[1] http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/E07-EP-16-03_PC-Guidelines_2009-Mar-11.pdf

Related Documents

CEER/ERGEG documents

- "ERGEG Draft Revised Guidelines of Good Practice on Electricity Balancing Markets Integration (GGP-EBMI)", ERGEG, 15 January 2009, Ref. E08-ENM-07-03, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/New%20GGP%20Balancing%20Markets%20Integration
- "ERGEG Guidelines on Consultation Practices ", ERGEG, 11 March 2009, Ref. E07-EP-16-03, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/E07-EP-16-03_PC-Guidelines_2009-Mar-11.pdf
- "ERGEG Guidelines of Good Practice for Electricity Balancing Markets Integration (GGP-EBMI)", ERGEG, 6 December 2006, Ref: E05-ESO-06-08, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/GGP%20Balancing/CD
- "ERGEG Public Consultation on Guidelines of Good Practice for Electricity Balancing Markets Integration - Evaluation of the Comments Received", ERGEG, 6 December 2006, Ref: E05-ESO-06-08a, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/GGP%20Balancing/CD
- "ERGEG Guidelines of Good Practice - Information Management and Transparency in Electricity Markets (GGP-IMT)," 2 August 2006, Ref. E05-EMK-06-10, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_ERGEG_PAPERS/Guidelines%20of%20Good%20Practice/Electricity/ERGEG_GGPIMT%20Transparency%20in%20Electricity%20Markets%20-%20Augus.pdf

External documents

- "Communication from the Commission Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors. COM(2006)851 final", http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0851:FIN:EN:PDF
- Study of the interactions and dependencies of Balancing Markets, Intraday Trade and Automatically Activated Reserves, Katholieke Universiteit Leuven and Tractabel Engineering Suez, February 2009, http://ec.europa.eu/energy/gas_electricity/studies/doc/electricity/2009_balancing_markets.pdf

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Executive Summary

Following ERGEG's presentation to the XII Florence Forum in September 2005 of its Position on Balancing Mechanisms Compatibility, ERGEG developed Guidelines of Good Practice for Electricity Balancing Markets Integration (GGP-EBMI). The GGP contained the ERGEG views on electricity balancing markets integration, in the sense of Articles 11.7, 14.6 and 26.2(b) of the Electricity Directive[2] (2003/54/EC), and in line with Articles 1.8, 1.9 and 5.7 of the Congestion Management Guidelines[3] adopted in accordance with Article 8 of Regulation (EC) No 1228/2003.[4] From 8 June to 3 August 2006, an ERGEG public consultation was held on the draft GGP-EBMI. During the public consultation, a number of respondents mentioned that since there was a strong inter-relationship between balancing markets, intraday markets and automatically-activated reserves markets, interactions between both the latter markets and balancing markets should also be addressed by the GGP-EBMI.

Furthermore, in January 2007, the European Commission published its energy sector inquiry[5], which stressed the fact that balancing energy and reserve markets are highly concentrated, pointing to the fact that the inadequate integration of balancing markets is a key impediment to the development of a single European electricity market.

With the above in mind and taking account of the results of the public consultation on GGP-EBMI in 2006, ERGEG initiated a consultant's study financed by the European Commission on the interaction and dependencies of balancing markets, intraday trade and automatically-activated reserves. Where appropriate, the results of this study[6] have been taken into account by ERGEG in these revised GGP-EBMI.

These final revised GGP-EBMI have been publicly consulted upon and the outcome of this consultation has been processed according to ERGEG public consultation procedures.

.The revised GGP-EBMI are structured into two main parts:

- Part I with general considerations
- Part II with guidelines of good practice

The general considerations in Part I address the following issues:

- Functioning of balancing markets;
- Benefits of and key principles for efficient electricity balancing markets integration, including among others: governance and institutional arrangements; operational security; market-based mechanisms; competition issues; impact on cross-border trade, incentives for balance responsible parties to be balanced; transparency and market monitoring.

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[2] See Footnote 8.

[3] See Footnote 9.

[4] It should be noted that with the entry into force of the 3rd Package and its revisions to the current electricity Directive and Regulation, the Article numbers may change.

[5] COM(2006)851, 10 January 2007, http://ec.europa.eu/competition/sectors/energy/inquiry/index.html

[6] "Study of the interactions and dependencies of Balancing Markets, Intraday Trade and Automatically Activated Reserves" by Katholieke Universiteit Leuven and Tractabel Engineering Suez, February 2009.

The guidelines of good practice in Part II address the following issues:

- Roles and responsibilities of stakeholders in balancing market;
- Access to interconnection capacity in terms of reservation and charges;
- Contracted reserves in terms of cross-border procurement of reserve capacity and amount of reserve capacity;
- Approaches to implementing cross-border balancing;
- Design of balancing markets in terms of gate closure and technical characteristics of balancing services, balancing services settlement and imbalance settlement;
- Transparency and monitoring.

The final revised GGP-EBMI could in future contribute to the work of the newly established Agency for the Cooperation of Energy Regulators (ACER) when exercising its duties as regards future Framework Guidelines, in accordance with the provisions of the 3rd Package[7].

[7] The 3rd legislative Package of the European Commission with proposals for the European Internal Market in Energy which was announced on 19 September 2007, included 5 legislative proposals: 2 amended Directives on the Directives of the European Parliament and of the Council amending Directive 2003/54/EC and Directive 2003/55/EC concerning common rules for the internal market in electricity and the internal market in natural gas, respectively; 2 amended regulations on the European Parliament and of the Council Amending Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity and Regulation (EC) No 1775/2005 on conditions for access to the natural gas transmission networks; and a new Regulation establishing an Agency for the Cooperation of Energy Regulators. The Package was finally adopted on 13 July 2009.
http://eur-lex.europa.eu/JOHtml.do?uri=OJ:L:2009:211:SOM:EN:HTML

Part I: General Considerations

1 Introduction

This document comprises two parts: the first contains general considerations and the second part is a revision of ERGEG's Guidelines of Good Practice for Electricity Balancing Markets Integration (GGP-EBMI), which were published in 2006 following a public consultation.

These revised GGP-EBMI present ERGEG's view on aspects of electricity balancing markets integration, in the sense of Articles 11.7, 14.6 and 26.2(b) of the Electricity Directive[8], and in line with Articles 1.8, 1.9 and 5.7 of the Congestion Management Guidelines[9] adopted in accordance with Article 8 of the Regulation on cross-border exchanges in electricity[10]. Moreover, these views have been enhanced in terms of the relationships of manually-activated reserves to the intraday market and automatically-activated reserves.

1.1 Background

ERGEG is committed to the development of an effective, competitive single market for electricity across the whole of the EU, while at the same time taking into account security of supply and system reliability. Moreover, ERGEG has devoted much of its attention over the last years to considering how such a market might be achieved and what issues should be prioritised in reaching it.

ERGEG has presented its view of the evolution of electricity balancing mechanisms and of the balancing markets integration to the XII, XIII and XIV Florence Forum in September 2005, 2006 and 2007, respectively.

In January 2007, the European Commission published its energy sector inquiry[11]. This inquiry stressed the fact that balancing energy and reserve markets are highly concentrated, concluding among other things that: "*Concentration in balancing markets could be reduced if the geographical size of control areas was enlarged. Harmonisation of balancing markets regime would be an important step to increase the size of control areas, improve market integration and simplify trade*".

A lack of integration of balancing markets is therefore a key impediment to the development of a single European electricity market. Such integration is a process of evolution of connecting balancing markets in order to achieve their functioning as a common balancing market.

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[8] Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC

[9] The Congestion Management Guidelines, published in the Official Journal on 11 November 2006 (OJ L 312, 11.11.2006, p. 59-65), set the congestion management framework in the EU. They entered into force on 1 January 2007. Article 1.9 of the Congestion Management Guidelines (developed in accordance with Article 8 of the above Regulation and to the Commission Decision 2006/770/EC of 9 November 2006 amending the Annex to Regulation) requires mechanisms for intraday congestion management (i.e. intraday market capabilities) of interconnector capacity to be established not later than 1st January 2008 in a co-ordinated way and under secure operational conditions in order to maximise opportunities for trade and to provide cross-border balancing.

[10] Regulation (EC) No 1228/2003 of the European Parliament and of the Council, of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity.

[11] Inquiry pursuant to article 17 of regulation (EC)n°1/2003 into the European gas and electricity sectors, COM(2006) 851 final

Bearing in mind the identification of balancing market integration as a key issue for an internal electricity market, ERGEG further developed its view in the form of Guidelines of Good Practice on the need to, and method for, integrating balancing markets. The 2009 GGP are aimed in particular at stakeholders, grid operators and market players and are intended to support the European Commission and national competent authorities in developing and implementing appropriate policies towards the integration of balancing markets in the EU, within the broader scope of the evolution of the Internal Electricity Market.

1.2 Open and Transparent Public Consultation

ERGEG has developed the revised GGP-EBMI following extensive and transparent consultation with market players:

- *Following ERGEG's presentation to the XII Florence Forum in September 2005 of its Position on Balancing Mechanisms Compatibility, ERGEG developed draft Guidelines of Good Practice for Electricity Balancing Markets Integration (GGP-EBMI).*
- *From 8 June to 3 August 2006, there was an ERGEG public consultation procedure on the draft GGP-EBMI.*
- *During the public consultation, 15 responses were received. All responses were published on the ERGEG website[12].*
- *ERGEG's evaluation of responses to this public consultation is published as a separate document (E05-ESO-06-08a) on the ERGEG website. A number of respondents mentioned that, since there was a strong inter-relationship between balancing markets, intraday markets and automatically-activated reserves markets, both of the latter markets should also be addressed by the GGP-EBMI. ERGEG agreed in principle with this view and initiated a consultant's study financed by the European Commission on the interaction and dependencies of balancing markets, intraday trade and automatically-activated reserves. The results of this study have been taken into account by ERGEG in these revised GGP-EBMI.*
- *From 20 January to 16 March 2009, there was an ERGEG public consultation on the second draft GGP-EBMI.*
- *During the public consultation, 24 responses were received. All responses were published on the ERGEG website[13].*
- *ERGEG's evaluation of responses to this public consultation is published as a separate document (E09-ENM-14-04a) on the ERGEG website. The results of this consultation have been taken into account by ERGEG in these revised GGP-EBMI.*

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12 http://www.ergeg.org/portal/page/portal/ERGEG_HOME/ERGEG_PC/ARCHIVE1/GGP%20for%20Electricity%20Balancing.

13 http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/New%20GGP%20Balancing%20Markets%20Integration/RR.

2 Functioning of Balancing Markets

The secure real time operation of a power system requires that TSOs ensure a continuous balance between supply and demand. In competitive electricity markets, a balancing market therefore generally exists such that TSOs can undertake balancing actions – that is, they identify the need for, and procure, adjustments in generation or demand – in order to maintain balance in their control area. Balancing markets differ from other market timeframes as TSOs are a sole counterparty while in day-ahead and intraday timeframes market participants openly trade between themselves to adjust their physical positions.

Imbalance settlement can be used to encourage market players to maximise their efforts to be in balance. Balancing markets therefore form an integral part of the overall wholesale electricity trading arrangements and time schedules.

The overall trading timetable extends from months or years before a trade is to be executed, to 'gate closure', further to the moment the trade is to take place ('real time'), and then beyond this in terms of settlement of the trade. By gate closure (day ahead, or one hour before real time, or possibly even shorter time), generation and load parties must notify the TSO of their expected physical positions at real time. Additionally, within the balancing market they submit bids[14] and offers of the extent to which they are willing to be paid (offer) or pay (bid) to deviate from the notified positions. In some balancing markets, generators are legally bound to propose to the TSO all of their available capacity. Depending on the design of the balancing markets, bids and offers can be activated to tackle control area imbalances only or to tackle both control area imbalances and transmission constraints.

Following the gate closure[15], the TSO make calls on the bids and offers of generation and load in order to balance the system at the least cost.

The costs of dealing with imbalances can be dealt with by distributing them in a cost-reflective way across all users, by allocating the costs to the market players that are in imbalance or by a combination of both. In any case, parties in imbalance are subject to some form of 'imbalance charge' through the imbalance settlement scheme.

A general overview of the interaction of balancing and other markets, in relation to the interconnection capacity allocation in time, is shown in Figure 1.

[14] The times of notification and bidding can differ.

[15] In theory, balancing markets should wait until close to real time, when there are no more opportunities for balance responsible parties to balance their position in an intraday market, since the problems that TSOs are seeing might be solved alone by the market participants. However, some TSOs may also make call on balancing bids before gate closure of intraday market under certain circumstances (e.g. to ensure that required margins are met or to solve transmission constraints).

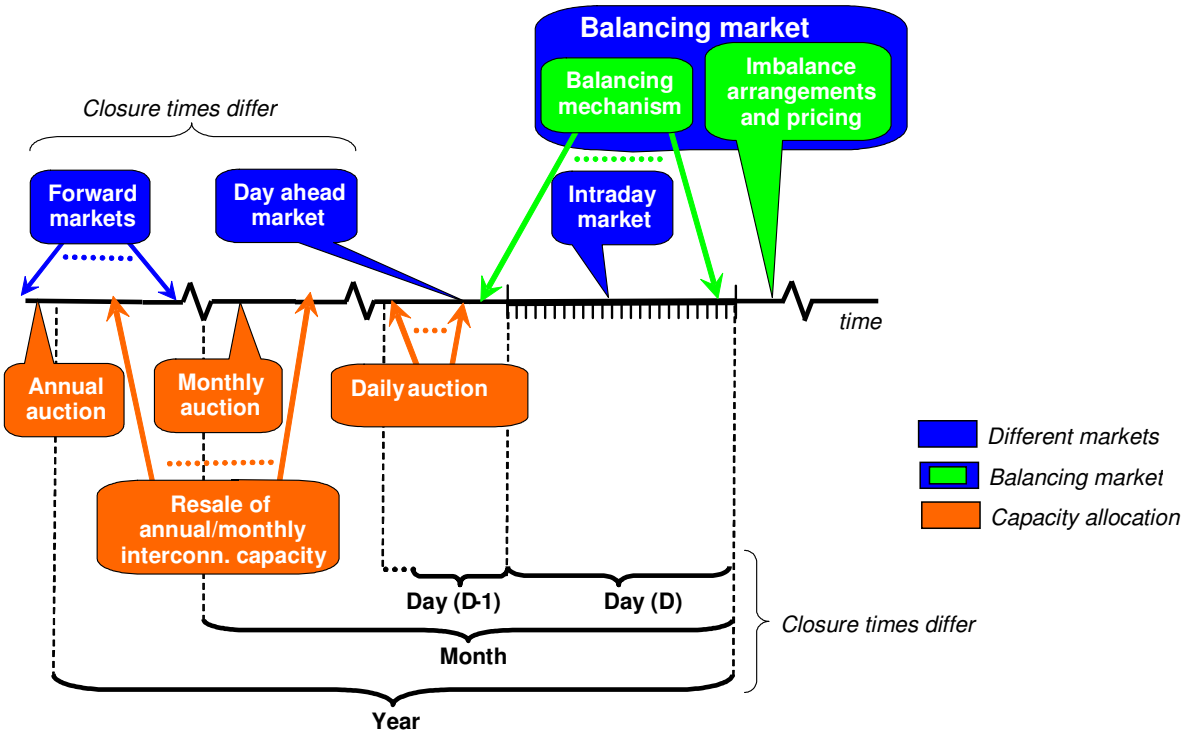


Figure 1 – Interaction between balancing and other markets and relation to capacity allocation

Continuous balance between supply and demand requires different types of balancing resources whose main characteristics are:

- whether they are activated automatically or manually (which in practice has an impact on activation time and time to full activation, i.e. how quickly balancing energy is procured); and
- whether their availability is ensured by contract or not.

Markets for automatically-activated reserves are generally "energy and capacity" markets[16] whereas manually-activated reserves markets can be either "energy only" markets or "energy and capacity" markets[17].

The total balancing energy injected or withdrawn to balance the system is the sum of automatically-activated energy and manually-activated energy. Automatically-activated reserves act first. In a longer time span, these automatically-activated reserves are substituted by manually-activated reserves in order to restore the necessary regulating capability of automatically activated reserves and benefit from generally lower prices (see Figure 2).

[16] Both energy and capacity are remunerated in an "energy and capacity" market. The mechanism to acquire balancing capacity can take into account a combination of capacity price and a price for the energy, or only the capacity price.

[17] Only energy is remunerated in an "energy-only" market.

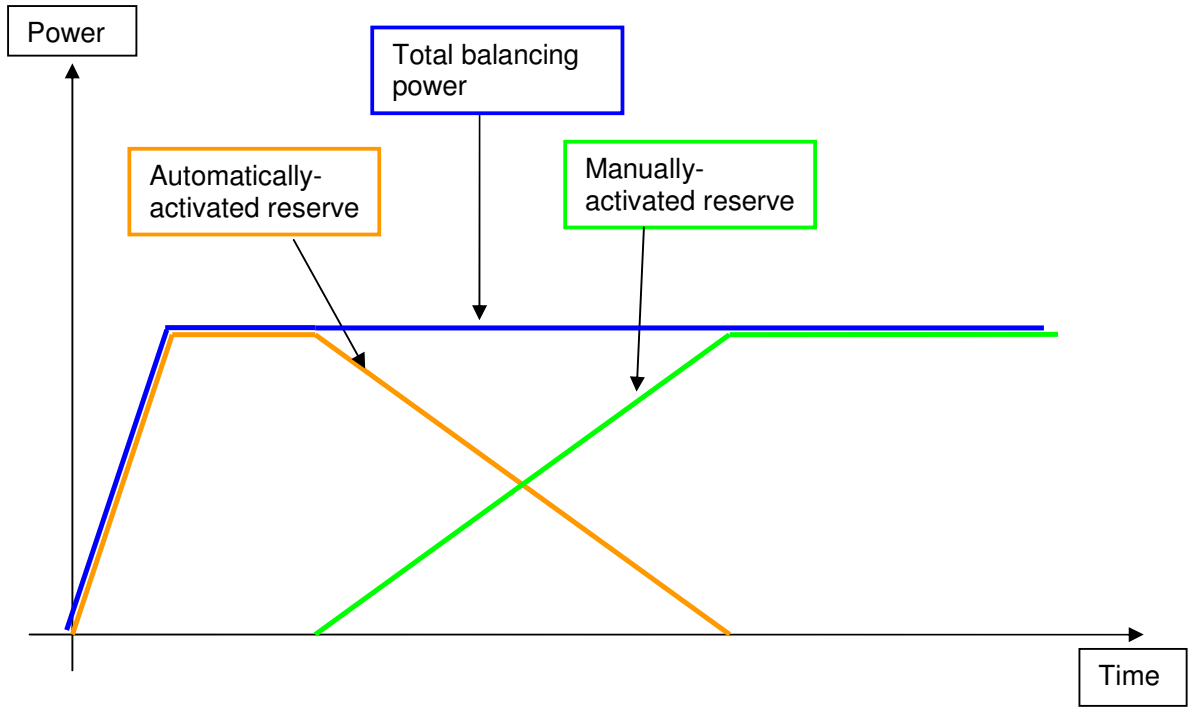


Figure 2 – Interaction between automatically-activated reserves and manually-activated reserves

Balancing market includes manually and automatically-activated reserves. However, these Guidelines refer to the procurement and activation by TSOs of the manually-activated reserves, whether those reserves are contracted or not. At present, automatically-activated reserves are not dealt with directly within these GGP[18], but their interaction with balancing markets is taken into account. Moreover, it is also anticipated that, as market integration in Europe proceeds, opportunities may arise for tighter cooperation of control areas, allowing sharing also (at least a part of) the automatically-activated reserves across the control area borders.

3 Benefits of Efficient Electricity Balancing Markets and their Integration

Balancing market integration has been highlighted as a necessary step to reach the ERGEG and EU aim of the development of an effective, competitive single market for electricity across the whole of the EU. Balancing market integration will allow TSOs to more efficiently procure balancing services and avoid inefficient concomitant up and down regulation in adjacent areas.

This integration will promote efficient and competitive price formation and market liquidity. A high degree of transparency concerning market rules, price formation, and market participation will also facilitate the functioning of the market by allowing market parties to make informed decisions and minimise risk concerning investment and operation. Altogether, the benefits of such features will encourage market entry and competitive pressures to develop, and overall system costs to be

[18] Except in the GGP Section on transparency and monitoring.

minimised.

Given that there are gains to be reaped from trade, benefits can be enhanced if adjacent connected balancing markets are made compatible so that TSOs and market parties have access to both markets. ERGEG suggests that balancing market integration may provide the following further benefits:

- Provide TSOs with access both to a more diversified generation technology mix and further opportunities to offset deficit and surplus net generation positions, thereby helping them to lower the total amount of necessary reserves and achieving more efficient utilisation of balancing resources (assuming that required transmission capacity is available);
- Increase competitive pressures so that possibilities for the exercise of market power are reduced;
- Contribute to the sharing of reserves and the reduction of the risk of supply interruption as each TSO will be able to call upon balancing power from neighbouring TSOs in a market-based way.

Cost-benefit analysis of projects to enhance cross-border balancing shall take into account those potential benefits.

Integration will also be an opportunity to further consider reinforcing the extent to which balancing markets provide a sufficient degree of transparency to market players and regulators.

4 Key principles for Efficient Electricity Balancing Markets and their Integration

4.1 Governance and Institutional Arrangements

It is important to bear in mind that balancing market integration will raise new issues.

Of particular importance will be the issue of the legislative and regulatory basis for the integrated market. In a national market, the legislative basis, regulatory oversight, and set of balancing market rules all coincide under one jurisdictional territory. Where market parties have issues to resolve, they may be pursued via the governance process which can result in the adaptation of existing laws for the balancing market in that territory, or via the regulator there. Equally, the regulator will have the appropriate powers within that territory to monitor and enforce rules.

Given that the economic, legal and regulatory environment is dynamic and affects all market parties, it is desirable that governance processes exist so that the rules can be modified in light of changing circumstances. Governance processes should enable market players to propose modifications and for such proposals to be assessed and accepted or rejected using transparent criteria.

Directive 2003/54/EC assigns the regulator powers over the functioning of the balancing market within a Member State. According to Article 23, Paragraph 2, "*The regulatory authorities shall be responsible for fixing or approving, prior to their entry into force, at least the methodologies used to calculate or establish the terms and conditions for the provision of balancing services.*"

According to the Annex to Regulation (EC) No 1228/2003, Article 1.9, *"mechanisms for the intraday congestion management of interconnector capacity shall be established in a coordinated way and under secure operational conditions, in order to maximise opportunities for trade and to provide for cross-border balancing"*. To integrate balancing markets, it is not only necessary to establish mechanisms for intraday congestion management, but also mechanisms that allow cross-border exchanges of balancing services.

As a consequence, in addition to adapt multilateral rules on congestion management to provide for cross-border balancing, national *"methodologies used to calculate or establish the terms and conditions for the provision of balancing services*" shall also be adapted. In this perspective, Regulation (EC) No 1228/2003 should be completed by guidelines on the conditions for the provision of cross-border balancing services, which are not limited to cross-border congestion management.

With regard to cross-border issues, there is a need for regulators to coordinate. It must be clear for example which regulator has competence to oversee or enforce any breach of rules, to whom an aggrieved market party should turn when a difficulty arises, or which regulator or regulators may approve or veto modifications to balancing market rules. This cross-border 'regulatory gap', as well as the terms and conditions for the provision of cross-border balancing services themselves, will need to be addressed in any future balancing market rules.

4.2 Operational Security

The security roles and responsibilities need to be defined explicitly and clearly.

TSOs are responsible to ensure system security within their control area. Cross-border balancing shall not jeopardise system security within each control area and management of interconnections whose operator is not a TSO shall not endanger the safety of electrical systems.

In order to keep full control over system operational security, TSOs have to comply with short-term operational reserve margin requirements. Thus, TSOs need to ensure availability of adequate reserves and ability to provide quick response to system imbalances. To do so, it is legitimate that TSOs are able to oblige reserve activation or make contracts with reserve providers with remuneration.

4.3 Market based Mechanisms

The purpose of balancing markets is to secure balance between supply and demand of the system in short-term in an economically-efficient manner. Hence, balancing markets shall operate in a market-oriented way. Procurement of balancing services by TSOs shall be made using market-based methods promoting the best economical efficiency for bids' selection.

Procurement of balancing services means here either the procurement of the optional right to adjust generation or load whose availability is guaranteed by contract (reserve capacity) or the procurement of the generation / load adjustment (balancing energy).

For reasons of overall efficiency, the selection of bids shall be based on the merit order of the balancing offers as well as on network constraints. Any deviation from the merit order shall only be accepted when it is necessary to maintain system security and deviations shall be transparently communicated to market players. However, the cost-reflectiveness shall be ensured by allocating only costs of balancing to the balance responsible parties.

4.4 Effective Competition

Competition issues are crucial to the proper functioning of the Internal Electricity Market. The energy sector inquiry published by the European Commission in January 2007 stresses the fact that "*balancing markets are generally national in scope (or smaller)"* and *"are highly concentrated, which gives generators scope for exercising market power*".

Entry barriers for new entrants in balancing markets shall be removed as much as possible.

Balancing market rules, particularly on bids' placing and selection, shall not introduce any discrimination between market players, neither within a control area (e.g. between generation and demand side) nor from distinct control areas. Furthermore, duration of commitments to provide reserve capacity shall not represent an entry barrier to the reserve market. Thus it will enhance competition, prevent any exercise of market power and facilitate reduction of balancing costs.

A well-functioning balancing market shall be robust to any exercise of market power. This means that the market design needs to take this requirement into account. The market design also needs to mitigate concentration tendencies in balancing markets. Balancing markets may be at risk of the exercise of market power by some generators even where the overall level of market concentration is rather low. Indeed, even small balancing services providers can, due to their specific geographical position and/or technical characteristics, have a large market impact in situations when the supply/demand margin is small, and other resources of the demand and generation side are unable to respond to price signals within very short timescales.

4.5 Impact on Cross-Border Trade

The maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market players, complying with safety standards of secure network operation. Due to interconnection capacity scarcity, usage of interconnection capacity shall be optimised. Cross-border balancing shall not lead to withdrawal of interconnection capacity from market players and neither shall it limit opportunities for cross-border trade.

4.6 Incentives for Balance Responsible Parties to be Balanced

It is generally compulsory for all market players either to be a direct balance responsible party or to contract through some form of aggregator who is a direct balance responsible party. Market players are then either directly or indirectly bound in a mandatory fashion by the prevailing balancing market rules.

Balancing markets, in particular imbalance settlement pricing, shall be designed in such a way that balance responsible parties are accountable for their imbalances and have the correct incentives to minimise it. Imbalance settlement pricing must be cost reflective in terms of TSOs' costs to procure the 'missing' energy due to users' imbalance position.

This scheme must be completed by a well-developed, competitive market, with well-functioning day ahead and intraday trade opportunities and an efficient market design, so that market players are themselves able to trade into balance on the market.

It shall be easy for balance responsible entities to assess economic risk. Therefore imbalance settlement shall be simple, transparent, easily understandable and justified. Imbalance settlement needs to enhance efficient operation of the balancing market and wholesale market.

4.7 Transparency

Transparency is fundamental to achieve an efficient competition in a liberalised market. A firm legal framework is needed. All market players, as balance service providers, balance responsible parties and TSOs shall have the easiest access to necessary information in order to, respectively, analyse the best market opportunities, have the best possible imbalance management and have the best opportunities to maintain their generation/load equilibrium.

Balance service providers shall operate transparently in the market to enable other market

players and regulators to expose and therefore discourage any anti-competitive behaviour. High level of transparency of TSO actions shall be obtained to ensure its neutrality.

Finally, balancing markets shall have clear and transparent processes governing modifications of the balancing market rules.

4.8 Market Monitoring

Adequate powers and responsibilities for respective supervisory and regulatory activities in the integrated balancing market shall be assigned to competent authorities (dealing with market power). If duties are shared between regulators and competition authorities, it must be ensured that there is no grey area in market monitoring.

Competent authorities must have full access to all relevant information for the purpose of monitoring activities and implementing any ex-post investigations and necessary measures to mitigate market power and / or prevent potential abuse of it. This information access process shall also give complete confidence to all market players regarding its efficiency and non-discriminatory characteristics.

Competent authorities shall exchange necessary information and data in order to have a satisfactory oversight of the market as a whole, to consider and remedy any breaches of balancing market rules in the home territory that have effects in the wider integrated balancing area.

4.9 Pragmatic Approach

Given all the advantages described above, ERGEG's ultimate aim is to integrate European electricity balancing markets. As there are several obstacles, the integration of balancing markets will be a long-term goal. To enable a process of evolution towards balancing markets integration, these revised GGP also refer to a shorter term goal of making balancing markets compatible and pragmatically implementing appropriate cross-border balancing mechanisms (e.g. in the electricity Regional Initiatives process). Compatibility is seen as a first step towards integration.

- **Compatibility of balancing mechanisms,** in the context of these GGP, refers to a process of adaptation of the most important features of connected balancing mechanisms (i.e. balancing mechanisms established in adjacent control areas). The aim is to allow cross-border balancing exchange. Compatibility means that discrepancies in product types, timescale definitions, etc., will not impede exchange possibilities among different markets.
- **Integration of balancing markets** is an evolutionary process of connecting separate balancing markets in order to achieve their functioning as a common balancing market. The process consists of harmonisation and standardisation of the involved markets features.

Part II: ERGEG's Revision of the Guidelines of Good Practice for Electricity Balancing Markets Integration

New interconnections exempted under Article 7 of Regulation (EC) No 1228/2003 may, upon request, be exempted from provisions of these guidelines.

1 Roles and Responsibilities

1.1 Regulators

Guideline 1:

The regulators shall be responsible for fixing or approving, sufficiently in advance of their entry into force, at least the methodologies used to establish the terms and conditions for the provision of balancing.

The regulators shall monitor the effects of these terms and conditions.

The regulators shall have the authority to require transmission system operators, if necessary (e.g. if some non-objective, non-transparent and discriminatory practices are identified, or if other change procedures have failed), to modify these terms and conditions.

The regulators shall have the power to settle disputes related to balancing.

1.2 Transmission System Operators (TSOs)

Guideline 2:

The terms and conditions for balancing markets shall be set by TSOs in accordance with these guidelines and submitted to the national regulators for ex-ante approval. These terms and conditions shall also include requirements for balance responsible parties and balance service providers. When submitting these terms and conditions to the national regulators, the TSOs shall enclose, where appropriate, the results of the consultation of the stakeholders.

The TSOs shall provide the market participants with the information they need for efficient balancing and provide them all necessary data and information needed to become balance service provider or balance responsible party.

The TSOs shall have agreement models publicly available for balance responsible parties and for balance service providers.

The TSOs shall deliver a proposition for agreement on request. This proposition shall expose the technical, organisational and financial aspects.

The TSOs shall oversee that all users connected to their grid, including balance responsible parties and balance service providers, meet the requirements set in the approved terms and conditions for balancing markets to ensure operational security of the system.

1.3 Balance Service Providers (BSPs)

Guideline 3:

The balance service providers shall meet the requirements set in the terms and conditions defined by the TSO and contractually agreed upon.

The balance service providers shall provide all necessary data and information needed by the TSO to evaluate the balancing service provided, both in pre-qualification stage if existing and in real-time operation of the system.

The balance service providers shall ensure the proper functioning of all services to the extent they have committed to.

1.4 Balance Responsible Parties (BRPs)

Guideline 4:

The balance responsible parties shall meet the requirements set in the terms and conditions defined by the TSO and contractually agreed upon.

The balance responsible parties shall provide all necessary data and information needed by the TSO (and/or DSO(s)) to evaluate the balancing service needs both for the planning and balance settlement purposes.

The balance responsible parties shall ensure the procedures for proper imbalance handling.

2 Access to Interconnection Capacity

2.1 Reservation of Interconnection Capacity

Guideline 5:

No interconnection capacity shall be reserved for cross-border balancing.

In the special case of DC interconnectors, interconnection capacity reservation might be possible when such reservation can be demonstrated to increase socio-economic welfare in integrated markets. Such reservation shall be subject to public consultation and relevant regulators' approval.

Explanatory remarks:

Interconnection capacity means here transmission capacity of interconnections between control areas.

Reservation means here that TSOs withdraw a part of available interconnection capacity from allocation mechanisms in order to ensure its availability for cross-border balancing.

Cross-border balancing means here to exchange balancing energy and/or reserve capacity with other control areas.

Reservation of interconnection capacity could enhance competition in balancing markets by increasing the amount of balancing providers able to operate in any one market. However, ERGEG considers it is not pertinent in general. Indeed, if interconnection capacity were reserved for cross-border balancing, it could limit competition on wholesale markets and might result in

increased price differences across the interconnections. Furthermore, it could prevent the full utilisation of scarce interconnection capacity as balancing energy needs are highly unpredictable and unused capacity would be lost given that balancing is the closest trade to real time. ERGEG considers that the reservation of interconnection capacity for balancing purposes is not compatible with the principles laid down in the Regulation (EC) No 1228/2003, in particular with the provisions of Articles 6.3[19] and 4[20].

However, interconnection capacity reservation might be possible in special cases of DC interconnectors due to their specificities.

DC interconnectors are flexible in use and can provide the benefit of quick response to balancing needs across borders. Different to AC interconnectors, DC interconnectors have the benefit that they are more controllable in that the direction of flow can be steered. DC interconnection can as such be compared to a flexible generation unit, but with the additional benefit of reversing the capacity.

The case for reservation of capacity may be easier to determine for DC interconnectors as the volume, origin and destination of flows are more transparent. DC interconnectors do not have as many security issues to take into account, such as loop flows and transmission reliability margin. Hence they typically offer the full amount of interconnector capacity to the market when they are available. This makes it easier to determine the economic case for reservation as they are less encumbered by pre-existing measures which already reduce the capacity on offer, also the effect of reservation will be more transparent.

It is also important to note that higher socio-economic welfare would, all things being equal, also entail an increased demand for interconnection capacity and as such facilitate that more DC interconnections would be built where appropriate.

Demonstration shall be made by TSOs that reservation of interconnection capacity would increase socio-economic welfare taking into account impacts on neighbouring countries and other timeframes (i.e. day-ahead and intraday market). Such reservation shall be subject to relevant regulators' approval after a public consultation, be only given for a limited period and be subject to periodic reviews.

2.2 Charge on Access to Interconnection Capacity

Guideline 6:

When setting up cross-border exchanges of balancing energy after interconnection gate closure, any charge on access to interconnection capacity for balancing energy shall be prohibited.

In special cases of DC interconnectors where some interconnection capacity is reserved for cross-border balancing, value of reserved capacity shall be defined and charged in a transparent and non-discriminatory way.

[19] "…the maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation."

[20] "…any allocated capacity that will not be used shall be reattributed to the market, in an open, transparent and non-discriminatory manner."

Explanatory remarks:

When setting up cross-border exchanges of balancing energy after interconnection gate closure, access to interconnection capacity shall be free of charge in order to maximise opportunities for cross-border balancing. This is justified also because no scarce capacities which are subject to allocation shall be reserved for balancing market purposes, as otherwise these capacities could not be used for electricity trading anymore.

This is justified because it will maximise opportunities for cross-border balancing. Charging for access to interconnection capacity would uplift the price of exchanged balancing bids and therefore impede development of competition and reduction of imbalance costs.

Furthermore, no scarce capacities which are subject to allocation shall be reserved for balancing market purposes. Given that capacity remains unused after interconnection gate closure and balancing is the last trade before and during real time, interconnection capacity would be lost if no cross-border trade of balancing energy occurs.

If some interconnection capacity is reserved on DC interconnectors for cross-border balancing, value of reserved capacity shall be defined and charged to appropriate stakeholders to avoid any discrimination with allocation of interconnector capacity for cross-border trade in other timeframes. If capacity is reserved by the TSO, the costs shall be passed by the TSO onto the balance responsible parties that benefit from this reservation. In the TSO-BRP model these costs shall be borne by the balance service providers.

3 Contracted Reserves

3.1 Cross-Border Procurement of Reserve Capacity

Guideline 7:

Cross-border procurement of reserve capacity shall not be possible except in special cases of DC interconnectors where some interconnection capacity is reserved for cross-border balancing.

Explanatory remarks:

System security depends on the availability of sufficient capacity reserves with adequate ramp-ups.

As procurement of reserve capacity occurs at the latest at day ahead, availability of cross-border capacity reserves is subject to grid availability that cannot be ensured without reservation of interconnection capacity. Control areas which choose to reserve capacity abroad should be sure to have local means available in case of unavailability of interconnection capacity. In practice, it would lead TSOs to contract reserve capacity twice (within the control area and across the border) and unduly withdraw resources from the wholesale market.

Thus cross-border procurement of reserve capacity shall not be possible except in special cases of DC interconnectors where some interconnection capacity is reserved for cross-border balancing.

Geographical distribution of reserves is a key issue for security of electrical systems. Indeed, geographical redistribution of reserves must take into account that, in the case of the disconnection of an interconnection, all islands must be able to maintain a certain degree of frequency control ability. Thus, in the special case of DC interconnectors where some interconnection capacity is reserved for cross-border balancing, cross-border procurement of reserve capacity shall be subject of technical evaluation by the TSOs, in accordance with criteria

predefined by European Network of Transmission System Operators for Electricity (ENTSO-E), and approved by regulators in a transparent way.

3.2 Cross-Border Procurement of Balancing Energy

Guideline 8:

TSOs shall implement mechanisms allowing cross-border exchange of manually-activated balancing energy as long as system security is not endangered. Those mechanisms shall not discriminate between balancing energy from local and neighbouring markets as far as system security is not endangered.

Adequate procedures for the agreement of exchange schedules shall be set up to allow cross-border exchange of balancing energy.

Explanatory remarks:

Cross-border procurement of balancing energy shall be subject to availability of transmission capacity. Furthermore, ERGEG considers that TSOs shall not compete with market players to use interconnection capacity prior to interconnection gate closure. Thus, when the TSO-TSO approach[21] is implemented for cross-border exchange of balancing services, interconnection capacity shall be made available from the spare capacities not nominated after interconnection gate closure, in the day ahead or the intraday market, from previously not allocated capacities, or from additional capacities resulting from actual network security calculations occurring during daily operation. TSOs shall implement mechanisms allowing cross-border exchange of balancing energy as soon as transmission capacity is available and system security is not endangered. Those mechanisms shall not discriminate between balancing energy from local and neighbouring markets.

Cross-border procurement of balancing energy between two neighbouring countries may be a first step but the goal is to implement cross-border balancing on a broader scale, within or between the regions. Beyond primary control, each TSO is responsible for maintaining generation-load equilibrium within its control area. TSOs must coordinate to change exchange schedules prior to cross-border exchange of balancing energy. Adequate procedures for the agreement of exchange schedules shall be set up to allow cross-border exchange of balancing energy.

3.3 Amount of Manually Activated Reserve

Guideline 9:

In general, no part of the manually-activated reserves needs to be contracted.

However, if there is a need to contract a part of the manually-activated reserve, the amount of this reserve shall be set according to the defined security criteria that are to be approved by regulators. Furthermore, such contracting shall be realised in a transparent, non-discriminatory and market based/regulated way.

[21] See Section 4 of the GGP – approaches to implementing cross-border balancing.

Explanatory remarks:

The total generation capacity for balancing consists of automatically and manually-activated reserves, which are interdependent. The automatically-activated reserves are contracted in advance and this shall be done in a transparent way. In general there is no need to contract manually-activated reserves.

"W*hile the existence and availability of these reserve capacities are crucial for the functioning of the respective systems, keeping unreasonably large – i.e. going beyond security of supply needs – reserve capacities reduces the size of commercially available generation park and unnecessarily increases balancing costs*"[22]. Indeed, contracting may have the result that energy is drawn out of the day ahead (and intraday market), thus increasing prices on these markets and in some cases reducing the chances for players to plan themselves into ex ante balance. Furthermore, contracted reserves[23] create distortions in the market between generators (internally and across the interconnectors) that receive capacity remuneration and generators that do not (or generators that receive different capacity remunerations).

TSOs or another relevant party shall establish a clear, transparent and non-discriminatory common methodology within the integrated balancing markets to determine when a manually-activated reserve needs to be contracted in addition and the amounts of that reserve, which are necessary to comply with security criteria. TSOs' common methodology shall be approved by regulators. Non-compliance with the common methodology shall be clearly justified and approved by regulators in accordance with pre-defined security criteria(s).

4 Models for Cross-Border Balancing

Guideline 10:

Towards integrating balancing markets, the TSO-TSO with common merit order approach is the target model to exchange manually activated balancing energy.

Nevertheless TSO-TSO without common merit order could be the first step and even the TSO-Provider approach may be implemented in the case of incompatible characteristics of balancing markets.

In the special case of DC interconnectors and when capacity is reserved, a TSO-Provider approach might be accepted if it is proven that transparency and security of system and non-discrimination between national and foreign market participants are ensured.

Explanatory remarks:

For clarification, merging of control areas is not the purpose of these GGP. In the process of the balancing markets' integration, the following implementation options to exchange manually-activated balancing energy, assuming varying degrees of balancing market harmonisation and providing gradual degree of integration are described below:

- A "direct participation or TSO-BSP[24] system" where two or more TSOs allow the balance

[22] COM(2006) 851 final: Energy sector inquiry

[23] It relates to security insurance reserves (delivering very small amount of real time energy) or to reserves that deliver significant amount of real time energy.

[24] Balance service provider

service providers to decide into which balancing market they want to bid (local or neighbouring market) and to enter into a contract directly with the TSO of the neighbouring control area. The advantage of this is that the offers submitted by the operators do not have to be filtered by the TSO they are attached to. However, the notification to their connecting TSO of changes in generation and/or consumption schedules (and possibly interconnection capacity acquisition) will have to be ensured by the balance services providers with respect to rules on programming generation, consumption and cross-border exchanges to ensure system security. This makes cross-border balancing supplies difficult in practice: the amount of time needed to nominate production programmes and exchange programmes on the borders is incompatible with the needs of the balancing process, which has to be rapid and flexible. In practice, in this model, cross-border balancing can only take place in one direction, from the country where there are fewest constraints on production scheduling to the country where the constraints are greatest (see Figure 3). Secondly, balance service providers may have to comply with different balancing markets' rules and IT systems to exchange balancing energy across borders. Thirdly, the TSO-BSP system is sub-optimal because of a lack of system overview of each individual balance service provider that would have to identify by itself the most optimal allocation of its services. As a consequence, this option should be implemented only when other options cannot be implemented[25].

- A "TSO to TSO" model in which the balance service provider is related to its "own" TSO. Each balance service provider can only submit bids to the TSO it is directly connected to and has no contact with other TSOs. Notification of changes in generation and/or consumption schedules is not needed as when connecting TSO activates balancing bids and offers for its own usage. The TSOs are responsible for the exchange of balancing bids and offers, and the management of the interconnection capacity. As TSOs act as intermediaries, it shall be ensured that balancing bids and offers exchanged by TSOs reflect balancing bids and offers submitted by balance service providers within each control area in order to avoid distortions and to promote competition. Unlike the TSO-BSP solution, balance service providers cannot choose themselves into which balancing market they bid. However, this model allows reciprocal trades to be carried out without the need for total harmonisation of the existing national balancing mechanisms. Depending on the degree of harmonisation and centralisation, we can distinguish:
    - TSO-TSO model without common merit order. TSOs exchange bid-offer curves that reflect the resources available in their control area (ensuring enough reserves remain available in their control area and taking into account network constraints). Absence of common merit order requires less harmonisation and centralisation. Nevertheless, TSOs need to be confident in the balancing resources available in their control area before exchanging bids and offers with other TSOs, and TSOs need to receive balancing bids from neighbouring control areas in due time for those bids to compete with local ones[26].

[25] This model has been introduced to allow participation of BSP from some neighbouring countries (mainly Switzerland and Germany) in the French balancing market.

[26] In the France-UK-Ireland (FUI) region, this model is under development for IFA interconnection between France and United Kingdom.

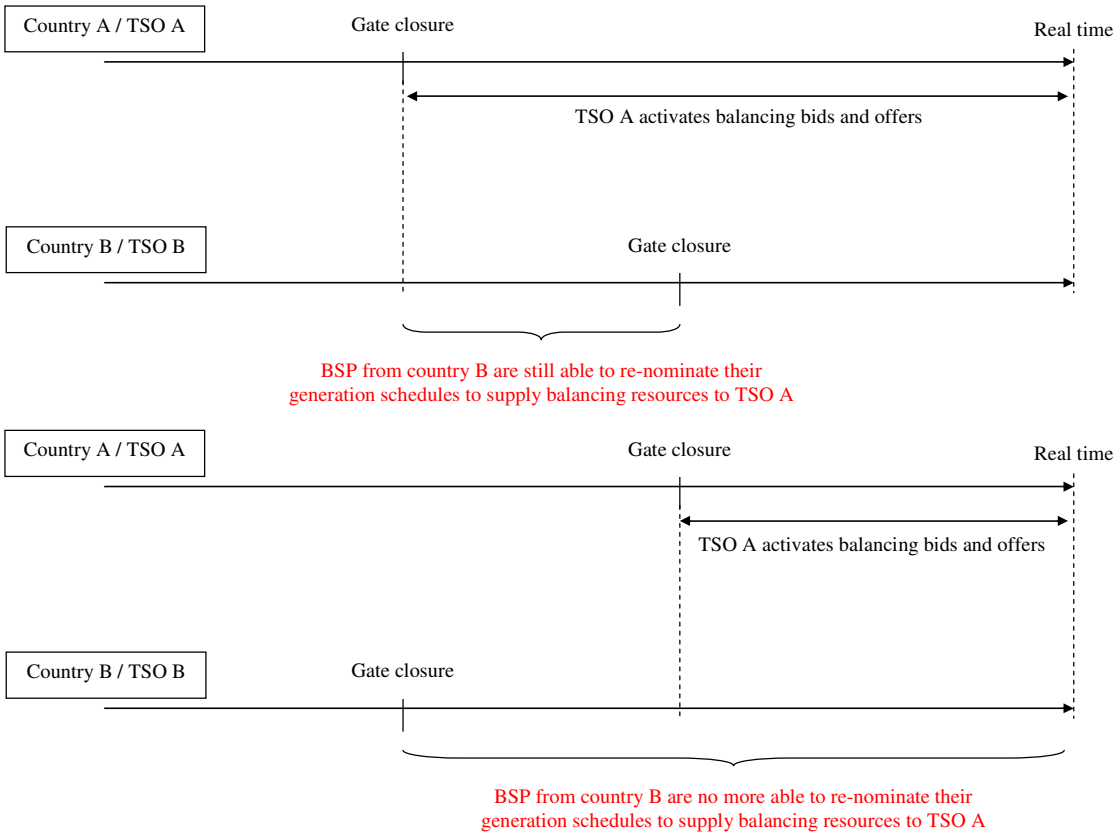


Figure 3 – Impact of generation scheduling gate closure on cross-border balancing

- TSO-TSO model with common merit order ensuring that the lowest price offer is selected in case of no-congestion within and between control areas. The common merit order is to be defined by the TSOs according to their security constraints. Furthermore, imbalances of control areas are cancelled out as far as possible and remaining overall net imbalance is compensated for. The TSOs will be allowed to deviate from the merit order curve if congestion impedes cross-border balancing exchange, or to ensure that the minimum reserve capacity required for security reasons in each area is reached. In both cases, it must be precisely justified in accordance with common pre-defined criteria[27].

[27] This model has been introduced in Nordic countries. Information and reports available at Nordel website: www.nordel.org and NordREG website: www.nordicenergyregulators.org

	TSO – BSP	TSO – TSO without common merit order	TSO – TSO with common merit order
Compatible with different characteristics of balancing markets (e.g. gate closure and characteristics of balancing products) / faster implementation allowed	++	+	-
Freedom in establishing of contractual relations	+	-	-
Transparency	-	-	+
Makes sure that best offers will be used	-	+	++
Adequacy to short term nature of balancing and reciprocity of cross-border balancing	-	+	+
Simplifies selling of balancing services	-	+	+
Delivery across several borders / regional optimisation	-	-	+

Table 1: Comparison between different models for cross-border balancing

Towards integrating balancing markets, the TSO-TSO with common merit order approach is the target model (see Table 1). Nevertheless, the TSO-TSO without common merit order model needs a lower degree of harmonisation and ensures consequently a faster implementation of cross-border balancing trade. Thus, it can be a first step towards integrating balancing markets and even the TSO-Provider approach may be implemented in case of incompatible characteristics of balancing markets to ensure a fast implementation.

5 Design of Balancing Markets

Guideline 11:

Full harmonisation of balancing markets is not a prerequisite for cross-border balancing. Thus, in a step-wise process, cross-border balancing implementation should precede definition and implementation of a standard market design. But increased compatibility would be highly valuable and allow enhanced cross-border balancing exchanges.

Towards harmonising national balancing markets design it is considered as a first priority to harmonise gate closure and technical characteristics of balancing services**.**

Explanatory remarks:

Full harmonisation of balancing markets is not a prerequisite for cross-border balancing. However, harmonisation of the following key characteristics of balancing market design would be beneficial to enhance cross-border balancing:

- Gate closure time;
- Technical characteristics of balancing services (e.g. activation time, time to full

activation);

- balancing services settlement;
- imbalance settlement.

Gate closure and technical characteristics of balancing services

Gate closure timeframes currently vary from 15 minutes to 1 day or even more. The shorter the gate closure timeframe, the longer there is for market participants to trade with other parties to adjust their position, which leads to more competitive outcomes and means parties can avoid being out of balance more easily and more precisely.

The ability to adjust positions for a longer period will become more important as the amount of wind generation increases in response to the European Commission's 2020 renewable targets. Wind is very intermittent and requires flexible generation or consumption to ensure the system remains in balance. Allowing the market to operate for as long as possible before gate closure (i.e. efficient intra-day market) means that the TSO is only the sole trading counterparty for a limited amount of time reducing the burden of finding balancing solutions for high amounts of variability.

However, some flexibility may be given to a TSO to manage its control area imbalances as only an intraday market with perfect information and no transaction costs would enable balance responsible parties to be perfectly balanced.

Full harmonisation is not a prerequisite, but differences complicate and hinder cross-border balancing. Gate closures (and characteristics of balancing services, e.g. minimum time for which the called product must be "on-line", activation time, time to full activation, and minimum offer size[28]) have to be at least compatible to enable participation of loads and generators from other control areas and to increase exchangeability.

Furthermore, different gate closures lead to asymmetric market opportunities and different market exposures at both sides of the border.

Different gate closures and technical characteristics of balancing services are seen as key impediment to enhanced cross-border balancing. Towards harmonising national balancing markets design it is considered as a first priority to harmonise gate closure and technical characteristics of balancing services.

Balancing services settlement

Two options exist with regard to balancing services settlement:

- marginal pricing which means that all balance service providers will receive the same remuneration (equivalent to the price of the highest activated balancing energy bid or offer); and
- pay-as-bid which means that all balance service providers will receive a remuneration equivalent to the price they offered or bid.

Harmonisation of balancing services settlement is not a prerequisite for enhancing cross-border balancing. However, coexistence of different balancing services settlement schemes may complicate financial settlement of cross-border exchange of balancing services.

[28] However, it must be kept in mind that overly strict TSOs requirements may limit the number of players able to participate in the balancing market, thus hindering competition

Although pay-as-bid may be the most used balancing services settlement scheme within the national balancing markets, marginal pricing could be more appropriate within liquid integrated balancing markets.

Imbalance settlement

Imbalance settlement rules refer to the imbalance settlement period, definition of imbalance, imbalance calculation and imbalance pricing.

Imbalances are not calculated at each time but summed up over a period: this is the imbalance settlement period. The imbalance settlement period varies from control area to control area and ranges from 15 to 60 minutes.

Imbalances are defined and calculated per balance responsible party and per imbalance period. It can be defined and calculated under different ways:

- in one step as the difference between injections and off-takes within the perimeter of a balance responsible party;
- in two steps (two imbalances are calculated) when generation and loads are settled separately as the difference between measured and nominated generation and load respectively.

Imbalance pricing can rely on single or dual prices, where prices of positive[29] and negative imbalances differ. Imbalance prices can also be related to the cost of procurement of balancing services, such as having imbalance prices related to whether the system is being regulated up or down during the balancing timeframe.

Harmonisation of imbalance settlement rules is not a prerequisite for enhancing cross-border balancing; e.g. the Nordic area has had a common balancing market for years where Norway has used a single imbalance pricing and a one-step imbalance calculation method while Denmark and Sweden have used a dual imbalance pricing and a two-step imbalance calculation method, and Finland has used a dual imbalance pricing and a one-step imbalance calculation. However, different imbalance settlement principles may have negative impacts on market players' behaviour (wholesale trade).

Thus, even if it is not considered technically a prerequisite for cross-border balancing, harmonisation of imbalance settlement rules may be beneficial; e.g. Nordic area will apply harmonised imbalance settlement in 2009.

The imbalance settlement should be harmonised as far as possible in order to avoid market distortion between national markets and prevent undue behaviour from markets players such as free riding.

Balance responsible parties must have the right incentives to manage their own balance on an intraday timescale but also on a day ahead timescale, as the essential part of security studies relies on day ahead scheduling programmes. Imbalance settlement rules shall ensure system security and enhance economic efficiency.

ERGEG considers that even if procurement of balancing services and services for internal

[29] If one step calculation: injections exceed off-takes within the perimeter. If two steps calculation: measured injections (respectively off-takes) within the perimeter exceed nominated injections (respectively off-takes).

congestion management are organised as one market to avoid market segmentation and to tackle market power issues, the allocation of costs shall be different depending on whether the selected bid has been used for balancing or congestion purposes.

6 Transparency and Monitoring

6.1 Transparency

Guideline 12:

All information required for the effective functioning of the integrated balancing market shall be structured, aggregated appropriately and made available to the public in a common format which takes into account the needs of all market players. This will also enable necessary monitoring.

Explanatory remarks:

ERGEG considers that the establishment of a clear pan-European framework for information transparency is of particular importance – within that context, reaching a high level of transparency concerning balancing is of great importance. Moreover, cross-border balancing requires that TSOs have confidence on balancing resources available to maintain security within their control area. Thus, information transfer between TSOs (about current and future system conditions) is important for effective and efficient cross-border balancing.

6.2 Public Data

Guideline 13:

The data published in each control area shall include balancing market rules (including mechanisms to allow cross-border balancing) and lists of data defined below. Information shall be published in the local language and in English.

TSOs should publish these data with a common structure of information in order to allow better comparison.

All of the information published must be kept available at least for two years after the publication of the final update.

Explanatory remarks:

Requirements on the way in which information has to be published shall be set down. In the longer-term, a common platform (e.g. a common website), where all the information relevant for the integrated balancing market is available, will be needed.

The availability of balancing information both across and within control areas at all levels of the electric power supply value chain is of vital importance to ensure the efficiency of national markets and of the overall European market. TSOs (or other parties responsible for clearing and settlement) are consequently requested to publish the data presented in Table 2 [30].

[30] The majority of Table 2 is an extract from ERGEG's Guidelines of Good Practice on Information Management and Transparency (Ref. E05-EMK-06-10), August 2006. The items, *in italics*, are revised or additional items.

Information	Publication	Timeframe	Key benefits of information	Provider	Source
Volumes of bids and offers used *per usage (network constraints or production/consumption imbalance)*	Just after real time	Per balancing mechanism time unit	• To help market players to formulate their balancing offers • To increase the level of transparency in the management of TSOs	TSO or other party responsible for clearing & settlement	TSO or other party responsible for clearing & settlement
Average and marginal prices of bids/offers used *(both for capacity and energy)*	Just after real time	Per balancing mechanism time unit	• To help market players to formulate their balancing offers • To increase the level of transparency in the management of TSOs	TSO or other party responsible for clearing & settlement	TSO or other party responsible for clearing & settlement
Imbalance prices	Just after real time	Per balancing mechanism time unit	• To help balance responsible parties to optimise their imbalance's level	TSO or other party responsible for clearing & settlement	TSO or other party responsible for clearing & settlement
Control area imbalance volumes and *actually used volumes of manually and automatically activated reserves*	Just after real time	Per balancing mechanism time unit	• To help balance responsible parties to optimise their imbalance's level • To enable monitoring	TSO	TSO
Information on the financial balance of the whole market (expenses on the balancing market / payment of imbalances)	Month M+1 for month M, to be updated until final reconciliation	Per month	• To increase the level of transparency in the management of TSOs	TSO	TSO or other party responsible for clearing & settlement
Market information on the type *(generation technology, load, import/export, activation time)* of balancing bids/offers used	Month M+1 for month M	Per day	• To help market players to formulate their balancing offers • To increase the level of transparency in the management of TSOs	TSO	TSO
Volumes of balancing reserves contracted by TSO for each type of reserve	*Depending on procurement procedure*	*Depending on procurement procedure*	• *To increase the level of transparency in the management of TSOs* • *To enable monitoring*	*TSO*	TSO

Table 2: Transparency and information management for balancing

Furthermore, information related to balancing should be released on a non-discriminatory basis across and between control areas. TSOs should agree among them on a common structure of information in order to allow better comparison.

(http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_ERGEG_PAPERS/Electricity/2006/ERGEG_GGPIMT_2006-08-02.pdf).

6.3 Monitoring by Regulators

Guideline 14:

Regulators shall include in their evaluation of congestion management methods, mentioned in Article 1.10 of the amended Congestion Management Guidelines annexed to Regulation (EC) No 1228/2003, a chapter on cross-border balancing. This chapter shall evaluate implemented mechanisms and on-going projects. It shall also highlight impediments to implementation and enhancement of cross-border balancing.

Explanatory remarks:

TSOs (or other parties responsible for clearing and settlement) must allow regulators to monitor precisely and jointly the integrated balancing markets. To guarantee non-discriminatory access to national balancing markets, the TSOs shall be able to prove the existence of cross-border exchanges of balancing services when sufficient interconnection capacity is available and balancing services from neighbouring control areas are competitive. Information required for monitoring by the regulators includes:

- Detailed bids and offers made by balance service providers (at least offered power, price, activation time, minimum and maximum time of use); and
- Those bids that were selected by TSOs.

A common structure of information across all TSOs shall be used in order to allow better comparison.

7 Glossary

Activation time is the minimum notice needed by a balancing market participant to deliver the power of its balancing offer. It refers to elapsed time between automatic activation signal or manual order emission and beginning of energy delivery. It does not include ramping.

Automatically-activated reserve refers to balancing resources which are triggered without any manual intervention. They are equivalent to UCTE primary and secondary reserves and to Nordel frequency controlled reserves.

Balancing energy refers to the real time energy procured and sold by the TSO that acts as the central counterpart for close to real time (and real time) trades. It refers to manually-activated balancing resources.

Balancing market is that part of the overall electricity market that provides for meeting the needs of balancing services. A balancing market consists generally of two important parts:

(i) Balancing services procurement defines features of procurement processes, e.g. the way of bidding, constraints/requirements on the balancing market participants, way of payment to the bidders, constraints on the TSOs, who/how makes the merit order, etc.

(ii) Imbalance settlement scheme allows charging costs borne by a TSO to be passed on to balance responsible entities.

Balance service provider (BSP) is any entity providing balancing services to TSOs. It can be a producer or a consumer.

Balance responsible parties (BRP) are representatives for market players' responsibility to balance their injections and withdrawals (including possible purchases and sales) of energy. Imbalance settlement gives a financial incentive for them to do so.

Balancing services refers to automatic and manually-activated reserves and energy bids and offers submitted to a TSO by a BSP.

Control area is a coherent part of an interconnected power system, operating at the common synchronous frequency, usually coincident with the territory of a company, a country or a geographical area, operated and supervised by a single TSO (control area manager) responsible for load-frequency control, with physical loads and controllable generation units. Guidelines also apply where internal congestions lead to different price zones.

Interconnection capacity means transmission capacity of interconnections between control areas.

Interconnection gate closure is the time up to which a market participant can nominate the amount of interconnection capacity they will use.

Gate closure is the time up to which a market player can modify its physical position and make offers in the balancing market. It can differ to intraday market gate closure (or day ahead if no intraday) that is the time up to which a market participant can modify its commercial position.

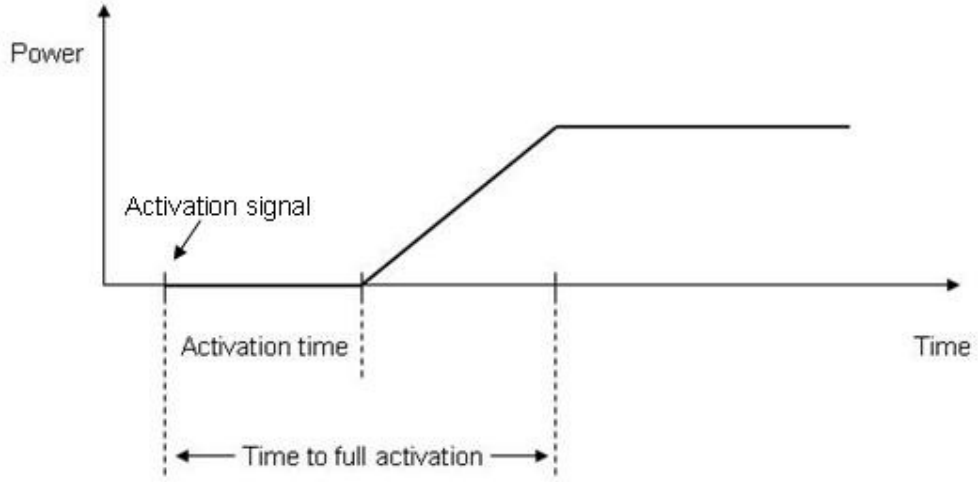
Manually-activated reserve refers to balancing resources which are triggered by human (manual) intervention. They are equivalent to UCTE tertiary reserves and to Nordel non-frequency controllable reserves (e.g. regulation power and fast and slow disturbance reserves).

Primary control at the moment, following generation-load disequilibrium, the balance between generation and load is restored by automatic collective reaction of all control areas in the synchronous area. Joint action of generating units and loads evenly spread across the synchronous area restricts and halts frequency deviation.

Relevant regulators refer to national regulatory authorities supervising TSOs on either side of interconnections.

Time to full activation refers to elapsed time between automatic activation signal or manual order

and energy delivery at targeted power during offers' delivery time scale. It includes activation time and ramping.



Transmission System Operator (TSO) is a company that is responsible for operating, maintaining and developing the transmission system for a control area and its interconnections.

Annex 1 – ERGEG

The European Regulators for Electricity and Gas (ERGEG) was set up by the European Commission in 2003 as its advisory group on internal energy market issues. Its members are the energy regulatory authorities of Europe. The work of the CEER and ERGEG is structured according to a number of working groups, composed of staff members of the national energy regulatory authorities. These working groups deal with different topics, according to their members' fields of expertise.

This report was prepared by the Electricity Network and Market Task Force (ENM TF) of the Electricity Working Group (EWG).

Annex 2 – List of Abbreviations

Term	Definition
AC	Alternating Current
ACER	Agency for the Cooperation of Energy Regulators
BRP	Balance Responsible Party
BSP	Balance Service Provider
CEER	Council of European Energy Regulators
DC	Direct Current
DSO	Distribution System Operator
EBMI	Electricity Balancing Markets Integration
ERGEG	European Regulators Group for Electricity and Gas
ENTSO-E	European Network of Transmission System Operators - Electricity
GGP	Guidelines for Good Practice
LFC	Load Frequency Control
TRM	Transmission Reliability Margin
TSO	Transmission System Operator

Table 3 – List of Abbreviations