



2008 Monitoring Report:
Implementation of the ERREG
Guidelines of Good Practice for Gas Balancing
(GGP-GB)

Ref: E08-GMM-03-03
10 December 2008

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PART I

1.1. Preface

At the XIII Madrid Forum, the European Commission requested that ERGEG monitor the degree of implementation and compliance with the recommendations outlined in the ERGEG Guidelines of Good Practice for Gas Balancing (GGP-GB), which are based on the requirements defined in Art. 7 of Reg. 1775/2005/EC.

The GGP-GB were published in 2006 following a public consultation process. In September 2003, regulators had published gas balancing principles which were designed to promote competition and liquidity in the European gas market.¹ Further work was then undertaken by regulators to better understand how differences in balancing rules may act to distort trade between Member States. The latter subsequently lead to the publication of GGP-GB.

Following the request of the European Commission, ERGEG started its monitoring of the implementation of the GGP-GB in early 2008. The overall aim of the 2008 Monitoring Exercise was threefold:

- To assess the degree of implementation and hence compliance with the requirements outlined in the GGP GB and in Regulation 1775/2005/EC regarding natural gas balancing (in particular: Article 7), to identify reasons for non-compliance and to ensure that National Regulatory Authorities (NRAs) undertake the steps necessary to increase compliance;
 - To identify areas where further refinement and clarification of the GGP-GB is potentially needed; to provide evidence and input into the design of balancing regimes and rules that will ensure non-discriminatory, transparent and effective access conditions to the network to all users, in particular to new market entrants.
- and
- To contribute towards the creation of the internal energy market by deriving clear conclusions from the findings of the monitoring exercise and making recommendations to reduce the differences in natural gas balancing regimes and balancing rules to create frameworks for better functioning and competitive markets for natural gas.

At the XIV Madrid Forum, ERGEG provided an update on the status of its monitoring activities. At the XV Madrid Forum, ERGEG presented the preliminary results and its conclusions, together with key recommendations from the 2008 Monitoring of the implementation of the GGP-GB. This document presents the findings of the 2008 Monitoring of the implementation of the GGP-GB.

¹ CEER Principles for Gas Balancing September 2003, available online at: http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_ERGEG_PAPERS/Gas/2003

1.2. Executive Summary

In 2008, ERGEG carried out a comprehensive monitoring of the implementation of the Guidelines of Good Practice for Gas Balancing (GGP-GB). These ERGEG Guidelines were published in 2006 following a public consultation process. Since then, TSOs have had time to implement the guidelines and make changes to their systems, where required. To build a clear picture of implementation, ERGEG's monitoring exercise sought feedback from TSOs, system users and NRAs. The aim of the monitoring exercise was to assess the degree of implementation and hence compliance with the recommendations outlined in the GGP GB, to identify areas where further refinement and clarification of the GGP-GB may be required and to derive clear conclusions and recommendations for reducing the differences in natural gas balancing regimes and balancing rules.

Non-discriminatory and transparent balancing regimes for gas are a key prerequisite for functioning gas markets and hence the completion of the internal energy market in Europe.

In summary, ERGEG's findings and recommendations are as follows:

- There are undeniable, significant differences in balancing regimes across Europe. ERGEG's monitoring has shown that existing balancing regimes can pose significant barriers for market entry to new entrants, e.g., in cases where different balancing regimes are in place for transit and domestic transport or where access to ancillary services, such as storage, are needed for balancing purposes, but access to these is limited. Where new entrants do not have effective access to ancillary services this can act as a major barrier to market entry.
- There is a need to harmonise central aspects of balancing regimes for natural gas transmission systems. Aspects such as the harmonisation of the gas day and the harmonisation of balancing periods or the opportunity of harmonising interconnection point agreements (IPA) / operational balancing accounts (OBA) more widely, in particular at the regional level, and the reduction of balancing zones / the creation of larger balancing areas need to be considered in this process.
- Where users are charged for the use of imbalance services, either within or beyond the tolerance band, the determination of cost is not always transparent and cost-reflective. Where TSOs incur costs, charging mechanisms shall be effective, transparent and non-discriminatory as outlined in Article 7 of Regulation 1775/2005/EC. ERGEG recommends that charging mechanisms should be made transparent and cost reflective.
- Users need to be given access to the information that is relevant to them to effectively balance their position in a timely manner. Access to information and transparency are key prerequisites to enable shippers to balance their positions. As far as timing is concerned, more information should be made available to users in (or closer to) real-time. In addition, network users need to be given the ability to effectively manage their balance positions, e.g., via mechanisms for pooling and trading of imbalance positions or other means of increasing flexibility for network users.
- Where not in place, market-based mechanisms for the provision of balancing energy need to be implemented. Barriers for suppliers and traders to be active on the balancing market need to be removed. Where TSOs are not compliant with the requirements made in Regulation 1775/2005/EC regarding balancing, in particular with regard to transparency provisions, ERGEG urges NRAs to take appropriate measures to ensure compliance.

ERGEG has presented these findings at the XVth Madrid Forum and will work with the European Commission and other stakeholders, most importantly GTE+, in order to progress the harmonisation of balancing rules and the reduction of balancing zones. Based on its findings, ERGEG will also develop input to the framework guidelines on balancing in 2009, within the context of the third package on energy liberalisation (3rd Package).

1.3. Introduction

1.3.1. Scope and Method

At the XIII Madrid Forum, the European Commission requested that ERGEG monitor the degree of implementation and compliance with the recommendations outlined in the ERGEG Guidelines of Good Practice for Gas Balancing (GGP-GB), which were developed to provide to ensure a consistent approach to of the requirements defined in Art. 7 of Reg. 1775/2005/EC.

To achieve the aims of the compliance monitoring exercise, ERGEG initially developed two questionnaires; one aimed at surveying transmission system operators (TSOs), and another for users of the gas networks. This procedure was adopted to allow for a validation of findings to be carried out and provide a comparison between network users' and TSOs' views in the analysis.

Users of the European natural gas transmission system were initially approached through their representative organisations. The following representative organisations were chosen:

- BusinessEurope
- EURELECTRIC
- EUROGAS
- European Chemical Industry Council (CEFIC)
- European Federation of Energy Traders (EFET)
- European Independent Distribution Companies of Electricity and Gas (GEODE)
- International Federation of Industrial Energy Consumers (IFIIEC)
- International Association of Oil and Gas Producers (OGP)
- Marcogaz

In a second step, users were also contacted directly via the Gas Regional Initiative (GRI) distribution lists that are maintained by ERGEG and the NRAs. This procedure was chosen to ensure a high response rate with a high quality of response.

After receiving the TSOs and users responses, a decision was taken to supplement the results with additional input from the NRAs concerning the national balancing regime and their role in balancing. This input was obtained from questionnaires sent to the NRAs.

1.3.2. 2008 ERGEG monitoring: Coverage

Responses were received from the following TSOs:

Table 1: ERGEG 2008 Monitoring: Participating TSOs

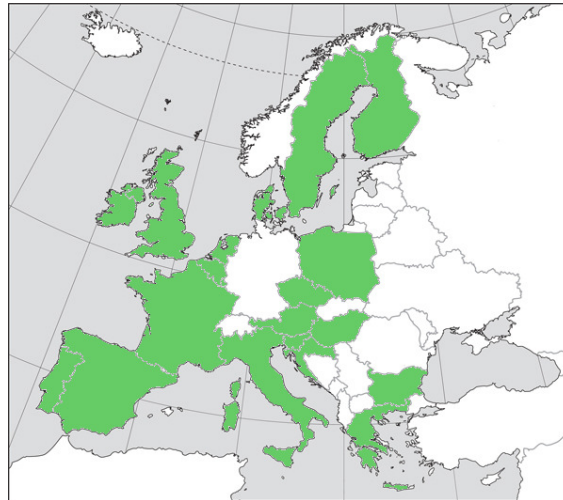
TSO Name	Country
BOG GmbH	Austria
OMV Gas GmbH	Austria
TAG GmbH	Austria
Fluxys	Belgium
Bulgartransgaz	Bulgaria
PLINACRO	Croatia
RWE Transgas Net s.r.o.	Czech Republic
Energinet.dk	Denmark
Gasum Oy	Finland
GRTgaz ²	France
TIGF	France
DESFA S.A.	Greece
FGSZ Ltd	Hungary
Gaslink Independent System Operator	Ireland
Snam Rete Gas S.p.A.	Italy
SOTEG	Luxembourg
Premier Transmission Pipeline System, PTPS	Northern Ireland
OGP GAZ-SYSTEM SA	Poland
REN-Gasodutos, S.A.	Portugal
Geoplin plinovodi d.o.o.	Slovenia
ENAGAS S.A.	Spain
Svenska Kraftnät	Sweden
GTS	The Netherlands
National Grid	United Kingdom
BGE (UK)	United Kingdom

Source: ERGEG 2008 Monitoring Report

The following figure shows a map with those countries highlighted in green where TSOs have participated in the 2008 ERGEG Monitoring Exercise of the GGP-GB. Germany has not been highlighted because TSOs have not been invited to participate in the monitoring exercise due to the fundamental changes to the gas balancing regime (introduction of a single regime for natural gas balancing in the whole of Germany).

² Formerly Gaz de France Réseau Transport

Figure 1: Map: Participating TSOs (by country)



Source: ERGEG 2008 Monitoring Report

In addition, the following entities registered to participate in ERGEG's monitoring of the GGP-GB, but did not complete the questionnaire:

- Latvijas Gaze JSC, Latvia
- AGGM, Austria
- Eustream, Slovak Republic
- Lietuvos dujos AB, Lithuania

Where ERGEG received explanations as to why TSOs/entities decided not to participate in the monitoring exercise, the explanation provided is listed below (by country name):

- ERGEG members:
 - Cyprus, Malta: No gas infrastructure
 - Estonia, Hungary, Romania: Invited, no response received
 - Germany: Due to fundamental changes in the gas balancing regime, the German TSOs have not been included in the survey. Instead, a detailed description the newly implemented German regime for natural gas balancing has been included.
 - Latvia: According to information provided by Latvijas Gaze JSC, Latvia has an isolated and fully closed natural gas market. Regulation 1775/2005/EC is not applied in Latvia due to a derogation granted under Article 28 of Directive 2003/55/EC. According to these stipulations, Latvia has not implemented an unbundling regime; the only natural gas undertaking (Latvijas Gaze JSC) is a vertically integrated gas undertaking.
 - Slovak Republic: Eustream decided not to participate in the survey, because there is a 'balancing in kind system' (and hence not a market based balancing system)

in place in the Slovak Republic and Eurstream felt that ERGEG's questionnaire would mainly relate to market based balancing mechanisms.

- ERGEG observers:
 - Norway: According to information provided by NVE, Norges vassdrags- og energidirektorat, Norway does not have a developed market for piped natural gas onshore (the natural gas production on the Continental shelf is broadly used within the Petroleum industry or exported). As a result, Norway has not appointed a TSO according to the Gas Directive and regards itself as an emerging market with respect to the Directive. The Ministry of Petroleum and Energy is acting as regulator.
 - Switzerland, Turkey: Invited, no response received

Following ERGEG's invitation to participate in the 2008 monitoring of the implementation of the GGP-GB, the following users participated (the number of responses submitted per user is also included; multiple responses per user are possible because users were invited to submit answers relating to different transmission systems):

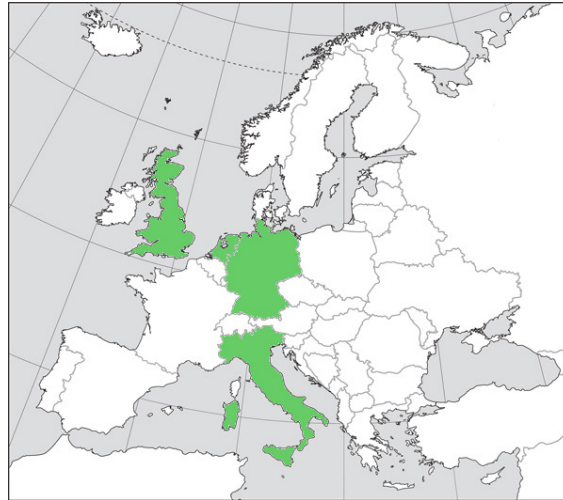
Table 2: ERGEG 2008 Monitoring: Participating users

TSO System	Country	Number of responses
Atel Energie AG	Germany	1
BP	UK	2
Centrica	UK	3
Dalmine Energie S.p.A. – E.ON Group	Italy	1
EDF Trading Limited	Germany	3
Eni Gas & power	Italy	3
Essent	The Netherlands	5
GasTerra B.V.	The Netherlands	1
Merrill Lynch Commodities (Europe) Limited	UK	4
Nuon	The Netherlands	1
RWE Supply & Trading	Germany	1
Scottish and Southern Energy	Scotland	1
StatoilHydro ASA	UK	3

Source: ERGEG 2008 Monitoring Report

The following figure shows a map with those countries highlighted in green where users have participated in the 2008 ERGEG monitoring of the implementation of the GGP-GB.

Figure 2: Map: Participating users (by country)



Source: ERGEG 2008 Monitoring Report

The responses received from users related to transmission systems operated by the following TSOs:

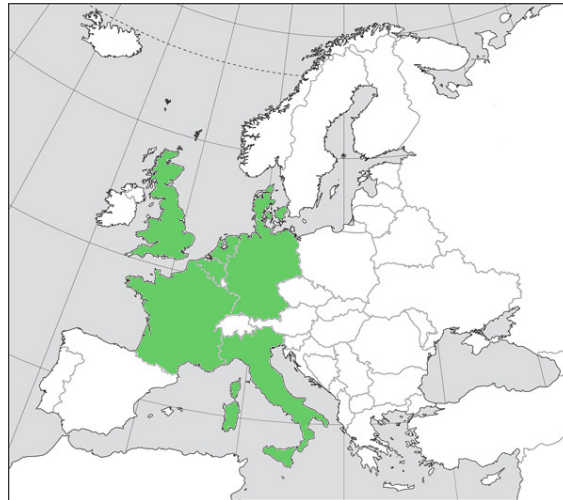
Table 3: Frequency of coverage of TSOs

TSO System	Country	Number of responses
E.ON Gastransport AG & Co. KG	Germany	4
Energinet.dk (ENDK)	Denmark	1
Fluxys	Belgium	4
Gas Transport Services B.V.	The Netherlands	8
Gasversorgung Süddeutschland GmbH	Germany	1
GRTgaz	France	4
National Grid Transco	United Kingdom	3
SNAM Rete Gas s.p.A.	Italy	3
Wingas	Germany	1

Source: ERGEG 2008 Monitoring Report

The following figure shows a map with those TSOs highlighted in green that users referred to in their response to the monitoring questionnaires.

Figure 3: Map: User response: Coverage of TSOs (by country)



Source: ERGEG 2008 Monitoring Report

ERGEG is pleased with the overall response rate. ERGEG considers that inferences can be drawn from the responses received that address the objectives of the exercise as set by the European Commission. However, it should be stated that 8 of the 29 responses received from users relate to a single TSO, namely GTS, and that 6 responses relate to the 'old' German balancing system. ERGEG has taken these facts into account when analysing and evaluating the responses and when deriving conclusions and recommendations regarding the implications for the future development of balancing regimes in Europe, in particular with regard to harmonisation.

Responses and additional material submitted either by TSOs or users will be made publicly available via the ERGEG web page. ERGEG has analysed the responses in percentage figures. An effort has also been made to indicate absolute figures where possible.³

1.3.3. Contextualisation of ERGEG's 2008 monitoring work

ERGEG would like to stress that the findings in this report must be viewed in the wider context of ongoing work on the creation of the European internal energy market (IEM) in general, and more specific work on issues such as impediments to trading and barriers to market entry.

ERGEG's work should, therefore, be seen in the context of the following:

- European Commission's inquiry into competition in gas and electricity markets in 2005, pursuant to Article 17 of Regulation 1775/2005/EC ('Sector Inquiry').
- ERGEG's work at the regional level, in particular through the Gas Regional Initiative (GRI) and its different Regional Energy Markets (REM).

³ In some cases, where multiple responses were possible, relative percentages might not necessarily add up to 100%.

- Work carried out by independent consultants and advisors who have assessed impediments to trading and barriers to market entry, such as the recent study carried out by PricewaterhouseCoopers on the issue of regional market development and impediments for traders in the South South East (SSE) European region⁴.

ERGEG will also liaise and cooperate closely with the European Commission to take the findings of this report forwards. In particular, in the context of the Commission's envisaged project on methodologies for gas transmission network tariffs and gas balancing fees in Europe (cf. Tender No. TREN/C2/240-241-2008).

It is envisaged that the results of the 2008 Monitoring Exercise will feed into the Commission's work and future legislative processes. ERGEG is also aware of the work that GTE+ is currently undertaking in the area of balancing. ERGEG welcomes this initiative of GTE+ and would encourage greater cooperation between ERGEG and GTE+ in this area, possibly hosting a joint workshop to discuss the findings of the balancing monitoring exercises.

1.4. ERGEG 2008 monitoring results: Synopsis of findings from TSOs, users and NRAs

In this section, ERGEG will compare the TSOs responses with the responses submitted by users, assessing whether there are areas where the TSOs' view differs from that of the users. This synopsis will help to identify areas where views diverge and where there is a further need for improvement or investigation. Information received from NRAs has been used in this section to substantiate the overall picture.

The preliminary conclusions in this section form the basis for ERGEG's final conclusions as expressed in section 1.5.

1.4.1. Characteristics of current balancing regimes

General characteristics

According to TSOs, most balancing regimes are relatively young or still developing and changing. Both NRAs and market stakeholders have been involved in the approval or consultation process of the balancing regimes. However, the GGP-GB seem to have a low impact on system changes. This finding is supported by the responses of both NRAs and users. NRAs report that system maturity varies (from emerging to developing to maturing) and that the publication of ERGEG's GGP-GB has not had significant impact on the balancing regimes in place. As far as the users are affected, a clear majority of respondents state that existing balancing rules do not reflect their needs and they have not been sufficiently involved or consulted in the creation of balancing rules. In addition, approximately a quarter of NRAs report that balancing rules are a barrier to market entry.

⁴ PricewaterhouseCoopers (PwC) (2008): Impediments to Gas Trading in South South East Europe, 2008, downloadable via the following link:
<http://www.pwc.com/extweb/onlineforms.nsf/docid/3DB4E772E90098508025749700326B1A>

In ERGEG's view, greater user involvement must be ensured, particularly with regard to harmonisation efforts. To encourage greater harmonisation there may be a benefit in making the GGP-GB more prescriptive in certain areas.

ERGEG is concerned that the publication of the GGP-GB has had, from the perspective of most users, little or no impact on the balancing systems. For example, only 20 percent of users reported improvements, with regard to transparency. On the other hand most users actually confirm that no changes to the balancing regimes and balancing rules have been taken place.

This underlines the need for further action on the part of the NRAs to ensure that TSOs are aware of and implement the recommendations in the GGP-GB. ERGEG is aware that further refinement of the GGP-GB is also necessary and that framework guidelines may be necessary to transform the recommendations into binding guidelines.

Tolerance levels and tolerance services

From the qualitative information provided by TSOs to ERGEG during the monitoring process, it clearly emerges that a wide range of tolerance levels apply to transmission systems. ERGEG is of the view that greater harmonisation of tolerance levels could help to reduce complexity and prevent the abuse of systems with high tolerance levels. There are limited cases where different tolerance levels apply to different users and also a few cases where the tolerance level is adjusted at times. Where differences exist which privilege affiliates, **ERGEG strongly recommends the removal of this differentiation to ensure an equal treatment of affiliates and independent shippers.**

1.4.2. Balancing period

Although 77% of TSOs who responded to the questionnaires stated that the balancing period used is daily, 51.7% of users state that they do not consider the current balancing period to be appropriate. In most of these cases, users are referring to systems with an hourly balancing period. Users clearly consider that balancing should be carried out on a daily basis, in order to allow smaller shippers and new market entrants to balance their positions more easily, with less risk. ERGEG is aware of the key concerns expressed by users regarding the TSOs current balancing regimes, although these concerns may relate to transmission systems not included in the survey. Although some users consider the existing period appropriate, the majority of users favour daily balancing regimes. NRAs play a crucial role in approving the balancing period. In 11 out of 23 responses given, the balancing period is set out in the network code. NRAs could, therefore, take a lead in setting and harmonising the balancing period. At the same time, TSOs, when redesigning their balancing systems, need to put greater emphasis on compatibility with adjacent transmission systems.

In order to reduce barriers to cross-border trade and to facilitate new market entry, ERGEG suggests that the GGP-GB should specify a standardised balancing period for all systems. In line with the recommendations made in the GGP-GB, section 1.7, ERGEG reiterates that the preferred balancing period is daily. ERGEG encourages TSOs to take these concerns into account and, in particular, to ensure that balancing regimes are compatible with adjacent systems.

1.4.3. Balancing cost

Imbalance charges

TSOs state that, where they exist, the calculation methodology for imbalance charges is published, along with the final tariffs. Only 31% of users consider the imbalance charges to be fair and only 55% of users consider the charges to be non-discriminatory. Although the charges seem to be transparent to users, ERGEG supports the argument put forward by users that imbalance charges could potentially favour large portfolio shippers with multiple flexibility tools. ERGEG, therefore, would like to reiterate that where they exist, imbalance charges must be clearly described, cost-reflective, fair, non-discriminatory and transparent. ERGEG welcomes that provisional allocations are only used in a small number of cases when determining imbalance charges.

ERGEG is concerned a clear majority of users report that imbalance charges are not transparent (almost 25% of responses received in this survey) and that the allocation procedure of cost for imbalances is not transparent to them (almost 40% of responses received). However, some users also claim that they have not been consulted as far as the time period for settlement of provisional allocations is concerned (almost 60% of responses received).

Where they are not already doing so, TSOs should publish final tariffs alongside the calculation methodology of the imbalance charges, derived on a cost reflective basis, and ensure that the cost allocation imbalance costs is transparent to all users.

Problems in information flows should be solved so that provisional allocations are no longer necessary. When applying provisional allocations, the settlement period in line with the proposed daily balancing period should also be daily. ERGEG urges TSOs to improve transparency and review existing imbalance charges to achieve non-discrimination.

Penalty charges

72.7% of TSOs have penalty charges in place. The responses from TSOs have revealed wide spreads in the application of penalty charges. In cases where these penalty charges are necessary to assure safe network operation, ERGEG agrees with the application of penalty charges. Users also state that penalty charges seem intransparent and discriminatory and seem to favour large shippers with access to multiple tools to provide flexibility. ERGEG is therefore concerned that penalty charges, as currently assessed, can act as a barrier to market entry for smaller shippers.

ERGEG concludes that penalty charges are an area where TSOs should provide further clarification to ensure that they are cost-reflective and the methodology used to derive the charges is clear to all users of the respective natural gas transmission system. It is important that penalty charges do not act as a barrier to market entry and hence the creation of an internal energy market.

Balancing cost and incentives for TSOs

ERGEG's analysis of the TSOs' responses has shown that in 44% of the cases, residual balancing gas is procured on a contractual basis. The overall cost incurred for balancing was only published by 12% of TSOs included in the survey.

ERGEG encourages TSOs to use more market-based mechanisms (bid/offer based) in the procurement of residual balancing gas, given that procuring the gas on a contractual

basis is not necessarily the least expensive option and market participants desire greater transparency in terms of price formation for the residual balancing gas.

ER GEG is concerned that the lack of publication of online information for the overall cost incurred for balancing is in direct contradiction of the recommendations outlined in the GGP-GB. Although TSOs claim that there are no potential advantage for incumbents in the existing balancing regimes, users' responses indicate that there is a potential advantage. This issue certainly warrants further examination. In the meantime, **ER GEG calls on the TSOs to publish** online information regarding the overall cost incurred for balancing as requested in the GGP-GB.

1.4.4. Trading and pooling

63.6% of the TSOs state that they do not offer systems for pooling or for trading of imbalances. When asked whether they have ever pooled their positions, 38% of users did not. More than 40% of users in this survey state that they are not able to manage their imbalance positions efficiently with the information provided.

In line with the recommendations outlined in para. 1.18 of the ER GEG GGP-GB, ER GEG considers that market participants need to be given the opportunity to manage their imbalance positions efficiently, particularly in the absence of well-functioning/liquid within day markets,.

ER GEG reiterates its position that TSOs should have or should allow systems to be put in place to allow users to manage their imbalance positions effectively. If TSOs have yet not implemented such systems and where such systems are not in place ER GEG asks TSOs to provide explicit reasons.

1.4.5. Market information and transparency of balancing regimes

From the TSOs' responses, the picture emerges that much information is made available to the user and/or wider public in a timely and sufficient manner. However, 69% of users state that they are not informed in sufficient time regarding their overall balancing position (later than 6h after closure/realisation). In addition, 44% of users consider the time interval currently in place (i.e., the user being informed of the extent of the imbalance) as insufficient.

ER GEG therefore concludes that users need to be given access to the information that is relevant to them to effectively balance their position in a timely manner. As far as timing is concerned, users expressed that there is a clear need to move towards the publication of more information in real time. Where required, the TSOs should also make additional information, such as demand forecast, planned and unplanned interruptions and other relevant information available to the user.

ER GEG recognises that there is still room for improvement in information provision. ER GEG suggests that, based on the examples given by users, best practice could be established by all TSOs to make systems even more user-friendly. From the wide-range of positive examples that users have given, ER GEG concludes that there are means to improve this situation further. This is also supported by the NRAs' responses. According to NRAs, in only 32% of cases reported in the survey does the TSO publish information regarding the overall balancing cost on their web page (although NRAs might be informed regarding the cost).

ER GEG shares the view expressed by users that the application of the 3-minus rule prohibits them from accessing information that is of relevance to them as market participants.

Regarding market information and transparency of balancing regimes, ERGEG's recommendations are as follows:

- **ERGEG recommends that further standardisation and harmonisation is needed in the provision of market information and in the level of transparency in balancing regimes. In particular, ERGEG calls on TSOs to significantly reduce the time lag in the provision of information to users.**
- **In those cases where information is only made available in the national language, ERGEG suggests that the information is provided in both the national language and in English.**
- **Based on the findings of this monitoring exercise, ERGEG underlines the need to abolish the 3-minus rule.**

1.4.6. Harmonisation of balancing rules

ERGEG's analysis of the need for greater harmonisation of balancing rules has clearly shown that TSOs seem to have made some efforts to harmonise balancing rules with adjacent TSOs (68% of TSOs responding to the survey). However, 72% of users feel that greater harmonisation is needed. Users make clear statements in favour of greater harmonisation of balancing regimes. A key point of criticism expressed by users is the balancing period. Here, a move towards daily balancing is requested by market participants, in combination with market-based balancing and a reduction of the problems arising when shippers transport gas through different systems. Approximately half of the TSOs state that several aspects of their balancing system are not compatible with adjacent systems. According to users, this is a problem: more than half of the users' (68.2%) encountered difficulties when shipping gas through different systems.

Whilst ERGEG recognises the efforts undertaken by TSOs to date, ERGEG wishes to underline that TSOs' efforts must lead to concrete improvements. ERGEG reiterates that it urges TSOs to further harmonise balancing rules to ensure that differences in balancing regimes are minimised in order to reduce potential impediments to natural gas transportation across different European networks.

ERGEG shares the views expressed, in particular by network users, and will continue to work towards greater harmonisation of balancing systems, to help to increase liquidity and market liberalisation in European gas markets. In ERGEG's view, a reduction of balancing zones/reduction of market areas and the creation of regional balancing markets would help to resolve such problems. ERGEG would like to stress that all affected market participants must to be included in this process.

The identification of differences is not sufficient; here concrete actions are required to ensure that differences are removed where they cannot be justified. ERGEG has found that the recommendations outlined in section 1.33 ("difference-report") of the GGP-GB are not being complied with by TSOs and calls upon TSOs to commit to visible steps towards greater harmonisation. As outlined in section 1.33 of the GGP-GB, such a report for differences should address:

- the way in which the balancing regimes interact;
- the key differences between the balancing regimes and the reasons they exist;
- the impact of any differences on trade and the incentives provided to network users and TSOs;

- how differences in arrangements for dealing with safety and security will impact on trade, incentives and costs; and
- areas for harmonisation and a timetable for making changes.

EREG therefore concludes that further harmonisation of balancing regimes and balancing rules is needed. Differences in balancing regimes create barriers to market entry and impediments to cross-border natural gas trade and hence to competition in the market for natural gas. TSOs need to further operationalise their harmonisation efforts.

1.4.7. Confidentiality

EREG is pleased to see that TSOs have implemented measures to ensure confidentiality of information from network users' accounts. However, whilst the majority of users state that confidentiality measures are, in their view, sufficient to ensure confidentiality, some users feel that this is not the case⁵. Users expressed doubt that confidentiality is ensured:

- in small markets
- in market where the incumbent has a strong position and is in charge of both transmission and storage
- in markets where there is no effective legal unbundling (and hence potential information sharing going on at the informal level)

EREG therefore urges all TSOs to put measures in place that are in line with the recommendations outlined for confidentiality in the GGP-GB and help to fully ensure confidentiality.

1.4.8. Comments on the 2008 ERGEG monitoring of the implementation of GGP-GB

EREG has analysed all comments and additional material received from TSOs, users and NRAs. This material will be taken onboard when further refining and developing the GGP-GB. Comments made by TSOs regarding technical aspects of this monitoring exercise will feed into future monitoring exercises. As far as the monitoring exercise itself is concerned, ERGEG is pleased to see that users, in general, welcome and support the exercise and are willing to provide additional information, if needed.

1.4.9. Further comments and responses received

Issues concerning network users

EREG welcomes the fact that almost no network users are subject to special terms and conditions. TSOs report no difficulties in the operational communication with network users. However, ERGEG considers that a distinction must be made between having difficulties in

⁵ ERGEG is aware that examples provided at this point may be highly subjective, however, ERGEG also considers that those comments raised cannot be ignored and should be examined in greater detail.

operational communication from a technical viewpoint and providing the right information to network users in a timely manner. The latter requires more in-depth analysis in line with the responses given by users (see section 1.4.5).

1.5. Recommendations and outlook

ERREG's overall conclusions from the 2008 monitoring of the implementation of GGP-GB are outlined in this section.

1.5.1. Degree of implementation of GGP-GB

ERREG would like to reiterate the statement made in Regulation 1775/2005/EC that non-discriminatory and transparent balancing regimes for gas are a key to functioning gas markets. With its GGP-GB, ERREG's declared aim was to provide guidelines on how transmission system operators should design their balancing regimes in order to ensure that non-discriminatory, transparent and effective access conditions to the network are provided to all network users, in particular new market entrants.

ERREG is concerned that from a users perspective, the publication of the GGP-GB has not yet led to the expected changes in the balancing systems, particularly in terms of harmonisation. ERREG is aware that the GGP-GB are voluntary, that existing balancing regimes might predate the GGP-GB and that, given the broad recommendations outlined in the GGP-GB, TSOs may consider they are compliant. However, findings from this monitoring exercise show that users favour greater harmonisation of balancing rules and hence a stricter implementation of more binding balancing rules at the European level.

ERREG recognises that based on the provisions made in Article 7 of Regulation 1775/2005/EC and in the GGP-GB, TSOs should be given further guidance on how to fully implement the recommendations outlined in a coordinated, harmonised and well-structured manner.

1.5.2. Removing differences in balancing regimes

Findings from ERREG's 2008 monitoring of the implementation of GGP-GB show that there are significant differences in balancing regimes across Europe. Furthermore, balancing systems are complex, resulting in some users reporting that they represent barriers to market entry for newcomers (this view is supported by NRAs). Users provide a number of explanations why this may be the case, for example:

- in some countries, different balancing regimes are in place for transit gas and gas for domestic use; and
- where there are prerequisites for balancing, such as access to storage, a lack of available storage capacity is a major impediment for new entrants seeking access to gas transmission networks. Without access to adequate storage, there is a lack of flexibility and hence it may be more difficult to act as a shipper.

ERREG recommends that differences in balancing regimes are reduced and greater harmonisation is sought to facilitate natural gas transmission across networks.

ERREG's findings also show that where users are charged for the use of imbalance services (either within or beyond the tolerance band), the determination of cost is not always transparent. Where TSOs incur costs, charging mechanisms should be effective, transparent and non-discriminatory as outlined in Article 7 of Regulation 1775/2005/EC. ERREG, therefore, recommends that charging mechanisms should be harmonised and cost-reflective

and that care needs to be taken to ensure that there is no potential (cross-border) abuse of balancing systems due to differences in balancing periods, tolerance levels and charging mechanisms.

ERGEG's monitoring has also shown that there is a lack of systems for pooling and trading of imbalance positions. Increasing gas network users' flexibility should be a priority. ERGEG therefore urges TSOs to set up systems for flexibility in line with the recommendations set out in the GGP-GB to ensure that all users have access to the tools they need to balance their positions effectively.

When removing differences in balancing regimes, access to information and transparency are key prerequisites. ERGEG considers that users must be given access to the information that is relevant to them to effectively balance their position in a timely manner. More information should be made available to user in (or closer to) real time. Where required, the TSOs should make additional information, such as demand forecasts, planned and unplanned interruptions and other relevant information available to the user. Further standardisation and harmonisation is needed in the provision of market information and the level of transparency of balancing regimes, together with a more detailed specification for each individual information item. ERGEG suggests that best practice should be established by all TSOs to make systems even more user-friendly.

1.5.3. Working towards greater harmonisation of balancing regimes and balancing rules

TSOs have clearly reported a lack of compatibility between the balancing rules in adjacent natural gas transmission systems. Users have clearly indicated a need for greater harmonisation.

ERGEG therefore concludes that there is a need to harmonising balancing regimes for natural gas transmission systems.

Whilst ERGEG fully supports greater harmonisation, ERGEG would like to stress that the need for such harmonisation depends on the extent to which the differences in the balancing regimes create barriers to cross-border gas trade and new market entry. Here further examination is necessary.

1.5.4. Creating frameworks for functioning gas markets

ERGEG's findings support earlier statements that differences in balancing regimes can create barriers to market entry and are impediments to the creation of the internal energy market. Without harmonisation of balancing regimes and balancing rules, market integration cannot be achieved.

ERGEG will therefore continue to work towards identifying areas that need to be harmonised and endeavour to create frameworks for functioning markets. ERGEG suggests that harmonisation should be achieved as an iterative process, beginning at the national level, via the harmonisation of national balancing regimes and balancing rules and the removal of differences in balancing for transmission and transit. At the regional level, such harmonisation could be achieved via the implementation of IPA/OBA, where they are not in place, and subsequently a reduction of balancing zones. Technical aspects, such as the harmonisation of the gas day and the harmonisation of balancing periods need to be included in this process. Where not in place, market-based mechanisms for the provision of balancing energy need to be implemented.

ERGEG will continue its work by refining its GGP-GB and providing input into the framework guidelines for gas balancing, which will be used to develop legally-binding rules under the 3rd Package.

Where TSOs are not compliant with the balancing requirements set out in Regulation 1775/2005/EC, ERGEG urges NRAs to take appropriate measures to ensure compliance.

1.5.5. Moving forward

ERGEG has presented its key findings from this monitoring exercise to all market participants at the XVth Madrid Forum. Comments received at the Madrid Forum have been included in this report.

ERGEG would like to thank all participants in this survey for their input and their willingness to provide information. Where further clarification is required, ERGEG will liaise with both NRAs and TSOs (via GTE+).

ERGEG is willing to cooperate with all other stakeholders, in particular representative groups of shippers and traders, and the EC on how the harmonisation of natural gas balancing regimes can be achieved.

2. PART II

2.1. NRAs' involvement in balancing at a glance

This section summarizes the responses received from NRAs' regarding their role in the balancing regimes. The section addresses the status/maturity of the balancing regime and the legal aspects relating to balancing. Furthermore, it addresses whether changes to the existing balancing system(s) at the national level are likely to be implemented in the near future and whether the publication of GGP-GB has had any effects on national balancing regimes. Finally, it assesses whether balancing regimes can act as a barrier to new entrants and/or a barrier to gas trade between different markets.

The following NRAs provided input to the 2008 ERGEG monitoring of the implementation of GGP-GB:

Table 4: NRA respondents: Provision of input

NRA Name	Country
Autorità per l'Energia Elettrica e il Gas (AEEG)	Italy
Energy Agency of the Republic of Slovenia (AGEN)	Slovenia
Bundesnetzagentur (BnetzA)	Germany
Comisión Nacional de Energía (CNE)	Spain
Commission for Energy Regulation (CER)	Ireland
Commission de Régulation de l'Energie (CRE)	France
Commission pour le Régulation de l'Électricité et du Gaz (CREG)	Belgium
Danish Regulatory Authority (DERA)	Denmark
Energy Regulatory Office (ERO)	Czech Republic
Energie-Control GmbH (E-Control)	Austria
Energy Market Authority (EMV)	Finland
Energy Markets Inspectorate (EMI)	Sweden
Energy Regulatory Office (ERO)	Poland
Energy Services Regulatory Authority (ERSE)	Portugal
Institut Luxembourgeois de Régulation (ILR)	Luxembourg
Office of Energy Regulation NMa	Netherlands
Office of Gas and Electricity Markets (OFGEM)	United Kingdom (GB)
Regulatory Authority for Energy (RAE)	Greece
State Energy and Water Regulatory Commission (SEWRC)	Bulgaria

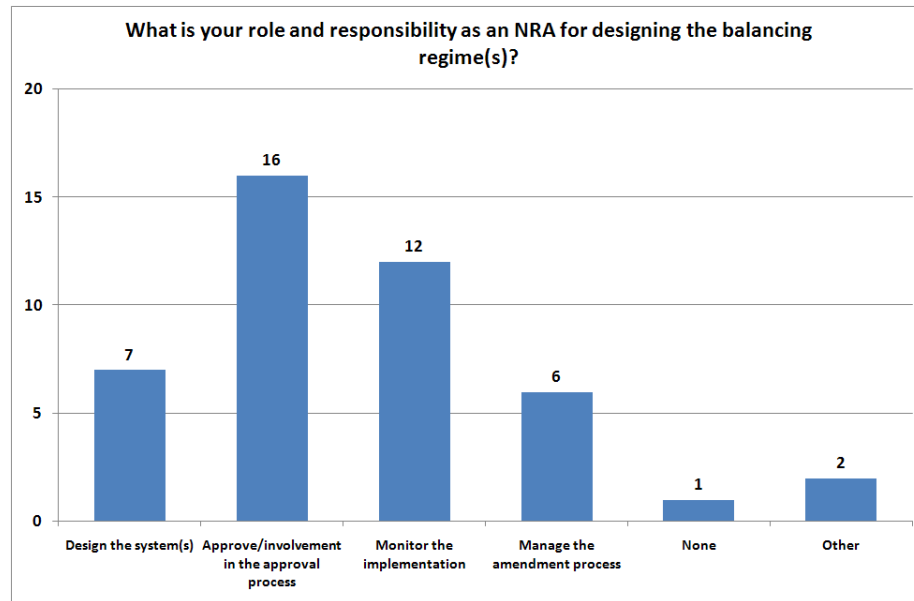
Source: ERGEG 2008 Monitoring Report

The information presented in this chapter is supported by information gathered from an additional survey that was sent out to NRAs to complement the information gathered from TSOs, providing a clearer picture of how balancing works in different EU Member States. More qualitative country-by-country information is presented in the annex. Where NRAs answered a question with "none" or "other", further information explaining this choice is provided.

2.1.1. Background information

When asked what their role as an NRA was in the design of the balancing regime, NRAs provided the following information:

Figure 4: Role of the NRA with regard to balancing



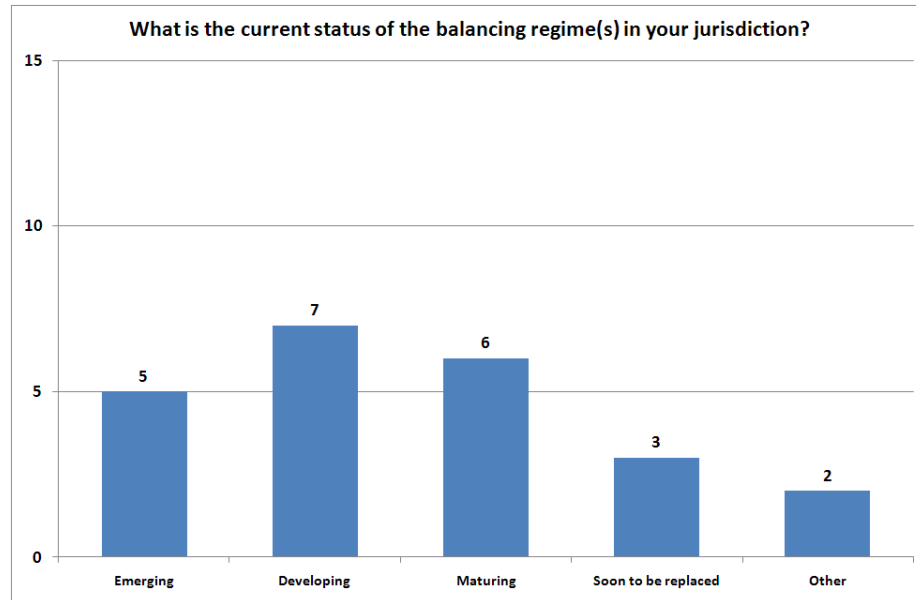
Source: ERGEG 2008 Monitoring Report

Where the chosen option was other, NRAs provided the following additional information:

- NRA only issues provisions regarding the design of the balancing regime, the regime itself is designed by the TSO and approved by the NRA
- NRA works with the TSO in the design of the balancing regime and approves the regime after public consultation
- NRA approves the implementation of the balancing regime after it has been designed

When asked the current status of the balancing regime(s) in their jurisdiction, NRAs provided the following information:

Figure 5: Current status of balancing regime: System maturity



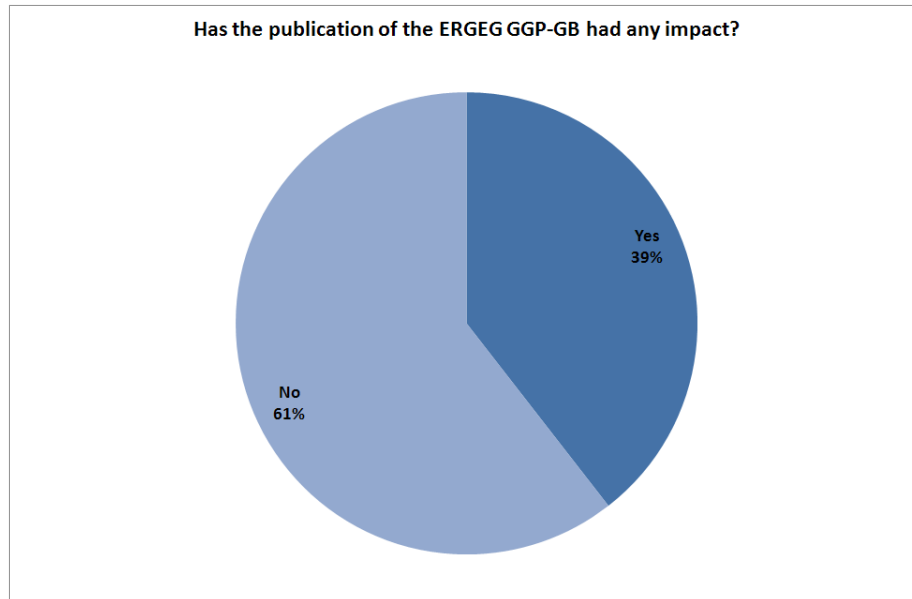
Source: ERGEG 2008 Monitoring Report

Where the chosen option was other, NRAs provided the following additional information:

- An amended balancing regime has just entered into force
- A new balancing system is being considered

2.1.2. Application of GGP-GB

When asked whether the publication of the ERGEG GGP-GB has had any impact on the design of the balancing regime, NRAs provided the following responses:

Figure 6: Impact of publication of GGP-GB

Source: ERGEG 2008 Monitoring Report

Where the chosen answer was yes, NRAs provided the following additional information:

- GGP-GB was used as guidance and cross-checked when the existing regime was revised

Where the chosen answer was no, NRAs provided the following additional information:

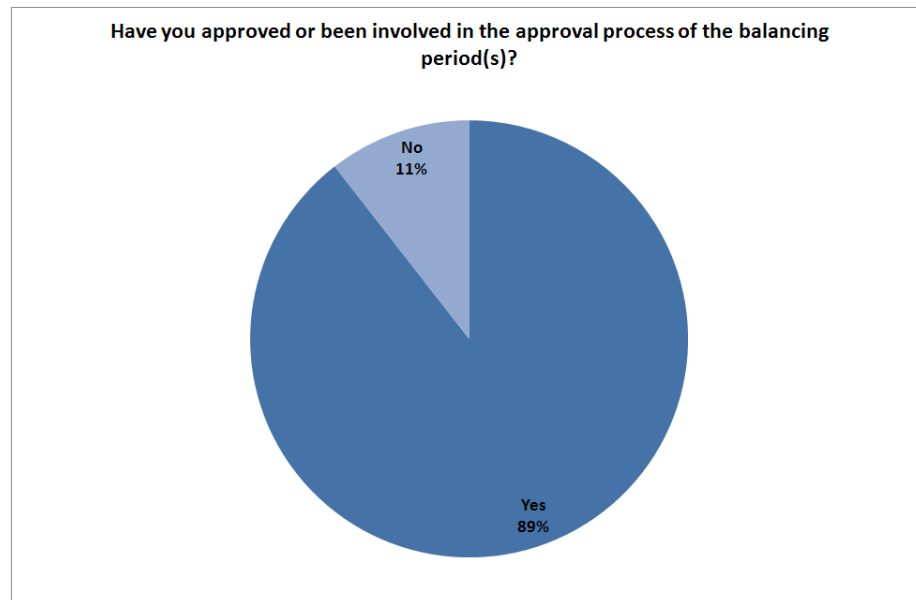
- GGP-GB are too vague
- GGP-GB are already adhered to the balancing system in place
- Balancing rules were in place prior to the publication of the ERGEG GGP-GB
- NRAs consider the system in place in their jurisdiction to be in compliance with the ERGEG GGP-GB

2.1.3. Specific issues related to balancing

Balancing periods

When asked whether the NRA had approved or had been involved in the approval process of the balancing period(s), NRAs provided the following responses:

Figure 7: NRA's role in the approval of the balancing period



Source: ERGEG 2008 Monitoring Report

Where the chosen answer was yes, NRAs provided the following additional information:

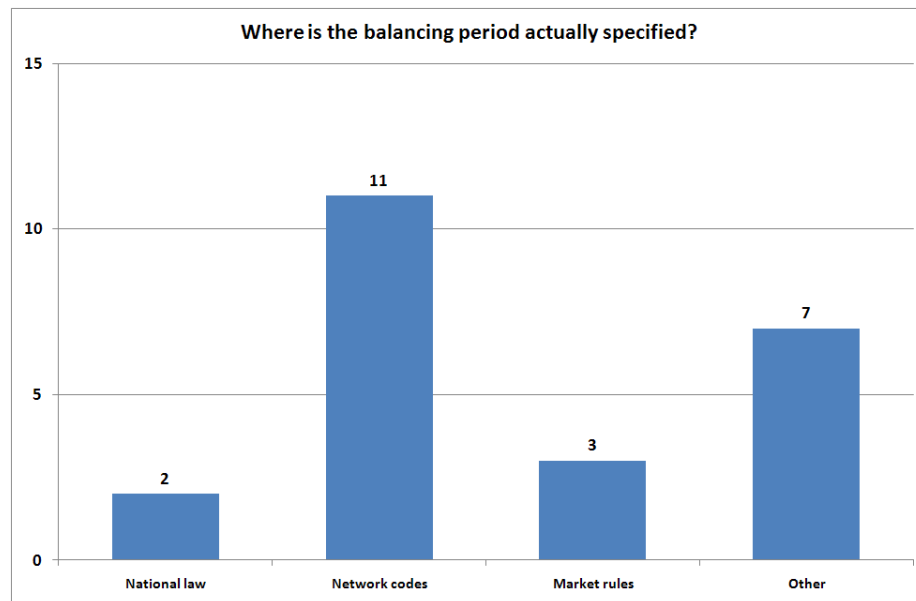
- NRA's role is to suggest, discuss and approve the balancing period
- The regulator, along with with representatives of all the agents in the market (TSOs, DSOs, SSOs, LSOs and consumers), participates in the groups responsible for developing and modifying the network code, which includes the balancing period.
- Balancing period is stated as a part of the network licence granted by the NRA
- The NRA approves any related modifications of the Code of Operations, including the balancing period

Where the chosen answer was no, NRAs provided the following additional information:

- NRA has no power to approve the balancing period, e.g., for transit
- It is up to the TSO to specify the balancing period

When asked where the balancing period was specified, NRAs provided the following responses:

Figure 8: Specification of the balancing period: Provision



Source: ERGEG 2008 Monitoring Report

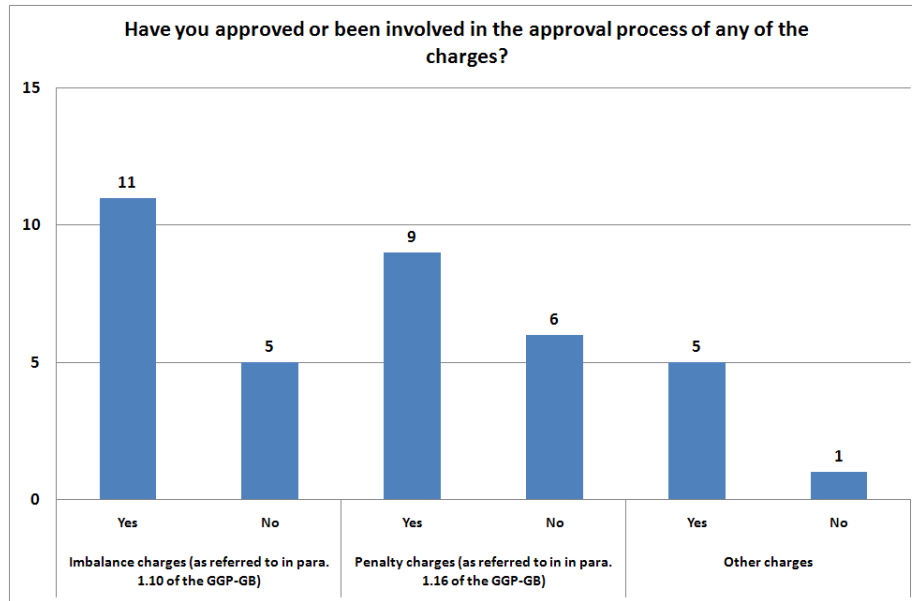
Where the chosen option was other, NRAs provided the following additional information:

- The balancing period is specified in an annex to the transportation contracts concluded between the TSO and shippers
- The balancing period is defined in the network code, which is approved by Ministerial Order, so that it is also included in the national law
- The balancing period is stated as a part of the network licence granted by NRA
- The balancing period is stated in the TSO balancing contract

Approval of charges

When asked whether the NRA has approved or has been involved in the approval process of any of the charges related to balancing, NRAs provided the following responses:

Figure 9: NRA involvement in the approval of balancing charges



Source: ERGEG 2008 Monitoring Report

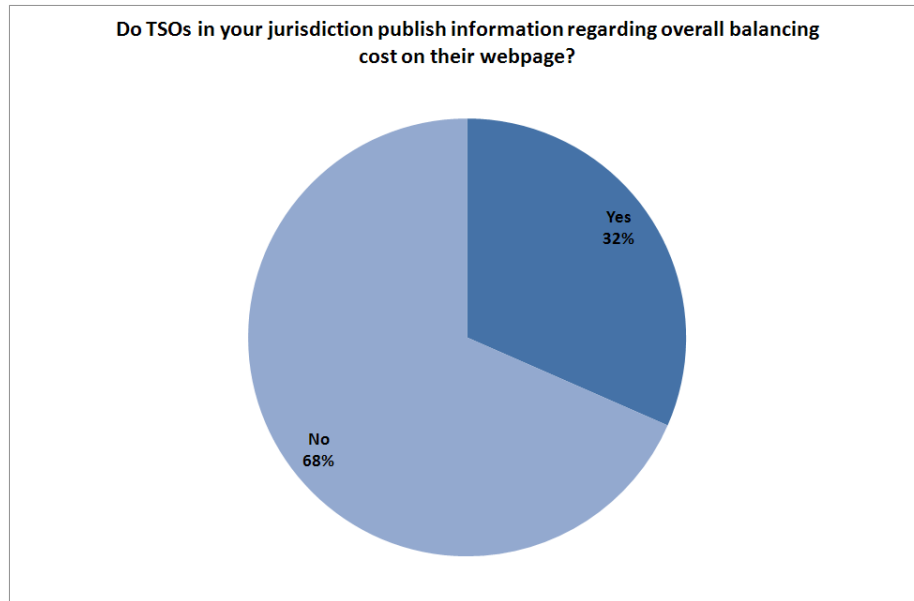
Where the chosen option was other charges, NRAs provided the following additional information:

- Approving charges is part of approving tariffs
- NRA only approves the methodologies used to calculate the total costs of balancing services

Publication of information

When asked whether the TSO(s) in their jurisdiction published information regarding overall balancing cost on the TSO's webpage, NRAs provided the following responses:

Figure 10: TSO: Publication of information on web page



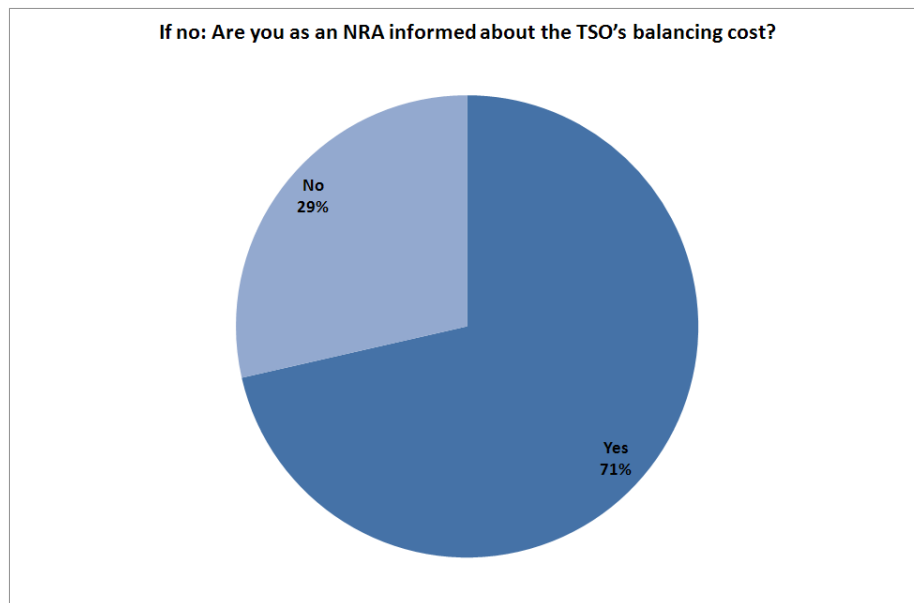
Source: ERGEG 2008 Monitoring Report

Where the chosen option was no, NRAs provided the following additional information:

- TSOs offer shipper-specific information on the balancing status to the respective shippers via a non-public area on their website. No information is published on the overall balancing costs
- The information is only provided to the regulator during the tariff approval process
- This information is considered to be confidential
- Balancing costs are considered to be part of the overall transportation costs and not available as public information

When asked whether the NRA was informed about the TSO's balancing cost, NRAs provided the following responses:

Figure 11: Provision of information from the TSO to the NRA



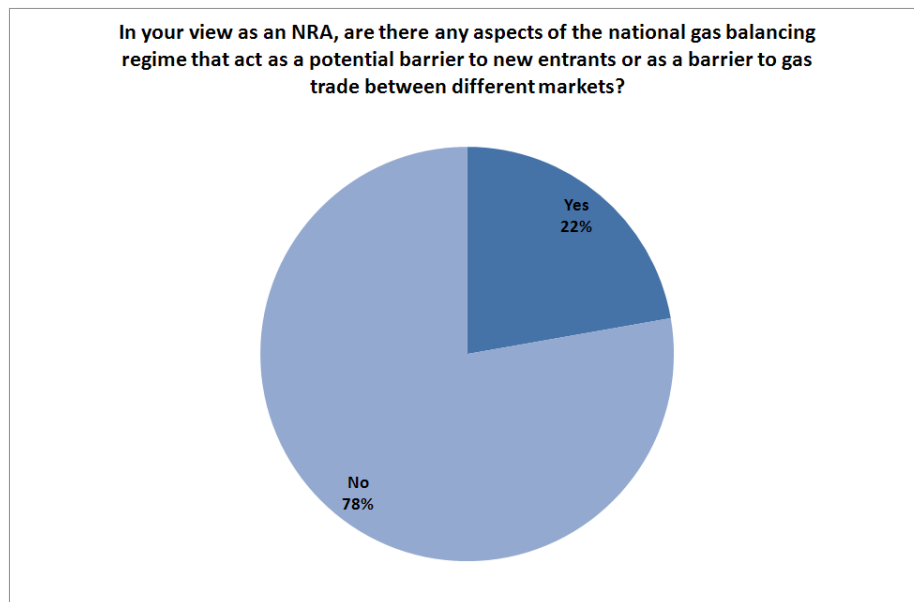
Source: ERGEG 2008 Monitoring Report

2.1.4. Access to markets and harmonisation of balancing rules

Potential advantages for incumbents

When asked if there were any aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets, NRAs provided the following responses:

Figure 12: NRAs' views: Balancing as a barrier to market entry



Source: ERGEG 2008 Monitoring Report

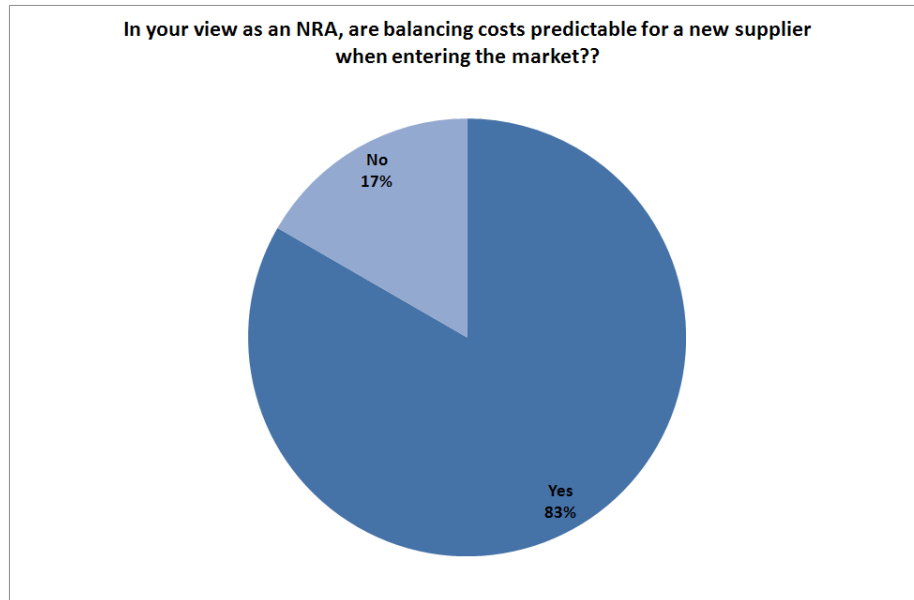
Where the chosen option was yes, NRAs provided the following additional information:

- Due to the different balancing regimes for domestic transport and cross-border transport, a potential barrier to new entrants exists
- Difficulties exist because of the different times for nominations and re-nominations, as well as very short lead times (30 min.) for withdrawing balancing energy offers for the domestic market
- The balancing regime may have an impact on the wholesale market. A lack of liquidity may constitute a commercial barrier to entry
- Pooling of imbalances among a shipper's portfolio favours shippers with large portfolios
- The current balancing regime favours shippers with a large portfolio because they can more easily pool their positions
- Balancing is not done within balance zones
- Lack of entry-exit system. A point to point system is in use.

Predictability of cost

When asked whether balancing costs were predictable for a new supplier when entering the market, NRAs provided the following responses:

Figure 13: NRAs' views: Predictability of balancing costs



Source: ERGEG 2008 Monitoring Report

Where the chosen option was no, NRAs provided the following additional information:

- Imbalance prices are linked to wholesale prices, which are difficult to predict



2.1.5. Enforcement

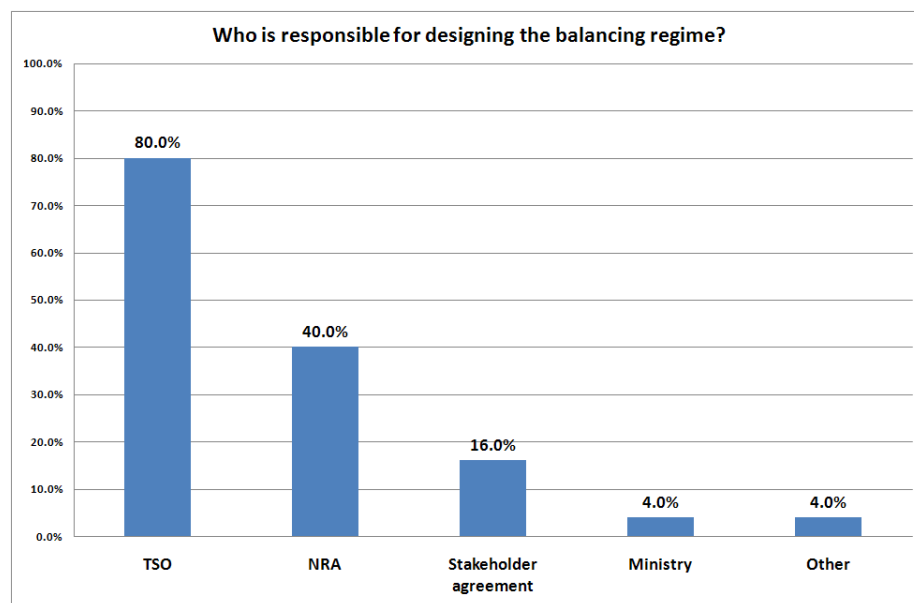
When asked why
were non-compliant
(Article 7), NRA

TSO	Country	Date
FGSZ Ltd	Hungary	01/01/2004
Fluxys	Belgium	04/01/2004
Gaslink Independant System Operator (Gaslink)	Ireland	25/02/2005
Gasum Oy	Finland	01/01/2006
Geoplin plinovodi d.o.o.	Slovenia	01/01/2005
GRTgaz	France	09/01/2007
GTS	The Netherlands	01/01/2006
DESFA S.A.	Greece	15/07/2008
National Grid	United Kingdom	10/01/1999
OGP GAZ-SYSTEM SA	Austria	08/01/2006
OMV Gas GmbH	Poland	01/01/2007
PLINACRO	Croatia	13/10/2008
Premier Transmission Pipeline System, PTPS	Northern Ireland	21/09/2001
REN-Gasodutos, S.A.	Portugal	07/01/2007
RWE Transgas Net s.r.o.	Czech Republic	01/01/2007
Snam Rete Gas S.p.A.	Italy	10/01/2001
SOTEG	Luxemburg	04/01/2005
Svenska Kraftnät	Sweden	10/01/2005
TIGF	France	01/01/2005
Trans Austria Gasleitung	Austria	11/01/2002

Source: ERGEG 2008 Monitoring Report

The analysis shows that most balancing regimes have recently entered into force. When asked who was responsible for designing the balancing regime, TSOs gave the following answer:

Figure 15: Who is responsible for designing the balancing regime?



Source: ERGEG 2008 Monitoring Report

The fact that most balancing regimes are relatively young may also explain why 52% of the TSOs do not expect any fundamental changes to their balancing regime in the near future. 36%, however, say that there may be changes to the balancing regime. 8% do not know whether there will be any changes and 4% of respondents said not applicable.

In those cases, where changes are anticipated to take place soon, the following answers were provided:

- Implementation of a balancing market
- Re-design of the balancing system
- Project underway to ensure compatibility between balancing regimes in adjacent systems
- NRA undertaking a public consultation on the matter

When asked whether their balancing regime has been approved by the NRA, 80% of the TSOs included in the survey replied yes, 12% no (not known 0% and not applicable 8%).

In the cases where TSOs replied yes, all TSOs stated that the aspects included were the methodology (100%), price (85%), time intervals (85%), charges (intolerance/imbalance and penalty charges) (0%) and other aspects (5%). Other in this case referred to:

- Access conditions at a very special point in the system, namely a virtual gas hub

In those cases where TSOs responded with no, this mainly related to the NRA having an advisory function.

The majority of TSOs stated that their balancing regime has been consulted upon with market participants (80% yes, 12% no, not known 0% and not applicable 8%). Where yes was the answer, the following examples were given:

- Public consultation with market participants
- Consultation as part of the gas network code drafting process
- Consultation with relevant parties, e.g., TSO, NRA, shippers, end users

When asked whether the introduction of the GGP-GB has led to the TSOs making actual changes to the balancing regime in line with the recommendations outlined in the GGP-GB, 80% of TSOs stated no, only 8% stated yes, 4% stated not known and 8% stated not applicable. Where yes was the chosen answer, the following explanations were given:

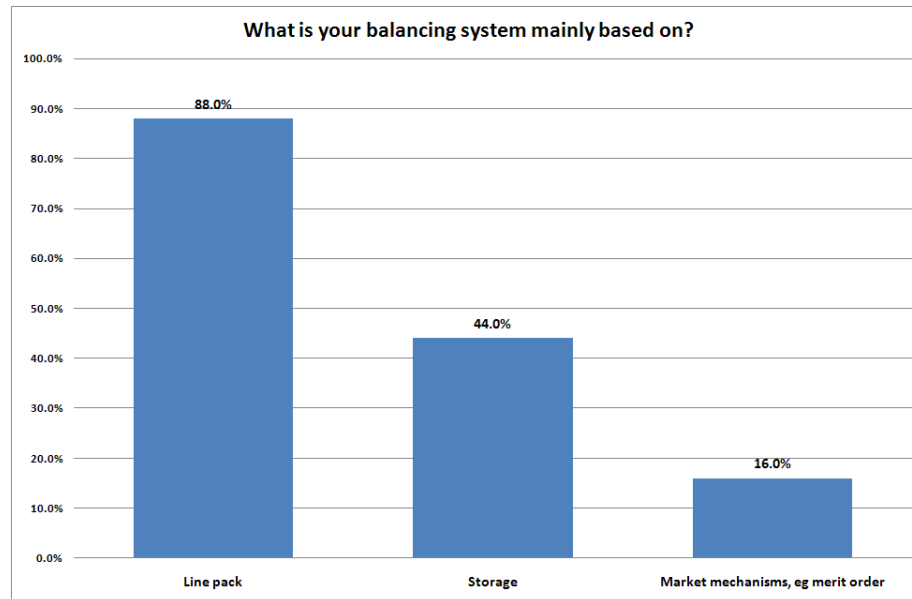
- Clarification of what an individual imbalance position actually is
- Clarification of the basis for the price for the balancing regime

In 32% of the cases, TSOs stated that different balancing regimes are in place for transit and domestic transmission services, 56% said that this was not the case, 4% said not known and 8% not applicable. The TSOs who responded yes to this question provided the following explanations:

- No balancing regime applied in transit
- No flexibility allocated to transit
- Management of balancing differences via OBA

When asked the basis for the balancing regime, TSOs gave the following responses:

Figure 16: What is your balancing system mainly based on?



Source: ERGEG 2008 Monitoring Report

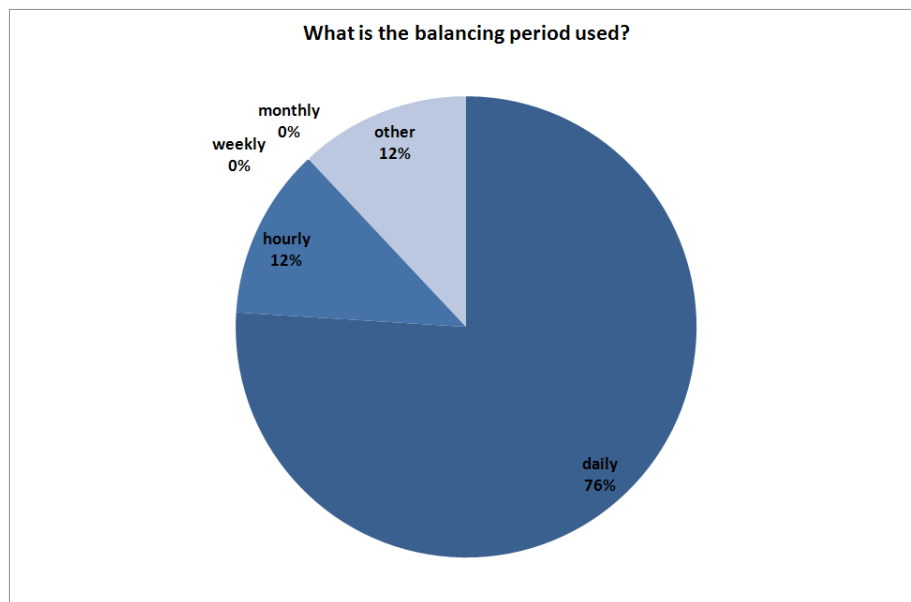
Where other was the preferred option, the following explanations were given:

- Optional gas offered by shipper
- User of a balancing shipper
- System balancing, operational reasons and localised requirements
- Trading of gas at a physical point

2.2.2. Balancing period

When asked of the balancing period used, TSOs gave the following answers:

Figure 17: What is the balancing period used?



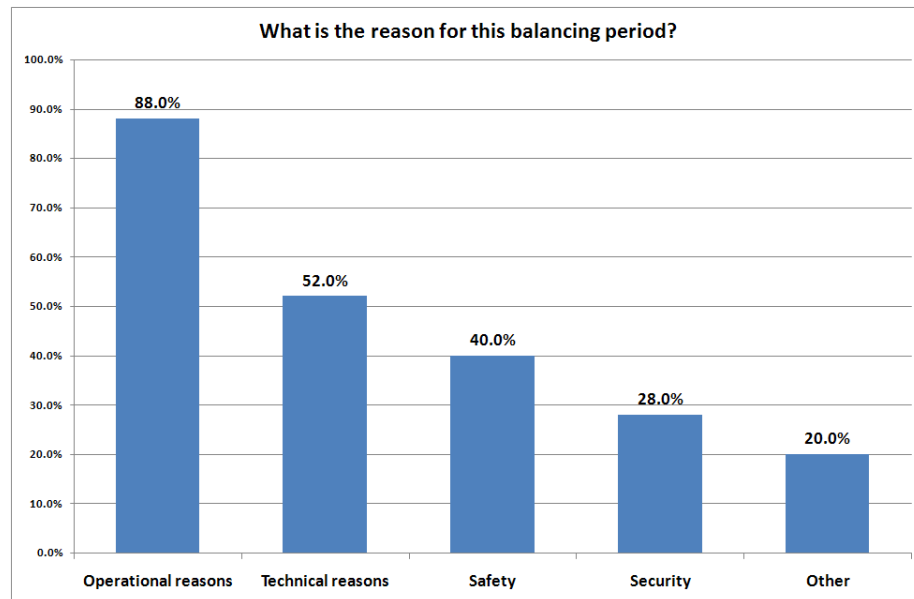
Source: ERGEG 2008 Monitoring Report

Where other was the chosen response, the following explanations were given:

- Daily period for shipper imbalances
- Daily with monthly cumulative account

TSOs stated that the balancing period is specified in national law in 28% of the responses, with 56% responding no, 8% not known and 8% not applicable. When asked the reason for choosing this balancing period, TSOs gave the following answers:

Figure 18: What is the reason for this balancing period?



Source: ERGEG 2008 Monitoring Report

Where other was the chosen response, the following explanations were given:

- Harmonisation with adjacent TSO
- Daily period for shippers
- Avoiding entry barriers for new or smaller market entrants
- Increased flexibility on the system

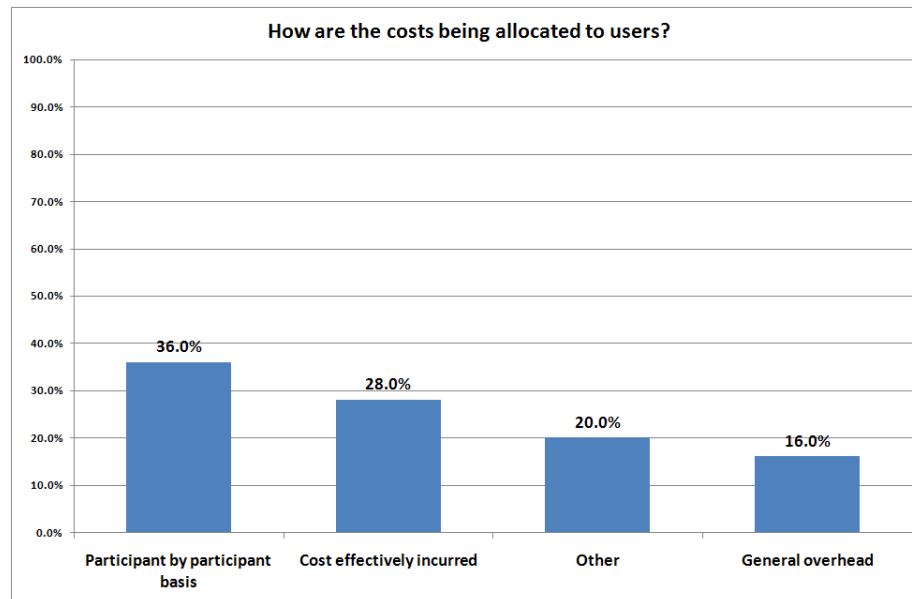
2.2.3. Imbalance charges

The majority of responding TSOs stated that there are no separate tariffs for tolerance services. Where charges exist, they are clearly specified and published.

Some TSOs report that they do not allow for any imbalances (and hence do not have any charges), others do not charge as long as the imbalance is within the tolerance band and other TSOs specify their charges. Some TSOs settle imbalances against market prices. Others apply a two-tiered tariff, comprising a low penalty for low imbalances and a higher penalty in case of excessive imbalances.

76% of the TSOs in the survey state that they publish the calculation methodology for imbalance charges (4% no, 0% not known, 20% not applicable). 72% of TSOs in the survey publish the final tariffs, followed by 4% no, 0% not known, 24% not applicable. The procedure to allocate charges to users are as follows:

Figure 19: How are the costs being allocated to users?



Source: ERGEG 2008 Monitoring Report

Where other was the chosen response, the following explanations were given:

- No specific cost within the tolerance levels
- Balancing regime based on a general overhead and on a participant by participant basis

TSOs use provisional allocations in the calculation of imbalance charges in 24% of the cases (60% no, 0% not known, 16% not applicable) and the dominant settlement period is daily (66.7%, followed by 33.3% monthly). In 100% of the cases, this time period has been approved by the NRA. In 36% of the cases, TSOs determine the tolerance charges, in 20% of the cases, the NRA determines the charge. Where other was the chosen response (60% of the responses given), the following explanations were provided:

- No tolerance service charges in place
- No tolerance service available

In 56% of the cases, TSOs determine the imbalance charges, in 24% of the cases the NRA determines the imbalance charge. Where other was the chosen response (36%), the following explanations were given:

- No imbalance charges in place
- No imbalance allowed

2.2.4. Penalty Charges

64% of TSOs who responded to the survey stated that there are penalty charges in place if the imbalance level exceed the specified level (28% no, 0% not known, 8% not applicable).

The TSOs provided EREG with the following information regarding the absolute values of the penalty charges in place:

- 5% higher
- +/-50% of a neutral price
- 0.7 or 1.7 of a system marginal price
- Between 50% and 150% of a neutral gas price

When asked if these charges exceed the actual balancing cost incurred, TSOs gave the following response:

- 24% yes
- 20% no
- 20% not known
- 36% not applicable

In those cases where the penalty charges exceed the actual balancing cost incurred, examples given were as follows:

- 5%
- Between 0% and 50% of a neutral gas price

When asked if the penalty charges have been approved by the NRA, TSOs gave the following answers:

- 60% yes
- 8% no
- 0% not known
- 32% not applicable

2.2.5. Trading and pooling of imbalance positions

60% of TSOs state that they do not offer systems for pooling, 24% said yes, 4% not known and 12% not applicable.

Where such systems exist, examples provided include:

- Trading of imbalances between shippers
- Pooling of imbalances inherent in the methodologies used for assigning tolerances
- Ex-ante pooling of imbalance positions
- Use of balancing groups

56% of TSOs state that they do not offer systems for trading positions, 28% said yes, 4% not known and 12% not applicable.

Where such systems exist, examples provided include:

- Shippers need to contact each other to trade imbalances

- No trading platform provided
- Trading via the Title Transfer Facility (TTF), Punto di Scambio Virtuale (PSV), the National Balancing Point (NBP) or a bulletin board

2.2.6. Tolerance levels and tolerance services

Examples of information provided regarding the tolerance levels on TSOs systems include figures such as 0% to up to 120%-360%:

- No tolerance at all, 0%
- Tolerance levels of 10%
- Tolerance levels of 30%-40%
- Tolerance levels of up to 120%-360%
- Differentiation between standard tolerance and operational tolerance

The overwhelming majority of TSOs stated that they do not apply different tolerance levels to different user types (56%), however, different tolerance levels are applied in 28% of the responses given (0% not known, 16% not applicable). Where such a differentiation exists, examples given include:

- Category weighting according to use (small, large users, depending on load)
- Differentiation according to whether users are metered: large daily metered, daily metered, non-daily metered customers
- Tolerance depending on subscribed capacity

In 76% of the cases, the tolerance level reflects the technical capability of the transmission system (4% no, 0% not applicable, 20% not known). Where no was the chosen answer, the justification was as follows:

- No congestion on the system, tolerances are set such as to create incentives for shippers to balance their positions and to promote an efficient use of the system

In 28% of the responses provided, tolerance levels are adjusted at times (52% no, 0% not applicable, 20% not known). Where this is the case, the following explanations were given:

- Time of the year (42.9%)
- Other (28.6%)

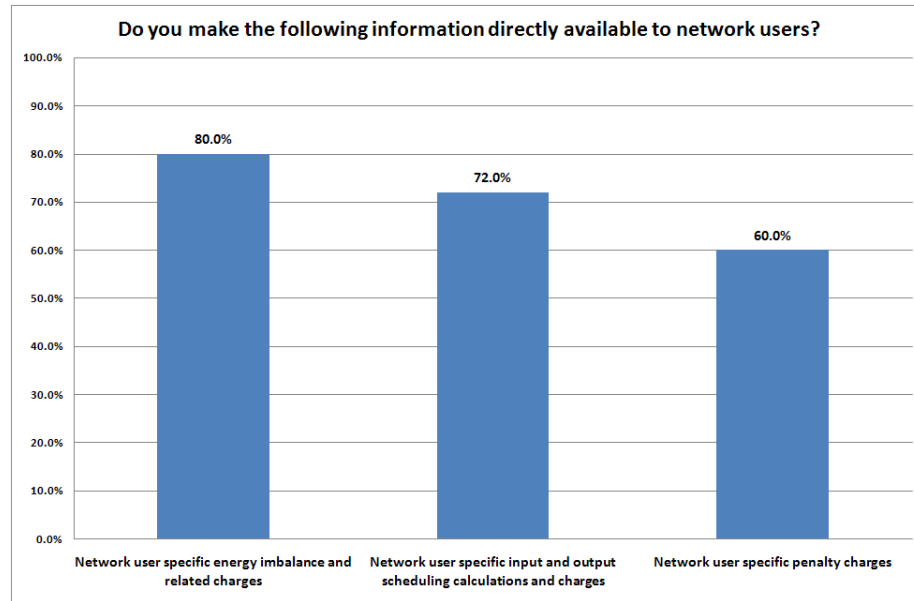
Where other was chosen, the explanations were as follows:

- Adjustments made from one year to another
- Adjustments made due to technical reasons, i.e., the line pack being available in the system

2.2.7. Market information and transparency of balancing arrangements

When asked if the TSOs provided the following information directly to network users, TSOs responded as follows:

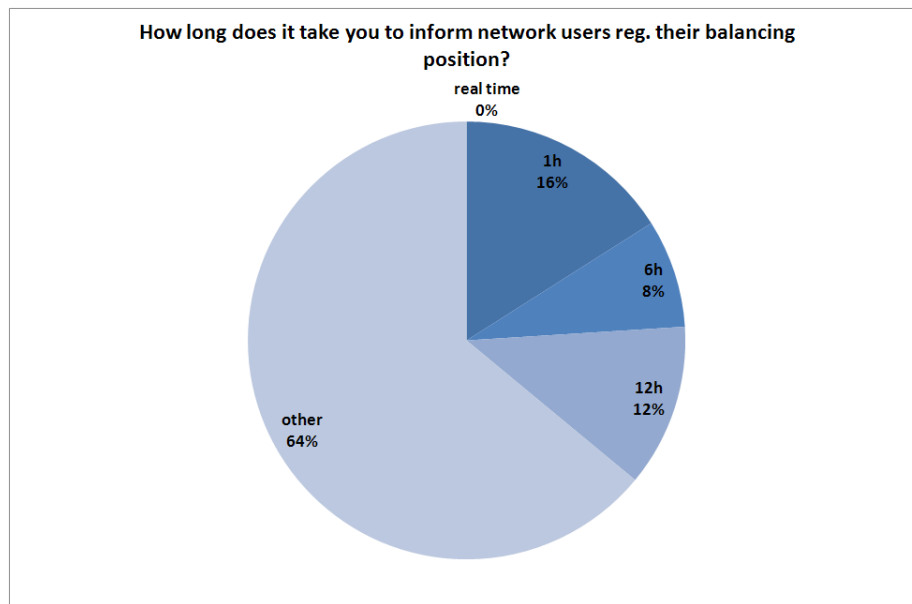
Figure 20: Do you make the following information directly available to network users?



Source: ERGEG 2008 Monitoring Report

When asked how long it takes TSOs to inform network users of their balancing position, the following responses were received:

Figure 21: How long does it take you to inform network users of their balancing position?



Source: ERGEG 2008 Monitoring Report

Where other was the chosen answer, examples for explanations given were as follows:

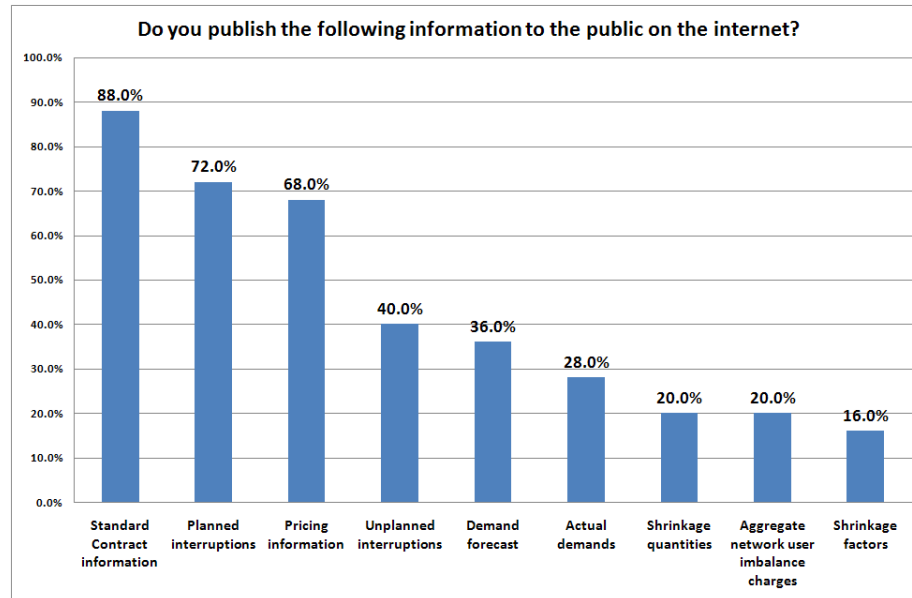
- Day +1
- 8 hours
- After 16:00 of the next day
- Nomination imbalance: Real time, input allocations: M+15, output allocations: D+5
- Many other time periods mentioned

With regard to specific pieces of information, TSOs stated that they make the following directly available to network users:

- Demand forecast: 36% yes
- Actual demand: 60% yes

Furthermore, TSOs publish the following information to the public on the Internet:

Figure 22: Do you publish the following information to the public on the internet?



Source: ERGEG 2008 Monitoring Report

TSOs stated that they make the following directly available to the public:

- Demand forecast: 20% yes
- Actual demand: 28% yes

In 50% of the cases, the information is provided both in national language and in English (33.3% national language, 25% English; in 8.3% of the cases English is the national language).

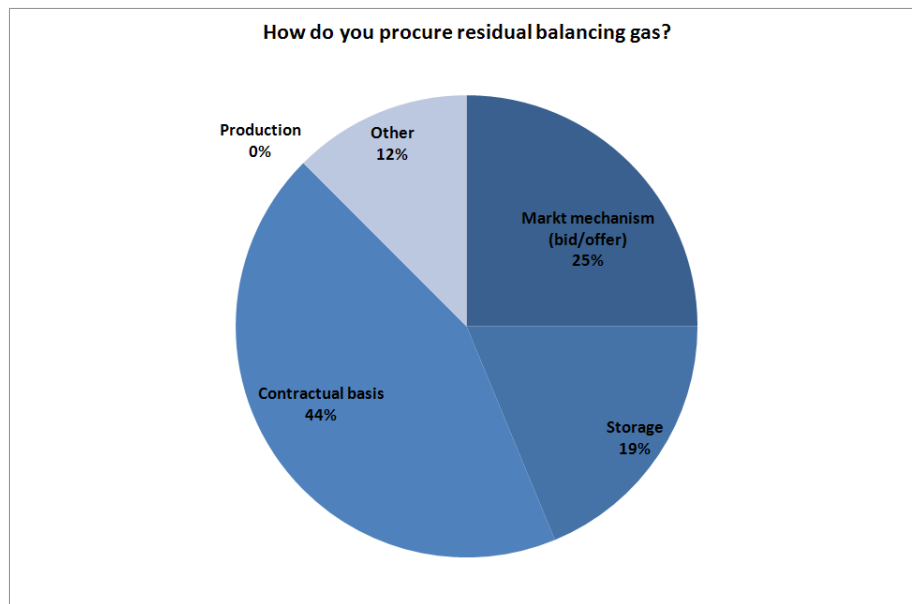
In 44% of the cases, publication of information is restricted for the reason of confidentiality (52% no, 0% not known, 4% not applicable).

In 92% of the responses given, TSOs do not charge for the provision of information to individual users (0% yes, 4% not known, 4% not applicable).

2.2.8. Balancing costs and incentives for the TSO

When asked how they procured their residual balancing gas, TSOs stated that they procure the residual balancing gas in the following manner:

Figure 23: How do you procure residual balancing gas?



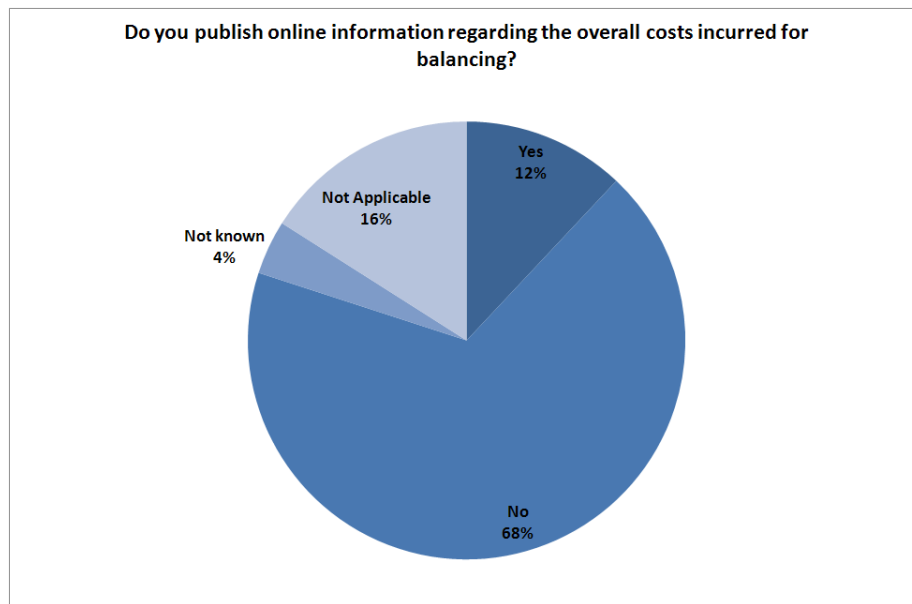
Source: ERGEG 2008 Monitoring Report

Where other was the chosen answer, users stated that reasons for this being the case were as follows (list not exhaustive):

- Use of linepack
- Users must provide the gas for residual balancing

When asked if they publish online information regarding the overall cost incurred for balancing, TSOs gave the following answers:

Figure 24: Do you publish online information regarding the overall costs incurred for balancing?

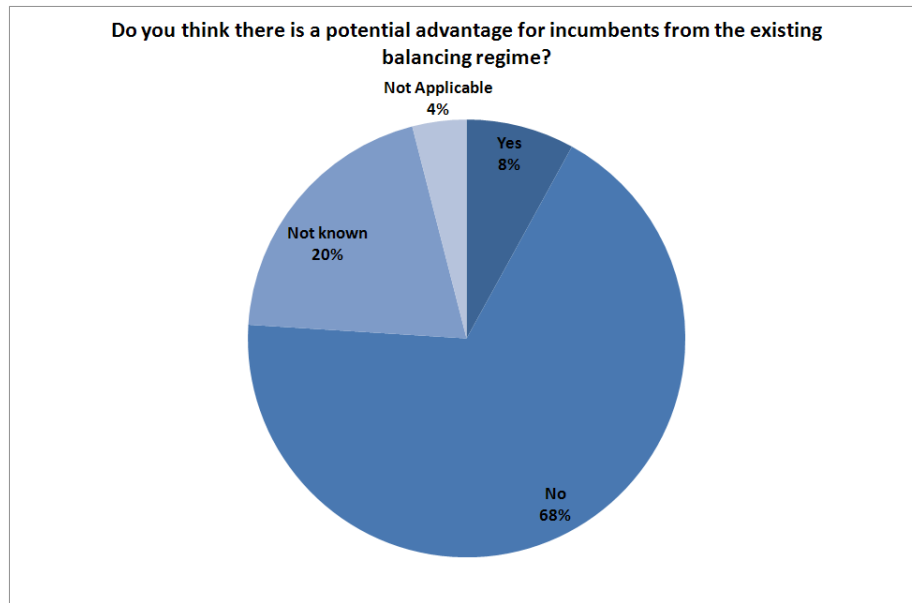


Source: ERGEG 2008 Monitoring Report

In 70.6% of the cases, TSOs had notified NRAs (29.4% no, 0% not known, 0% not applicable).

When asked if TSOs thought that there is a potential advantage for incumbents from the existing balancing regime, TSOs gave the following answers:

Figure 25: Do you think there is a potential advantage for incumbents?



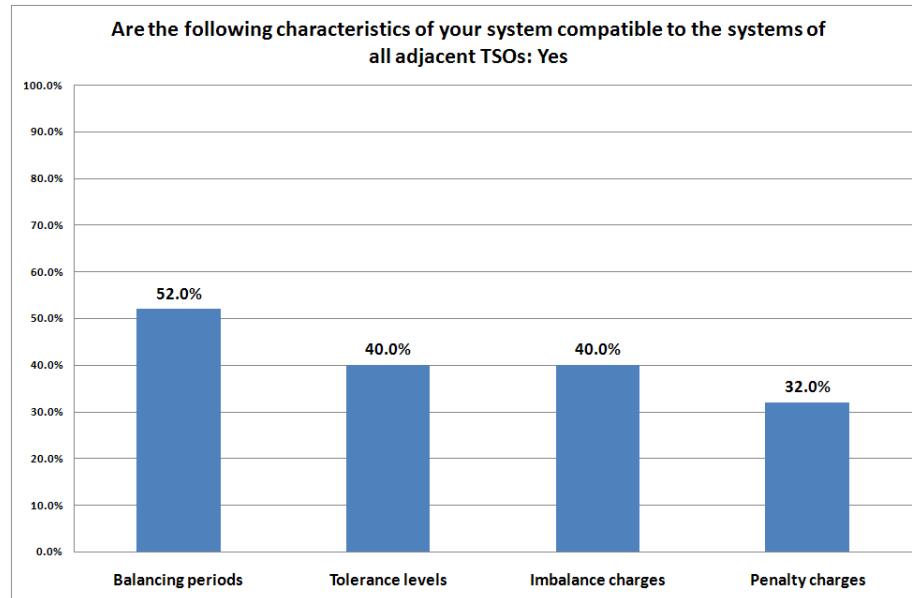
Source: ERGEG 2008 Monitoring Report

Almost all TSOs claim that the costs for a new supplier entering the market are predictable (88% yes, 0% no, 4% not known, 8% not applicable).

2.2.9. Harmonisation of balancing rules

When asked if the following characteristics of their balancing regime are compatible with the systems of all adjacent TSOs, TSOs gave the following answers (only TSOs answering yes are listed here):

Figure 26: System compatibility with adjacent systems



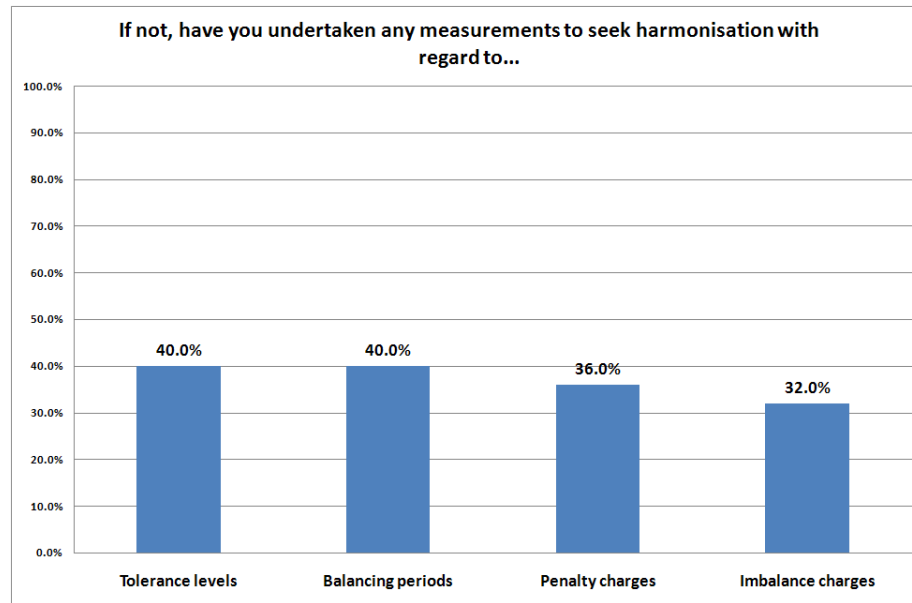
Source: ERGEG 2008 Monitoring Report

Examples of explanations given if not known or not applicable were chosen as answers are as follows:

- Tolerances levels
 - No tolerance levels applied
 - Issues with the compatibility of tolerance levels between EU and non-EU transmission systems
- Imbalance charges
 - Lack of information regarding the adjacent TSOs system
 - No imbalance charges applied
- Penalty charges
 - Lack of information regarding the adjacent TSOs system
 - No penalty charges applied
- Balancing periods
 - Issues with the compatibility of tolerance levels between EU and non-EU transmission systems

Where the degree of compatibility was low, TSOs stated that they have undertaken the following efforts in an attempt to harmonise balancing regimes:

Figure 27: If not, have you undertaken any measurements to seek harmonisation?



Source: ERGEG 2008 Monitoring Report

Examples of explanations given if not known or not applicable were chosen as answers are as follows:

- Tolerance levels
 - Differences in market models
 - Tolerance levels already compatible
 - No tolerance levels applied
- Imbalance charges
 - No imbalance charges applied
 - Imbalance charges already compatible
- Penalty charges
 - No penalty charges applied
 - Penalty charges already compatible
- Balancing periods
 - Balancing periods are already compatible

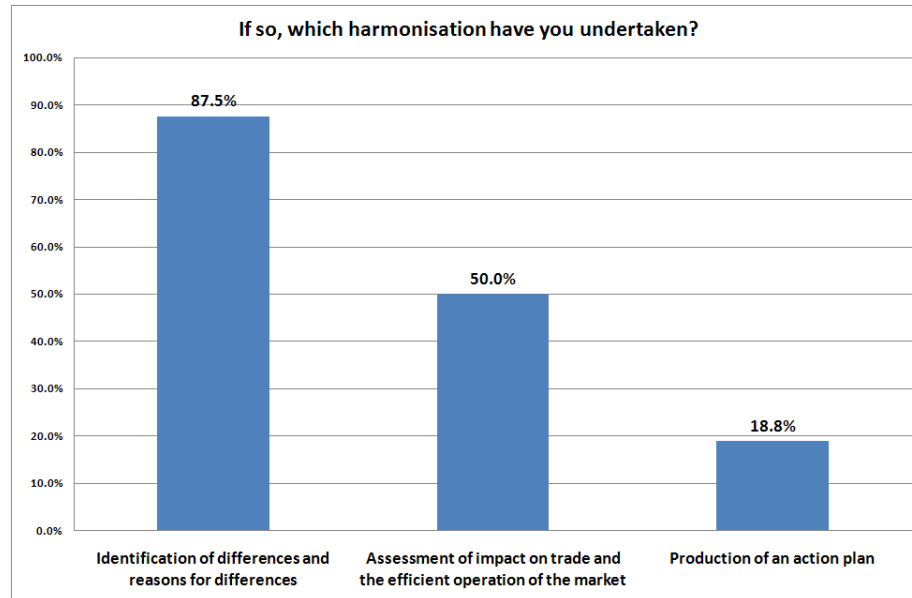
TSOs also stated that they have cooperated with other TSOs to seek greater harmonisation (64% yes, 20% no, 0% not known, 16% not applicable).

Examples of detailed explanations provided where not known or not applicable were chosen as answers are as follows:

- Cooperation with the adjacent TSO
- Cooperation due to the fact that the NRA is re-designing the balancing regime

Examples of detailed harmonisation measures are shown in the following graph:

Figure 28: If so, which harmonisation have you undertaken?



Source: ERGEG 2008 Monitoring Report

Examples of detailed explanations given when other was chosen as the answer are as follows:

- IPA in place
- OBA in place
- Enhanced balancing harmonisation
- Market integration on the regional level, e.g., within the Gas Regional Initiative (GRI) or other regional initiatives
- Harmonisation via the representative body of TSOs

However, TSOs have not provided detailed information in the form of reports on the differences of the balancing regimes (88% no, 4% yes, 4% not known, 4% not applicable).

2.2.10. Issues concerning network users

TSOs stated that in only 8% of the cases are network users are subject to special terms and conditions (84% no, 0% not known, 8% not applicable).

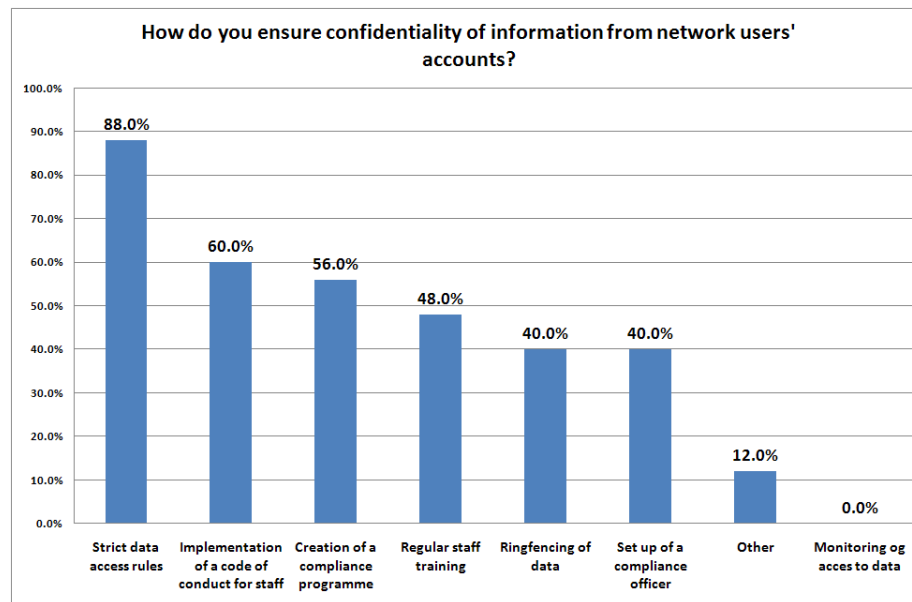
In 8% of the cases, the NRA has been informed that this is the case (remaining 92%, not applicable).

In 96% of the responses, TSOs stated that there are no difficulties in the operational communication with network users (4% not known).

2.2.11. Confidentiality

When asked how they ensure the confidentiality of information from network users' accounts, TSOs gave the following answers:

Figure 29: How do you ensure confidentiality of information?



Source: ERGEG 2008 Monitoring Report

Examples of explanations provided when other was chosen as the answer are as follows:

- Ensuring of confidentiality by law
- Implementation of an independent infrastructure operator who is in compliance with the confidentiality requirements in place

In 64% of the cases, TSOs stated that they have had cases where the NRA has asked for access to user specific information (24% no, 4% not known, 8% not applicable).

Examples of explanations provided when not known or not applicable were chosen as answers are as follows:

- No request received

2.2.12. Further comments received

TSOs used the opportunity to comment on the GGP-GB and the 2008 Monitoring Exercise. One TSO stated that they could not understand why TSOs should provide information on the weather information to market participants and network users. Another TSO asked for further specifications, especially with regard to technical aspects that currently go beyond the scope of the ERGEG GGP-GB. Other TSOs commented on the procedural aspects of this

monitoring exercise, particularly with regard to technical aspects, format of the questionnaires, and clarification of terms and terminology used in the process.

2.3. Analysis of responses: Natural gas transmission system users

2.3.1. Role and involvement of users in balancing

Users' role and involvement in balancing can be seen in the following table:

Table 6: Respondents: ERGEG 2008 Monitoring Exercise; Users

Respondents: Users	Per cent
Shipper	79.3%
Trader	13.8%
Part of a vertically integrated undertaking	3.4%
SSO	0.0%
Other	3.4%

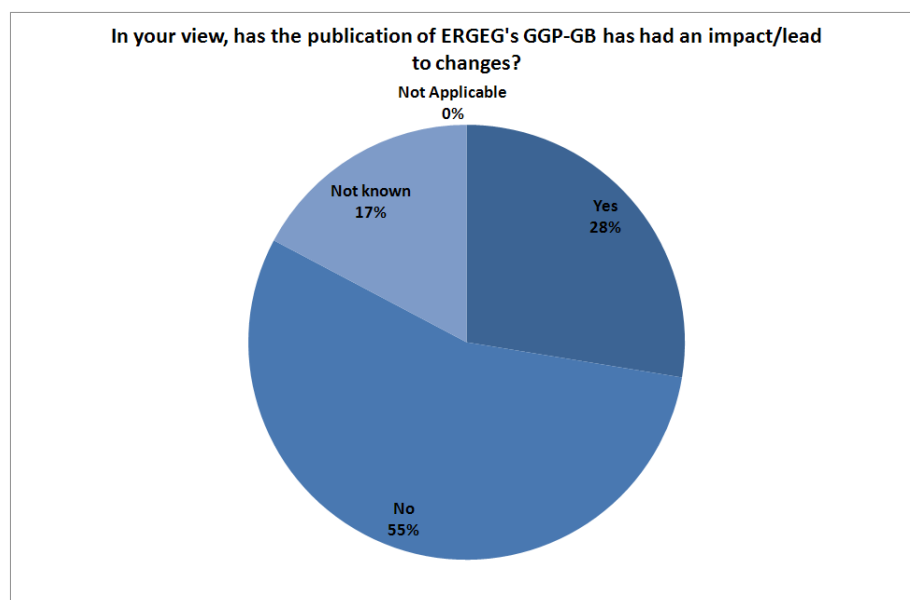
Source: ERGEG 2008 Monitoring Report

In cases, where other was given as the answer, the respondents provided the following additional information:

- The company is active both as a shipper and trader

When asked if the publication of the ERGEG GGP-GB has had an impact and/or led to changes, users responded in 27.6% of the cases with yes (55.2% no, 17.2% not known, 0% not applicable).

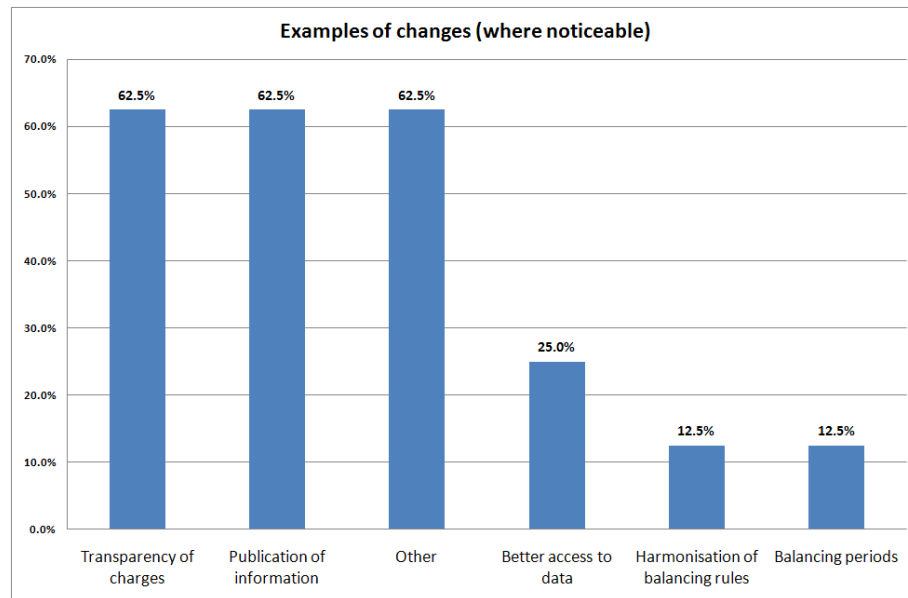
Figure 30: Has the publication of ERGEG's GGP-GB had any impact?



Source: ERGEG 2008 Monitoring Report

Where users stated that changes were indeed noticeable, users provided the following additional information:

Figure 31: Examples of changes (where noticeable)



Source: ERGEG 2008 Monitoring Report

Where other was the chosen option, users provided the following in information:

- Overall redesign of the balancing regime
- Industry consultation
- Further harmonisation needed of balancing periods and balancing rules

2.3.2. Characteristics of the TSO's current balancing regime

When asked if the relevant balancing rules reflect users' needs taking into account their available resources, 69% of respondents said no (31% yes, 0% not known, 0% not applicable).

When asked if users had been consulted in the drafting/change process of the balancing rules, only 65.5% of respondents said yes (27.6% no, 3.4% not known, 3.4% not applicable).

Users gave the following examples of key concerns regarding the TSO's current balancing regime (list not exhaustive):

- insufficient access to storage
- insufficient access to transport capacity
- lack of real-time steering information

- non market-based balancing regime: penalties instead of market prices
- lack of harmonisation between balancing regimes
- imbalance cost and penalties too high
- hourly balancing period

2.3.3. Balancing period

48.3% of users state that they do consider the current balancing period appropriate (51.7% no, 0% not known, 0% not applicable). In the case where no was the chosen answer, users almost unanimously stated that the balancing system should be changed to a daily balancing system and harmonised with adjacent systems.

41.4% of users also stated that given the information to which they currently have access, they are not able to manage their imbalance positions efficiently (55.2% no, 3.4% not known, 0% not applicable). The following reasons were given as to why they are unable to manage their positions:

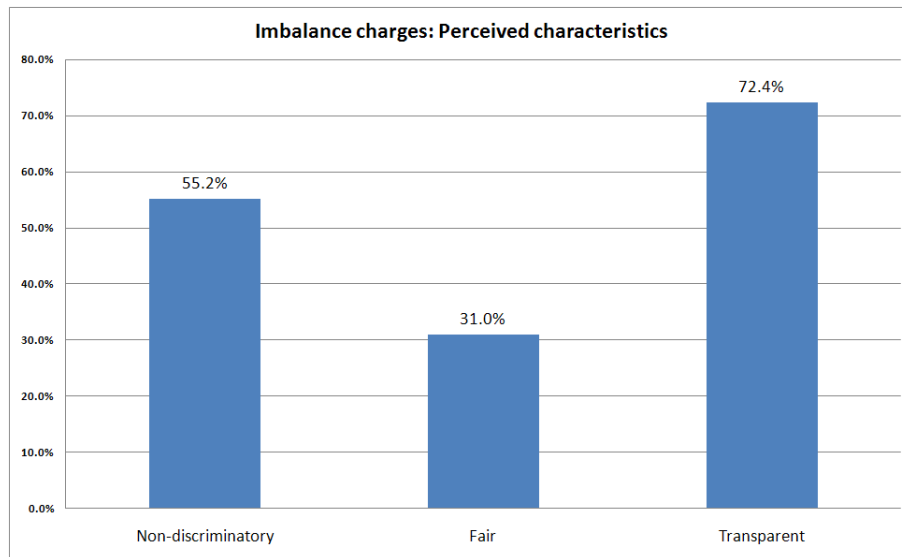
- Access to storage required
- No real time steering data available
- Need to change the balancing interval to daily intervals
- In general: Not enough information available

Out of those respondents who said that they are able to balance their positions effectively, they said this is only possible because they do have access to appropriate information and adequate flexibility tools and services.

2.3.4. Imbalance charges

When asked whether they considered the imbalance charges to be non-discriminatory, fair and transparent, users gave the following answers:

Figure 32: Imbalance charges: Perceived characteristics



Source: ERGEG 2008 Monitoring Report

Where no was the chosen answer to non-discriminatory, users stated that the reasons why they considered the charges to be discriminatory were as follows (list not exhaustive):

- Imbalance charges favour large shippers
- Imbalance charges favour large portfolio shippers with multiple flexibility tools

Where no was the chosen answer to fair, users stated that the reasons for considering the charges to be unfair were as follows (list not exhaustive):

- Imbalance charges are not based on the actual cost incurred
- Charges are punitive and do not reflect the cost of balancing
- Charges are too high and not cost-reflective

Where no was the chosen answer to transparent, users stated that the reasons for this deeming the charges an intransparent were as follows (list not exhaustive):

- Users find it difficult to understand the costs associated with an imbalance position
- TSOs contract extra flexibility and hence cost are difficult to understand
- Actual imbalance charges are not published
- Settlement takes too long, which makes it difficult for shippers to manage their regulatory risk

When asked whether their TSO publishes the calculation methodology for the imbalance charges, users said yes in 86.2% of the cases (6.9% no, 6.9% not known, 0% not applicable).

When asked whether their TSO publishes final tariffs, users said yes in 58.6% of the cases (13.8% no, 20.7% not known, 6.9% not applicable).

When asked whether their TSO publishes the calculation methodology for the imbalance charges, users said yes in 82.8% of the cases (10.3% no, 3.4% not known, 3.4% not applicable).

When asked whether the allocation procedure for imbalance costs is transparent to them, users said yes in 44.8% of the cases (37.9% no, 13.8% not known, 3.4% not applicable).

Where no was the chosen answer to transparent, users stated that the reasons considering the allocation intransparent were as follows (list not exhaustive):

- Cost allocation is intransparent due to marginal pricing being applied
- Time lag for calculation of imbalances for shippers with end customers

When asked whether users have been consulted on the time period for the settlement of provisional allocations, users said no in 20.7% of the cases (58.6% yes, 17.2% not known, 3.4% not applicable).

2.3.5. Penalty Charges

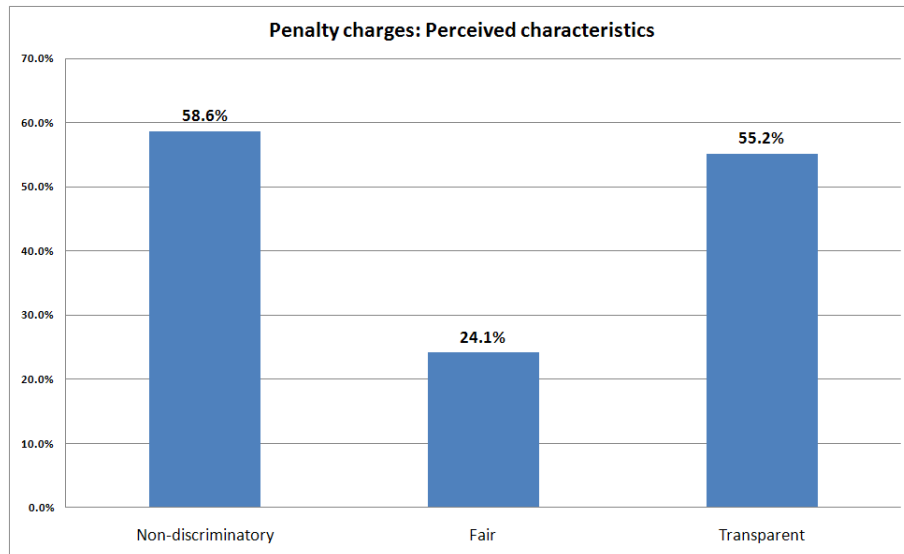
When asked whether they thought that existing penalty charges can create a barrier to market entry, users said yes in 44.8% of the cases (37.9% no, 3.4% not known, 13.8% not applicable).

Where yes was the chosen answer, users stated that reasons they considered the penalty charges as a barrier to entry were as follows (list not exhaustive):

- Penalty charges are too high
- Penalty charges do not reflect the imbalance cost borne by TSOs
- Users need to have a better understanding of how the penalty charges are derived
- Penalty charges are overly penal

When asked whether they considered the penalty charges to be non-discriminatory, fair and transparent, users gave the following answers:

Figure 33: Penalty charges: Perceived characteristics



Source: ERGEG 2008 Monitoring Report

Where no was the chosen answer to non-discriminatory, users stated that the reasons for considering the charges discriminatory were as follows (list not exhaustive):

- Penalty charges favour large portfolio shippers with greater access to flexibility
- Penalty charges are unfairly focused on small shippers

Where no was the chosen answer to fair, users stated that the reasons for considering the penalty charges to be unfair were as follows (list not exhaustive):

- Penalty charges are not cost reflective
- The difference between penalty charges and imbalance charges is unclear
- Penalty charges are penal, too high, the relationship between penalty charges and real damage in case of damage incurred by the TSO is not realistic

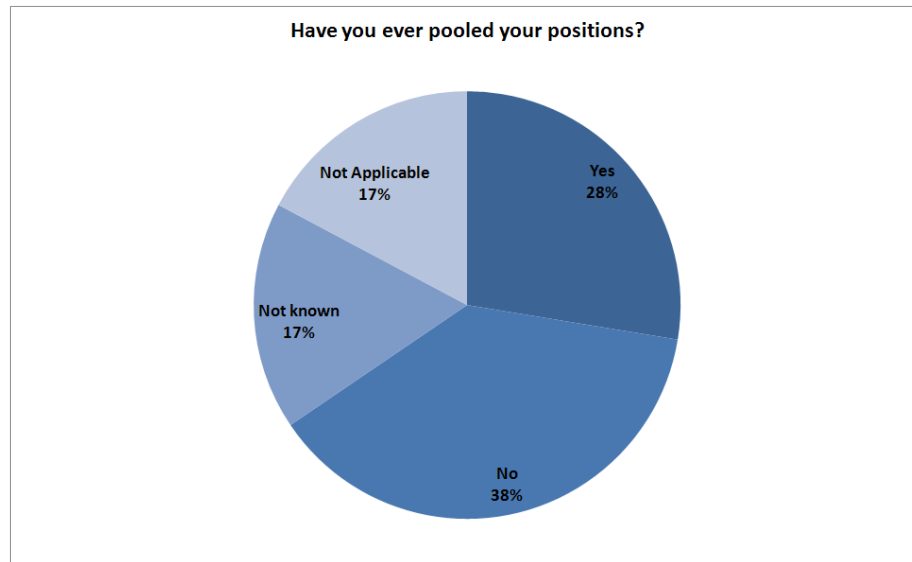
Where no was the chosen answer to transparent, users stated that the reasons they considered the penalty charges intransparent were as follows (list not exhaustive):

- Neither aggregate penalty charges, nor the actual imbalance cost to the TSO are published
- Users find it difficult to understand the cost associated with an imbalance position
- Penalty charges are not published online

2.3.6. Trading and pooling of imbalance positions

Users provided the following responses to the question of whether they have ever pooled their positions:

Figure 34: Pooling of positions



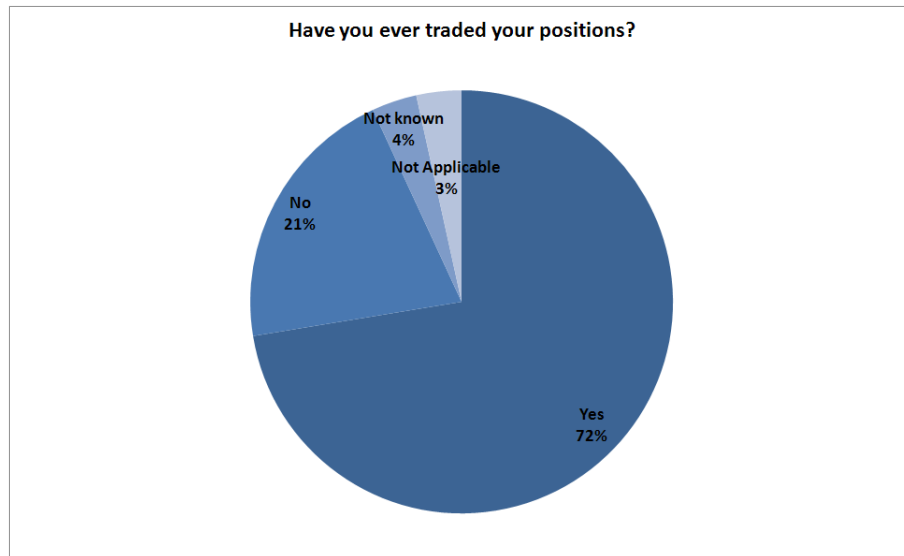
Source: ERGEG 2008 Monitoring Report

Where no was the chosen answer, users stated that the reasons for not pooling their positions were as follows (list not exhaustive):

- Pooling facilities not available on the TSO's system
- Pooling facilities not suitable for the user's portfolio
- Pooling simply not possible, not permitted or not needed

When asked whether they have ever traded their positions, users gave the following answers:

Figure 35: Trading of positions



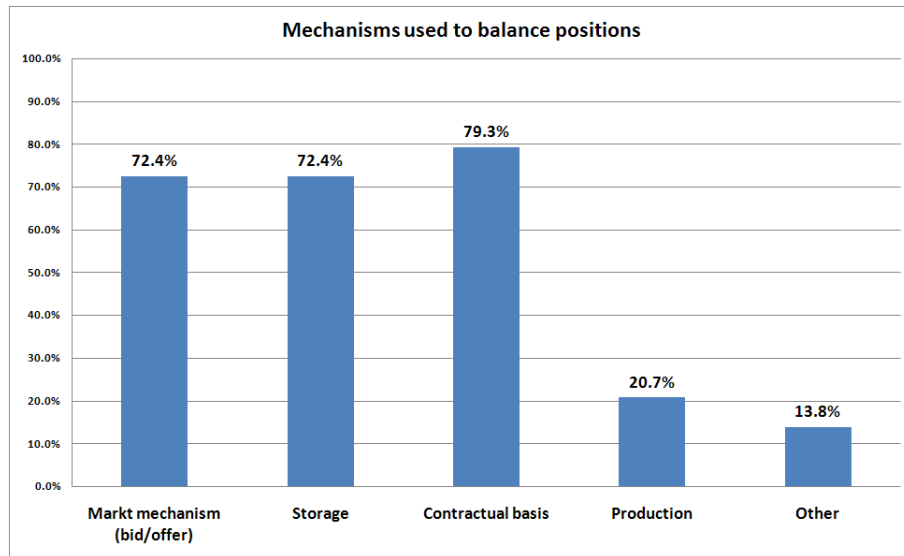
Source: ERGEG 2008 Monitoring Report

Where no was the chosen answer, users stated that the reasons for not trading their positions were as follows (list not exhaustive):

- Trading is not possible, not needed and not permitted.

When asked by which means they can balance their positions, users gave the following answers:

Figure 36: Mechanisms used to balance positions



Source: ERGEG 2008 Monitoring Report

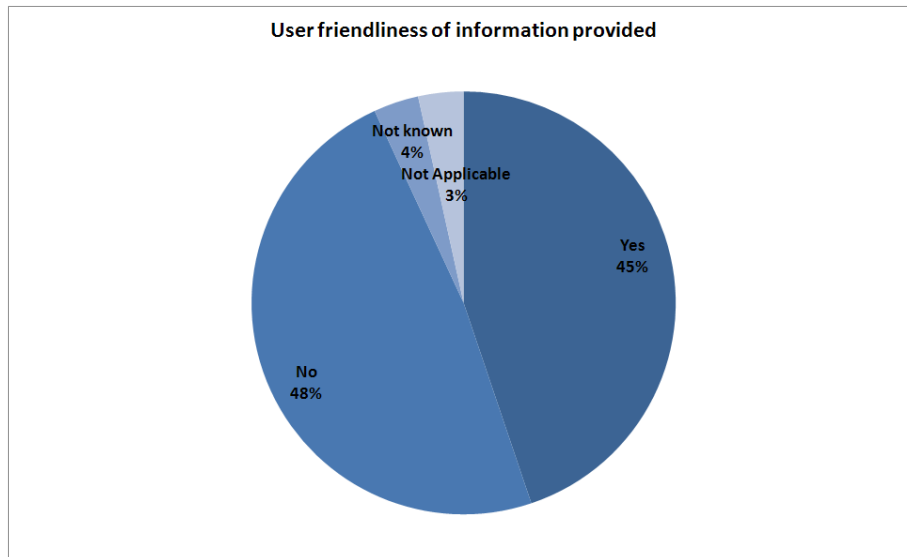
Where no was the chosen answer, users stated that the reasons for not using these mechanisms for balancing their position were as follows (list not exhaustive):

- Locational swaps
- Switch to alternative fuel
- Reduction in consumption
- Procurement of additional tolerance, if needed

2.3.7. Market information and transparency of balancing arrangements

When asked whether they considered the information system of the TSOs to be user-friendly, users gave the following answers:

Figure 37: User friendliness of information provided



Source: ERGEG 2008 Monitoring Report

Where no was the chosen answer, users stated that the reasons they considered the information systems not user-friendly were as follows (list not exhaustive):

- No access to real time information
- Difficulty to access and download the data
- No daily summary of the balancing period/within day balancing status available
- No reliable information available to help evaluate the risk of interruption

Where yes was the chosen answer, users gave the following examples (list not exhaustive):

- Internet-based information system
- Single, easy web access
- Daily summary report on the TSO web page
- Availability of real-time information

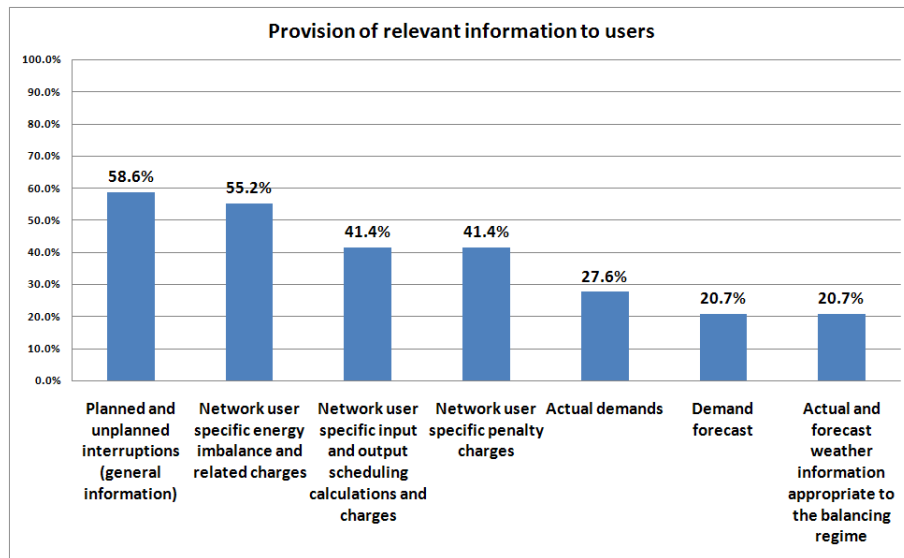
When asked whether they have been consulted on the level of information published by the TSO, users said yes in 51.7% of the cases (41.4% no, 3.4% not known, 3.4% not applicable).

When asked whether their TSO provided them with a list individual information that is of relevance to them as market participants, users said yes in 72.4% of the cases (20.7% no, 6.9% not known, 0% not applicable).

When asked if and when the information is updated, whether they considered the time interval to be sufficient, users said yes in 41.4% of the cases (41.4% no, 10.3% not known, 6.9% not applicable).

When asked whether their TSO supplied specific pieces of information, users gave the following answers:

Figure 38: Provision of relevant information to users

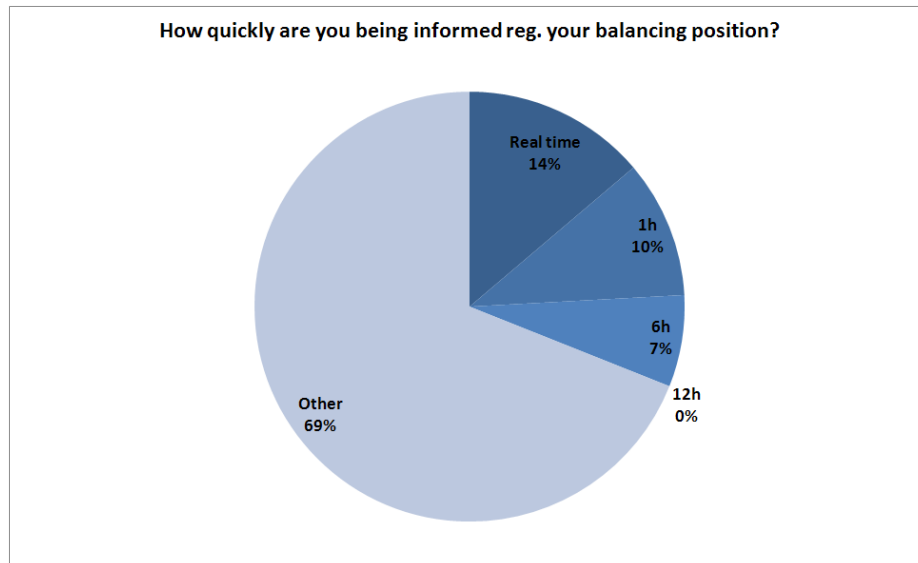


Source: ERGEG 2008 Monitoring Report

When asked whether the TSOs made specific energy imbalance and related charges available to network users, users said yes in 58.6% of the cases (20.7% no, 17.2% not known, 3.4% not applicable).

When asked how quickly the TSO provided information on their balancing position, users gave the following answers:

Figure 39: How quickly are you being informed regarding your balancing position?



Source: ERGEG 2008 Monitoring Report

Where other was the chosen answer, users gave the following examples (list not exhaustive):

- Information is provided after the gas day
- It takes at least 24h to be informed
- It takes a month to be informed
- Users simply do not know their balancing position

When asked whether they considered the time interval to be sufficient, users said no in 44.8% of the cases (37.9% yes, 6.9% not known, 10.3% not applicable).

Where no was the chosen answer, users stated that (list not exhaustive):

- Real-time information is needed
- The current time interval is insufficient
- Information needs to be published at least on a daily basis

When asked whether they thought that the application of the so-called 3-3-minus rule prohibited them from accessing information that is of relevance to them as a market participant, users said yes in 58.6% of the cases (31% no, 6.9% not known, 3.4% not applicable).

Where yes was the chosen answer, users gave the following examples (list not exhaustive):

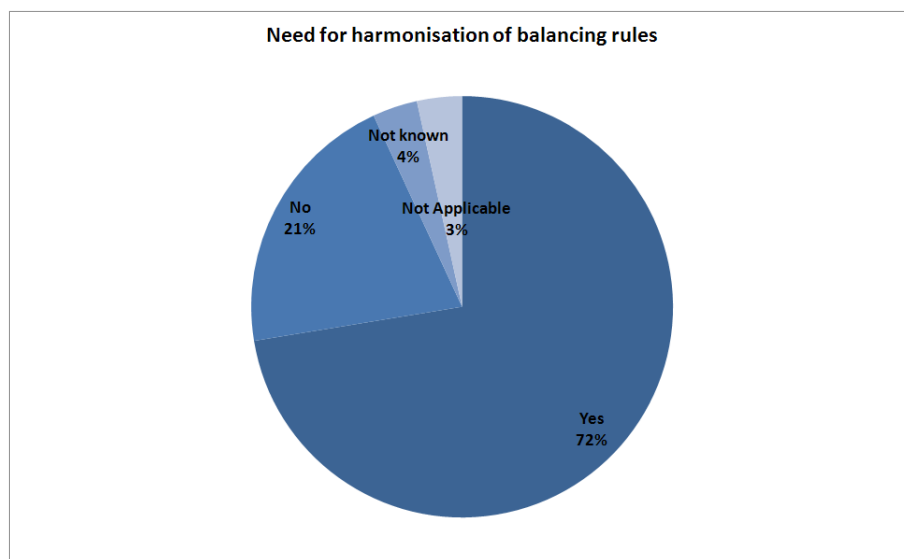
- Flow data, historical utilisation rates and booking

- Supply and demand information
- Information relating to certain key points
- Interruptability information
- Capacity information at border points

2.3.8. Harmonisation of balancing rules

When asked whether they thought that greater harmonisation of balancing regimes is needed, users gave the following answers:

Figure 40: Need for harmonisation of balancing rules



Source: ERGEG 2008 Monitoring Report

Where yes was the chosen answer, users gave the following examples (list not exhaustive):

- Greater harmonisation of balancing systems and balancing rules needed
- All balancing systems should be based on daily balancing
- Move towards market-based balancing
- Creation of level playing fields for all system users
- In general: Reduction of barriers to entry and facilitation of natural gas transportation across borders

In fact, when asked whether they had encountered difficulties related to balancing when shipping gas through different pipelines systems, users said yes in 58.6% of the cases (10.3% no, 20.7% not known, 10.3% not applicable).

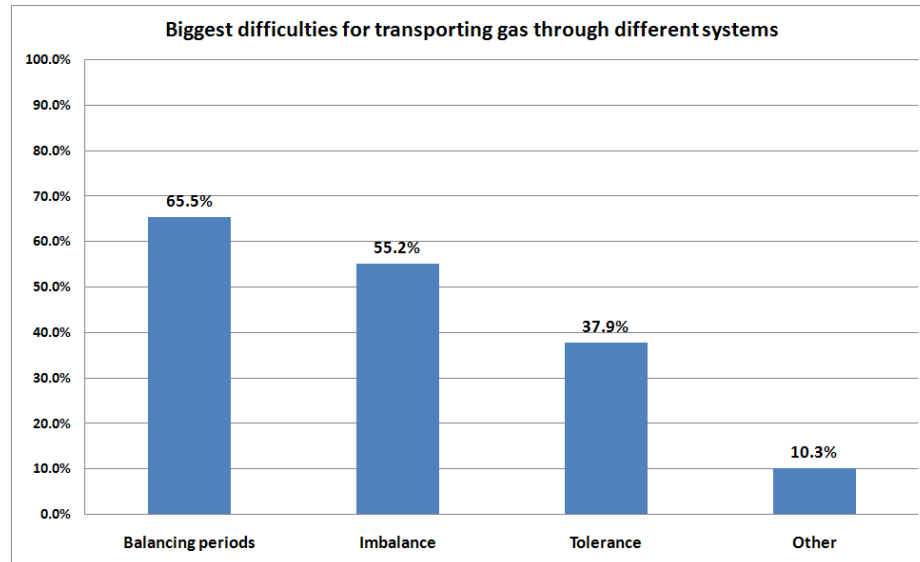
Where yes was the chosen answer, users gave the following examples (list not exhaustive):

- Difficulties arising due to different balancing time periods, e.g., daily vs. hourly systems
- Difficulties arising due to different quality standards

- Difficulties arising due to different balancing regimes being in operation in the same transportation system

When asked which aspects of the balancing regimes created the biggest difficulties for transporting gas through different systems, users gave the following answers:

Figure 41: Need for harmonisation of balancing rules



Source: ERGEG 2008 Monitoring Report

Where other was the chosen answer, users gave the following examples (list not exhaustive):

- Difficulties due to different measurement units being applied
- Lack of flexibility in case of point to point systems for transit

When asked how the harmonisation of balancing regimes should be achieved, users made the following suggestions:

- Daily balancing
- Hourly data provision
- 1 hour delay
- Market-based shipper balancing
- Enhanced transparency

When asked whether they had been consulted on reports identifying key areas of differences between balancing regimes, users said no in 65.5% of the cases (27.6% yes, 6.9% not known, 0% not applicable).

When asked whether they had noticed any efforts by TSOs to harmonise balancing regimes, users said no in 65.5% of the cases (24.1% yes, 10.3% not known, 0% not applicable).

When asked whether they thought that there is a potential advantage for incumbents from the existing balancing regime, users said yes in 69% of the cases (27.6% no, 3.4% not known, 0% not applicable).

2.3.9. Confidentiality

When asked whether they felt that the confidentiality measures put in place by the TSOs are sufficient to ensure confidentiality, users said yes in 79.3% of the cases (13.8% no, 6.9% not known, 0% not applicable).

Where no was the chosen answer, users gave the following examples (list not exhaustive):

- Confidentiality not ensured in smaller markets
- Difficulty to assess whether incumbents have privileged access to information
- No effective legal unbundling

When asked what concrete measures could be implemented to improve confidentiality, users made the following suggestions (list not exhaustive):

- Effective unbundling to ensure the independence of the TSO
- Removal of the 3-3-minus rule
- Compliance programmes
- Better education of TSO staff on their obligations not to discuss the activities of shipper A when talking to shipper B.

2.3.10. Comments

Users used the opportunity to comment on the GGP-GB and the 2008 Monitoring of the implementation of the GGP-GB. One user reiterated their request for the removal of the 3-3-minus rule. Another user called for stricter implementation of the GGP-GB. Another user pointed out that the application of the GGP-GB needs to be ensured in all regional energy markets, not just at the national level. At the same time, another user stated that the implementation and correct application of the GGP-GB also needs to be ensured at the national level. As far as the monitoring exercise itself is concerned, users welcome and support the exercise and offer to provide additional information, where needed.

3. Annex: Balancing in ERGEG member states: Country review

3.1. Austria

In Austria, the Natural Gas Act provides for a market-based balancing system with respect to the supply of final customers which are organized in balance groups in the respective control areas (CA). In transmission pipelines (TR), which are used for cross-border transport, a daily balancing regime applies for each pipeline system. With regard to balancing for final customers, E-Control is in charge of designing the system, approving, monitoring the implementation and managing the amendment process via the “market rule process”. In the control area East, balancing is based on a balancing group model that was introduced when the Austrian gas market was liberalized in 2002. The main characteristics of the balancing regime for Austria’s control area East are:

- market-based system (day ahead market)
- balancing energy market organized by the balance group coordinator (BGC, who is responsible for clearing and settlement), physical call-off of the balancing energy by the control area manager leading to an independent formation of balancing energy volumes and prices
- physical balancing by the control area manager
- technical and financial clearing and settlement of imbalances by BGC
- hourly balancing period
- single price model (one single clearing price for each hour)
- monitoring of the balancing energy market by E-Control (monthly publication of a report)

E-Control does not have responsibility for the design of the balancing regime for transmission pipelines which are used for cross-border transport. The balancing regime for cross-border transport in transmission pipelines is laid down in the transportation contracts between TSOs and shippers and has the following characteristics (e.g. TAG system):

- daily balancing (“Shipper shall use best endeavours in order to correct the imbalance within the same day”)
- If the imbalance event exceeds one day, Shippers shall compensate “in kind” the imbalance within 48 hours after receipt of the notification in which the imbalance is greater than or equal to 2% of the Committed Flow Rate multiplied by 24 hours and by the average gross calorific value (GCV) of the day at the Intake Point
- If the shipper fails to compensate “in kind” (as described above) a penalty fee will be charged by the TSO

The CA balancing system is maturing, the TR balancing system emerging. E-Control reports that the publication of ERGEG’s GGP-GB has not had any effect on the balancing regimes for CA and TR. For the CA, the market-based balancing regime for Austria’s control area East was established in October 2002, prior to publication of the GGP-GB. Since the

balancing regime fulfils the requirements of the Austrian Natural Gas Act, which transposes the Gas Directive into national law, no amendments of the balancing regime were necessary. As far as balancing in TR is concerned, E-Control stated that as the GGP-GB are very general and leave room for various options, no change in the design of the balancing regimes applied was considered necessary.

Balancing periods for CA have been specified with the NRA's approval, however this is not the case for the balancing period in TR. With regard to the balancing period in the CA, E-Control is responsible for approving the General Terms and Conditions (GTC) of the Balance Group Coordinator (BGC). The definition of the balancing period is given in the GTC of the BGC. Within the TR, the approval of the balancing period is not part of the general terms and conditions and thus is outside the responsibility of E-Control according to the Austrian Natural Gas Act. For TR, the balancing period is specified in an annex to the transportation contract concluded between the TSO and a shipper.

As far as the approval of charges is concerned, E-Control is involved in the approval of the framework of the market-based balancing regime for CA. There are no intolerance or penalty charges - each imbalance is settled at the clearing price of the respective hour resulting from the balancing energy market, in line with the requirements outlined in section 33c para 3 of the Austrian Natural Gas Act: "*The prices for balancing energy shall be determined with due regard to a market-oriented model. Such a model shall be developed by the balance group coordinator and shall be subject to approval by Energie-Control GmbH.*"

With regard to the publication of information in the CA, neither the TSOs nor the Control Area Manager are responsible for publication. Instead, the balancing energy volumes called off (i.e. withdrawn) by the Control Area Manager and the balancing energy market price are published by the Balance Group Coordinator. E-Control monitors the balancing energy market on a regular basis and has published monthly reports since 2003. Within TR, TSOs offer shipper-specific information on the balancing status to the respective shippers via a non-public area on their websites. No information is published on the overall balancing costs. E-Control is informed of the balancing cost for CA, but not TR.

Difficulties exist in operating two due to the different balancing regimes, i.e., for final customers (domestic transport) and transmission (cross-border transport), arising from the different times for nominations and re-nominations as well as very short lead times (30 min.) for withdrawing balancing energy offers for the domestic market. These differences make it difficult for transit shippers to offer balancing energy on the domestic market.

E-Control stated that for CA, costs are predictable for new suppliers when entering the market. However, this is not the case in TR. This is due to the fact that since there are no OBAs in place at most Austrian interconnection points, the balancing risk and the balancing costs are not predictable. This leads to a situation where shippers must bear the balancing risk arising due to steering differences caused by adjacent TSOs – a risk which is outside the shipper's sphere of influence.

In TR, E-Control has taken regulatory action in cases where TSOs were non compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7) and launched a legal procedure against TSOs which did not conclude interconnection agreements (including OBAs). The procedure is ongoing.

3.2. Belgium

In Belgium, the regulatory authority CREG is responsible for designing, approving and monitoring the implementation of the natural gas balancing regime. The system is a daily balancing regime with hourly constraints and hourly steering information. In terms of its maturity, it is considered maturing.

CREG stated that the introduction of ERGEG's GGP-GB has not had any impact on the design of the system, given that balancing rules were already in place (code of conduct). CREG is involved in the specification of the balancing period and the balancing system as a whole. This includes balancing rules, balancing period, flexible services, allocation rules, intolerance charges, providing (hourly) steering information to the shippers via a web-tool and securing access to balancing gas. Main conditions, access rules and transportation contracts are therefore approved by the regulator. CREG is also involved in the approval process of the intolerance charges. Approving the charges is part of the approval process for tariffs.

In Belgium, the TSO provides information to the regulator regarding the overall balancing costs available as part of the tariff approval process. CREG does not think that there any aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. CREG also believes that balancing costs are predictable for a new supplier when entering the market. CREG has not taken any regulatory action to enforce the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.3. Bulgaria

On 15th January 2007, in compliance with the requirements of Directive 2003/55/EC and as a result of the transformation of former Bulgargaz EAD, the TSO Bulgartransgaz EAD was formed as a part of Bulgargaz-Holding EAD – owner of the newly established sole owner joint-stock companies – the TSO and the Public Supplier. Prior to that, all supply and transmission services were carried out by one company (Bulgargaz EAD) and no capacity booking system existed. There was balancing, but no imbalance charges applied because it was one and the same company. Now Bulgartransgaz EAD has a transmission contract with Bulgargaz EAD only and not with each of the Public Supplier's customers. A new transmission contract is being developed, which will be consistent with the Regulation's requirements and will contain articles concerning imbalance charges. There is a working group of TSO members to develop proposed imbalance charges. Once approved by SEWRC, the Bulgarian NRA, they will be published.

The balancing regime is determined by a set of balancing rules that are outlined the secondary legislation. The balancing period is daily with a weekly settlement period. The TSO is in the process of applying for approval of imbalance charges. These charges will be published once SEWRC approves the imbalance charges.

The balancing system can be described as emerging. SEWRC reports that the publication of the ERGEG GGP-GB has indeed had an impact on the design of the balancing regime in Bulgaria. SEWRC is directly involved in the approval of the balancing regime as it is responsible for drafting the natural gas trading rules that outline the balancing rules and the

balancing period. The balancing period is specified in national law (i.e., secondary legislation). Currently, there are no imbalance charges applicable and no penalties. This will change once the proposed charges are approved by SEWRC.

SEWRC is informed about the TSO's balancing costs. In SEWRC's view, there are no aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. Furthermore, SEWRC considers balancing costs to be predictable for a new supplier when entering the market. SEWRC has not undertaken any regulatory action in cases where TSOs were non-compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.4. Czech Republic

In the Czech Republic, the regulatory authority, ERO, is responsible for designing the balancing regime. In the Czech Republic, two types of imbalances due to 'entities subject to clearing' [cleared entities] are used – the 'off-tolerance imbalance' (imbalances exceeding allowed tolerances) and 'the nomination imbalance' (the difference between the nominated value and the actual value). A cleared entity's off-tolerance imbalance is subject to charge at all times, whereas nomination imbalances can be balanced in kind by cleared entities.

ERO describes the current status of the balancing regime as maturing. It is considering the replacement of the current balancing system due to expected changes in market rules. The publication of the ERGEG GGP-GB has not had an impact on the design of the national gas balancing regimes, because the current balancing system was established in 2005 (before GGP-GB were approved).

ERO has been involved in the approval process of the balancing period used in the balancing regime. ERO suggests, discusses and approves the balancing period. The balancing period is specified in the network code and in the market rules. ERO is also involved in the approval process of the intolerance and penalty charges. ERO sets these tariffs and they are published in its Price Decision. ERO requires the TSO to publish information regarding overall balancing cost on their webpage and that there are no aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. Furthermore, ERO considers that the balancing costs are predictable for a new supplier when entering the market and no regulatory action has been taken in cases where TSOs were non-compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.5. Denmark

In Denmark, DERA is involved in the approval process of the balancing regime. The underlying methodology of the balancing regime must be submitted to the NRA for approval prior to the entry into force of the regime. The TSO is responsible for the design and implementation of the regime. There is only one TSO in Denmark, Energinet.dk (ENDK), and consequently only one balancing regime in place.

The balancing regime of ENDK is based on daily balancing. Until the 1st October 2008, the free balancing band was 15%. This was considered too wide in relation to the physical dimensions of the system.

Therefore, Energinet.dk decided to narrow the free balance margin to +/- 5% (all year) as of 1 October 2008. Shippers may buy additional balancing (balance service agreements). In case of surplus demand for balancing, the available balancing is sold on auction.

ENDK has increased its balancing tariffs to better reflect the actual costs of its balancing regime. Any excess income from balancing (compared to the legal cost plus (cost+) regime for transmission) will be repaid to the consumers the following year through tariff reductions. In addition, ENDK has reduced the free balance margin to +/- 5 % (all year). The previous margin of 15% was considered too wide in relation to the physical dimensions of the system, particularly since the demand for flexibility has increased. If shippers had used the full 15% tolerance, ENDK could have been in a situation where they could not guarantee the flexibility and not withhold the balance in the transmission system. Also, in the increasingly commercial environment, balancing is becoming a tradeable object, which made the need to restrict the band more urgent.

DERA points out that the structure of the present Danish balancing regime is older than the GGP-GB, so that no changes have been made to the system following the publication of ERGEG's GGB-GB. However, the current regime fulfils most of the guidelines included in the GGP-GB (see TSO answers) and the TSO has confirmed to the regulator that it does consult the GGP-GB when making adjustments to the regime; the GGP-GB has been consulted for the changes described above.

DERA has been involved in the approval process of the balancing period. The balancing period is an element in the overall balancing regime. The overall regime has been approved by DERA ex-ante. The balancing period in Denmark is specified in the market rules. DERA is involved in the approval process of both the intolerance and penalty charges. The charges are set by ENDK but are separately addressed in the overall regime, which is approved by DERA. Additionally, ENDK is subject to independent regulation (the Act on Energinet.dk from 2004) which states that ENDK may only recover necessary costs and a necessary return on capital. The annual accounts of ENDK are to be submitted to DERA for approval. The accounts (gas) will include income from the balancing regime. Excessive profit must be repaid to relevant consumers or be used for consolidating the transmission business. The TSO does not publish information regarding overall balancing costs on its webpage. According to ENDK, the overall balancing costs for Energinet.dk are partly based on confidential agreements with the two storage facilities in Denmark. DERA is informed of the TSO's balancing costs.

DERA does not consider that there are any aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. However, DERA does consider that the balancing regime may have an impact on the wholesale market, where a lack of liquidity may constitute a commercial barrier, but whether this is the case is very uncertain. DERA considers that balancing costs are predictable for a new supplier when entering the market. To date, DERA has not taken any regulatory action in cases where TSOs were not compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.6. Finland

In Finland, the Energy Market Authority (the Authority) is responsible for approving the balancing regime. There are only minor rules regarding the unbundling of balancing services and the requirements of terms and conditions.

The Energy Market Authority describes the balancing regime as developing. The Authority also states that the publication of the EREG GGP-GB has not had any impact on the design of the national gas balancing regimes. The Authority is involved in the approval process of the balancing period used in the balancing regime. The balancing period is stated as part of the network licence granted by the NRA. The Authority is not involved in the approval of the intolerance and penalty charges; its role is to approve the methodologies used to calculate total costs of balancing services. The Authority states that the TSO in their jurisdiction does not publish information regarding overall balancing cost on its webpage. The Authority is informed of the overall TSO's balancing costs.

Finland has been granted a derogation from Directive 2003/55/EC and the market is not fully open to competition. Therefore the Authority did not answer the questions relating to the national gas balancing regime acting as a potential barrier to new entrants or as a barrier to gas trade between different markets and whether balancing costs were predictable for a new supplier when entering the market.

The Authority has not undertaken any regulatory action in cases where TSOs were not compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.7. France

In France, CRE is involved in approving/managing and monitoring the implementation of the balancing rules. In France, balancing works as follows:

1. GRTgaz:

GRTgaz uses different tools to address the system's balancing needs: mainly using gas storage services and drawing on market mechanisms. Each shipper must be balanced in each balancing zone and for each quality of gas (L and H). GRTgaz network is divided in two balancing zones (north and south). The balancing period is the gas day.

All shippers that book capacity to deliver gas from the transmission network to final consumers have an automatic right to a daily imbalance tolerance free of charge. This tolerance is expressed in MWh/d and is calculated according to the delivery capacity (20% of the delivery capacity up to 1000 MWh/d, 5% for any capacity above 1000 MWh/d). In addition, every shipper may purchase an additional optional tolerance of up to 3% of the delivery capacity.

Every day, and for each balancing zone, daily imbalances are processed as follows:

- The proportion of the total daily imbalance below 70% of the tolerance is put in the "cumulative imbalance account". The quantities aggregated in this account must be kept between +350% and -350% of the tolerance. Any surplus or shortfall results in a financial penalty.

- The proportion of the daily imbalance between 70% and 100% of the tolerance are covered by a transaction at market price between GRTgaz and the shipper. The quantities outside the tolerance are covered by a transaction at a penalised market price.
- The market price is calculated on the basis of GRTgaz's day-to-day market transactions on the "Balancing GRTgaz" platform.

2. TIGF:

TIGF mainly uses gas storage services for its system balancing needs. Each shipper must be balanced on the TIGF network. The balancing period is the gas day. All shippers that book capacity to deliver gas from the transmission network to final consumers have an automatic right to a daily imbalance tolerance free of charge. This tolerance is expressed in MWh/d and is function of the delivery capacity (20% of the delivery capacity up to 1000 MWh/d, 5% for any capacity above 1000 MWh/d).

Daily imbalances are processed as follows:

- The proportion of the daily total imbalance below the tolerance is put in the cumulative imbalance account. The quantities aggregated in this account must be kept between +300% and -300% of the tolerance. Any surplus or shortfall results in a financial penalty.
- The proportion of the daily imbalance beyond the tolerance is covered by a purchase/sale between TIGF and the shipper. The quantities purchased are invoiced at a penalised daily referenced spot price.

The daily referenced spot price is the addition of the Zeebrugge Day Ahead price and the transmission cost between Zeebrugge and TIGF PEG⁶.

CRE describes the balancing regime as developing. CRE states that the publication of the ERGEG GGP-GB has had an impact on the design of the national gas balancing regimes. In accordance with the GGP-GB, CRE asked GRTgaz on 7 December 2006 to progressively implement a market-based balancing mechanism.

CRE is involved in the approval process of the balancing periods. Any rules related to TSO balancing regimes must be approved by the CRE. The balancing period used to be defined in the transmission tariff. Currently, the TSOs publish balancing rules which are approved by CRE. CRE is involved in the approval of both the intolerance and penalty charges. Any rules related to TSO balancing regimes and charges must be approved by CRE.

CRE states that the TSOs in its jurisdiction do not publish information regarding overall balancing cost on their webpage. There is a working group involving the TSOs, the shippers and CRE to discuss balancing rules. Each quarter, GRTgaz publishes its balancing profit and loss account. CRE is informed of the TSOs overall balancing costs. CRE does not consider that any aspects of the national gas balancing regime act as a potential barrier to new entrants or as a barrier to gas trade between different markets. CRE considers that balancing

⁶ Point d'Exchange de Gaz, the French trading hub.

costs are predictable for a new supplier when entering the market. CRE has not undertaken any regulatory action in cases where TSOs were not compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.8. Germany

3.8.1. General aspects of the balancing regime in Germany

In Germany, Bundesnetzagentur (BNetzA) is involved in the design of the balancing system, the approval and the monitoring of the balancing regime, including the management of the amendment process (information on the new balancing system in Germany is set out below). BNetzA considers the balancing regime is an emerging and developing regime. The publication of the ERGEG GGP-GB has had an impact on the design of the national gas balancing regimes. Several elements of GGP-GB underpinned the design of the balancing regime, especially the choice of a daily balancing regime. During the design of the new balancing regime, its compatibility with ERGEG's GGP-GB was cross-checked.

BNetzA has been involved in the process of approving the balancing period (in particular: procedure of determination by its ruling chamber 7). BNetzA is not involved in the approval process of intolerance or penalty charges; there is no need for an approval since BNetzA was involved in designing the basic principles. These principles establish an intolerance/penalty system based on charges; rather, there is a price spread for balancing energy and profiling fees. In Germany, TSOs publish information regarding overall balancing cost on their webpage.

BNetzA does not consider that any aspects of the national gas balancing regime act as a potential barrier to new entrants or as a barrier to gas trade between different markets. BNetzA is also of the opinion that balancing costs are predictable for a new supplier when entering the market. BNetzA has not taken any regulatory action in cases where TSOs were not compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.8.2. Aim of the new balancing regime

The former balancing regimes in Germany had proven not to facilitate competition in the German natural gas markets. In particular:

- The hourly settlement of imbalances resulted in high economic risks for the suppliers
- Flexible hourly products were not available on the German market
- Most gas storage capacity was and remains fully booked
- Imbalances were charged with a price spread of up to 500%

The existing tolerance band system made it difficult for market participants to manage their portfolios, in particular in cases where portfolios were small and also posed a significant barrier to new market entrants. Market participants holding large portfolios were able to use tolerance levels to their advantage.

The German gas market is divided into different market areas and, until recently, no common practice existed in the balancing regimes. New market entrants wanting to become active in Germany, e.g., shippers, had to deal with up to 14 different balancing systems.

In the past, all balancing groups were optimised separately, considering only the imbalance of the particular balancing group and not any potential imbalances of the whole network, which led to high system energy needs and consequently to high costs for system energy. To a large extent the procurement of system energy was intransparent.

These findings helped to define the aims of the new balancing regime:

- Reduction of economical risks
- Adoption of a standardised practice for all German market areas
- Reduction of system energy needs and transparent procurement
- Facilitation of supply without access to gas storage facilities
- Prevention of abuse of the system

3.8.3. Outlining the new balancing regime

The new balancing regime (called Grundmodell der Ausgleichsleistungen und Bilanzierungsregeln im deutschen Gasmarkt “GABi Gas” in German), introduced on 1 October 2008, is a genuine daily balancing regime without any tolerance on a daily basis. In order to prevent shippers from abusing the intraday flexibility of daily balancing, an additional hourly monitoring takes place.

The new balancing regime significantly reduces the risks of shippers by means of:

- minimal charges for imbalances
- for household supply: abolishing the forecast-related risks
- for industry supply: granting of tolerances for intraday deviation

The new balancing system is therefore also designed to facilitate natural gas trading: The off-take of natural gas of almost every end-consumer – households and industries – is balanced flat as a daily balancing band (daily off-take divided by 24). This measure allows daily products to be offered more easily on the natural gas markets, making them more suitable for supplying end-consumers. Storage access is no longer a prerequisite for gas trade.

3.8.4. Detailed description of the new balancing regime

Based on previously defined aims and supported by market participants (cf. 1.3 GGP-GB) BNetzA standardised balancing services and balancing rules for Germany in May 2008 (cf. 1.1 and 2.1 GGP-GB).

Under the new regime, rules and responsibilities concerning the balancing of gas quantities and settlement of balancing energy have been allocated to the balancing group network operator (BGNO) and the balancing group manager (BGM). Regulations governing the procurement and use of system energy were defined. Following on from this standardised model, BNetzA then also published principles to help ensure transparent and non-

discriminatory procurement and the use of system energy as recommended the ERGEG GGP-GB.

Balancing period

According to the preferred model under guideline 1.7 of GGP-GB, the balancing period for all quantities is the gas day, i.e., a daily balancing system is applied. All imbalances between the gas quantity injected and withdrawn are balanced by the BGNO at the end of the gas day with balancing energy, so that the balancing group is cleared. At the end of the gas day, no tolerances will be granted.

Relevant quantities

Unmetered end-consumers are balanced by the application of standard load profiles (SLP). DSOs apply methods for off-take forecasts and provide a binding figure for the day of supply (D) for any end-consumer on a day-ahead basis (D-1). This binding forecast is the basis for the balancing itself; no ex-post correction is applied.

Shippers supplying households nominate their entry capacity according to this figure. Shippers therefore face no imbalance risks.

Balancing energy prices (imbalance charges)

Prices at liquid trading points are taken as a basis for the balancing energy prices. The following four trading points are currently considered sufficiently liquid to serve as such reference points:

- Title Transfer Facility in the Netherlands (“TTF”)
- National Balancing Point in Great Britain (“NBP”)
- Zeebrugge Hub in Belgium (“Zeebrugge”)
- E.ON Gastransport virtual trading point (“EGT VP”)

The daily prices in €/MWh for selling and purchasing at these trading points, as determined from reliable publications, then serve as reference prices (cf. 1.12 GGP-GB).

- The price for negative balancing energy, i.e., balancing long supplies, will be the second lowest selling reference price multiplied by 0.9.
- The price for positive balancing energy, i.e., balancing short supplies, will be the second highest purchasing reference price multiplied by 1.1.

The BGNO is entitled, after consulting BNetzA, to include or exclude reference prices of liquid trading points to or from its basis.

Harmonisation of balancing rules with neighbouring regimes

To prevent shippers from abusing the regime and, in particular, to eliminate the possibility of arbitrage transactions with neighbouring networks applying hourly balancing, an hourly incentive system is applied. This is designed as an additional system without interference to the daily balancing. The combination of the two systems ensures compatibility with neighbouring daily and hourly balancing regimes (cf. 1.31 GGP-GB).

Hourly incentive system (penalty charges, tolerance levels and tolerance services)

At the end of each hour during the gas day, the BGNO compares the amount of natural gas that has gone into the balancing group with the relevant amount of natural gas taken from the balancing group during this hour. Depending on the type of exit point, the relevant quantities are determined according to different rules. Tolerances (cf. 1.19 GGP-GB) are granted in some cases:

- Standard load profile (SLP) consumers
For the SLP consumers, the daily gas quantity defined by the respective prognosis tool is distributed into 24 equal quantities over the entire gas day (flat daily balancing band). This hourly proportion is the relevant quantity for the hourly incentive system. Since this quantity is provided ex-ante to the BGM, there is no risk of unscheduled differences for the BGM at SLP points.
- Large-scale consumers with daily balancing band
For this group of large-scale consumers, the daily actual metered off-take quantity is distributed into 24 equal quantities across the entire gas day (flat daily balancing band) *ex-post*. This hourly proportion is the relevant quantity for the hourly incentive system. The BGM is granted a tolerance of 15% of the daily balancing band quantity to be entered into the balance on an hourly basis.
- Large-scale consumers without daily balancing band
For this group of large-scale consumers, the respective hourly metered value is the relevant quantity for the hourly incentive system. Since balancing in this case is performed on the basis of actual off-take, there is a risk of unscheduled differences. The BGM is therefore responsible for adjusting its intraday entry as precisely as possible to the off-take quantity. Since all imbalance risks cannot be eliminated, even when utmost care is taken, a tolerance of +/- 2% for the hourly quantities is granted to the BGM.

The BGM must pay a profiling fee in €/MWh to the BGNO for any hourly deviation remaining after application of the above-defined tolerances. The tolerances granted are calculated separately for each natural gas off-take (exit) point, but the total of these tolerances is applied to the balancing group as a whole. Hourly deviations are charged but not cleared.

The BGNO can apply constant or variable profiling fees. In either case the daily average value of the profiling fees applicable for the various hours must amount to 15% of the average price that is derived from the prices for negative and positive balancing energy.

Technically speaking, the natural gas balancing system described above does not imply a specific penalty system. However, from a system design viewpoint, the profiling fee is meant to have similar effects, in that it allows an incentive for shippers to be created to use intraday profiling of transported gas quantities within a specific a balancing group.

Trading and pooling of imbalance positions (cf. 1.18 GGP-GB)

Contrary to the recommendations outlined in the ERGEG GGP-GB, trading and pooling of imbalance positions is not a part of the new balancing regime in Germany. One fundamental

idea of the new system is based on the incentive effect of the (small) spread between the price of negative and positive balancing energy (cf. 1.10 GGP-GB). This incentive should lead to behaviour of the BGMs that takes into account network stability and integrity (cf. 1.26 and 4.1 GGP-GB). The reason for not explicitly allowing for the possibility of trading and pooling of imbalance positions is that any such system could potentially be misused to bypass the spread between the price of negative and positive balancing energy (cf. 1.11 GGP-GB).

Balancing costs and incentives for the TSO

For the technical overall and regional or local control required in any given market area, the BGNO procures and uses system energy centrally. The BGNO must differentiate between internal and external system energy. Internal system energy is provided from BGNO's own network and adjacent networks within or outside the market area e.g., linepack. Internal system energy must be used first to avoid or reduce demand for external system energy (cf. 1.5 GGP-GB). External system energy shall only be used if network situations cannot be handled without the use of such energy, e.g., for system stabilisation purposes. BGNOs are required to tender their external system energy needs, subdivided into intraday profiling (cf. 1.27 GGP-GB) and permanent procurement or selling of gas quantities (cf. 1.28 GGP-GB).

For the settlement of costs for and revenues from system and balancing energy, a contribution account is established by the BGNO for each market area. Contributions to this account include:

- Revenues from positive balancing energy for the required compensation of short supplies
- Revenues from profiling fees
- Costs for negative balancing energy for compensating surplus supplies
- Revenues from selling external system energy
- Costs for purchasing and using external system energy

Since payments into and from the account related to costs and revenues from system and balancing energy are not necessarily meeting all the costs, the BGNO levies or pays a system energy contribution for the first contribution period (six months) (cf. 1.29 GGP-GB). At the end of this period, the deficits and surpluses are examined regarding the calculation of the new system energy contribution and the account is balanced and set to zero.

Market information and transparency of balancing arrangements

TSOs shall publish and provide all relevant data to the extent necessary (cf. 1.22 – 1.25, 1.30, 3.4, 5.1 and Annex 2 GGP-GB).

3.8.5. Future prospects

The new balancing regime became operational on 1 October 2008, however, it is envisaged that the overall implementation will require additional time. For this reason, BNetzA has scheduled a transition period until 1 April 2009.

BNetzA will monitor the effects of the model and review whether further development might be required at suitable intervals. The latter is of particular relevance given that the price

spread between the price of negative and positive balancing energy and the exact amount of profiling fees can be varied to adjust the balancing regime.

3.9. Greece

In Greece, RAE is in responsible for approving the balancing regime and monitoring its implementation as defined in the Greek Gas Law (Law 3428/2005). The Law also sets out the framework of the balancing regime, according to which the TSO is responsible for providing balancing services. To do so, the TSO can enter into contracts with suppliers, after a relevant tender, in order to obtain the necessary gas quantities. The Greek Gas Law also provides that the TSO can procure balancing gas from DEPA (incumbent supplier), without a tender, corresponding to the LNG long-term contract of DEPA. In 2008, the TSO used this special provision in order to obtain the necessary gas. Balancing rules, currently described in the Standard Transportation Agreement (STA), were subject, together with the STA, to a public consultation. The rules are equally applied to shippers, including DEPA (the TSO's parent company). The balancing rules give the TSO the flexibility to match users' imbalances (negative/positive imbalance), leaving the TSO with a residual role.

RAE describes the maturity of the current balancing regime as emerging. According to RAE, the publication of ERGEG's GGP-GB has had an impact on the design of the national gas balancing regimes. The GGP-GB were taken into account, especially in setting the balancing period, the imbalance charges, the penalty charges and the tolerance levels of the current balancing regime. RAE has also approved the balancing periods used in Greece. The balancing period (daily) is specified in the STA, approved by the Minister of Development after hearing RAE's opinion. The STA will be included in the Network Code, which is currently under public consultation.

RAE is in responsible for approving both the intolerance and penalty charges. Imbalance charges and penalties are specified in the STA. RAE states that the TSO publishes information regarding overall balancing cost on its webpage. RAE does not think that there are any aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. RAE considers that balancing costs are predictable for a new supplier when entering the market. RAE has not undertaken any regulatory action in cases of non-compliance of the TSO regarding the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.10. Italy

In Italy, AEEG is in responsible for approving the balancing regime/involved in the approval process. AEEG has issued the main provisions regarding balancing rules through Delibera 137/02. Such deliberation has also introduced the main obligations on transporters to prepare the Network Code subject to regulatory approval. The balancing system in Italy works as follows:

Italian gas transport system

- Snam Rete Gas is the main Italian transport operator, owning nearly the totality of the national network

Daily Energy Balancing Regime

- Shippers nominate on a daily basis and are incentivised to maintain a balanced position by means of imbalance charges;
- The transporter performs a “residual” balancing role.

Physical network balancing

- By law, the transporter is responsible for real-time flow management and physical system balancing;
- Under a daily balancing regime, hourly modulation is provided by the transporter (entitled to recover the relevant costs);
- Tools available to the Dispatching Centre on the gas day: system line-pack and storage;
- Under the Network Code, the transporter is expressly authorised by shippers to use all available storage capacity in case of a mismatch between nominated and actual flows;
- In case of gas emergency:
 - In case of excess gas, the transporter may curtail flow from import;
 - in case of gas shortage, the emergency procedure approved by the Ministry of Industry is applied

Provisional balance (day after)

- At the end of each gas day, metering of gas quantity and GCV at each intake and off-take meter;
- By 11:30 on gas day D+1, G+1, the energy balance of each shipper is provided for day D (for non daily metered (NDM) readings substitution with shippers’ nominations)

Final Balance (month-end)

- Calculation of final energy balance for each shipper, for each day, on the basis of validated meter readings; reference for invoicing of commodity charge and penalties;
- For NDM sites, daily “profiling according to predefined formulas; allocation rules for shared meters.

Daily balancing fees

- In accordance with the provisions of Articles 17.1, 17.2 and 17.3 of AEEG’s Delibera 137/02, at the end of each calendar month the transporter will levy a charge on the imbalance in excess of specified tolerances to shippers without a storage account.

Capacity overrun charges

- In accordance with provisions of Articles 17.5, 17.7, 17.8 and 17.9 of AEEG’s Delibera 137/02, if, during the gas-day, a shipper uses capacity greater than that assigned at each point (i.e., connection with foreign pipelines and national production, exit and redelivery points), it incurs overrun charges.

Capacity overrun charges at the storage hub

- In accordance with Article 17.4 of AEEG's Delibera 137/02, each shipper using transportation capacity at the storage hub greater than that assigned is obliged to pay to the transporter- to reflect the use of unbooked capacity- an overrun charge.

AEEG has approved/been involved in the approval process of the balancing period used in the balancing regime currently in place in Italy. AEEG has also approved/been involved in the approval process of both the intolerance charges and the penalty charges. Such issues are also regulated through AEEG's deliberation 137/02 and actually specified in the network code.

AEEG reports that balancing costs are part of the overall transportation costs and public information is not available.

AEEG does not think that there are any aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. It also feels that balancing costs are predictable for a new supplier when entering the market.

AEEG states that publication of the ERREG GGP-GB did not have an impact on the design of the current national gas balancing regime.

In terms of the current status of the balancing regime, AEEG describes it as soon to be replaced. The current balancing regime is considered to be mature and not market-based. AEEG recently published (April 2008) a Consultation Document proposing a possible reform of the actual the balancing system by focusing on, inter alia, market based mechanisms, the role of the main TSO, the balancing period (daily and within-day).

3.11. Ireland

In Ireland, the Commission for Energy Regulation (CER) is responsible for the approval of the balancing regime/involved in the approval process, the monitoring of the implementation and the management of the amendment process. The balancing regime works as follows:

The Irish Transporter, as a reasonable and prudent operator, is obliged to ensure the physical balance of the Irish gas transmission system. The Transporter accordingly enters into Balancing Gas Contracts to provide or dispose of quantities of natural gas required to ensure the physical balance of the transportation system. The cost of balancing the system is administered through a 'disbursement account' which is 100% funded by/to the shippers.

To minimise the required number of balancing actions by the Transporter, a charging mechanism for penalising individuals for imbalances is in place. The Daily Imbalance Charges is the charging mechanism in place in Ireland to incentivise shippers to balance their gas flows i.e., their inputs onto the system and their off-takes from the system. A shipper may trade imbalances with other shippers over seven days.

Any remaining imbalances are charges paid by a two-tier system. The First Tier Imbalance Quantity means the portion of a Shipper's final Daily Imbalance Quantity in respect of a day that is less than or equal to the Shipper's portfolio Tolerance for the Shipper for the day. The final imbalance quantity is the First Tier Imbalance Price multiplied by 0.95 or a price

equivalent of the UK on the day commodity market (OCM) System Marginal Sell Price published by Transco in respect of that day (“System Marginal Sell Price”).

The Second Tier Imbalance Quantity means the portion of a Shipper’s Final Daily Imbalance Quantity in respect of a Day that is a greater than the Shipper Portfolio Tolerance for the Shipper on that day. The final imbalance quantity is the Second Tier Imbalance Price multiplied by 1.05 or a price equivalent of the UK OCM System Marginal Buy Price published by Transco in respect of that day together with the imbalance Gas Transportation Costs (“System Marginal Buy Price”). The Shipper’s Portfolio Entry Tolerance is 1.5% for both Moffat and Inch.

The Shipper’s Portfolio Exit Tolerance is as follows:

Sector/Size (Annual Quantity)	Exit Tolerance %
LDM> 1,500,000,000 kWh (LDM 1)	4.5
LDM> 260,000,000 kWh to 1,500,000,000 kWh (LDM 2)	12
LDM> 57,500,000 kWh to 260,000,000 kWh (LDM 3)	25
DM	40 of DM Exit Allocations.
NDM	2.5 of NDM Exit Allocations.

In terms of the current status of the balancing regime, CER describes it as maturing, pointing out that CER and the Northern Ireland Regulator are currently considering creating a single balancing system under the Common Arrangements for Gas programme. CER also states that the publication of the ERGEG GGP-GB has not had an impact on the design of the national gas balancing regime.

CER is responsible for approving/has been involved in the approval process of the balancing period(s) used in the balancing regime. CER approves any modifications of the Code of Operations. The current balancing rules were approved as part of the overall regime when Ireland moved to an Entry/Exit tariff in April 2005. In Ireland, the balancing period itself is specified in the network code.

As far as charges are concerned, CER is not responsible for approving/has not been involved in the approval process of both intolerance and penalty charges. Instead, CER considers the daily imbalance charge in place a sufficient penalty to disincentivise imbalances. CER approves the related Daily Imbalance Charges areas of the Code of Operations.

CER has stated that the TSOs in their jurisdiction do not publish information regarding the overall balancing cost on their web page. However, Daily Balancing Buys and Balancing Sells Information is published on the Gaslink website on a monthly basis.⁷ This information

⁷ See <http://www.gaslink.ie/index.jsp?p=136&n=183>

is published in Energy (KWh) and Volume (KCM). The NRA is therefore not informed regarding the TSOs overall balancing cost.

CER stated that in its view, there are no aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. Furthermore, CER also thinks that balancing costs are predictable for a new supplier when entering the market.

CER has not undertaken any regulatory action in cases where TSOs were non compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.12. Luxemburg

In Luxemburg, the Institut Luxembourgeois de Régulation ('the Institute') is responsible for approving the balancing regime/involved in the approval process, monitoring the implementation and managing the amendment process. There is collaboration in the system design process with the TSO and approval by the regulator after public consultation. A public consultation on balancing is currently ongoing.⁸

The balancing system in Luxemburg works in the following manner:

There are 3 entry points (PEA, PEB, PEF) which are the interconnection points with Germany, Belgium and France and 2 exit points (PFD, PFI). All entry flows are for domestic consumption, no transit exists. The sum of the nominations on entry points (increased by 0.3% fuel gas) equals the sum of the nominations on exit points. Re-nominations are possible. Allocation equals nomination on entry points. Allocation on PFI is the sum of the metered quantities consumed by industrial users directly connected to the transportation grid. Allocation on PFD is the metered quantities of the distribution zone. Imbalances on PFD are allocated by a clearing entity to suppliers in the distribution zone.

Balancing Rules: Daily imbalance tolerance ($\pm 3\%$ / $\pm 5\%$ winter/summer), Hourly imbalance tolerance, Cumulated imbalance tolerance. Penalties apply outside tolerance levels. Imbalance prices are 90%/110% of the highest price reported between the Dow Jones Zeebrugge Index for Natural Gas (DG ZIG) and the System Marginal Price (SMP) if the imbalance is inside the tolerance band and 70%/150% for imbalances outside the tolerance band.

The Institute describes the balancing regime as maturing. The Institute reports that following the publication of ERGEG's GGP-GB there has been no impact on the design of the national gas balancing regime. In Luxemburg, the balancing periods are approved by the Institute/the Institute is involved in the approval process. The balancing period itself is specified in the TSO balancing contract. The Institute is involved in the approval/approves both intolerance and penalty charges. There is an ongoing public consultation on the approval of the balancing regime, including the proposed charges.

⁸ See http://www.ilr.public.lu/gaz/consultations/conspub151008/Manuel_et_contrat-type__equilibre.pdf

The Institute reports that the TSO in its jurisdiction does not publish information regarding the overall balancing cost on their web page, because there has not been any request from shippers to do so.

The Institute has not undertaken any regulatory action in cases where TSOs were non-compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7), because there have been no obvious cases of non-compliance. The Luxembourg system is still exempted from the application of Regulation 1775/2005/EC by derogation from Art 16a.

3.13. The Netherlands

In the Netherlands, the Office of Energy Regulation NMa, is responsible for approving/involved in the approval process of the balancing regime. The system can be described by the following features:

- Combination of a non market and a market-based regime
 - Non market-based part: A system with tolerances levels according to 1.12 and 1.20 GGP-GB
 - Market-based part: The costs for balancing the gas network by the TSO is established using a market-based mechanisms.

This system will be replaced by a new balancing regime by 1 January 2010, which will be a fully market-based system.

The Office of Energy Regulation states that the publication of the ERGEG GGP-GB has not had an impact on the design of the national gas balancing regime.

The Office of Energy Regulation is in charge of approving/involved in the approval process of the balancing periods. The responsibilities include approving the proposal from the grid operators containing the proposed balancing period and the responsibility for making sure that the balancing periods are included in the transport code. The balancing period is specified in the network code.

The Office of Energy Regulation is responsible for approving both intolerance and penalty charges. The TSO does publish information regarding its overall balancing cost on its web page. In addition, the NRA is informed of the TSO's overall balancing cost.

The Office of Energy Regulation thinks that there are indeed aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets, such as:

- Availability of on-line information is only available regarding the balancing status of the network. This is an advantage for shippers with a large portfolio.
- No on-line based information available on the balancing status of network users. This is especially a disadvantage for a shipper with a small portfolio.

The Office points out that work is ongoing to improve the information availability situation. By July 2009, balancing information will also be available to network users. The Office does not think that balancing costs are predictable for new suppliers when entering the market.

The Office of Energy Regulation has undertaken regulatory action in cases where TSOs were non-compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.14. Poland

In Poland, the Energy Regulatory Office is responsible for approving/involved in the approval process, monitoring the implementation and managing the amendment process of the balancing regime. The balancing regime works as follows:

The balancing system is based on daily balancing periods. The settlement procedure refers to a gas day starting from 22:00 of the day n-1 to 22:00 of the day n. Charges pertaining to imbalance are specified below. Each is calculated separately for each entity. Trading and pooling of imbalance positions are not allowed.

a) Charge for daily imbalance

Daily imbalance is the difference between the actual gas quantity delivered into the transmission system and off-take from the system during the relevant gas day. It is expressed in m³. Respective charges are calculated individually for each entity. There are two imbalance limits: Daily Limit of Imbalance (DLN) and Maximal Daily Limit of Imbalance (GDLN). The former limit accounts for 5% (15%) and the latter limit 15% (45%). Each of the limits depends on the size of contracted capacity. The quantities in brackets apply to contracted capacity Km under 15,000 m³/h. The differentiation of the limits is to protect small and new market participants. The criterion Km=15,000 m³/h is calculated as a sum of contracted capacity at all entry points. The service of imbalance in the range below the first tolerance level (i.e., below DLN) is included in the transmission fee. Going beyond the Daily Limit of Imbalance (DLN) and Maximal Daily Limit of Imbalance (GDLN) is subject to charge. There are 2 rates of fees: the first one for imbalance ranging from DLN to GDLN and the second one for imbalance exceeding GDLN.

b) Charge for nomination deviation

Nomination deviation is the difference between the nominated value for a given exit point from the transmission system and the actual off-take quantity during the relevant gas day (and respectively nominated value for a given entry point and the actual gas quantity delivered). It is determined separately for each physical entry and exit point for a relevant gas day and is expressed in m³.

Charges for nomination deviation are calculated individually for each entity. Applied fees are calculated as a quotient of the size of the standard deviation, indicator and reference price of gas (CRG), resulting from the purchase price of gas bought by the TSO. The nomination deviation above the limit of 10% is subject to charge.

c) Charge for incremental imbalance

Incremental imbalance is the sum of imbalance in subsequent gas days during a month. The limit value (MNIN) is set at 20% (40%) of daily average gas quantity in a given gas month, calculated on the basis of monthly quantities for a given month in Yearly Nomination. The quantity in brackets applies in the same way as in case of

charges for daily imbalance (i.e., for contracted capacity Km under 15,000 m³/h). Incremental imbalances above the tolerance level (MNIN) in a given month are subject to charges.

In terms of the current status of the balancing regime, the Energy Regulatory Office describes it as emerging and developing. ERGEG's GGP-GB has had an impact on the design of the national gas balancing regimes and was used as an argument in discussions with the TSO. The Energy Regulatory Office is responsible for approving/involved in the approval process, as part of the approval process of the grid code. The balancing period is specified in the network code. In the process of drafting the grid code, the Energy Regulatory Office has underlined that GGP-GB should be adhered to.

The Energy Regulatory Office is neither in charge of approving the intolerance nor the penalty charges. Recently, the Office has asked the TSO to submit an improved methodology for calculation of charges with greater emphasis on quality parameters.

The Office states that the TSO does not publish information regarding overall balancing cost on its webpage. The Office is being informed of the overall imbalance costs of the TSO. Furthermore, the Office thinks that there are indeed aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets, in particular:

- 1) Imbalance settlement in volume units is applied. Lack of settlement in energy units can be perceived as a barrier.
- 2) Settlement of imbalances is carried out for one area – on the level of the transmission grid. Actual gas quantities from all entry and exit points are taken into account. However, there is an obligation to submit daily nominations for each physical entry and exit point. Moreover settlement of nomination deviations is carried out for each individual point separately. It is a result of a lack of zones.
- 3) Balance zones have not been introduced.
- 4) Lack of entry-exit system. A point to point system is in use.

The Office stresses that any improvement related to these points would require a modification of the existing legal framework before any changes can be made.

The Office feels that balancing costs are predictable for a new supplier when entering the market. The Office has not undertaken any regulatory action in cases where TSOs were non-compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.15. Portugal

In Portugal, ERSE is responsible for designing, approving/involved in the approval process, monitoring the implementation and managing the amendment process of the balancing regime. The balancing system works as follows:

The balancing period used in Portugal is daily. Market players must manage the natural gas supply and demand balance within the leeway margin derived from the maximum and minimum stock allocated to each of them. If a market player breaches the maximum and

minimum stock limits allocated to it in the transmission network, this creates a situation of individual imbalance, which is subject to a penalty scheme approved by ERSE in the framework of the incentive mechanism to restore the individual balance. The penalties are established following a proposal made by the transmission system operator, in the context of its global technical management of the system. The application of penalties does not release market players from their obligation to correct their individual imbalances and they must restore their stock to within the established limits.

Infrastructure operators within the national natural gas system are responsible for proposing the amounts of natural gas that correspond to the maximum and minimum stocks of their infrastructure, as well as the methodology for allocating such stocks to market players. The methodology for allocating the amounts of natural gas to market players is approved and published by ERSE.

An operating reserve has been established with a view to securing the integrity of the national natural gas system's infrastructure, particularly the transmission network. This operating reserve is the amount of natural gas required to meet short-term needs, resulting from possible differences between the profiles of injection into and extraction from the transmission network in the intraday period and the restoration of natural gas amounts due to minimum stock infringements by the market players, which may threaten the integrity of the transmission system.

Operating reserves must be constituted by the market players and use thereof is the exclusive responsibility of the transmission system operator in its role as global technical manager of the system. The amount of natural gas allocated to the operating reserve, as well as the methodology for determining the tranche corresponding to each market player, are approved by ERSE through a proposal made by the transmission system operator in its role as global technical manager of the system.

As far as the current status of the balancing regime is concerned, ERSE describes it as developing. ERSE states that the publication of ERREG's GGP-GB has not had any impact on the design of the national gas balancing regime, because the gas balancing regimes were approved before the publication of GGP-GB. Since the introduction of the balancing regime there was no need to apply imbalance charges and so ERSE believes that the actual framework is performing satisfactory.

ERSE approved the regulatory framework for all processes of the balancing regimes, including the balancing period. The balancing period is specified in the network code.

ERSE is responsible for approving/involved in the approval process of the penalty charges. ERSE has the responsibility for approving the rules on penalty charges. In Portugal there are no intolerance charges; imbalance is free within the tolerance. The penalties are calculated with a formula approved by NRA relating to gas prices.

ERSE states that the TSO does not publish information regarding overall balancing costs on its webpage. The balancing cost methodology is approved by the NRA and is published (adopted and published on the website of the Portuguese NRA - ERSE). The NRA is therefore informed regarding the overall balancing cost incurred by the TSO.

ERSE does not consider that there are any aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different

markets. Also, ERSE states that in its view, balancing costs are predictable for a new supplier when entering the market.

ERSE has not undertaken any regulatory action in cases where TSOs were non-compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7), given that the Portuguese regulator has already incorporated in the regulations the principles outlined in Regulation 1775/2005/EC (Article 7). To date, ERSE has not observed cases where the TSO was non-compliant.

It is important to point out that in the process for the development and modification of network code or regulatory framework, all stakeholders are involved, and it includes a public consultation, giving every agent the opportunity to express their opinion.

3.16. Slovenia

In Slovenia, AGEN, the Energy Agency of the Republic of Slovenia, is responsible for the design, the approval/involved in the approval process and the monitoring of the implementation of the balancing regime.

The Agency is responsible for the methodologies in which balancing rules are designed in a fair, non-discriminatory and transparent manner to ensure that the balancing rules are based on objective market-based criteria. The Agency also has a role in approving the network code, before balancing rules are implemented. In Slovenia, the balancing regime is a daily balancing system.

AGEN describes the Slovenian balancing regime as developing and soon to be replaced. In AGEN's view, the publication of ERGEG's GGP-GB has had an impact on the design of the national gas balancing regime. In addition, the transmission system operator is now preparing a new methodology for the balancing regime in which aspects of the ERGEG GGP-GB, especially with regard to the safe, secure, efficient and reliable operation of the network, have been taken into consideration. This also includes the requirements for balancing rules to be designed in a fair, non-discriminatory and transparent manner according to objective criteria.

AGEN as a regulatory authority is also involved in the approval process of the balancing period, as it is responsible for the approval of the balancing regime (including the balancing period) and balancing rules which are defined in the "Act determining the methodology for charging for the network charge for the gas transmission network

AGEN is involved in the approval process of intolerance charges for imbalances, but not in the approval of penalty charges. In Slovenia, the TSO does not publish information regarding the overall balancing cost incurred on its web page, because there is no legal basis for this. However, AGEN, as a regulatory agency, is informed of the TSO's balancing costs.

AGEN does not think that there are potential advantages for incumbents or any other aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. Also, AGEN is of the view that balancing costs are predictable for a new supplier when entering the market.

AGEN has not undertaken any regulatory action in cases where TSOs were not compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.17. Spain

In Spain, CNE participates in the design and approval of the balancing system(s), and it is responsible for monitoring the implementation. The balancing system in Spain works as follows:

The balancing regime is described in the Spanish network code, which is approved by Ministerial Order and published in the Official Asset. The network code is also published on the Ministry of Industry web page⁹ and also available at the Technical System Manager web page (Enagas).¹⁰ This balancing regime applies to every agent (facility owners and users) acting in the Spanish gas market.

It is important to point out that in the process for the development and modification of the network code, all stakeholders are involved and it includes a public consultation, giving every agent the opportunity to express their opinion.

The users have the following rights regarding their stocks in the infrastructure:

- In the transmission and distribution network, users can store a minimum amount of gas equivalent to half a day of the user's daily contracted capacity, except in the case of network users with contracted transmission and distribution capacity lower than 0,5% of the total contracted network capacity. More gas in the network results in an imbalance. Less gas in the network than needed to meet their demand (because the user has not nominated enough re-gasification or entries through international connections) also results in an imbalance.
- In the re-gasification plants, the users have the right, included in the re-gasification fee, to store an amount of LNG equivalent to 5 days of their daily contracted re-gasification capacity in the terminal. Additional days can be stored by paying an extra fee. Stored LNG overall in the 6 LNG terminals results in an imbalance when it exceeds 8 days, in monthly average, of the total contracted re-gasification capacity in the system. Less LNG in the plant than needed to meet their demand (i.e., due to ships delays) also results in an imbalance.

The Technical System Manager carries out two types of balancing:

1. Individual daily balancing for each user, taking into account gas injections and withdrawals from each facility. The objective is to provide the users with information in order to help them control and manage their gas stocks. It is also a tool to detect imbalances. The balancing is broken down as follows:
 - Daily balance at transportation and distribution pipelines
 - Daily balance at underground storage facilities

⁹ See <http://www.mityc.es/Gas/Seccion/NGTS/>

¹⁰ See <http://www.enagas.es>

- Daily balance at LNG terminals

The network code establishes a procedure for those users that do not agree with the results of their balance and request a revision from the Technical System Manager.

2. Physical daily balancing at every facility, in order to assure correct facility management and to control and minimise gas losses associated with the operation.

Information on the results of both types of balancing is available for every agent on the Technical System Manager IT platform for TPA. Non-confidential information is also published on the Technical System Manager web page.

In terms of the current status of the balancing regime, CNE describes it as maturing. CNE states that the publication of ERGEG's GGP-GB has not had any impact on the design of the national gas balancing regimes. The principles and characteristics specified by the GGP-GB for the balancing system are already included in the Spanish gas balancing system, so no changes were required.

CNE is involved in the approval process of the balancing period used in the balancing regime. The regulator takes part, with representatives of all the agents in the market (TSOs, DSOs, SSOs, LSOs and consumers) in the groups that develop and modify the network code, so the regulator participates in the design. The regulator also plays an advisory role for the Ministry of Industry, responsible for approving the final version of any rule to be included in the network code. CNE's role is to prepare a non-binding report on the final proposal which is then sent to the Ministry of Industry. The balancing period is defined in the network code, which is approved by Ministerial Order, which is also included in the national law. CNE is involved in the approval of both intolerance and penalty charges.

CNE states that the TSOs in its jurisdiction publish information regarding overall balancing cost on their web-pages. CNE does not think that there are any aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. CNE also feels that balancing costs are predictable for a new supplier when entering the market. CNE has not undertaken any regulatory action in cases where TSOs were non-compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7), since there has not been any failure to comply with it yet.

3.18. Sweden

In Sweden, the Energy Markets Inspectorate is responsible for approving the methods used for the calculation of balancing charges. The natural gas market in Sweden works as follows:

Sweden's market model is the same the model used in the Nordic countries in the electricity sector. The base for the market model is the point-of-connection tariff. This means that the end-customer books capacity within the connection point with the network owner (usually a distribution network owner). This booking gives the customer access to the whole network, including the transmission system. The distribution network owner books capacity within his connection point with the nearest upstream network owner, usually the transmission network owner, for the portfolio of customers in his network. The customer can then buy gas from any supplier. The supplier does not book any capacity in the system (they are called suppliers; "shippers" do not exist in this market model). The supplier takes the gas to the Swedish

border, and then it sells the gas to the customer, without needing to book capacity in the system. The customer pays for access to all networks in the tariff/payment to his nearest network owner. Payment to the supplier includes the cost for the gas itself and for transporting the gas to the Swedish border. If the customer changes supplier, the booking of capacity is not affected.

Participants

- Transmissions network owners (currently two companies) – responsible for operating and maintaining the network, tariffs and contracts for downstream network owners/customers.
- Distributions network owners (a few companies) - responsible for operating and maintaining the network, tariffs and contracts for customers (downstream network owners), and signing contracts with upstream network.
- System responsibility (the public utility Svenska Kraftnät) - responsible for balancing the system. Svenska Kraftnät designs a balance responsibility agreement which is signed with the responsible balancing parties. Svenska Kraftnät carries out the settlement of imbalances with the responsible balancing parties.
- Responsible balancing parties – sign a balance responsibility agreement with Svenska Kraftnät. The parties must plan to balance their intake and off-take (for their customers), and are economically responsible to Svenska Kraftnät for their imbalances.
- Suppliers – supplying gas to Sweden. The supplier can choose to be a responsible balancing party or buy that service from another party. The supplier must ensure that there is a responsible balancing party assigned to every off-take point in the system where it delivers gas.

Balancing regime

The main tool for balancing the Swedish system is line-pack. Currently, line-pack is of considerable size, amounting to 30-40% of a winter day's consumption. The responsible balancing parties are given daily tolerance levels based on available line-pack. As long as their accumulated imbalances are within tolerance levels, there is no charge. Instead, the responsible balancing parties compensate physically for that imbalance over time. Outside of tolerance levels, the responsible balancing parties buy or sell gas to/from Svenska Kraftnät. This 'balance gas' has a penalty charge. The imbalance settlement is carried out on a daily basis.

To adjust for balance gas sold to or bought from the responsible balancing parties, Svenska Kraftnät trades with the responsible balancing parties. Svenska Kraftnät asks the responsible balancing parties for bids on the volume to be bought/ sold.

Svenska Kraftnät also trades with the responsible balancing parties at a neutral price to adjust for correction of measured off-take.

Possible actions in case of critical operational situations

There is a small storage facility in the Swedish system, holding about 10 MNm³ of gas. Svenska Kraftnät is allowed to order off-take/intake of gas, for balancing reasons, at a market-based compensation rate.

As a last tool for balancing the system, Svenska Kraftnät is allowed to order interruption of off-take; network owners are interrupted and are responsible for the interruption of end-customers.

As far as the current status of the balancing regime is concerned, the Inspectorate describes it as developing. The gas market is under construction, as it has not been long since the gas market was deregulated. As far as ERGEG's GGP-GB are concerned, the Inspectorate states that the balancing system in Sweden fulfil parts of the GGP-GB. In addition, the body responsible for the balancing regime is an authority and not a private company, as is usually the case in Europe. The GGP-GB takes almost no consideration of the structure of the gas market in Sweden; e.g., the concept of shippers is not used in Sweden, the body being responsible for the physical balancing is actually a national authority.

The Inspectorate has not been involved in the approval process of the balancing period used in Sweden. This responsibility resides with the TSO, Svenska Kraftnät. The balancing period is specified in the national law. The Inspectorate is also not involved in the approval of intolerance or penalty charges, stating that the NRA does not approve any charges. The task of the NRA is, among others, only to approve the methodology for the design of the balance agreement. The purpose of this is to ensure that the terms of the agreement are non-discriminatory, non-biased, and transparent.

As far as the publication of information is concerned, the Inspectorate states that the TSO does not publish information regarding overall balancing costs on its webpage, because the TSO is a national authority which provides public access to official records. Therefore the information is available for the public, when requested. The Inspectorate, as an NRA, is not informed regarding the TSO's overall balancing cost.

The Inspectorate does not think that there are any aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. Also, the Inspectorate feels that balancing costs are predictable for a new supplier when entering the market. The Inspectorate has not undertaken any regulatory action in cases where TSOs were not compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).

3.19. UK (GB)

Ofgem is involved in the design of the system and the approval process of the balancing regime, including the monitoring of its implementation. The system was originally designed via an industry-wide consultation and its implementation was approved by the NRA. The current balancing regime in GB can be characterised as follows:

The current balancing regime is based on daily balancing interval. The trading arrangements consist of:

- Regulatory, contractual obligations and commercial incentives on shippers (i.e., anyone who has a licence to introduce, transport and take gas from the National Transmission System) to provide NGG (as system operator) with accurate nomination information ahead of, and on, the gas day about their intended inputs to and off-takes from the network;
- Contractual obligations on shippers, under the network code, to use reasonable endeavours to flow gas onto the system consistent with the uniform flow rate obligation ('the 1/24 rule');
- Scheduling charges on shippers for differences between their final nominations and actual flows at input and off-take;
- Commercial incentives, set out in the network code, on shippers to balance their inputs and off-takes each day;
- The commercial incentives on shippers to balance are created through the application of the 'cash-out mechanism'. Shippers' inputs to and off-takes from the system are metered or allocated each day. Any imbalance (the difference between input and off-takes) is 'cash-out', with NGG buying or selling the imbalances from the shipper in its role as the residual gas balancer;
- Commercial incentives on NGG to undertake its role as residual gas balancer in an efficient manner.

Ofgem describes the current status of the balancing regime as maturing. Ofgem states that the publication of ERGEG's GGP-GB has not had any impact on the design of the national gas balancing regime. According to Ofgem, the gas trading arrangements pre-date ERGEG GGP-GB, and are considered to be compliant with it. Ofgem has approved the balancing period used in the balancing regime in place. Following industry consultation, the decision to approve the balancing periods lies with the regulator. In GB, the balancing period is specified in the network code. Ofgem is involved in the approval of the intolerance charges.

As far as the publication of information by the TSO is concerned, Ofgem states that the TSO does publish information regarding their overall balancing cost on their web page. Ofgem reports that in its view, there are no aspects of the national gas balancing regime that act as a potential barrier to new entrants or as a barrier to gas trade between different markets. Ofgem also feels that balancing costs are predictable for a new supplier when entering the market. Ofgem has not undertaken any regulatory action in cases where TSOs were not compliant with the balancing requirements outlined in Regulation 1775/2005/EC (Article 7).