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ACER Report on the implementation of the Balancing Network Code

First edition

7 November 2016

ACER - Agency for the Cooperation of Energy Regulators
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The ACER-ENTSOG 2014 report on the early implementation of the Balancing Network and the 2015 Report on the status of the implementation of the Balancing Network Code assessed the legal implementation of the provisions in the Balancing Network Code (Regulation (EU) No 312/2014). Those reports revealed that the implementation of the Code was progressing along multiple time schedules and along several options.

This Report, beyond the issue of legal compliance, explores the efficiency of these various options in achieving a market-based approach to balancing. It uses a detailed assessment methodology consistently applied to each national balancing methodology. It provides conclusions and recommendations across the EU, for the options considered and per Member State evaluated.

Disclaimer: The conclusions in this Report are based on data collected mainly until the end of September 2016. Certain Member States were faced with a legal implementation deadline of 1 October 2016. In those instances and to the extent possible, data was collected during October 2016. However, sufficient time is necessary to properly assess those regimes, and the preliminary conclusions reached in this Report will have to be reassessed in the coming year.

Related documents

- Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0036:0054:en:PDF>
- ACER-ENTSOG Report on the early implementation of the Balancing Network Code (BAL NC) – 22 October 2014
http://www.acer.europa.eu/en/Gas/Framework%20guidelines_and_network%20codes/Documents/ACER-ENTSOG_Report_BAL_NC_Early_Implementation-Final_22-Oct-2014.pdf
- Second ACER-ENTSOG Report on the status of the implementation of the Balancing Network Code – 9 November 2015
http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/Second%20ACER-ENTSOG%20Report%20on%20the%20status%20of%20the%20implementation%20of%20the%20Balancing%20Network%20Code.pdf

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Executive summary

Rules on gas balancing aim at facilitating gas trading across EU balancing zones and at contributing to market liquidity. Harmonised Union-wide rules on balancing have the objective to create an appropriate environment for network users to manage their balance positions in the different balancing zones of the Union in an economically efficient and comparable way.

This Report by the Agency for the Cooperation of Energy Regulators (the 'Agency') assesses the implementation and the effectiveness of the national approaches regarding gas balancing against the provisions and the objectives of the EU Network Code on Gas Balancing of Transmission Networks (the 'Code')¹. The Report promotes the implementation of the Code and highlights learnings from the national implementations.

In this context, the Report aims to assess and draw learnings from the key features of the national gas balancing approaches and evaluates how those underpin the development of the short-term markets. To compare the effectiveness of these approaches, the Report uses an assessment tool, which describes in a standard manner the different gas balancing regimes. This standardised approach allowed assessing the different approaches associated with key features of the Code across the EU.

Main conclusions from the Report...:

- **Some legal interpretations of the Code do not take into account its intent and main objective, which is to enable functioning short-term wholesale markets.** The terminology of the Code is not used consistently across EU Member States, leading to varying interpretations and inconsistent national implementations.
- **Implementation optionality and flexibility undermine the intent of the Code.** While their intent was to reflect local constraints, the current options offered by the Code triggered inconsistent implementation and delays. The delays mainly apply to the Member States opting for interim and/or transitory measures.
- **Full implementation is not yet achieved and will require further effort across the EU.** While the challenge is greater for countries that have not yet enabled short-term markets, most countries show some degree of non-compliance and/or inconsistent implementation.

... and its recommendations:

1. **National Regulatory Authorities ('NRAs') and stakeholders in each Member State should regularly monitor progress.** Communication between stakeholders and NRAs within each Member State must be improved. Stakeholders and NRAs must regularly assess the progress made in implementing the Code and reflect on local developments to deliver the best possible outcomes for the market and ultimately for the consumers.
2. **It is necessary to improve knowledge sharing and dialogue across the EU.** Best practices in creating liquid short-term markets must be shared across the EU, possibly with the support of the Agency and ENTSOG.
3. **The European Commission may consider taking enforcement actions in the coming years.** The observed slow implementation of the Code will be reassessed in the next Report. Delays in the implementation of key features may justify enforcement or infringement procedures by the European Commission.

¹Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks Text with EEA relevance, OJL 91, 27.3.2014, p. 15–35

Part I – Overview of the Report

The ability to absorb mismatches between flows onto and out of gas transmission systems is limited by the compressibility of gas and the ability to accommodate pressure variations within the network. The amount of gas in the system must be kept within acceptable operational tolerances on a daily basis. This is generally referred to as gas balancing.

The present Report assesses the European implementation of a set of gas balancing regimes as defined in the Network Code on Gas Balancing of Transmission Networks (the ‘Code’).²

Part I provides an overview and summarises the conclusions of the Report. It also details the approach followed by the Agency for the Cooperation of Energy Regulators (‘the Agency’) to monitor the implementation of the Code.

In Part I, we present:

- the purpose and the structure of the Report;
- the origins and content of the Code;
- the Agency’s approach to monitoring the implementation of the Code;
- the assessment tool used for this monitoring exercise;
- an evaluation of the strengths and limits of this monitoring exercise; and
- a summary of the main findings and recommendations of the Agency.

1 Purpose and Structure of the Report

Purpose of the Report

The Agency shall monitor the implementation of the Code³. The primary purpose of the Report is to fulfil this legal obligation. Building on previous work⁴, the Report further aims to highlight learnings and promote the implementation of the Code by:

- identifying challenges in implementing the Code;
- defining a framework to assess if and how the Code has been implemented;
- assessing if this implementation resulted in reaching the primary objectives of the Code; and
- where implementation has been postponed, assessing the plan of removing interim measures by April 2019.

Ultimately, the aim of this Report is to encourage a continuous process of self-evaluation by gas Transmission System Operators (‘TSOs’), National Regulatory Authorities (‘NRAs’) and market players, about both the compliance and effectiveness of the national implementation.

² See n (1).).

³ See Article 9(1), third subparagraph, of Regulation (EC) no 715/2009 - the Agency “shall monitor and analyse the implementation of the network codes and the Guidelines adopted by the Commission [...] and their effect on the harmonisation of applicable rules aimed at facilitating market integration as well as on non-discrimination, effective competition and the efficient functioning of the market, and report to the Commission”.

⁴ See Section 3.

Structure of the Report

The Report consists of three parts.

Part I provides the context in which the analysis was built and presents the main conclusions reached. This part comprises four chapters.

Part II assesses the main features of the Code. It comprises eight chapters, each of which is dedicated to a specific feature, like short-term market facilitation, operational balancing, etc. The chapters compare the result of implementation against the aim of the Code, and include feature-specific observations and recommendations.

Part III assesses the status of the Code implementation on a country-by-country basis, detailing the results of national implantation, based on the features already described in Part II.

2 Introduction to the Code

2.1 Origins and rationale of the Code

Origins of the Code

Competition in wholesale and retail gas markets is necessary to achieve an integrated European gas market. Balancing rules foster such competition, by devolving most of the balancing responsibilities from transmission system operators ('TSOs') to network users. This ensures better functioning local markets. It also encourages cross-border exchange of gas flexibility. The European Commission ('EC') therefore requested the early development of the Code⁵.

The Code was adopted by the European Commission as Commission Regulation (EU) No 312/2014 of 26 March 2014.

The Code applies to balancing zones within the borders of the EU⁶, with the exception of countries enjoying derogations⁷.

Rationale of the Code

Prior to the Code, approaches to gas balancing varied widely across Europe. Often, flexible gas resources were contracted by TSOs or incumbents and they were not accessible to the market. TSOs would manage alone input and offtake flows to balance the network. TSOs would levy charges on network users based upon the differences between network user's inputs and offtakes.

The Code seeks to improve the economic efficiency of gas balancing by devolving the responsibility of balancing to individual network users rather than a monopoly agent. It promotes the creation of markets which allow

⁵ On 13 April 2011, the European Commission initiated the drafting process by requiring that the Agency develops Framework Guidelines. Based on the Agency's Framework Guidelines on Gas Balancing in Transmission Systems of October 2011, the European Network of Transmission System Operators for Gas ('ENTSOG') developed a draft Network Code in close cooperation with the Agency and with the extensive involvement of stakeholders. On 21 February 2013, ENTSOG officially submitted to the Agency and to the European Commission the final version of Network Code on Gas Balancing of Transmission Networks. On 25 March 2013, the Agency issued its Recommendation to the European Commission to adopt the revised Network Code.

⁶ Energy Community Contracting Parties will follow the Code implementation based on deadlines agreed by their Ministerial Council. The implementation of the Code in these Countries is not in the scope of this report.

⁷ Listed on page 12.

TSOs to procure balancing services from network users, and network users to trade imbalance positions, on a non-discriminatory basis. The short-term value of flexibility is established between willing buyers and sellers based upon their individual assessments of risks and opportunities. Efficiencies derived from market functioning were assumed to offset the costs of facilitating that market, when compared with the dominant/monopoly balancing role of the TSOs. The desired outcome is that network users get close to balance, both individually and even more in aggregate, and this leaves the TSOs with a small, but critical, residual balancing role.

2.2 Aims, aspirations and limitations of the Code

Overview of the Code

The Code offers a path to the creation of a liquid balancing market, by imposing on TSOs the creation of a trading place and the provision of information to their customers to allow them to trade.

Network-related rules on nomination and renomination procedures, imbalance charges, settlement processes associated with daily imbalance charges and provisions on operational balancing underpin the operation of balancing markets.

Aspirations and limitations of the Code

Ideally, network users will have full daily balancing responsibilities. Network users will be incentivised, rather than obliged, to track their customers' daily offtakes, as these evolve within the day. In doing so, network users will face minimal restrictions to their commercial freedom.

However the local reality of gas network operation may mean that some constraints may be necessary to ensure the physical integrity of the pipeline and continuity of gas supply to customers.

In addition, the implementation of the Code results in TSOs having less control over flows in the network. Previously, they operated the network so as to keep the system within limits following an engineering perspective. The Code introduces a new paradigm. TSOs assume a new role. As far as possible network users should determine the level and timing of flows on the network and, to a reasonable extent, the TSOs should accommodate such market determined flow patterns. As a result, from technical network operators TSOs become market facilitators. Being facilitators, the TSOs must be capable of using resources in ways not originally envisaged and NRAs to support such change. This often represents a major challenge for TSOs and NRAs.

Implementations therefore need to take into account local commercial and physical realities, but must result in a *coherent set of rules* which enables a well-functioning short-term market in the best possible way.

Thus the Code includes some flexibility to reflect local circumstances. The next section explores those flexibilities in implementing the Code.

2.3 Flexibilities in implementing the Code

The Code provides a high degree of flexibility to NRAs and TSOs in their national implementation. This tailoring shall aim to meet local circumstances, including preparedness, physical systems, metering and IT systems and processes and market environment.

The Code offers: (1) three possible dates of entry into application, (2) four possible types of interim measures, (3) four possible types of products to be procured by the TSO for balancing purposes on the Trading Platform,

(4) the possibility to continue procuring resources for balancing via balancing services, (5) the possibility to provide a linepack flexibility service, (6) different lead times for trade notifications, (7) the possibility to choose whether or not to apply within-day obligations ('WDOs') and (8) three types of information models.

(1) Timeline - three possible dates of entry into application

The majority of the Code provisions should have been implemented by October 2015. In some instances, NRAs have allowed a deferral to October 2016. A third option is to defer the implementation until the market is sufficiently liquid to support the implementation of the Code, and no later than April 2019. In the latter case, Interim measures are used to trigger liquidity.

(2) Interim measures – four possible types

The interim measures are:

1. a Balancing Platform, where the TSO is a party to every trade, as an alternative to a Trading Platform;
2. interim imbalance cash-out price, which may be based either on an administrative price or a proxy for a market price or a price derived from Balancing Platform trades;
3. tolerances, where network users are afforded some protection against full marginal cash-out prices on at least part of their daily imbalance;
4. other measures aimed at promoting competition and liquidity of the short-term wholesale market where consistent with the general principles set out in the Code, including the temporary nature of the interim measures.

Where interim measures are used, an annual report is prepared. It includes the steps to be taken to remove the interim measures, the criteria for making these steps and the related timing.

The Code allows interim measures until April 2019. It is for the Commission to evaluate that a failure to try to define and use interim measures to stimulate liquidity would postpone enforcement action until 2019 or failure to implement interim measures properly would trigger enforcement before 2019.

Traded products – four possible types

The four products are:

1. Title products at the Virtual Trading Point ('VTP');
2. Locational Short-Term Standardised Products ('STSPs');
3. Temporal STSPs; and
4. Locational and Temporal STSPs.

Physical networks and access to sources of physical flexibility⁸ vary considerably between different balancing zones. Similarly, the market environment⁹ differs between zones. In such context, liquidity is achievable by means of title products at the VTP. There, all players can compete to buy and sell gas.

⁸ From indigenous supply, cross-border interconnections, LNG, storage and local demands.

⁹ Including the number of network users, state of gas market development, wholesale and retail market concentrations.

However, such transactions may not deliver tolerable flow patterns from a system integrity perspective. TSOs may need tools that are more closely aligned with physical flow changes at particular points on the system or during particular moments in the day. Locational or temporal STSPs are such tools.

(3) Balancing services

TSOs may use balancing services to balance the system in situations when STSPs will not suffice.

(4) Linepack flexibility service

NRAs may approve the offer of a linepack flexibility service by the TSOs to the network users when they observe that such an offer is not detrimental to the development of short-term market liquidity.

(5) Trade notifications

TSOs may take between 30 minutes and, in exceptional cases, up to 2 hours to process a trade notification.

(6) Within-day obligations

NRAs may approve the use of WDOs. WDOs are a set of rules regarding network users' inputs and off-takes within the gas day imposed by a TSO on network users.

(7) Information models

TSO may use one of three models to provide information:

1. the base case, based on day-ahead and within-day forecasts;
2. variant 1, based on apportionment of measured flows during the gas day; or
3. variant 2, based on a day-ahead forecast.

Across the EU as a whole, almost all of these options have been used by the countries in responding to their obligations under the Code. The range and detail of the national implementation options used were reflected in the joint responses submitted to the Agency and ENTSOG by NRAs and TSOs or clarified in bilateral calls with the Agency. Some specific aspects are directly explained in the Report, others are found in greater detail in the Annexes to the Report. Some options could be valued inferior to others when assessing them in different market situations. The most important conclusion is that NRAs shall take responsibility when evaluating the options against each other within the local conditions and make an effort to deliver the best outcomes for consumers.

3 The Agency's approach for the current monitoring exercise

Several reports¹⁰ have already been published describing progress towards the implementation of the Code. This is the first Report from the Agency to fulfil its legal monitoring obligation in respect of the Code¹¹.

The following sections highlight the added value of this Report compared to previous work. They focus in particular on:

- How the Code, including its implicit obligations, serves as a benchmark for the present assessment;
- The information sources used for building the Report;
- The applied methodology to measure compliance.

3.1 Monitoring with a reference to implicit obligations

The Code sets objectives¹², based on explicit obligations as well as implicit ones.

Previous monitoring exercises focused on the letter of the law, i.e. the fulfilment of explicit obligations. This Report focuses on the spirit of the law. It takes account of implicit obligations and on how the objectives of the Code have been achieved.

Assessing compliance with the detailed provisions of the Code is an important monitoring task. Previous reports have been based upon self-assessment by NRAs and TSOs. This Report seeks to assess, in a consistent manner, not only compliance of national implementation with the Code's specifications, but also the effectiveness of the Code implementation by considering how it enables well-functioning short-term markets. Information sources are detailed in Section 3.2. The principles behind the methodology developed for this assessment are described in Section 3.3 below. The detailed methodology is presented in Annex II¹³.

¹⁰ Early implementation reports and latest ENTSOG report :

1. ACER-ENTSOG Report on the early implementation of the Balancing Network Code (BAL NC), http://www.entsog.eu/public/uploads/files/publications/Balancing/2013/ACER-ENTSOG_Report_BAL_NC_Early_Implementation-Final_22-Oct-2014.pdf
2. Second ACER-ENTSOG Report on the status of the implementation of the Balancing Network Code http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/Second%20ACER-ENTSOG%20Report%20on%20the%20status%20of%20the%20implementation%20of%20the%20Balancing%20Network%20Code.pdf
3. ENTSOG BAL NC Implementation Monitoring Report, http://www.entsog.eu/public/uploads/files/publications/Implementation%20Monitoring/2016/BAL0605-16_160126_BAL%20NC%20Implementation%20Monitoring%20Report%202015_Final.pdf

¹¹ See n (3).

¹² See Section 2.2.

¹³ See separate publication

3.2 Information sources and data collection

The information for this Report was provided for each EU Member State¹⁴ by the NRA and the TSOs in their joint responses to two online surveys jointly prepared by ENTSOG and the Agency. These surveys cover the specific provisions of each chapter of the Code. The survey was open from 10 December 2015 until March 2016. Further bilateral exchanges between the Agency and the NRAs took place between April and July 2016 with the aim of data cleaning and better understanding of submissions. Furthermore, these dialogues allowed the collection of additional information on the balancing designs and the most recent implementation updates, where important changes have recently taken place, or were anticipated.

The survey was also open to updates on a voluntary basis from Member States currently enjoying a derogation on the basis of Article 49 of Directive 2009/73/EC: Cyprus, Estonia, Finland, Latvia, Luxemburg and Malta. Estonia contributed¹⁵. Luxemburg joined its balancing system with the Belgian one and implemented a common regime. There were in total 26 responses and one partial response to the questionnaire.

Subsequent discussions have taken place with the relevant NRAs. Where additional interpretation has been made this has been described in the text supporting the assessment, including references to publicly available documents.

3.3 Methodology applied to measure compliance with the Code

The Report follows three approaches to derive conclusions:

- An overview of the situation, combining the main approaches at the EU level (Part II, Chapter 5);
- A specific assessment of a series of features (Part II, Chapters 6-12); and
- The individual assessment of EU balancing regimes/ countries (Part III).

Overall assessment: the matrix

The Agency has used an evaluation tool to summarise the progress made by the Member States. This is a matrix assessing the national implementations against a set of high-level features of the Code.

The single matrix provides a picture of compliance and effectiveness in achieving the high-level objectives of the Code. These objectives connect directly to articles and chapters of the Code. They can be grouped into six key implementation areas:

- Short-term wholesale market enabling (specifically including balancing and transparency provisions of Chapters II and III), Information provision (Article 32 of the Chapter VIII) and Nominations (Chapter IV);
- TSO use of the short-term balancing market (Articles 7-11 of Chapter III);
- Whether a daily cash-out regime is used (Articles 19-22 of Chapter V);
- Whether TSO's neutrality is assured (Articles 29-30 of Chapter VIII);
- The way in which WDOs are applied (Articles 24-26 of Chapter VII); and
- The use and execution of the interim regime (Articles 45-46 of Chapter X).

¹⁴ For the United Kingdom two replies were submitted. This reflects the fact that in the United Kingdom there are two balancing zones, one covering Great Britain and another one covering Northern Ireland. These balancing zones are in different transmission networks and are regulated by different NRAs. In this report Great Britain will be referred to as UK-GB and Northern Ireland as UK-NI.

¹⁵ The preparatory steps made by Estonia in the end were not sufficiently detailed to have them evaluated in the Report.

Many of the above areas are evaluated through a broad set of Code requirements. For example, the “short-term wholesale market enabling” covers whether:

- renominations are enabled and follow Code requirements;
- trade notifications are enabled and processed according to the Code; and
- information provisions are put in place effectively.

This approach provides for a matrix with 23 criteria. This evaluation tool is described in details in Annex II¹⁶.

Policy assessment

Chapters 5 to 12 of the Report assess the requirements for the key issues listed above.

The assessment includes a description of the key elements of the Code which reflects aspiration and intent beyond individual Code provisions. It takes stock of the lessons learnt from the individual Member State assessments.

Member State assessment

Part III comprises individual Member State assessments.

The methodology enables individual Member State assessments using a standard evaluation tool. It delivers an assessment of the compliance, coherence and effectiveness of the national implementation.

While the Report acknowledges the flexibility in implementation deadlines¹⁷, the Member State level analysis points out the obligations from which the Member States were not discharged via the approval to use interim measures. For example, the obligations in respect of information provision and renomination flexibility are reviewed.

Part III assesses whether the overall implementation is *consistent* with the Code requirements. The commentaries provided in these individual assessments may represent a stimulus for discussions within each Member State about which considerations might be relevant to develop its balancing regime further. Regime design and operation should not be considered to be static. For example, the market environment evolves and therefore periodic assessments of how well the balancing regime operates is appropriate.

3.4 Strengths and weaknesses of the Report

The Report assesses the effectiveness of the Code implementation and is not limited to checking mere legal compliance. This assessment is evidence-based, and made objective by the use of a single assessment grid completed for each balancing zone. The assessment values higher the regimes that work for real. Legal implementation which is not coupled with a functioning balancing regime is valued less.

On the other hand, the assessment also takes into account the differences that may characterise the systems and variations in national implementations that may go along with these differences. In addition, despite extensive discussions held with many NRAs to establish individual circumstances and implementation details,

¹⁶ See separate publication

¹⁷ See Section 2.3.

it is possible that approximations still exist in the information provided in this Report. This is because balancing concepts are complex and terminology is not used consistently in all Member States.

Regarding efficiency, the Agency elaborated a set of indicators designed to provide insights into the functioning of the short-term wholesale market¹⁸. The data needed to calculate the balancing effects' indicators is not available at this stage. A comprehensive assessment of the effects of the Code will be addressed in the next year's ACER Market Monitoring Report (the 'MMR'). For this reason, the assessment of the effectiveness of the Code implementation in this Report is incomplete. It will need to be reconsidered in the future, together with the resulting values of the indicators.

Network users' perspective is based both on NRAs' input and bilateral exchanges with the European Federation of Energy Traders (EFET). Feedback was available for a small set of Member States and targeted the largest and more mature markets.

Finally, implicit obligations used as a benchmark may be seen as subjective. They are based on the Agency's understanding of the objectives pursued through the Code and should not be seen as a legal obligation.

Despite these caveats, the Agency regards this Report as an objective attempt to characterise progress towards the implementation of the Code and a *first assessment of the effectiveness of the balancing regimes in the Union* based on the best information available to the Agency at the time of compiling the Report. Next year the investigation could go further as wider understanding about regime operation develops. For example, future reports may be based upon further discussions with NRAs, TSOs and market players, enhanced information about regime operations and greater experience of regime operation and its outcomes.

4 Main conclusions and recommendations

The following section presents a summary of the main results. The issues which emerged during the monitoring exercise will be explored in the relevant chapters and referenced in the Member State assessment sheets, if appropriate.

4.1 Legalistic interpretations of the Code do not take account of the intent of the Code

The terminology of the Code is not used consistently across the EU. Balancing is a technical subject. The Code is a legal text. A purely legalistic approach combined with technical misunderstandings contributes to an implementation that is not consistent across the EU and with the intent of the Code.

The Code was the result of extensive discussions. It contains explicit provisions (e.g. daily balancing and full daily cash out). It also contains implicit requirements. For example, network users are expected to manage their exposures based on expected demand and, for that reason, they should have access to tools and information, before and during the gas day, to manage their risks and opportunities.

¹⁸ CEPA study on Implementation Monitoring and Evaluation of the Impact of the Gas Network Codes and Guidelines on the Internal Market
http://www.acer.europa.eu/en/Gas/Market_monitoring/Documents/CEPA%20FinalReport_Monitoring%20%20Evaluation%20of%20Impacts%20of%20Gas%20NCs_FINAL_Oct%2715.pdf

This Report explains the rationale and intent of the Code. It intends to promote discussions within and between ENTSOG and the broader industry, and with the Agency, on the best ways to implement the Code effectively and to enable well-functioning short-term markets along with it. These discussions could be carried forward to the national level.

4.2 Interactions are crucial for market development

The Code creates an environment in which interactions between relevant actors are crucial. Network users shall be incentivised, not obliged, to balance. TSOs are facilitators and enable the market rather than control it. They shall play a critical role in its development. The information TSOs provide, their management of the system and their balancing action decisions influence how the market operates and develops. In many Member States, the roles of network users and TSOs will change fundamentally as the Code is implemented. Local market conditions will change along with it. National rules will evolve to meet the requirements of a growing market.

The Code provides a framework within which the balancing regime may evolve. Its primary objective is to enable a well-functioning short-term wholesale market. Where the short-term market is not well developed yet, the compliance with the Code and in particular compliance with its “no regrets” steps, such as increased transparency and information provision, the introduction of trade notifications, functioning renominations, are key to ensure improvements in market functioning.

4.3 Implementation optionality and flexibility undermine the intent of the Code

The Code includes substantial optionality in respect of regime design. This was included to enable local circumstances to be taken into account. A “one-size-fits-all” approach would have not been appropriate. For example, the provision of information on absolute timing of balancing action is optional. The implementation in some Member States, albeit based on good reasons and strong beliefs about how transmission systems work, seems to undermine the intent of the Code and trigger delays. The most important conclusion is that NRAs shall take responsibility when evaluating these options against each other within the local conditions and make an effort to deliver the best possible outcome for network users and consumers. Formal compliance with the provisions of the Code is not necessarily the end of balancing regime development, given that the market environment continuously evolves.

4.4 Monitor progress in each Member State

The performance of national regimes should be scrutinised by NRAs, TSOs and the industry. Countries undergoing major transition programmes should plan regular meetings to assess progress and how the regime is operating in practice. Stakeholders should pay attention to liquidity in the local market and at how balancing is functioning. They should assess how the TSO is making use of the short-term wholesale market, how its balancing regime is defined and implemented, and how network users are responding to the risks and opportunities inherent in the regime. During periods of significant regulatory changes, some Member States have found industry meetings as frequent as once a month to be helpful to accelerate knowledge sharing. Member States opting for interim measures may find the adoption of a similar strategy useful.

All balancing regimes should be kept under review, including those that are relatively mature and appear to be functioning well¹⁹. The focus of these reviews shall connect to the recommendations that appear in the Member States-specific assessments.

4.5 Improve knowledge sharing and dialogue across the EU

Many Member States have proceeded from illiquid short-term markets to market functioning reasonably well. They could serve as a case study to inform transition in less liquid market environments.

Knowledge sharing will help overcome terminology difficulties and wider misunderstandings. The Agency's and ENTSOG's working groups and task forces could facilitate knowledge sharing in promoting discussion about new approaches that might be relevant to some of the currently illiquid markets.

Wider industry fora might also be useful to share knowledge, perhaps at a European level, although it is likely that most of the detailed work will need to be explored in national settings.

4.6 The European Commission may consider taking enforcement actions in the coming years

Given the slow implementation in the interim measure cluster, the next Report may indicate where enforcement actions by the Commission might be appropriate. This may be the case in those Member States where no Trading Platform or Balancing Platform is established.

The Commission may also consider opening infringement procedures where no significant improvements to market facilitation and enabling requirements are implemented by the next Report.

4.7 Deliver on Code provisions

For the purpose of the analysis performed for this Report, Member States have been grouped into three clusters, according to their implementation timeline:

- Member States that implemented the Code on 1 October 2015. They have successfully enabled the short-term market, even though they are still not fully compliant with all the requirements of the Code;
- Member States opting for deferred implementation on 1 October 2016. They are at high risk, as any delay would result in non-compliance by this deadline²⁰. Even without delay, the implementations may

¹⁹ For example, Great Britain includes a methodology to determine the cash out small adjustment. This adjustment will influence neutrality cash flows and therefore may create a redistributive effect that could be monitored. Overall, there may be merit in having basic gas neutrality costs close to zero over a period and this might warrant periodic assessment. Similarly, the Netherlands might want to consider whether the operation of its regime might be brought closer to the intent of the Code by reassessing the price applicable to its linepack carry-over service.

²⁰ The deadline was reached while the drafting of this Report was finalised. Only partial information was available, which was not sufficient for the Agency to perform a full assessment of compliance. The preliminary conclusions reached here will have to be reassessed in the coming year

trigger problems, as the regimes kicked off instantly without being properly tested. The assessment of these regimes could therefore not be provided in this Report. Such an assessment would require a data analysis and checks whether the regime operates effectively over a longer time span;

- Member States opting for interim measures. They seem to have made little progress and efforts should be stepped up and the implementation process sped up at least at the level of “no regret” steps.

The Member States assessments²¹ suggest specific improvements for all the Member States, regardless of the cluster they belong to.

4.8 Overview of the Member State-level analysis²²

4.8.1 Cluster of October 2015

Table 1: outcome of the analysis of Member States belonging to the cluster of October 2015
 Member States are sorted by scores, high to low

85-100%	UK_GB	FR	DK	BELUX
70-85%	DE	NL	SI	HU
50-70%	AT			
under 50%				

4.8.1.1 Score between 85 and 100%

4.8.1.1.1 UK-Great Britain

Great Britain implemented the Code from 1 October 2015. Few changes to the previous approach were necessary for compliance. The Agency has no comments or recommendations at this stage.

4.8.1.1.2 France

The balancing regime has been evolving for many years. Significant progress has been made to facilitate the market. The Agency observes that extensive information is provided to the market beyond the requirements in the Code and a regular and open dialogue with market players.

The Agency notes that the evolution of the balancing regime in the TRS zone has been slower than in Peg Nord. The Agency recommends that information is made available at the level of the zone and not only per TSO. The Agency further recommends that the extent of the use of balancing services by TIGF is clarified and phased out, as already done by GRTgaz. In any case, further progress in increasing the liquidity of the market will be achieved with the merger of the two French zones in 2018.

4.8.1.1.3 Belgium and Luxemburg

Belgium and Luxemburg delivered full compliance with the Code by October 2015. The regime features a system-wide WDO that assesses the cumulative within-day imbalance of all network users in aggregate. When

²¹ See Part III

²² The methodology for the assessment of the balancing regimes, including the scoring, is presented in detail in Section 3.3 and Annex II (see separate publication)

imbalances exceed an acceptable range, actions are taken intended to bring the system back to an acceptable linepack range. The costs of such actions are passed on to those causing the imbalances. The size of the range used to inform the TSO's mandatory within-day actions is critical to the functioning of the regime.

The Agency recommends that the size of the range be kept under review by the NRAs - CREG and ILR.

4.8.1.1.4 Denmark

Denmark benefited from the experience of more developed regimes and TSOs of other Member states. Denmark planned an orderly transition. The TSO now continues to evolve the regime in response to discussion with the industry. The Agency recommends that cash-out pricing continue to evolve in the light of experience and to deliver appropriate, but not excessive, incentives on network uses to balance.

4.8.1.2 *Score between 60 and 85%*

4.8.1.2.1 Germany

Germany progresses towards the delivery of a well-functioning short-term gas market. As a temporary measure, Germany continues to use a Balancing Platform.

The Agency observes that Germany provides little information about linepack levels or the extent to which linepack variations can be accommodated on the system. The Agency recommends that Germany considers publishing such information.

The Agency recommends that the NRA - BNetzA - consider further relaxation of WDOs, where it is feasible and without incurring significant costs that cannot reasonably be attributed to those causing imbalances. Such relaxation might improve liquidity and short-term market functioning. Overall, regime performance should be kept under review and comparisons with other regimes made.

4.8.1.2.2 Netherlands

The Netherlands regime was implemented ahead of the entry into application of the Code on 1 October 2015. The regime delivers a structure which is broadly consistent with the intent of the Code.

The Netherlands regime features a system based on WDOs whereby the costs of TSO balancing actions, to address mandated actions when network users' cumulative imbalances exceed pre-determined ranges, are targeted to those causing the imbalances. This maintains a discipline on network users to keep individual cumulative imbalances close to zero. The effect is that a few small residual balancing actions are taken by the TSO.

The Agency observes that within-day liquidity is lower in Netherlands when compared with the other balancing regime considered to have a reliable forward market, namely Great Britain. The intent of the Code was to enable an adequate level of short-term liquidity. The Agency encourages the NRA – ACM -, the TSO and the market players in the Netherlands to monitor and analyse the performance of the balancing regime. This should involve comparisons with other regimes and a review of the trade-offs involved between cost-efficiency and trading liquidity.

4.8.1.2.3 Slovenia

Slovenia opted to implement the Code from 1 October 2015. Liquidity is developing well. There is an open dialogue with market players.

The Agency observes that the extent to which the balancing provisions in the National Code are followed by the TSO is sometimes difficult to evaluate. The Agency recommends that the Slovenian NRA - AGEN-RS - monitor closely whether such implementation is effective.

4.8.1.2.4 Hungary

Hungary opted to implement the Code from 1 October 2015.

The Agency observes that the extent to which the requirements of the Code are followed by the TSO is sometimes difficult to evaluate. The Agency recommends that the two Trading Platforms and the Balancing Platform used follow the timelines of expiry, set by the NRA - MEH. In particular, the Agency welcomes that the Balancing Platform was discontinued this October²³, as this was an interim measure. The next step for improvement will involve a move to a single Trading Platform offering user-friendly registration and settlement fees.

The Agency further notes that a daily cash-out may not be fully implemented for users not registered on any of the Trading Platforms. These users face tolerances, as well as penalties with a trade-off unknown to the Agency.

The Agency recommends that the Hungarian NRA monitor closely whether the implementation of the Code is effective and reviews neutrality provisions. The current provisions penalise those causing imbalances.

4.8.1.2.5 Austria

The Austrian regime delivers most of the foundation elements, necessary to build a satisfactory short-term market, including an information framework, a VTP and a fully functioning Trading Platform involving an Exchange.

However, the balancing rules limit the commercial freedom of network users. The Market Area Manager intervenes hourly on behalf of individual users to maintain an individual network user's nomination position balanced. The individual network user may renominate himself before this action. These rules eliminate the possibility of taking a speculative (imbalance) position and may limit liquidity. The regime effectively mandates that users maintain balanced positions throughout the day in the market area. The regime does not incentivise users to balance.

Additionally, Austria has separate regimes for market area (transmission) and distribution balancing. This creates risks of fragmentation. The Agency recommends that the NRA - E-Control - explore the opportunities better to integrate market area and distribution balancing into a single regime, in a manner consistent with the Code.

²³ The deadline was reached while the drafting of this Report was finalised. Only partial information was available. The preliminary conclusions reached here will have to be reassessed in the coming year.

4.8.2 Cluster of October 2016

Table 2: outcome of the analysis of Member States belonging to the cluster of October 2016
 Member States are sorted by scores, high to low

85-100%				
70-85%	ES	CZ		
50-70%	IT	HR	PT	
under 50%				

4.8.2.1 Score between 70 and 85%

4.8.2.1.1 Spain

Spain implemented the Code on 1 October 2016. The blueprint for the implementation was approved in Circular 2/2015 of 22 July 2015.

Some of the key enablers, for example the MibGas Trading Platform, are already in place. Trade notifications, nomination and renomination requirements, and users' information provision have been implemented by the end of 2015. There may be elements of the regime that were not fully screened by the Agency, given the 1 October 2016²⁴ implementation, especially that some features of this regime were recently approved (for example, specifications of system status information imbalance published since 30 September).

The transition has not provided enough time to test all the elements of the regime before application. The Technical System Manager ('TSM') has used MibGas to procure cushioning gas for the commissioning of a storage facility. The TSM has not used the tool for residual system balancing. Gas used by the TSM and linepack flexibility for users have been gradually reduced.

The Agency recommends that the neutrality of the TSO in terms of revenues/losses be further refined in the coming year. The Agency also encourages that the TSO actions, as well as their costs and impact on individual network users, be closely monitored, especially in the initial period. Network users and the TSO are encouraged to discuss the costs and the impact of TSO balancing actions openly.

4.8.2.1.2 Czech Republic

The NRA – ERU - has approved the full implementation of the Code by 1 July 2016. Before this date, the renomination facility was introduced from 1 October 2015 and a Trading Platform was made available for market players. Rules provide for a prioritisation of title product usage on the Trading Platform for residual system balancing. However, it is not clear that all enablers will be available at the start of full regime operation and there is less clarity about subsequent levels in the merit order.

The way in which the residual system balancer interacts with the market will be critical to how the market will operate and evolve. To trigger response and liquidity, a more transparent balancing decision making process

²⁴ The deadline was reached while the drafting of this Report was finalised. Only partial information was available. The preliminary conclusions reached here will have to be reassessed in the coming year.

would be helpful. The residual system balancer should draw on the experience of other TSOs and inform local market participants about its balancing action decision making.

A major concern about the Czech approach is the existence of the linepack service. The Czech approach effectively constitutes a relief mechanism plus an additional *ex-post* trading tool to mitigate against the risk of daily imbalance cash-out at marginal prices. The Code seeks to promote trading within-day by encouraging market players to deploy physical flexibility and use traded instruments. The effect of the linepack service, in the Czech case, will therefore detract from short-term trading and reduces liquidity before the gas day. The Agency recommends that these trade-offs be reassessed by the NRA.

4.8.2.2 Score between 50 and 70%

4.8.2.2.1 Italy

Italy decided for an October 2016²⁵ implementation.

Operations of the balancing regime before October 2016 did not involve the TSO intervening on a Trading Platform within-day. In order for the TSO to intervene on a Trading Platform within-day, a major step change in the operation of the regime is necessary, specifically in how the TSO interacts with market players. These changes will alter risks, exposures and opportunities of market players. There would be merit in TSO, NRA and market players engaging in constructive collaboration to manage this change. Additionally careful consideration needs to be given to how the TSO's balancing action decision-making processes should evolve, in order best to deliver a well-functioning implementation.

The Agency understands that other important matters, like the way in which information provision associated with non-daily metered ('NDM') load connected directly to the downstream distribution networks, and the TSO's access to storage services, need to be explored in the next edition of the Report.

4.8.2.2.2 Croatia

The TSO currently uses the Balancing Platform for locational products and also buys balancing services. A Trading Platform is expected to be operational as of October 2016²⁶. Trading Platform and the new market rules are consulted and will be reviewed by the NRA – HERA -, as reported by HERA in mid - September. Most rules on information provision and neutrality are being drafted or revised.

As mentioned, for the other Member States opting for transitory measures, these changes constitute a major step in the operation of the regime and since many rules are introduced shortly before the deadline, the changes are difficult to anticipate.

The Agency will verify progress in its next Report.

²⁵ The deadline was reached while the drafting of this Report was finalised. Only partial information was available. The preliminary conclusions reached here will have to be reassessed in the coming year.

²⁶ See footnote above.

4.8.2.2.3 Portugal

Portugal elected fully to implement the Code from 1 October 2016. Final approval of the relevant proposals is anticipated in September 2016²⁷. It is not clear whether the preferred MibGas Trading Platform will include Portuguese STSPs from 1 October 2016²⁸. If not, it is envisaged that the TSO will secure balancing gas from Spain and move it into the Portuguese zone.

Portugal has chosen Variant 2 for the information model, offering one forecast for NDM offtakes, leaving an *ex-ante* balancing responsibility with the network users. This will require a neutrality mechanism that endeavours to target the TSO's costs of balancing the NDM load on behalf of the relevant network users. This methodology is awaited in September 2016²⁹. No balancing services seem to be in place for the period starting 1 October 2016.

Greater clarity about key elements of the regime would be essential in order to reduce the risks associated with its implementation. A more in-depth assessment of the Portuguese regime will follow in the Agency's next Report.

4.8.3 Interim measures cluster

Table 3: outcome of the analysis of Member States belonging to the cluster of Interim measures

85-100%							
70-85%	PL						
50-70%	SK	LT					
under 50%	IE	NI	SE	EL	RO	BG	

4.8.3.1 Score between 70 and 85%

4.8.3.1.1 Poland

The Agency has focussed on the hi-cal Polish balancing zone. Poland is the most advanced in the interim measures cluster. It has made substantial progress towards the implementation of the enduring provisions of the Code, particularly with regard to the TSO making use of a Trading Platform as its primary balancing tool. It has introduced cash-out price rules, albeit with a rather large *small adjustment* of 10%.

Poland has a clear plan for managing the removal of interim measures. Tolerances are to be progressively reduced in a way that is manageable for network users and that enhances short-term market liquidity. The TSO should work with the Trading Platform operator to enhance product offering (inclusion of locational products) and for its opening hours to be increased. This would enable the Balancing Platform to be removed.

The prospects for removing interim measures on, or before 2019, are good.

²⁷ See footnote 25 above.

²⁸ The deadline was reached while the drafting of this Report was finalised. Only partial information was available. The preliminary conclusions reached here will have to be reassessed in the coming year.

²⁹ See footnote 28 above

4.8.3.2 Score between 50 and 70%

4.8.3.2.1 Slovakia

Slovakia has elected to use interim measures.

A Balancing Platform was set up as a first step to cater for local trades. The Platform attracts limited attention, the Agency noted seven trades since February 2016. The detail of the interim imbalance charge calculation (including a small adjustment) are not known to the Agency.

Eustream, the TSO, publishes aggregated system imbalance information with one end-of-the-day projection. This is the minimum requirement and the Agency will assess in its next Report whether improved transparency on information requirements would contribute to a better functioning of the balancing system.

4.8.3.2.2 Lithuania

Lithuania has elected to use interim measures and has concluded the legal implementation of the Code.

Lithuania has a Trading Platform and STSPs are defined; however the TSO does not appear to be making use of Platform. Instead, it uses balancing services, reducing in this way the potential to increase liquidity that comes from TSO participation. This represents a limit to the expansion of the Platform. Lithuania also applies tolerances, which are revised annually, without foreseeing a stepwise phasing out of this mechanism before 2019.

The TSO may need to reconsider that the option for balancing services is economically more efficient than using an exchange. Clarifying whether balancing services or the use of title product on the exchange is more economical would be important to develop the regime further.

4.8.3.3 Score under 50%

4.8.3.3.1 Ireland

Ireland has elected to use interim measures.

The TSO is exploring the regulatory and commercial arrangements necessary to enable a Trading Platform. This process took a lot of time and slowed progress down compared with the original Interim Measures Report ('IMR') proposals, published last year. Steps towards initiating this Platform have been made in October 2016, although no clear commitments are known to the Agency by when this Platform might be utilised.

The TSO currently solely uses balancing services. Currently no price for short-term balancing gas can feed into the cash-out price determination. Substantial tolerances still exist in the system.

Should a Trading Platform be implemented, the TSO envisages to use it as its first source of gas. The Irish implementation is critical to keep up with the initial plan or revise it according to the new conditions.

4.8.3.3.2 Sweden

Sweden has elected to use interim measures.

According to both the NRA and the TSO, Swede Gas balances the short-term physical market with weekly trades. These trades are based on regulations, while prices are determined by the users. The Agency would not consider these weekly trades as title products and they may neither qualify as pure balancing services.

The TSO intends to continue using the current trading model until a joint balancing zone (covering Denmark and Sweden), currently being discussed, is established. More information on this project will be available in 2017. Based on this, the timely withdrawal of the interim measures could be better evaluated.

4.8.3.3.3 UK-Norther Ireland

Northern Ireland has delivered an interim measures report, but has not made progress towards implementing a Trading Platform or using it for residual balancing actions. It has, however, implemented some of the enabling provisions in the Code, establishing a VTP, renomination provisions and NDM portfolio demand forecasts. These assist network users to manage their imbalance exposures and to trade effectively.

Northern Ireland currently accesses flexibility from the upstream Great Britain balancing zone (from NBP) via the use of a balancing service agreement. Northern Ireland may need to consider the development of a Balancing Platform or Trading Platform, if it is to make further progress towards implementing the Code.

4.8.3.3.4 Greece

Greece has elected to use interim measures, although no progress towards the implementation of a plan is evident. Fundamental information necessary to support market functioning is not available, like VTP, system status information or NDM portfolio demand forecast information made available to market players. Trade notifications are not enabled, so there is no chance of a trading market developing, as envisaged in the Code.

Greece should increase efforts and formulate a stepwise plan to implement the Code and make it operational. It already seems unlikely that full implementation of the Code could be achieved by 2019.

4.8.3.3.5 Romania

Romania has elected to use interim measures, although no appreciable progress is evident.

Fundamental enablers, notably the VTP and trade notification facilitation, are not yet in place; network users are obliged to match nominations to achieve a balance and unable to trade to manage their imbalance exposures. The current Romanian approach is to use *ex-post* trading to mitigate against imbalance exposures.

Romania should learn from other, far more developed markets and formulate a stepwise plan to implement the Code. It already seems unlikely that full implementation of the Code could be achieved by 2019.

4.8.3.3.6 Bulgaria

Bulgaria has decided to implement interim measures. The TSO has submitted its interim measures proposals to the NRA - SEWRC -, although the proposals are not yet in the public domain.

So far, very little progress has been made towards the implementation of the Code. A facility to submit trade notifications has not yet been implemented, although draft proposals indicate that two separate VTPs are contemplated, one for transit and the other for the national network. Without a simple single VTP being enabled, it is difficult to see how a short-term gas market could possibly develop in Bulgaria. Furthermore, renomination rights are restricted to +/- 3% changes within-day, severely limiting opportunities for individual network users to deploy flexibility in order to manage their exposures or to offer flexibility onto the market.

Bulgaria should learn from other, far more developed markets and formulate a stepwise plan to implement the Code. It already seems unlikely that full implementation of the Code could be achieved by 2019.

Part II: Analysis of the implementation of the main features of the Code

Part II provides a detailed analysis of the implementation of specific features of the Code. Each feature implementation is assessed against the aim of the Code. The assessment is followed by recommendations.

In Part II, we assess the following features:

- The implementation process;
- The extent of a market-based approach to balancing;
- How TSOs intervene on the short-term market;
- Imbalance charges;
- Neutrality;
- WDOs;
- Linepack service; and
- Interim measures.

5 Three implementation paths

Given the diversity in maturity levels and in the configuration of networks, the Code envisages three different paths for Member States to complete its implementation. These clusters include different Member States groupings following different implementation deadlines.

Member States implementing the Code can learn from the others completing the transition earlier. Learning from previous experiences about how the TSO moved out from balancing services, provided information to facilitate the market, firstly utilised a Balancing Platform, reduced and eliminated tolerances and introduced cash-out prices based on local trades is important. The experience of UK-Great Britain, Denmark, Belgium and France provide good examples on some, if not all, of these matters.

5.1 Implementation overview and timelines

The process of development of the Code recognised that many Member States would have to make substantial changes to enable a fully functioning short-term market. The gas balancing processes envisaged in many of the enduring provisions potentially impact both network users and TSOs, on a 24-hours and 7-days-a-week basis. The Code, therefore, may have substantial impacts on operational activity and commercial exposures of network users, who will have increased responsibilities in respect of managing their commercial opportunities and risks, in the market-based balancing arrangements.

5.1.1 Three implementation clusters

A one-size-fits-all approach was not considered appropriate in all balancing regime design elements. Industry dialogue should, and regulatory decisions would, precede implementation and, therefore, the Code envisaged a target implementation from 1 October 2015. This was approximately two years after the Gas Committee's decision to approve the Code, and approximately 18 months after the Code came into effect in April 2014.

Furthermore, the Code acknowledged that full implementation by 1 October 2015 would be challenging in some Member States, particularly from an information technology perspective. Because of this, NRAs were granted an opportunity to defer full implementation until 1 October 2016, subject to a justified request. Markets take time to evolve and the Code represents a major evolution in the responsibilities of network users and TSOs. Even in the most advanced markets, the Code implies some evolution affecting both network users and TSOs.

For balancing zones with low levels of liquidity, or none at all, it would not be possible to introduce the full provisions of the Code over a short implementation period. Specifically, it would not be practical to introduce full daily balancing (i.e. cash-out of the entire daily imbalance based on the relevant marginal price) immediately. Therefore, an orderly planned transition that allowed time to establish a properly functioning Trading Platform for both TSO and network users' use was envisaged via the use of interim measures. In addition, a set of options, different to the enduring provisions envisaged in the Code, could be used as part of a planned sequence of steps towards the full functioning of the short-term wholesale market. This orderly transition via interim measures was available, subject to NRA discretion, provided the interim measures were envisaged to be removed no later than 2019.

Based on these considerations, Member States could choose from three distinct implementation paths, which are used in this Report as primary clusters. The three groups or clusters are as follows:

- the cluster of 10 Member States or 12 balancing zones opting for the implementation of the Code by **October 2015**;
- the cluster of 5 Member States or 5 balancing zones opting for transitory measures and planning the implementation by **October 2016, at the latest**;
- the cluster of 10 Member States³⁰ or 13 balancing zones opting for **interim measures**.

5.2 Results of the analysis and conclusions

These results summarise the outcome of the evaluation at Member State level undertaken for this Report. They show the implementation challenges that Member States faced. They offer a comparison on how successfully these challenges were, or are being managed.

The analysis leading to these results is detailed in this Part as well as in Part III of the Report.

While the *enabling* of short-term wholesale markets progressed in most Member States, improvements could be made in more than one third of the Member States. **In most cases, where the facilitation of the short-term market is weak, the TSO appears to have an unsatisfactory recourse to the short-term market.** In those cases, transparency must be improved to meet the requirements set in the Code. Overall, 12 balancing zones could look to make some improvements, in some case major ones, in respect of TSO use of the short-term market.

TSO utilisation of the short-term market for most of its residual balancing is a key element and coincides with the intent of the Code. A market-priced cash-out regime, at which the TSO takes balancing actions, delivers an

³⁰ Germany being counted in both clusters (interim and 2015).

incentive for network users to balance. Thus, it is a crucial step in the evolution of the balancing regime and the start of the short-term market. This step will, in itself, encourage liquidity of this market.

The implementation of the **daily cash-out regime seemed to be the greatest challenge, absent the prerequisites of a short-market market or due to the lack of liquidity**. The implementation of the **neutrality** provisions fell also short in many European balancing regimes. Basic **transparency** measures and **data publication** requirements are needed in the context of neutrality, to improve the current situation.

5.3 High level messages about the clusters

5.3.1 October 2015 cluster

The **cluster of 2015** implementers comprises those Member States that had **reasonably developed markets**, when the Code was adopted and, thus, **could go straight for the implementation of the new balancing approach**. This cluster is, however, **not homogeneous** and **delivers implementations which are not fully in line with all the elements of the Code**. It also contains a good example of a phased introduction: Denmark used a stepwise approach to complete implementation by October 2015, by taking some implementation steps earlier, during 2014. Given the lack of liquidity, Denmark could have opted for a less ambitious target. Evolution in Denmark will continue, but it is already close to having an effective regime that complies with both the letter and the spirit of the Code and is working further to improve the effectiveness of its regime.

5.3.2 October 2016 cluster

The **cluster of 2016** implementers includes those **Member States that typically needed more time to get the IT infrastructure in place** to implement the new balancing approach described in the Code. Most Member States in this cluster finalised the legal implementation or testing of the systems towards the end of September, with the exception of the Czech Republic. This cluster will be subject to analysis in the next Report of the Agency, to verify whether the regimes put in place a year later operate effectively.

The Agency is concerned that where the enabling measures, in particular the IT infrastructure, were not put in place and were not used prior to October 2016, the regimes might function poorly. This applies in particular to those Member States where the IT system has not yet resolved how information related to the NDM portfolio will be delivered to network users. As a consequence, **it is hard for these users to manage their balancing exposures without knowing their demands**.

These Member States might have **underestimated the challenges for both network users and TSOs associated with the Code implementation**. Specifically, those Member States where the TSO is not already using the Trading Platform for residual system balancing ahead of October 2016 may experience a poor functioning of the system and/or a slower market development. The period leading up to full implementation afforded an opportunity for TSOs to learn more about how to interact with the short-term market via the Trading Platform. However, the opportunity to test and experiment has not been used a lot in this cluster.

5.3.3 2019 Interim measures cluster

The 2019 cluster's overall progress on introducing all enabling elements (e.g. three Member States still do not have an operating VTP) and utilisation of interim measures has been slow. **Only a few Member States have**

robust and clear plans about how a transition to the full application of the Code will be delivered. Poland is a good example of where a plan has been established, with criteria identified to determine when interim measures can be removed.

Balancing regimes need to evolve to a degree of maturity that delivers a well-functioning short-term market. This means that the operation of the regimes needs to be assessed periodically, with the rules and procedures being refined in the light of experience gained in the process. This is best achieved by the **collaborative efforts of NRAs, TSOs and market players** and, therefore, compliance with the provisions of the Code is not necessarily the end of balancing regime development. For example, refinements in rules and, in particular, the TSOs' approach to balancing action may further evolve to facilitate and improve the short-term market functioning.

5.3.4 Past transitions serve as a model for the current implementation

The experience of Great Britain and Denmark might provide some useful examples about the evolution of balancing regimes.

The substantive refinement of the legal framework in the Great Britain took place over the period 1996 – 2002. Many transitional steps were taken, in the form of several regulatory interventions. These included rule changes, specifically designed to move away from exclusive use of balancing services, providing information to facilitate the market and using, firstly, a Balancing Platform in order to stimulate the short-term provision of flexibility, before moving on to a fully functioning Trading Platform, that met both network users' requirements and the TSO's residual balancing requirements. As confidence developed, the commercial incentives of network users evolved, primarily via the reduction, and then, the elimination of tolerances, which ended with the introduction of cash-out prices, reflective of the price of short-term flexibility, as exhibited in the market. In parallel, the TSO residual balancing policy evolved to meet both the TSO's fundamental objective (to ensure that the integrity of the system is maintained) and best to enable the functioning of the short-term market. Initially, the balancing rules were very prescriptive and designed to stimulate the market, rather than necessarily being cost efficient. Over time, a better commercial approach was taken, and the TSO was encouraged to consider the trade-offs between prices traded for balancing actions and linepack carryover from one day to the next. The evolution of balancing policy continues and the TSO now operates the system in very different ways than would have been previously thought possible³¹. Specifically, the TSO accommodates much larger variations in linepack than was previously the case; the TSO knows that the market will generally respond to the commercial incentives within the regime, which only needs occasional nudging via TSO residual balancing actions.

Denmark has made commendable progress over a very short period in delivering a balancing regime that complies with all of the major elements of the Code. Energinet invested time talking to other TSOs and was able to learn from their experiences, particularly from the regimes in the Netherlands and Great Britain, to inform its initial design. It recognised that a stepwise approach to delivering the Code would be necessary, and so, made substantial changes in 2014, before introducing further changes in 2015. The regime is now in a process of evolution. For example, the residual balancer balancing action decision-making process has been very prescriptive to date, and, this often has significant merit in the early stages of evolution. However, later on, it may be better if the TSO is far less visible or predictable, namely if it behaves just like any other player in

³¹ The following provides background to National Grid's management of the system on days when considerable linepack depletion was observed. This can be downloaded using the following link: <http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=39768>

the market. The residual balancer still has some dedicated balancing services, albeit very much reduced, provided by a storage service contract, but over time, there should be an opportunity where this is dropped. (This has happened, for instance, in France in the Peg-Nord zone). Many other Member States have taken evolutionary steps to enable a functioning short-term market. Member States at an early stage on the journey, or just about to start the journey, should learn from those countries that are more advanced and achieved substantial results. However, mere copying of approaches is not necessary and indeed may be undesirable. Therefore, based on the available experience, individual Member States should develop their own plans to deliver both compliant and effective implementations of the Code.

The journey may not end as soon as a functioning short-term market is apparent. The balancing regime defines a complex system affected by behavioural interactions between network users and the residual balancer. Therefore, the operation of the regime needs to be kept under review to ensure that the regime is functioning effectively and to assess whether improvements can be made or potentially emergent problems need to be managed, given that the market environment is not static, but instead it continuously evolves.

6 Facilitation of shipper balancing and market participation

The fundamental aim of the Code is to introduce a market-based approach for balancing operations by means of network users' participation. The idea is simple: if each shipper is close to balance itself, then the network should overall also be close to balance. Whenever the system is not sufficiently close to balance, or whenever flow patterns envisaged by the network users cannot be accommodated in the system, then the TSOs intervene, as residual players³².

To ensure that network users are able to balance their accounts, including to manage their risks and opportunities, network users specifically require:

- Information;
- Access to gas flexibility;
- Access to network flexibility.

6.1 Information to support market development

Information is a critical enabler of the short-term wholesale market. Without doubt, under a market-based balancing regime, TSOs have a critical role as market facilitators associated with the provision of information. **The precise information needed to support the market may depend upon local circumstances and, indeed, upon the state of market maturity.** However, network users must have appropriate information of an adequate quality to manage their exposures and opportunities.

The requirements of the Code include general information (e.g. relating to overall network status and TSO balancing actions, including balancing quantities, losses/ revenues and usage of the merit order levels), as well as portfolio information (to indicate either actual demand or expected demands associated with part of network user's demands). The Code is not always specific about what should be provided, or when. Its national implementation allows considerable flexibility.

The Code includes three options for users' portfolio information, providing optionality to reflect metering data availability and IT processing capability of the various systems and whether network users use an *ex-ante* or an *ex-post* assessment of daily demand, in respect of NDM supply points.

Thus, information is critical to enable network users to understand their risks (particularly associated with their daily imbalances) and opportunities (associated with trading opportunities and the marketing of surplus flexibility).

The Code specifies some minimum requirements, which reinforce existing obligations and demand new mandated information releases. These information flows are necessary, but may not be sufficient, to support the market and its development. For example, the market may consider that two within-day updates of NDM

³² The residual role of TSOs to balance the system are reviewed in the next chapter.

projections may be inadequate and therefore, if justified from a cost-benefit analysis³³, more frequent information may be desirable.

6.2 Access to flexible gas

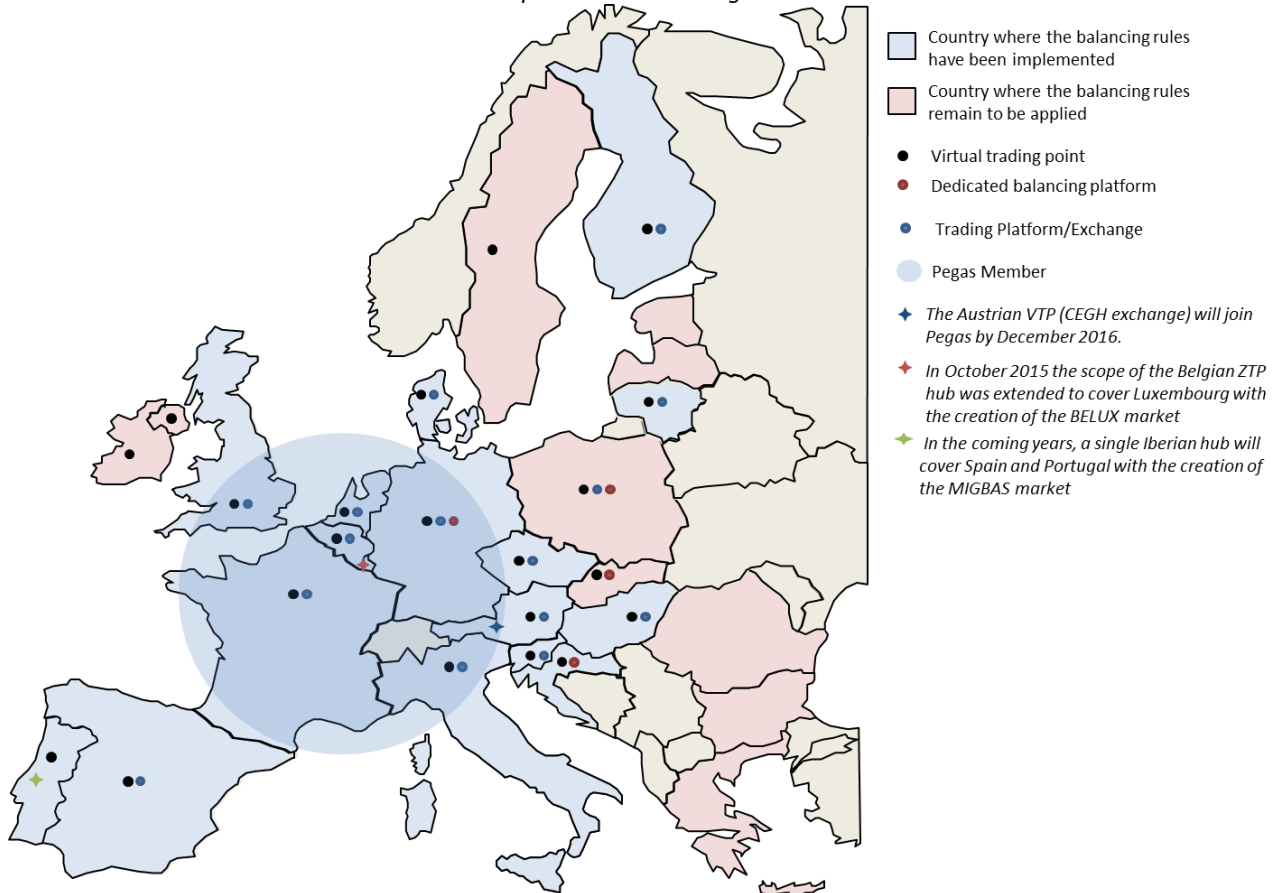
In order to manage exposures and opportunities, network users need to have access to gas flexibility. Gas flexibility enables network users to change either inputs or offtakes to their daily balancing accounts. Network users can source gas flexibility, either via access to physical flexibility (including LNG and storage facilities) or via trading arrangements (including at the VTP). The Code does not directly impact the contractual arrangements between network users and LNG or storage service providers. The Code does, however, define arrangements that will better enable short-term market functioning.

The first measure is the provision of a VTP which enables gas transfer between two balancing portfolios, using trade notifications. Trade notifications should be independent of (re)nominations of gas, associated with physical flows on the network and with a network user's imbalance position. A VTP transaction involving the two trading parties submitting trade notifications is effectively a commercial imbalance swap unlinked to physical gas flows. This transaction constitutes a gas trade. The gas trade will influence the imbalance position of both counterparties. The VTP, therefore, provides a meeting place for buyers and sellers of gas where liquidity can be focused.

The second measure involves the use of platforms. The Code envisages that a Trading Platform will be established to allow trading of products that are attractive for both network users and the TSO. The idea is that, as far as practical, **both network users and the TSO will trade using the same products**, enhancing liquidity in the market place. The Code is sufficiently flexible, so that Trading Platforms can be developed to be fit for purpose in each regime. For example, the Code does not prescribe the credit risk rules applicable to the Trading Platform. Larger or developed markets have generally preferred to use exchanges to address credit risk via full financial clearing mechanisms. However, this is not mandated in the Code. If the costs are considered excessive, alternative approaches can be used in line with the requirements of Article 10(1) of the Code.

³³ Article 38 of the Code.

Map 1: VTP and trading venues



The map above shows the VTPs and the venues established and operated in the Member States. A missing VTP is an obvious impediment to short-term market development. (The VTP is not considered to be a venue, but rather a fundamental enabler). In some cases, Trading and Balancing Platforms operate in parallel, as in Germany or Poland. When multiple platforms are present, liquidity is distributed across these venues. More developed markets have introduced exchanges providing title products. In Denmark, the exchange is the unique place of trading these products. By contrast, in the much larger Great Britain's day-ahead and within-day markets trading volumes are sufficient to support three brokered platforms and the exchange³⁴, the latter representing the Trading Platform³⁵ used by the TSO for its residual system balancing activities.

Table 4 below shows how products and platforms operate together. Access to flexible gas varies significantly across Europe; products are spread across several platforms with diverse rules concerning network users' access.

³⁴ Exchanges bring together market participants to buy and sell (balancing related) title and potentially locational products. When sold through an exchange, users would typically benefit of a clearinghouse to cover counterparty defaults. Following their own rules exchanges provide for the regular publication of the trades, bids and offers.

³⁵ The Trading Platforms would not constitute an exchange. To be qualified as a Trading Platform the provisions of Article 10(1) of the Code must be satisfied, among others anonymity of trades, transparent and non-discriminatory access, appropriate publication of the bids and offers to all participants, etc. Some Trading Platforms may provide settlement services through a third party to mitigate counterparty defaults.

Table 4: Overview of platforms and products

		AT	BELUX	BG	CZ	DE	DK	EL	ES/ PT	FR	HR	HU	IE	IT	LT	NL	PL	RO	SI	SK	UK	
Exchange	Title	■	■		■	■	■		■	■		■		■	■	■	■					■
	Locational					■			■	■				■								■
Trading Platform	Title			■						■	■	■							■	■		
	Locational			■						■	■	■										
	Temporal										■	■										
	Temporal Locational										■	■										
Balancing Platform	Title							■										■	■		■	
	Locational					■																■

Note 1: The current offer temporal locational products in Hungary will expire by the end of November 2016.

Note 2: Light grey areas refer to envisaged or future products.

Note 3: Light blue areas refer to temporary (France) or rare application (Great Britain).

6.3 Access to network flexibility

A VTP transaction defined only by Trade Notifications delivers a commercial imbalance swap unlinked to physical gas flows. The resulting gas trade will influence the imbalance position of both counterparties. **At any time a network user may wish to deploy physical flexibility to manage its commercial exposures and opportunities.** For example, it might have access arrangements with an LNG or storage facility that define gas flow turn-up or turn-down rights. To ensure that this flexible gas can be accessed, it is important that the transmission network accommodates changes to the maximum extent possible.

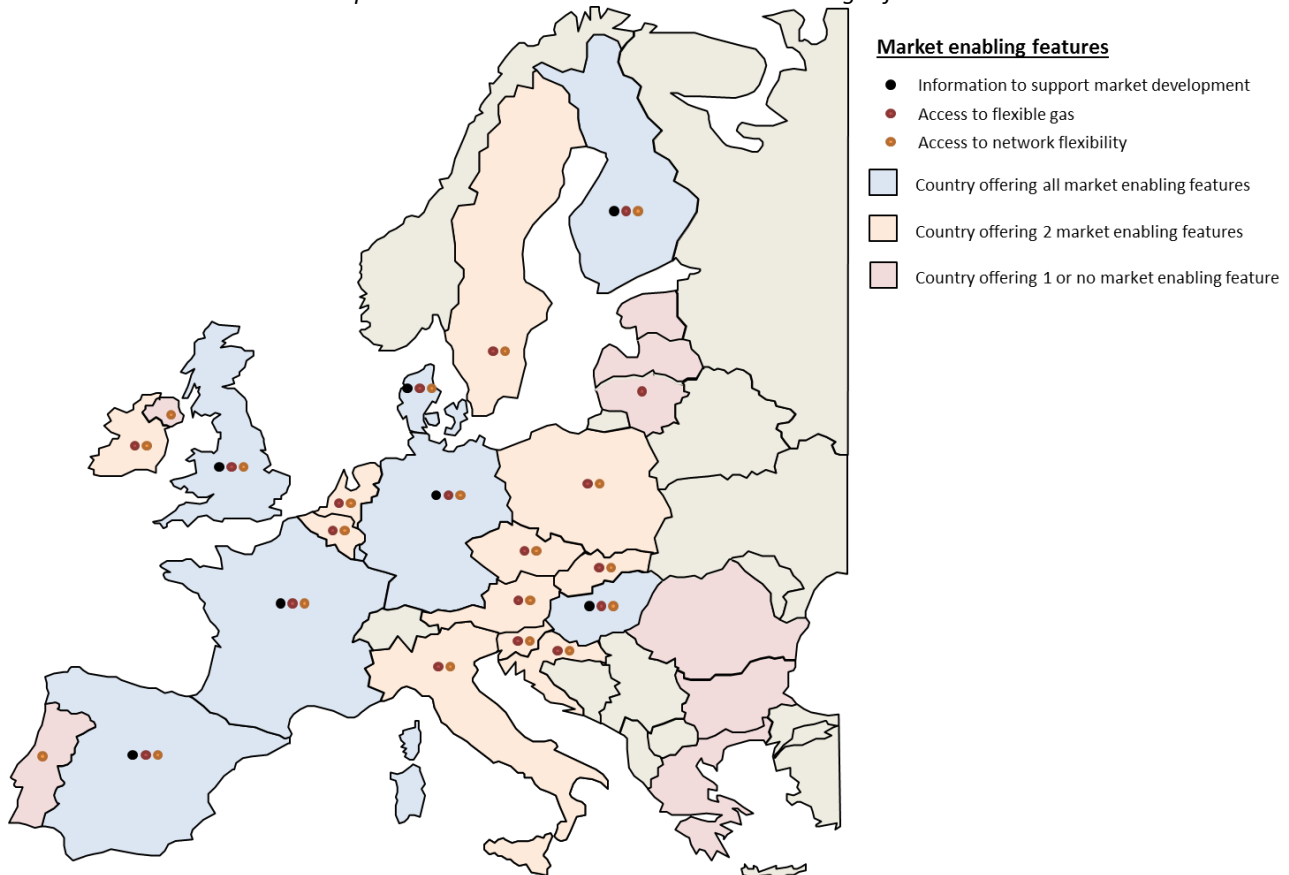
Hence, the Code defines that network user's shall be able to re-nominate gas flows at interconnection points subject to a two hour lead-time, provided the acceptance of the re-nomination does not imply a negative flow rate and provided the re-nomination does not exceed the network user's allocated capacity. The rules are designed to maximise user's access to network flexibility. Two hours should be sufficient for TSOs to adjust flows other than in exceptional circumstances, when rejection of a renomination is allowed and subject to it being reported to the NRA.

Thus, the shipper balancing and market functioning is facilitated by several major elements in the Code. The following Section provides an analysis and associated observations and conclusions relating to the current state of implementation and an assessment of the effectiveness towards delivering well-functioning short-term wholesale markets.

6.4 Results of the analysis on short-term market facilitation

The map below presents an overview on how market-based balancing is facilitated and how effective it is, looking beyond strict compliance with the Code. Some Member States do not present the necessary conditions to foster a market-based approach to balancing; others could improve their regimes to become more effective. The Member State-specific sheets in Part III reveal that, several Member States offering the necessary features would still struggling to do so effectively.

Map 2: Overview on how market-based balancing is facilitated



6.4.1 Information provision

The Agency observes a very mixed success regarding information provision. Such information is key to enabling a market-based approach.

During the day, stakeholders must understand both the system current and projected position, as well as their own position, in order to take the appropriate balancing actions. Without adequate information, it is impossible for market players to manage their risks and opportunities. This is particularly true for network user portfolio demand: if network users do not have the information, or cannot form reliable forecasts of expected offtakes, then they cannot be expected to manage their imbalance exposures. For example, it remains unclear whether network users in Italy will have reliable information about updated NDM forecasts within-day from October

2016. It seems unfortunate that opportunities to define and test key parts of the regime in Italy have not been taken on time.

6.4.2 Access to flexible gas

It is essential to create both a venue where gas trades are registered (VTP) and a platform where stakeholders and TSOs can realise those transactions (Balancing/Trading Platform). However, the existence of such structures is not sufficient. TSOs must use these, as primary tools for their balancing needs. We observe little or no use of such platforms in certain Member States. For example, Trading Platforms exist in Spain and Italy and there might have been merit in the residual system balancer participating in day-ahead and within-day platform-based trading to gain experience prior to the introduction of a full Code implementation in October 2016. The extent to which TSOs favour balancing services through LNG or storage³⁶ is not always transparent. Rules about LNG and storage flexibility are outside the scope of this Report; however, they should be consistent with a market-based approach to balancing. Difficulties for stakeholders to access gas flexibility may still be frustrating market developments, where gas flexibility is particularly concentrated in a few hands. The absence of a VTP in Greece, Romania and Bulgaria may also prevent any opportunity for the pooling of liquidity.

6.4.3 Access to network flexibility

Since the Code entered into force, substantial overall progress has been made towards a market-based approach to balancing. Yet, rules in some places, such as for example the nominated balance restrictions in Austria or the +/-3% renomination within-day restrictions in Bulgaria, seem unnecessarily restrictive. The intent of the Code was to allow network users to run open positions as part of a normal functioning market. A within-day constraint forcing them to balance their position, contradicts the Code. Similarly, restrictions on renomination rate changes should not apply; the provisions of the Code, including the notice period for rate changes, mean that TSOs should be able to accommodate rate changes within capacity entitlements.

³⁶ Spain with LNG flexibility, TRS zone in France and Italy with storage flexibility

7 Operational Balancing Design and TSO use the short-term market

According to the Code, network users share the responsibility for balancing the transmission system. Ideally, the aggregated position of all network users is close to balance on a daily basis. The difference between this aggregated position and the daily balance is the residual imbalance.

TSOs are responsible for the system integrity. They intervene to avoid that the residual imbalance conflicts with the operational limits of the network. TSOs intervene by injecting or withdrawing gas. They may intervene at the hub or at a specific point, over the gas day or over a certain period.

Data recovered from the survey responses allow the Agency to draw several conclusions:

- *On the merit order*
 - Cluster of October 2015 (including Germany): **only half** of these mature markets **rely solely on title products**, the other half use a broader set of options, as allowed by the Code;
 - Cluster of October 2016: these Member States opted for delivering the full balancing regime by 2016. There is a risk that many of the 2016 cluster Member States will not meet the full requirements of the Code. A poorly functioning regime might put network users at risk.
 - Interim measures cluster: many Member States have made poor progress towards the implementation of the Code. This suggests that TSOs have not or only partially performed the necessary steps to try to stimulate the market.
- *On balancing services*

The use of balancing services is not homogenous across Member States. Nine balancing zones do not rely and two others may not rely on these measures. Within Member States using balancing services, this instrument plays a more or less prominent role in the merit order. Six balancing zones show a limited reliance, as balancing services are used as a last option. The other six balancing zones rely on balancing services exclusively or as a first choice³⁷.

7.1 Rationale and implementation of the Code

Ideally, TSOs should access the same market for gas as network users. TSOs must develop Short Term Standardised Products ('STSPs'). These STSPs are made available on a Trading Platform. Network users use the Trading Platform to trade them. Users may be shippers holding transport capacity or pure paper traders. TSOs use the Trading Platform to contain residual imbalances. When TSOs cannot manage residual imbalances via the Trading Platform, the Code suggests alternative solutions. The use of these solutions follows a merit order from the most to the least market-based.

³⁷ Sweden has interim measures that would not constitute a balancing service, yet the products applied would not satisfy the requirements of daily balancing (weekly trades).

7.1.1 Simple title products ensure market liquidity

The preferred option is a **basic title transaction**. This instrument is an imbalance swap. It is not associated with the physical gas flow range requirement. The title transaction is simple. It has a single effect. The product modifies the imbalance position of a network user. Any other products will have more requirements. Those face less competition than title transactions, both among buyers and sellers. A market based on title products will be more liquid and offer lower prices.

7.1.2 More elaborate products could be used when facing a technical constraint

Network users access the market to manage their imbalance. They have no restrictions on how gas is sourced. TSOs must ensure the physical integrity of the system. In some systems, TSOs cannot do so based on title products alone. These will not deliver operationally acceptable flows at all points and over all timescales within the day. To ensure system integrity, TSOs may need access to **other products**. These provide greater certainty of flow changes at particular points of the system, or over particular times of the day.

Where the title product may be insufficient for the TSO, the Code allows for the TSO to define detailed product for **locational and/or temporal products**. These additional STSPs (Locational or Temporal) would also be available on the Trading Platform. Market players would be able to bid or offer these products on the Trading Platform. TSOs (and other market players) would then be able to accept bids and offers. Acceptance would involve the gas trade associated with the bid or offer, plus the modification of the relevant gas flow in accordance with the transaction.

The Code does not set explicit obligations as to whether bids and offers in respect of Locational or Temporal STSPs would be available on any day. This would depend on the market conditions. The use of locational products should be minimised. They are specific, may trigger little competition and could be costly.

7.1.3 Balancing services can serve as a temporary option

Where STSPs do not solve a technical constraint, the Code allows TSOs to use balancing services. This is usually done by activating flexibility contracted and guaranteed a year ahead.

The flexibility dedicated to the TSO via balancing services is out of the market, since it cannot be traded. TSOs who have contracted balancing services to cover certain flexibility will not participate in the short-term market to cover those needs. These combined effects starve the short-term liquidity. To stimulate such liquidity, when TSOs are contracting balancing services, they should consider how to offer unused flexibility onto the market.

TSOs must support the development of the market. Therefore, TSOs must progressively stop reserving large volumes of dedicated flexibility. TSOs must gain experience of using the short-term market. This transition is challenging. The Code specifies that TSOs shall review the use of balancing services annually. They must assess whether they can solve their technical constraints by using STSPs, rather than balancing services.

It is important that TSOs and NRAs, when setting the legal framework for balancing, work in the spirit of the Code and its intent, rather than purely to demonstrate that they have delivered the minimal legal requirements. The Code is based on a presumption that short-term markets will generally deliver more efficient outcomes than dedicated (balancing) services procured and deployed in the medium and longer term by a monopsony, a single buyer.

7.2 Results of the merit order analysis

The different merit orders adopted are presented by clusters according to the adopted date of entry into force.

7.2.1 Merit order – Cluster of October 2015 (including Germany)

This first cluster comprises Member States with typically more mature markets, which have allowed timely delivery of all enduring requirements outlined in the Code by October 2015. The current analysis aims to shed some light on how consistently and effectively these Member States set up their operational balancing regimes.

Table 5 already shows that mature markets use all options offered by Article 9 of the Code. Only four Member States and three markets rely solely on title products.

Table 5: Detailed overview of products' merit order

		AT	BELUX	DE*	DK	FR	HU	NL	SI	UK
Title product	within day/ daily									
	day-ahead									
Locational Product	within day/daily					PegN				
	day ahead									
Temporal products	within day									
Balancing services						TRS				

Based upon the detailed table of the product merit order, the Agency offers the following observations and interpretations

Great Britain is operating only with title products and without active WDOs. Denmark has a similar regime, although limited balancing services still apply. Denmark has gone straight for the full implementation of the Code. It can accommodate title transactions on a relatively small network.

Specific locational requirements allow the TSO to accommodate flows according to network user preferences. Great Britain faced strong incentives and regulatory pressure to transact title rather than locational products. Title transactions were considered more efficient than locational transactions. Locational transactions commanded a premium, reflected in prices. Additionally, National Grid accepts within-day linepack variations, which it would have previously regarded as unmanageable. National Grid now considers those consistent with the enabling of a deep and liquid within-day market.

The use of locational or temporal products is not forbidden. However, the Code asks that TSOs justify such use. They must show that balancing is cost efficient. TSOs must provide data about balancing actions. Such data must include a split by rank in the merit order. A high level of transparency is key for gaining confidence from network users. TSO residual balancing actions have commercial consequences for network users. As a rule, information sought by the market should be provided.

The Agency notices that some Member States, start from a position that only minimum levels of information consistent with legal requirements should be provided. As many market participants have indicated, the opposite should be the case. Requests for information to be provided to the market should be satisfied. Exceptions could be made when the provision of information would cause jeopardy to either the TSO or network users. Additionally, the costs of the information provision should not be so high so that they are greater than the benefits to the market.

Differential prices associated with buying and selling of gas are likely to be high when competition in respect of supply is limited. For example, only few sources can compete against each other for within-day next-hour gas flexibility in the Netherlands, hence the differentials are high. This may generate more overall cost than might be achievable, if preventive actions were taken at a longer lead time or a longer duration of response would have been offered to network users. These are important trade-offs. They need to be considered. They are addressed to some extent in the Dutch regime via the different bands used in determining the specific balancing actions, necessary to address excursions outside of the various levels. The real cost of balancing actions is defined by the quantities of balancing gas, multiplied by the premium or discount applicable for that gas, compared with the underlying commodity value of an equivalent gas quantity³⁸. In sum, using next-hour products may generate higher premium and discounts, therefore these are matters that should be kept under national review, to establish whether the operation can be assessed as efficient.

Germany has to manage the co-existence of high and low-calorific zones, within the respective balancing zones. It uses title transactions in the high and low-calorific zones to effect swaps of gas, although it labels these as taken for locational reasons. The cost of these locational actions is legitimate, if they are efficient. Such efficiency covers the commercial benefits associated with operating virtual zones. Such zones include the physically separated high and low-calorific networks.

TSOs have traditionally been used to calling on physical gas services, where incremental flow changes are necessary, at specific locations. There is merit in making some progress towards a functioning short-term market, using locational products, although this will not result in the same benefits as the title market where that can be used. The current German regime might be a complex one from the perspective of a network user. For example, the merit order includes locational products being sold both on Trading and Balancing Platforms. In addition, the merit order offers the option of buying balancing services, should the system get tight and unmanageable by the products higher up in this merit order.

The Agency understands that the use of title products might create concerns to a TSO at first, as title products do not specify where physical gas flows will take place. A title trade will not necessarily even guarantee a physical response. Hence, TSOs will need to get comfortable with the title product and its workings, which takes time. This is precisely why the Code envisages time, particularly, where interim measures are used, to evolve TSO's balancing policies. TSOs should consider this evolution wherever there is a substantial use of locational products or balancing services.

Locational products could be considered as a substitute for balancing services. At least this would encourage short-term market development. There are examples where the TSO has made commendable efforts to introduce more market friendly approaches to operational balancing. Peg Nord zone in France openly accommodates a wider range of flow patterns. It has stopped using storage to limit linepack changes as of March 2016. Instead, it relies on locational products, where such actions are necessary. This benefits short-

³⁸ It is certainly not the commodity value of the gas, but rather something much smaller.

term market development and is a good example to be followed. TRS zone in France, being a small balancing zone, kept its interests in maintaining tight operational limits on the transmission system and using storage to limit linepack changes.

Belgium has adopted a pragmatic approach of correcting end-of-day linepack carryover via market interventions the following day. This suggests a potential misallocation of cost between days. Such misallocation may distort the cash-out arrangements. The effects are likely to be very small, provided linepack carryover is not material.

7.2.2 Merit order - Transitory measures cluster

Table 6 below outlines the transitory cluster. Implementations have started as of July 2016 in the Czech Republic. For the rest of the cluster, implementations are foreseen to be operational by the latest date permitted under the Code - October 2016.

Table 6: Detailed overview table of products' merit order

		CZ	ES/PT	HR	IT
Title product	within day	1	1	1	1
	day-ahead	2	3		
Locational Product	within day		2	2	2
	day ahead		4		
Balancing services				3	

Note: The tables presents designed merit orders with little or no factual application.

Numbers refer to the order in which options are used, i.e. "1" means that the option is the first one on the merit order list.

Proceeding straight to a fully operational regime in one step is a challenging task and the Agency is surprised that these Member States have not opted for a more comprehensive, stepwise approach to delivering the full regime by 2016 or even electing to go for interim measures.

Short-term markets do not emerge over a short period of time. A properly timed transition should be an essential element of any planned implementation. Member States electing for the 2016 implementation should deliver on all aspects of the enduring provisions of the Code from no later than 1 October 2016 (or such earlier date as determined by the NRA for example, July 1, 2016 in the Czech Republic).

The full regime comprises full information release and market enabling, Trading Platform access and full daily imbalance cash-out based on market prices.

The Agency believes that there is a high risk that many countries of the 2016 cluster will not meet all these requirements. Planning and open dialogue with the network user community are critical to manage these risks and to have robust plans to implement the new regime. Network users need to understand how the residual balancer will interact within the market. This will be critical to secure an orderly introduction and development of the new regime. More effort could have been made for the trial use of Trading Platforms and balancing action procedures, ahead of full implementations.

Progressive implementations³⁹ should be tested when the full regime is introduced.

Key elements of the regime (e.g. MIBgas Portuguese market, in case of Portugal, detailed understanding of the NDM processes and likely accuracies in Italy) may not be in place by 1 October 2016. This is a risk that may need to be managed. Network users need reasonably accurate forecasts to assess their exposures. Local platforms must be enabled and reflect local supply/demand conditions for gas flexibility. Otherwise, network users may face risks which they cannot manage. **A phased implementation, with a focus on information provision and platform trial use, could have been foreseen in the Member States opting for transitory measures. Such phased implementation is necessary where compliance with the Code is not achieved on 1 October 2016.**

Confidence in the market and the TSO's role is built up stepwise. Uncertainties and inadequacies in implementations will delay the appropriately functioning markets.

The Czech system was implemented on 1 July 2016 with a very rigid balancing action policy, prescribed within a binding framework. This rigidity seems inappropriate. Furthermore, we note a "linepack flexibility service" which may be counter to some of the provisions and intent of the Code. The "flexibility service" appears to grant some immunity to cash-out exposure. It has some similar properties to tolerances. These are prohibited, as an enduring regime feature. Further, the service features after the day auctions of unused flexibility. Such auctions effectively deliver an effect akin to *ex-post* gas trading. This was neither envisaged under the Code, nor explicitly prohibited. These features however undermine the incentives of network users to try to balance before or within-day against their expectations of demand. A less prescriptive approach, allowing more flexibility to evolve the regime, key operational parameters and balancing action decision making process might have been preferable.

7.2.3 Merit order - Interim measures cluster

Tables 7 and 8 provide insight into the merit order as planned (Romania, Bulgaria) or implemented (Poland) and interim measures used to define a roadmap to the full implementation of the Code.

³⁹ For example, delivering shipper enabling components, including NDM portfolio forecasts, establishing and trialling TSO balancing on a platform.

Table 7: Detailed overview table of products' merit order

		BG	EL	IE	LT	PL*	RO	SE	SK	UK-NI
Title product	within day									
	day-ahead									
Locational Product	within day									
	day ahead									
Balancing services										

* all the 3 balancing zones are represented

	design elements exist
	other measures are applied

Table 8 Detailed overview table of interim measures planned

	BG	EL	IE	LT	PL*	RO	SE**	SK	UK_NI
Balancing platform		Q2 2017			all the 3 zones	no dates	2018	Q1 2016	
Alternative to balancing platform	2015					2015			
Interim imbalance charge	Q2 2016 (not ready)				SGT & Low methane	no dates	no dates		2015
Tolerances	2015	no dates	2015	2015	High cal zone	no dates			2015

Note: The dates referred in the table are start up dates for interim measures.

* Polish annual review on interim measures Q4/2016

** Ongoing project studying potential benefits of a joint balancing zone consisting of DK and SE is under discussion.

Many Member States have made poor progress towards the implementation of the Code. For example, even the fundamental element of a VTP has not been established in Bulgaria, Greece and Romania. Without this fundamental enabler, it is difficult to make progress towards a meaningful short-term market or application of the merit order. Either a Balancing Platform or a Trading Platform, as venues at which STSPs can be traded, is an essential element to enable a transition, away from complete reliance on balancing services. **The fact that neither a Balancing nor a Trading Platform has, so far, been created and used in many Member States suggests that the TSO has not performed the necessary steps to try to stimulate the market. Balancing policy needs to be formulated to encourage and stimulate the short-term market.** A market will not develop unless

this step is taken. The market will not develop until some stimulus is made. Member States can wait for a market, but the Code envisages that TSOs shall and will act to stimulate the market by seeking to establish Trading Platforms and by applying a merit order to stimulate trading in short-term products, rather than place full reliance on balancing services (Lithuania).

In addition, no clear targets about the desired market liquidity have been established. This has often left interim plans without clear objectives and criteria for subsequent development steps to encourage the market or to define the point at which interim measures can be withdrawn to leave a self-sustaining regime.

The evolution of Poland, at least in its high calorific zone, is noteworthy with evidence that it was using the exchange for balancing actions, as demonstrated by the Q4 2015 data provided to the Agency. This should help stimulate the market. The interim measure plan indicates one of the criteria for the removal of the interim measures: a level of short-term liquidity comparable with the one from an adjacent market.

For the case of Ireland, a well-defined first interim measures report singled out a stepwise plan. Ireland benefitted from significant market developments. These developments were associated with significant new indigenous supplies. Such supplies exceeded local demands this summer. These market developments have created an urgent requirement to enhance the regime. Next developments, such as the introduction of a Trading Platform and TSO balancing using STSPs may come quickly. In the meantime, the implementation and execution of the plan has fallen behind schedule. Ireland expects a full implementation in 2017. The development of the Trading Platform needs to come soon. Recently, Ireland has introduced a temporary change in the cash-out regime reducing the spread to the proxy price applied. This is a temporary solution until the Trading Platform becomes available.

Germany's interim use of a Balancing Platform detracts from its otherwise full implementation of the Code. Steps might be taken to define the relevant STSPs for use on a Trading Platform to overcome this shortcoming. In order to progress, TSOs need regulatory support to establish Trading Platforms or, where necessary for an interim, Balancing Platforms. Such Platforms will allow the provision of short-term flexibility onto the market. Specifically, they will allow the TSO to act as a stimulus to the market.

7.3 Results of the balancing services analysis for all clusters

This analysis complements the merit order analysis. Balancing services are typically contracted on a bilateral basis, between the TSO and a counterparty. Typically, this counterparty is an incumbent or major adjacent infrastructure owner. The balancing contracts usually provide for a sole provider who guarantees the desired flexibility to the TSO over a period. This period is typically a year. TSOs used balancing services extensively before the implementation of the Code. Some TSOs may need to retain such services, at least at reduced levels, during a transition to full reliance on short-term products.

Balancing services have two drawbacks: first, very few can compete to offer the necessary flexibility to the TSO and, second, once contracted, the flexibility is frozen out of the market and it cannot be offered to anyone else (even in the case where the TSO is not going to use it).

The Code was developed on the premise that short-term wholesale markets deliver greater efficiencies than exclusive longer-term contracts. TSOs will need to gain confidence on the ability of short-term market to provide the flexibility necessary for them to fulfil their residual role. Migration needs to be planned and best practice shared to ensure that timely progress is made.

Despite detailed requests, some NRAs or TSOs did not reply, or gave unclear responses regarding the existence and deployment of balancing services. The analysis is based on high-level observations, as illustrated in Table 9.

Table 9: Overview table of balancing services regimes

Criteria	BG	DE-NCG&GP	EL	FR(TRS)	HR	LT	SI	UK-NI
Sources	Linepack, storage	Every physical point of the zone	LNG	Storage	Storage	VTP	Entry points	GB market
Frequency of procurement	Y	shorter than Y	Y	Y	Y	Y	Y	Y
Annual reduction of volumes foreseen	-	Yes	No	Yes	No	Yes	Yes	No

Note: IE,DK have not provided information. CZ, IT, SK: removed from the table as their balancing services were phased out.

The lessons learnt from the application of the balancing services are drawn from all the clusters for balancing services.

The utilisation of balancing services is not standard across countries, as eight Member States do not rely on this option for balancing the network (Austria, Belgium, Luxembourg, Spain, Hungary, the Netherlands, Poland⁴⁰,)and the Great Britain)⁴¹ and possibly two other Member States – Italy and Portugal - may also refrain from their use of it in the near future. Despite the progress made by these Member States, **balancing services remain in use in various other networks. Their annual review by the TSOs, as foreseen by the Code is desirable** to promote a reassessment of the requirements, consider lower levels of procurement and deployment, so that greater reliance can be placed on the short-term market.

For those countries using balancing services, the **reliance on this instrument varies with the position it occupies in the merit order. Five Member States** – Croatia, Denmark, France (in the TRS zone), Germany, and Slovenia - **showed limited reliance** on balancing services, as their use was a last resort in the merit order.

On the other hand, six Member States – Bulgaria, Greece, Ireland, Lithuania, Romania and Northern Ireland - **relied exclusively on balancing services**. Bulgaria and Romania reported to rely exclusively on interim measures, alternative to Balancing Platform. The Agency understands this as to involve a major dependence on balancing service contracts, although the NRAs indicate that these are not fully aligned to the criteria set out by the requirements of Article 8 of the Code. The Swedish regime applying weekly trades could not be properly classified based on the terminology of the Code.

⁴⁰ At the Branice IP Balancing services contracted and deployed were small. This agreement expired on 1 October 2016.

⁴¹ Similarly, Slovakia and Czech Republic communicated the application of balancing services for Q4 2015. Since the first and the second quarter of 2016 both regimes underwent changes and adopted new balancing rules. The status of balancing services in these countries will be reviewed in the next Report, since NRAs have not provided a new merit order by the time the drafting of the report was closed.

It is likely that most balancing services currently in use could be substituted with STSPs and, thereby, procured on the short-term market via either a Trading Platform or via a Balancing Platform. NRAs must investigate whether STSPs could better meet the TSO's requirements. This investigation must include the potential design of STSPs to replace the balancing services. NRAs must assess whether the use of the balancing services can be reduced for the next year.

Some countries have already made significant progress in this respect. For example, in the PEG-Nord zone in France, GRTgaz used to contract directly storage services. GRTgaz used this flexibility to guarantee the integrity of the system. During the 2015/16 winter, it worked with the local gas exchange PEGAS, to define a simple electronic interface that would enable a locational product to be trialled. GRTgaz and PEGAS adopted a pragmatic approach to IT system demand to keep costs down, but to deliver adequate IT functionality that enables this trial product. Over the winter, GRTgaz observed that the simple functionality worked well. Market players made sufficient product offers. GRTgaz decided not to contract for storage services from April 2016, but use locational product instead.

Energinet.dk in Denmark has also made significant progress in moving away from balancing services. Traditionally, Energinetnerginet.dk has had access to balancing services provided via access to storage facilities. Given the topology of the network, it may be possible to rely on solely the title product. Storage contract quantities have been reduced. The market has delivered flexibility, which used to be provided by Energinet.dk's storage services. Storage services have not been totally eliminated yet from the TSO's toolkit, but the quantities have been substantially reduced.

8 Daily imbalance charges and cash-out regime

The cash-out price concept is designed so that network users would do better resolving imbalances by themselves in the market, rather than allowing anticipated imbalances to be cashed out. The setting of the - cash-out prices is critical to the functioning of the regime. As TSOs should have a residual balancing role, involving small and infrequent balancing actions, it is the cash-out incentive and the differential price between the marginal buy and the marginal sell price defined by the small adjustment to create sufficient to trigger for a network user to resolve its imbalance.

Data recovered from survey responses is presented mainly for the October 2015 cluster, given that cash-out regimes are not fully functioning in the interim and transitory clusters.

8.1 Rationale and implementation of the Code

After a long debate involving the industry, NRAs decided to use a daily settlement regime. The major driver was that full imbalance cash-out (rather than any element of carry-over from day-to-day) at prices determined by the market activity, would encourage trading and foster liquidity the best.

The implementation of the daily **imbalance cash-out must deliver the incentive for network users to achieve a daily balance**. It is critical for such approach to provide adequate incentive for individual network users to balance their daily gas accounts. Such incentive should not be excessive. If all network users are close to balanced, then overall, the flow of inputs and offtakes onto the transmission system will be close to balanced. The TSO will have few requirements to intervene, except where preferred flow patterns of network users cannot be satisfied.

The cash-out regime defines the exposures faced by the network users. These exposures need to be proportionate when compared with the tools available to the network user to manage such exposures. If this is not the case, then, the network users individually face inappropriate risks that will generate inefficient outcomes. Network users will manage volume imbalance risks, where they accurately forecast their demands and they have access to liquid Trading Platforms. Network users will manage imbalance price risks where cash-out pricing reflects warranted price volatility. The **TSOs act prudently in the same market as network users**, and the small adjustment reflects little more than the marginal transaction costs associated with network users trading to manage their exposures.

8.1.1 The elements of the cash-out regime

Daily imbalance cash-out involves two elements. First is the calculation of the daily imbalance. Second is a financial settlement process that extinguishes the daily imbalance via a payment made by the network user or a credit made to the network user.

The daily imbalance is calculated as gas credits less gas debits in the daily account. Gas credits correspond to the energy quantities associated with entry allocations into the balancing zone plus acquisitions of gas traded at the VTP, within the zone. Gas debits comprise gas exit allocations from the zone plus sales of gas traded at the VTP. Network users with a positive imbalance are over-delivered. Those with a negative imbalance are

under-delivered. The financial settlement process delivers a financial settlement between the network user and the balancing settlement agency.

The Code features a cash-out regime, where those who are under-delivered on the day, buy gas to make up the shortfall. Those who are over-delivered, sell gas. The Code requires that cash-out prices are determined taking account of prices from the Trading Platform that the TSO uses. This ensures that the derived cash-out prices are market-based and, therefore, reflect the value of flexible gas on that day. Additionally, the cash-out prices take account of any prices at which the TSO might trade for balancing gas. Cash-out prices take account of adjustments. Such **adjustments ensure that the prices for under- deliveries are higher than those applied for over- deliveries**. The two resulting prices are described as marginal and the Code provisions are defined to ensure adequate incentives to balance.

Many aspects of the broader balancing framework are critical to ensure that the imbalance cash-out regime can be defined in a way that delivers **fair, but not excessive, balancing incentives for network users**. Information must be available. Trading Platforms must operate well. TSOs must actively transact for balancing gas in the same market as network users.

8.2 Results of the analysis and conclusions

8.2.1 Good progress has been made in the Member States belonging to the October 2015 cluster.

The assessment focuses on the October 2015 cluster, given that cash-out regimes are not fully functioning in the interim or transitory clusters. Cash-out measures in the interim regime cluster is often an administered price, rather than a price that is formulated by the market. The assessments of the Member States in Part III will give a deeper insight in this respect.

Table 10: Overview on the small adjustment applied in cluster countries 2015

Country	AT	BELUX	DE	DK	FR	HU	NL	SI	UK-GB
Small adjustment	No*	3% for causers, 0% for helpers	2%	Positive: +0.5% Negative: -2%	2.50%	0%	No*	10%	around 3%

*AT: has a carry forward.

NL: has not implemented daily cash-out, see further references in the WDO chapter.
Great Britain uses a fixed and absolute value that currently translates into just below 3%

8.2.2 The small adjustments should be set at levels incentivising network users to balance their position

Cash-out pricing derived from markets where both network users and TSOs trade for balancing purposes, are essential to delivering the proportionate incentives. The Code prescribes small adjustments to deliver incentives. Generally, these appear to be of suitable magnitudes. The differential in Slovenia appears larger than might be desirable.

The small adjustment should be set at such a level that it provides a sufficient incentive for network users to balance their own account, rather than being cashed out. This small adjustment might be assessed against the administrative cost of a trade. This may be assessed via the transaction of a Platform trade. Alternatively, it might be set based on the costs of physical flexibility. For example, it could be set via reference to storage services charges.

The level of the small adjustment might also warrant consideration in the context of neutrality cash-flows. There may be merit in the small adjustment being set, with an explicit intent to achieve a zero net cash-flow associated with TSO purchases and sale of balancing gas and network user imbalance cash-out of both long and short daily imbalance positions. This would imply that the incentives delivered by the imbalance cash-out, and particularly, the application of the small adjustment, are not distorting cash-flows in the regime⁴².

8.2.3 Flexibility to cash-out locational transactions

The cash-out rules in the Code allow discretion over whether locational transactions should feed into the cash-out. For example, in both German balancing zones cash-out price derivation may be influenced by the locational actions that are taken for gas quality reasons. The corresponding locational products are included in the cash-out price derivation. Taking the example of other zones with single quality, where generous capacity determination is provided, there may be merit in including relevant locational actions into the cash-out price determination, but otherwise not.

⁴² Such distortions occur when incentives create material cross-subsidies between network users via the balancing regime.

Table 11: Daily imbalance charge specifications

Country	Title products used for marginal sell price	Title products used for marginal buy price	Title products used to determine the weighted average price	Default rule
BE/LUX	Within-day	Within-day	Within-day	Previous available weighted average price
DE	Both title and locational products (MOL rank 1 and MOL rank 2) balancing sell transactions of the MAM for the gas day in question via the relevant Trading Platforms (PEGAS and ICE ENDEX [NCG only]) with delivery at the VTP (including day-ahead and within-day products).	Both title and locational products (MOL rank 1 and MOL rank 2) balancing buy transactions of the MAM for the gas day in question via the relevant Trading Platforms (PEGAS and ICE ENDEX [NCG only]) with delivery at the VTP (including day-ahead and within-day products).	The weighted average price of gas is formed at the relevant Trading Platform (PEGAS) for the gas day in question with delivery at the VTP (including day-ahead and within-day products).	The respective imbalance price of the previous day shall be used. This also applies if the imbalance price of the previous day was already formed according to this default rule.
DK	The lowest of either Day-ahead and within-day (50 per cent + 50 per cent) minus small adjustment or TSO marginal price	Day-ahead and within-day (50 per cent + 50 per cent) plus small adjustment or TSO marginal price ⁴³	Day-ahead and within-day (50 per cent + 50 per cent)	None
FR	Within-day	Within-day	Within-day	Weighted average of within-day transactions on the respective hubs (PEG Nord/TRS) +/- 2,5%
SI	Within-day and daily products	Within-day and daily products	Within-day and daily products	An average value of last five weighted average sell/buy prices from trading of the TSO with title products, reduced/increased by 10 %
UK-GB	Only title trades are used to determine the System Average Price (SAP), from which the marginal sell price is determined.	Only title trades are used to determine the System Average Price (SAP), from which the marginal buy price is determined.	Only title trades are used to determine the System Average Price (SAP).	The GB TSO publishes a default system marginal price no later than August each year which is applicable for the forthcoming gas year. The default adjustment for GB currently outturns at 3% of the System Average Price (1.11 pence/therm)

⁴³ The basket price in Denmark (50% weighting) is under revision. The full within-day price will apply as of October 2016.

9 Neutrality

According to the Code, TSOs should neither gain, nor lose revenue from activities associated to balancing operations. Network users are charged or reimbursed following a transparent and non-discriminatory methodology. This methodology must be published. The neutrality principle implies a transparency standard for cash-flows associated with balancing actions.

Based on the Code, the Agency underlines that transparency on the neutrality charges and the methodology are key. Additionally, the neutrality charges or credits should remain small and should be levied or credited over a large base of users to avoid market distortions.

9.1 Rationale and implementation of the Code

TSOs must offer services to enable the market. For example, TSOs must buy and sell gas for balancing purposes. They perform the daily settlement process. TSOs should not lose revenue from those services provided to facilitate the market. TSOs have access to privileged information. They might be able to profit from balancing actions and imbalance cash-out. Such an outcome would similarly be wrong. The Code defines the concept of neutrality whereby the TSO shall neither gain nor lose from its balancing-related activities.

TSOs shall publish and apply a method to redistribute costs or revenues to network users to the extent they use the relevant entry or exit points. This method must spread total balancing costs and revenues. TSOs may calculate the network user's imbalances based on day-ahead forecasts of NDM load. Then, the method must differentiate NDM load, for which TSOs use an *ex-ante* forecast of demand, and daily-metered load, where TSOs use daily metered ('DM') offtakes⁴⁴.

The method and its sub-components contributing to the neutrality charge must be published. The Code does not specify a mandatory level of detail. To be transparent, the publication should cover:

- the frequency of neutrality calculation and invoicing;
- whether TSOs calculate and apply the neutrality charges retrospectively or on a prospective basis;
- whether charges apply at all points in the system to all throughput or exclude some points or flow directions.

Most importantly, costs and revenues associated with balancing must be published. This includes imbalance and residual balancing cash-flows. This publication allows to detect and avoid cross-subsidies.

⁴⁴ Variant 2 model

9.2 Results of the analysis and conclusions

9.2.1 The implementation of neutrality differs across the EU

The application of neutrality varies widely. For example, in Great Britain net daily neutrality is calculated for each day and recovered over users at physical entry and exit flows in respect of the same day, but invoiced on a monthly balancing invoice. Both German zones adopt an approach where neutrality costs are monitored, but not targeted in such limited periods. Every six months, the neutrality unit rate charge is reset and used for invoicing purposes for the prospective six-month period. Each of these two approaches have merits. The Great Britain accurately targets costs and revenues to the specific day. The German approach delivers certainty about the costs that will apply to serving end-consumers. The intent is to benefit to the functioning of retail market.

9.2.2 Information transparency is key for assessing performance

Transparency about underlying revenue flows within the regime is essential to assess the overall performance of the operation of the balancing regime.

The necessary information includes:

- gas balancing actions detailing buys and sells, separately identified in terms of quantities and prices;
- the imbalance cash detailing over and under delivery, separately identified in terms of quantities and prices;
- the linepack carryover from one day to the next; and
- the extent and the costs of WDO, covering both network users’ and TSOs’ actions and effects.

Analysis of the 2015 Cluster

Table 12: Neutrality charge specifications – 2015 cluster

Country	Points of the grid to which it applies	Frequency of calculation of the neutrality charge
BE/LUX integrated market	To provisional domestic exit allocations.	Monthly
DE	Offtake of SLP users (allocated with standard load profile) and RLM (metered customers) volumes.	Half-yearly
FR	Delivered quantities at domestic exit.	Monthly
HU	Applied on imbalanced shippers.	Monthly
SI	Delivered quantities at domestic exit.	Quarterly (every three months)
UK-GB	All shippers’ relevant Inputs and Outputs for the relevant Day	Calculated daily (applies monthly)

The imbalance cash-out price should deliver the necessary incentive. Net neutrality costs might be better spread over a larger “tax base” to minimise distortions, as reflected in the Code. Hungary appears to place risks on those having imbalances.

Analysis of other countries

Table 13: Neutrality charge specifications – interim/ transitory cluster

Country	Point of the grid to which it applies	Frequency of calculation of the neutrality charge
CZ	All based on system throughput	Annually
EL	All shippers	Daily
ES	Applied on imbalanced shippers.	Daily for local products, and monthly for title products
IE	All based on system throughput	Monthly
LT	all entry exit points	Annually
PL*	All shippers	Monthly
PT	All shippers	Monthly

NB: *Applies as of 2016/17.

Given that Member States opting for interim measures may not be using predominantly short-term products, the neutrality concept is of a much lesser importance than in more mature regimes. The monitoring of neutrality costs in countries using interim measures will outline eventual inappropriate attributions of costs or revenues. The Agency notes that Spain, as Hungary, is also placing a burden on those having imbalances.

9.2.3 The neutrality principle implies a transparency standard for cash-flows associated with balancing operations and a measurement tool for regime effectiveness

As the regimes start to mature, greater data and understanding about regime operation will develop. The Agency's Market Monitoring Report in 2017 will incorporate the indicators associated with the Code.

The present findings show the diversity of neutrality implementations and their commercial consequences. While this is not a problem, the **regimes must be transparent**. Transparent information provisions must reveal the costs and revenues created by the **four principal cash-flows** that arise from:

- TSO purchase of gas for balancing gas (cost to neutrality);
- TSO sale of gas for balancing gas (revenue to neutrality);
- network user payment for daily imbalance shortfalls (revenue to neutrality); and
- network user credit for daily imbalance over delivery (cost to neutrality).

This **transparency should extend to the quantities and individual prices associated with each balancing action**. Data should be provided daily. In addition, the cash-flow data should be associated with, for example, the information on the end-of-day linepack level. One must understand whether the regime, particularly via the imbalance cash-out price signal, is ensuring efficient outcomes. This information will assist market actors and NRAs to assess the performance of the balancing regime.

9.2.4 Neutrality charges should remain small and should be attributed over a large base of users

Furthermore, it is also important that, neutrality charges or refunds remain overall relatively small. If they are not, the regime may be generating inappropriate costs or revenues that might distort the functioning of the short-term market.

Neutrality should represent an additional credit or charge that cannot easily be targeted to individual shippers. The regime should therefore be designed so that net neutrality costs/revenues are small, to the extent possible and that the “tax base” over which they are credited or charged is sufficiently large and create undue risks to network users facing those costs. This aspect will require further monitoring in the coming year.

10 Within-day obligations

In a daily balancing regime network users must be balanced at the end of the day. WDOs are additional within-day constraints.

Before allowing WDOs, the Code requires NRAs to assess the use of these instruments against a set of criteria.

- TSOs should only use WDOs when they technically need those;
- Their implementation should seek to limit restrictions on the commercial freedom of network users;
- Monitoring is key to guaranteeing their performance;
- The effects on market liquidity should be weighed against the overall costs of the measure, assessing cost and benefits from both TSO's and users' perspective.

Data recovered from the survey responses shows that WDOs are applied in Austria, Belgium and Luxembourg, Bulgaria, Germany and the Netherlands.

10.1 Rationale and implementation of the Code

In a daily balancing regime, network users' imbalances are limited by a single constraint. Imbalances must be cleared at the end of the day. During the day, in order to reduce their imbalances, users are free to arbitrate between acting on the market and paying the cash-out price at the end of the day. Via STSPs on the Trading Platform, the TSO ensures system integrity by providing shippers with market signals reflecting the technical network constraint.

The intent of the Code is to stimulate short-term market liquidity via a market-based approach to balancing. It is important that within the day the commercial freedom of network users is not constrained.

TSOs ensure the system integrity the within-day. They may need to intervene when network users' imbalances are incompatible with the system integrity. The choice of a single daily constraint on users' imbalance comes at the cost of such TSO interventions.

There is a limit to the technical ability of the transmission systems to accommodate imbalances. As a principle, when TSOs can make linepack flexibility available at low cost, and without risk, network users should have access to it.

The Code also allows deviating from a pure daily balancing regime, to address situations when unconstrained access to network flexibility generate *excessive residual balancing*. In this case, in addition to the end-of-day constraint, TSOs may choose to apply WDOs.

Daily, TSOs define a manageable operational envelope that includes within-day constraints. Network users deliver flows consistent with such envelope. TSOs are then less likely to take balancing actions managing within-day positions. However, network users' commercial freedom is also more constrained.

The introduction of WDOs needs a careful consideration. The Code requires that **the introduction or continuation of the WDOs is subject to NRA's assessment against a range of criteria.**

The most efficient outcome is not easy to assess, but the understanding of the WDO regimes' performance will improve, as more data becomes available. This Report indicates the need for more dialogue in this area, which is based on the careful assessment of the performance of these regimes and the opportunity costs it may create. In Great Britain, local players welcomed access to much greater linepack flexibility. The industry did not want WDOs. Other European NRAs and TSOs did see less benefits in such approach. The Code foresaw that TSOs show that the costs of balancing actions to manage within-day variations outweigh the benefits of greater flexibility.

10.1.1 Three types of within-day obligations

The Code provides for three types of WDOs:

- System-wide WDOs. They are designed to provide incentives for network users to keep the transmission system within its operational limits.
- Balancing portfolio WDOs. They are designed to incentivise network users to keep their individual position during the gas day within a pre-defined range and,
- Entry-exit WDOs. They are designed to provide incentives for network users to limit the gas flow or the gas flow variation under specific conditions at specific entry-exit points.

Where WDOs are applied, TSOs must give information during the day. Then, network users can evaluate performance at an individual point or portfolio.

The Great Britain provides an interesting case study. The upstream regime in Great Britain cannot give within-day allocations of gas inputs to individual shippers at combined entry points. It would need contractual overhaul. Balancing portfolio and system-wide WDOs are not possible. There are some exit point notice periods and ramp-rate restrictions at large direct connected loads. They are implemented to protect installed equipment. The TSO is not obliged to accommodate flows that breach the notice period and ramp-rate restriction. Yet, in recent years the TSO has always been able to accommodate the off-taking customers' requirements. They do not restrict the commercial freedom of users beyond physical requirements.

In the early days of liberalisation, the residual balancer in Great Britain would have taken actions when the expected linepack variation was outside of a range of +/-3 mcm about a target linepack level. The TSO in Great Britain now regularly experiences within-day linepack depletions of more than 30 mcm. The operator has learnt that network users will get close to balance by the end of the day and sees its role as to try to accommodate the flow patterns sought by the network users, in its market facilitation role. It is such TSO accommodation that has promoted the much greater depth of within-day trading in Great Britain.

10.1.2 Within-day obligations can restrict commercial freedom

The daily balancing concept does not restrict how individual network users manage their gas flows and trading activities the within-day. Financial consequences arise only from gas allocations and trade notifications corresponding to the full 24-hour period. No financial consequences are attributed to allocations or trades related to any sub-daily periods. WDOs imply potential financial consequences in respect of sub-daily periods. WDOs restrict the commercial freedom of network users the within-day. It forces users to manage their within-day positions within tighter limits. Where WDOs apply, network users face flow restrictions or an exposure to WDOs charges.

This does not mean that **WDOs** should not be used. They **should be used where technically necessary**, in the case of individual point flow restrictions. They should be **used to avoid an inappropriate socialisation of excessive cost**, creating cross-subsidies. However, some modest cost should be preferred to WDOs, if it affords greater commercial freedom to network users and improves short-term market functioning.

10.1.3 Continued reviews are key to guarantee performance

The continuation of WDOs should be kept under review. WDOs should not be stronger than necessary. The review of WDOs must evaluate the performance and the effects of the regimes.

Where TSOs can justify WDOs, their implementation needs consideration. If the linepack flexibility range available for community is too narrow, it may create unjustified burdens for users. For example, in the shipper portfolio situation the limits on the individual imbalance positions should be related to, and consistent with, the aggregated level of flexibility available, taking due account of the diversity of the network user's positions. **WDOs should be structured so that they provide adequate, but not excessive incentives to encourage orderly behaviours of network users.** If the incentives are too strong, they will drive unwarranted risk management costs into the businesses of the network users. This could detract from the fundamental objective of the Code.

10.1.4 The effects over market liquidity should be subject to careful analysis

The constraint of WDOs is not obvious. System-wide WDOs may not generate frequent application of balancing actions. Yet, users need to proactively manage their positions. WDOs intend to improve efficiency by applying constraints to reduce TSO interventions. Yet, these reduced interventions may create increased costs by being internalised within the network users.

WDOs may impact on the liquidity of the market. The Netherlands and Great Britain may warrant comparison. These countries have the two most liquid trading points in Europe, although there is a remarkable difference between short-term trading volumes at TTF and NBP⁴⁵. Short-term trading volumes are much higher at NBP and some market actors attribute this to the more benign within-day regime applicable in Great Britain. An important consideration is whether the level of prompt trading⁴⁶ that goes on in Great Britain (typically around 80% of demand each day) can be considered efficient. That level of trading does not appear to be generating any within-day costs arising from TSO residual balancing costs. Within-day trading levels in the Netherlands is much lower so the benefits of enhanced liquidity might not be feeding through to the customers. However proponents of the regime from the Netherlands will argue that the costs visible within this regime (arising from the rare interventions the TSO makes) are very small and so the regime performs well.

These arguments show that not all costs are visible within the regime. One must consider occasional reappraisal of the regime's limits and operation, where WDOs apply. When assessing the costs and benefits of WDOs, one must consider the potential for cost generation throughout the gas supply chain.

TSOs and NRAs must perform periodic assessment of the strength of the WDOs. For example, they may assess network user thresholds in portfolio-based regimes. They may question the size of the "green zone" in system-

⁴⁵ OIES study on *The Evolution Of European Traded Gas Hubs*, <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2016/02/NG-104.pdf>

⁴⁶ Here, prompt is defined as day-ahead and within-day

wide obligation regimes. The introduction, or continuation, of WDOs required an assessment of the impact on short-term wholesale gas market liquidity. The periodic assessment should also reflect on this trade-off.

10.2 Results of the analysis and conclusions

To conclude, the Agency makes the following observations about the WDOs declared in responses to the surveys.

10.2.1 Limited application cases

The following table identifies the WDOs as declared in responses to research underpinning this Report's development.

Table 9: Overview table on within-day obligations⁴⁷

	AT	BG	BELUX	DE	NL
Within day obligations	PB	E/E	SW	PB	SW

PB= Portfolio based

SW= System wide

E/E: entry/exit based

Overall, only a **small number of countries apply WDOs**. Yet, others may exist by being formulated in such a way, that the implied restrictions are not obvious.

10.2.2 Survey analysis by Member State

Austria applies a restrictive portfolio-based WDOs. Other factors restrict network users. In particular, users are required to achieve an *ex-ante* nomination balance. This is to limit the need for the Market Area Manager (MAM) intervening on behalf of each out-of-balance network user. These restrictions limit the commercial freedom of network users. Such restrictions must be justified in respect of the amount of linepack flexibility that can be made available at low cost.

Germany has traditionally applied extensive portfolio-based WDOs. The regime has evolved and it is less restrictive than previously. TSOs will less frequently levy charges. From 1 October 2016 the portfolio within-day charges are only applicable when the MAM is active on both sides of the market each day. Yet, charges for excursions beyond tolerance are still significant. They are based upon 15% of a daily gas valuation, taking account of the costs of buying and selling gas on the day. It is also not clear how the tolerances are set. It is not clear how they relate to the inherent flexibility of the network. In principle, network users should have access to such flexibility, where it can be provided at low cost.

⁴⁷ The above reports all of the WDOs reported in questionnaire replies or known to the team compiling this report. TSOs, NRAs or market players aware of WDOs missing from this assessment are invited to notify the Agency.

The system-wide WDO provisions in the Netherlands imply a continuous imbalance regime. Network users pay balancing action cost based on their cumulative imbalances. Users deemed to be causing balancing action by their individual cumulative imbalance pay the costs⁴⁸. These partial cash-outs are only triggered when the system is expected to exceed the manageable linepack range (“the green zone”). When this happens, the TSO will act to buy or sell gas, consistent with the size of the expected breach beyond limits. The costs of the action are then effectively targeted back to those causing these costs, those that have a cumulative short imbalance when the TSO needs to buy gas and vice versa. The TSO only intervenes rarely and uses either a balance-of-day or next-hour product depending upon the size of the excursion beyond the “green zone”, manageable ranges associated with the system balancing signal. Given the nature of the next-hour product, it commands a significant premium over longer product durations (e.g. balance of day or next day).

Thus, the Netherlands regime defines a continuous imbalance regime, without full daily balance cash-out. End-of-day imbalances are not without cost to the network user. The TSO charges the carryover at 0.4% of the daily average value of gas. This can be compared with the differentials between marginal and average price in daily balancing implementations, consistent with the Code. Hence, the Netherlands regime would provide a very similar balancing incentive, if the 0.4% would be equivalent to the small adjustment used in a full daily balancing implementation. Therefore, the Dutch implementation could be argued to deliver elements of daily balancing, while missing some other important features of the daily regime.

The regime in Belgium and Luxemburg is like the regime in the Netherlands. Yet, it uses a full daily cash-out instead of a linepack flexibility carryover.

Bulgaria applies within-day restrictions via limitations to flow-rate changes associated with renominations. The restrictions are strong (no more than +/-3% change is permitted). This may unduly constrain network users’ ability to balance their daily gas accounts. It may prevent them from providing surplus flexibility onto the market. It is also not clear how this restriction corresponds to the amount of physical flexibility available in the system. In principle, network users should have access to such flexibility.

⁴⁸ POS in the terminology of the Netherlands.

11 Linepack flexibility service

The Code limits the offer of linepack flexibility services to certain conditions. Network users must remain incentivised to balance their inputs and offtakes. Linepack flexibility services should only be provided where there is surplus linepack capability available. The reduction of WDOs must be prioritised over the provision of a linepack flexibility service.

Linepack flexibility services are offered by Czech Republic, France, and the Netherlands. Spain legally permits such services. When flexibility is cheaply available, the market should access it. Yet, linepack flexibility services can reduce the incentive to balance. In several countries, the offer results in no cash-out and a carryover of the imbalance to the next day. The key principle of the Code is that shippers should seek to balance against an expected demand and their actions are taken before and during the Gas Day and not after it.

11.1 Rationale and implementation of the Code

The Code enables TSOs to offer linepack flexibility services, provided the service is consistent with the responsibility of the network user to balance its inputs and offtakes over the Gas Day.

The Code sets clear expectations. Network users would use linepack flexibility services on a prospective basis, before the end of the Gas Day. The linepack flexibility service would be a tool for network users to manage their imbalance exposures up to and during the relevant Gas Day. This would be like using physical renominations or gas trading. Exceptions to this rule should not undermine the development of the short-term wholesale market⁴⁹.

11.2 Results of the analysis and conclusions

Czech Republic, France, and the Netherlands have introduced linepack flexibility services. Spain legally permits such services. **When flexibility is cheaply available, the market should access it.** Yet, if the utilisation of this service is effectively determined after the end of the Gas Day, then it **undermines network users' incentive to balance against expected demand⁵⁰. It allows trading after the day to mitigate cash-out exposure risks.**

Users of the network in Czech Republic, access linepack flexibility according to their capacity bookings. Their initial daily imbalance is calculated as daily inputs minus offtake. When it is less than their flexibility rights, the unused flexibility is auctioned. Shippers compete to buy flexibility. After the auction, individual user's flexibility quantity is compared to the initial daily imbalance. Components beyond the flexibility rights are cashed-out. The daily price is determined according to the Code provisions. The arrangement does not deliver a full daily cash-out. It allows a carryover of imbalance into the next day.

⁴⁹ See Chapter IX - Linepack Flexibility Service Article 43(7).

⁵⁰ A key principle in the Code is that other than Variant 2 is chosen (in respect of NDM demand) network users should be seeking to forecast their offtakes and balance their accounts against these expectations.

France has introduced a linepack flexibility service that is paid for in advance. It lowers imbalance cash-out exposure, when the TSO has not taken balancing actions. When the TSO has not taken a balancing action, the cash-out price is the weighted average price of all trades on the relevant Platform without the small adjustment. The revenues received from the sale of service contribute to transportation revenues. It does not contribute to balancing neutrality. The utilisation of the service is calculated as the lesser of the daily imbalance and the linepack flexibility capacity. This is determined after the day. No (re)nominations are required within or during the Gas Day. The linepack flexibility service reduces net income to balancing neutrality. Over deliveries are paid at an average price, instead of an average price less the small adjustment. Under deliveries are paid at an average price, instead of average price plus the small adjustment. The service can be a response to network users indicating that the small adjustment is too large. Reducing the small adjustment seems to be a better remedy. The linepack flexibility service reduces the incentive to balance, and at the same time lowers within-day liquidity.

The Netherlands have introduced a linepack flexibility service. The cumulative imbalance, calculated at the end of each day, is charged at a rate of 0.4% of the weighted average price of within-day gas trades on the relevant Platform, as offered by the (linepack flexibility) service. The gas is not cashed-out fully. The linepack flexibility service permits carryover. If the charge was the same as the small adjustment would be in a daily balancing regime, then, the system in the Netherlands would deliver a very similar commercial effect encouraging within-day trading.

12 Interim measures

In order to facilitate the implementation of a short-term balancing market, the Code envisaged a set of interim measures to support realistic and achievable transition plans. This instrument enables, rather than prescribes, and includes options, which can be tailored to individual Member States. The use of interim measures should be defined in an Interim Measures Report and should include a plan foreseeing the termination of these measures by 2019.

The survey responses allows the Agency to draw several conclusions:

- several Member States in the interim measures cluster are in breach of the Code provisions. The reliance on interim measures should not be exempted from the obligation to implement a market for balancing;
- despite the transitory status of these measures, plans for phasing out these instruments are not always part of the Interim Measures Report and where plans are stated, delays are frequent.

12.1 Rationale and implementation of the Code

The transition to a well-functioning short-term wholesale market requires time. Certain EU Member States have gas markets with limited short-term liquidity. The Code requires the introduction of detailed rules. Developing market liquidity involves complex interactions between network users and TSOs. The market needs support. **Experience from the more developed markets suggests that this transition can take several years to accomplish. A plan and orderly transition are essential to deliver progress.** The length of the interim measures foreseen in the Code set reasonable time limits to achieve this. NRAs and TSOs in the more mature markets could support the effort by sharing their experience.

The interim measures can be tailored to reflect the local circumstances. The Code proposals enable, but do not prescribe that in detail. They were designed to allow TSOs, NRAs and market players to deliver necessary plans to implement the Code. The interim measures cover the balancing tools the TSO can use and those elements that define the network user's cash-out exposures. Yet, the use of these measures needs consideration. The longer transitional period, of up to five years, was envisaged to allow consistently to evolve the TSO's policies with encouraging a functioning short-term market.

12.1.1 Several Interim Measures are possible

The Code provides three explicit interim measures to develop a migration plan to April 2019, in order to foster the development of the market, until the interim measures are removed:

- Balancing Platforms;
- Alternative cash-out pricing;
- Tolerances;
- In addition, it foresees further tailoring of the implementation for each Member State provided they do not undermine the general principles of the Code.

TSOs can use either the Trading Platform or a Balancing Platform to stimulate short-term flexibility. Network users can start with small or no exposures, using tolerances or benign cash-out pricing. Cost can be absorbed via neutrality and, hence, socialised. The short-term market must enable TSO to manage the system balance. TSOs must publish necessary and precise data. Then, the exposures on network users could be progressively increased. This would start the transfer of the primary responsibility of balancing from the TSO to network users. The short-term market's depth must support network user's imbalance management. Successive increases in exposures would encourage shippers to act in the market. This would further promote liquidity. Yet, these steps should only take place once the network users are able to manage their exposures. Over time, the full regime would be implemented. This would be subject to the assessment that the risks in the regime are apportioned across market actors.

To stimulate the market, the Code suggests the reductions of tolerances. It requires to move away from the administered or proxy based imbalance prices. These approaches are relevant because the local price for gas flexibility is reflected in the imbalance price. The move to prices based on local trades is one of the most important steps. This evolution encourages network users to balance, instead of leaving anticipated imbalances to be cashed-out.

12.1.2 Interim Measures require a timeline for termination

The Code requires that the use of interim measures be defined in an Interim Measures Report. The Report must include a plan explaining the termination of the interim measures by 2019. The plan should encourage liquidity. Initially, the TSO may act to stimulate the market. In this way, network users can have a greater confidence in the short-term market by the time they are fully exposed to marginal priced cash-out.

12.2 Results of the analysis and conclusions

The greatest challenge in developing plans is to estimate properly the dates for the implementation steps. The information in the Member State sheets reflects declared aspirations where these have been specified. Looking at the expected dates and at the commitments made by the Member States, it is not clear that a full implementation, including the adoption of a Trading Platform and a functioning regime according to the Code, will be achievable by 2019.

12.2.1 Plans for phasing out interim measures are not always included in the Interim Measure Report

Few Member States have invested time in proper plans to follow during the five-year interim period and update them along the needs perceived in the markets.

NRA and TSOs must learn about transition from those markets that have progressed further or have already delivered well-functioning short-term markets. The Irish and Polish Interim Measure Reports are exemplary. The first Interim Measures Report from Ireland indicated some steps that would be taken. These steps allow better to assess the feasibility of a Trading Platform. They allow to plan the gradual reduction of tolerances. They increase the incentives on network users to balance. An independent initiative aims at establishing a simple Trading Platform in Ireland. The TSO and NRA may consider working with the Platform operator to provide a Trading Platform consistent to the requirements of the Code. Ireland has used a unique interim measure defined to foster liquidity. It is a dual priced cash-out for imbalances within tolerance. It is designed to encourage trading. It avoids the full exposure to marginal priced settlement.

The Polish Interim Measures Report provides clear criteria about the circumstances in which the interim measures can be removed to apply the Code fully. The implementation in Poland is one of the few regimes, where traded prices on the relevant Trading Platform are being used to figure the cash-out price. This is a vital step in the transition from balancing services to a major use of either a Balancing Platform or a Trading Platform. Network users need to be aware of the circumstances under which the TSO will use the shorter term tool for balancing. This is necessary so that network users can understand both the opportunities (where they can transact their flexibility via the relevant Platform) and the risks (which might arise from the way that the costs and prices of the TSO's actions will affect their cash-out exposures).

12.2.2 Delays persist in the plans for moving away from Interim Measures

In addition to the absence of plans for moving away from interim measures, existing plans are often accompanied by some important delays. Unless relevant improvements are made in the implementation of these plans, full implementation will not be completed by 2019. Major risks do exist in Romania, Bulgaria and Greece. In these networks, there is little progress towards the completion of the basic enabling framework. This includes establishing a VTP, proper information release and provision of a Trading Platform that can be used by the TSO for its residual balancing role. Considerable time has been lost in these Member States to create the basis for market enabling. The prospect for rapid progress is not clear.

12.2.3 Dialogue with peers facilitates the transition

The example of Denmark is a good model for other Member States to follow. The Danish TSO spent considerable time exploring transitional issues with other Member States. It developed a plan. The plan was delivered in a much shorter time than the Code allows for interim measures. Dialogues with experienced TSOs served to take account of local specificities, risks and opportunities. Member States progressing interim measures should recognise that developed regimes like Great Britain, the Netherlands, Germany, France, and Belgium have taken many years to achieve current levels of liquidity. Such regimes can provide essential learning, particularly about transition, to expedite timely progress.

By now, the Agency would have expected to see updated Interim Measures Reports documenting progress and next steps. The Polish Report was only available, as this Report was being finalised. Work is being undertaken in some Member States (e.g. Ireland and Northern Ireland), although no conclusions are yet available.

12.2.4 Opting for Interim Measures does not exempt from implementing the essentials for a market

All Member States opting for interim measures have delivered a report indicating the current low liquidity. In many countries this is inevitable. Many of the essentials to create a short-term functioning market are not in place yet. A Trade Notification service to deliver a VTP should be established. Some form of organised short-term market does not yet exist. TSOs do not publish proper information.

Interim measures do not absolve countries from the obligations to deliver many of the enabling features of the regime by October 2015. Several interim measures cluster countries are in breach of the Code provisions.

12.2.5 Transitioning towards market prices is key

A critical component of the regime is the cash-out price derivation. Until actors are getting comfortable that price formation in the local market is robust, users may face either proxy or administered prices. This should occur for only a temporary period. Administered prices are used in Greece, Romania and Bulgaria. Proxy prices play a role, for example in Ireland.

These artificial prices are set to provide incentives. They do not adequately reflect local value of gas. Efforts must be made to enable a local price to emerge based upon local supply and demand circumstances. Ireland is currently experiencing these challenges. New indigenous supplies may exceed local gas demand. A market mechanism is essential to enable an appropriate turndown based on the commodity value of gas within the network.

Currently, there is no local market in Ireland. A decision has to be made to create greater cash-out price differentials using a proxy price derived from the daily gas price in Great Britain. A market price would be available locally following a proper implementation of the Code. This would include a functioning Trading Platform to enable price discovery. Network users would have proper incentives to achieve a balance. They would ensure manageable flows onto the system consistent with the gas demanded.

12.2.6 A correct interpretation of the Code remains to be a challenge

Facilitation remains a concern in many of the interim measures Member States. There is no common understanding of the terminology of the Code. This is a difficulty which has repeatedly arisen during the drafting of this Report.

Part III: Country assessments

13 Cluster of 2015

13.1 AT - Austria

Key elements	Coding	Explanation/discussion
Implementation date	2015	-
Trade notification enabled	Yes	VTP effectively enables Trade Notifications. Trading is limited because network users are prohibited from having open (imbalanced) positions.
Trade notifications processed within x mins	30	Processing will be delivered using automated electronic processing according to point 2.3 Appendix B of the CEGH GTC.
IP renominations enabled	Yes	IP renominations are fully enabled.
Info requirements - system status	Yes	<p>MAM website provides hourly Market Area balance information https://mgm.gasconnect.at/gca_mgm/mgm/visualisation.do?type=general&reset=true&lang=en</p> <p>This Market Area Balance data provided by the MAM delivers technical compliance with the alternative requirement of Reg. 715 Annex 1 3.4(5).</p> <p>Yet the overriding <i>ex-ante</i> balanced nominations in the Austrian system and the lack of information about opening linepack contradicts the general principles of the Code (see Articles 4.1, 4. 2).</p>
Info requirements - TSO balancing actions	No	MAM website delivers information about when and to what extent the MAM has intervened on behalf of a user. Strictly speaking these are not TSO residual actions but rather actions taken on behalf of the relevant network user. The prices (therefore the costs and revenues) of these actions do not appear on the website. The NRA claimed that this information was individual and therefore confidential. The NRA further mentioned that it monitors the balancing actions.
Info requirements - network user portfolio	Yes	<p>Par. 28 of the gas market model ordinance requires that the DAM has to update and submit the SLP forecast 3 times within the gas day and before midnight.</p> <p>Those forecasts are provided by the Distribution Area Manager and published by the MAM (SLP forecast), even as there are no NDM customers on TS level.</p> <p>The sum of the SLP consumption forecasts (day-ahead and intraday) is published on the website of the Market Area Manager.</p> <p>https://mgm.gasconnect.at/gca_mgm/mgm/visualisation.do?hid=20a34af328b7f0dcf01b72bb67beeb79&type=GENERAL&lang=en</p>

		<p>In addition, the Distribution Area Manager sends the individual SLP consumption forecasts to each balance group responsible party (BGRP). This is not public, as it contains individual information.</p> <p>Austria has separate regimes for market area and distribution balancing. The distribution level operates as a second level balancing regime. Downstream customers and, therefore, NDM demand are a critical part of a properly functioning balancing regime. These are not connected to the transmission system. This creates market fragmentation. The Agency advises that NRA and market players seize the opportunity to merge market area and distribution balancing.</p>
Trading Platform available and used by the TSO	Available and used by the TSO	The MAM uses the Trading Platform. The MAM will take actions to react to any users that are notified of a nominated daily imbalance (based on inputs, net traded position at VTP and exits), but which do not correct the imbalance themselves. The MAM transacts on the Trading Platform, on behalf of the network user, and all resulting costs and revenues are applied to the network user.
STSPs defined and available on Trading Platform	Yes	STSPs are defined in TP rules and publicly available.
TSO uses Trading Platform as first gas source	Yes	The MAM will only use the Trading Platform. The CEGH website confirms that the within-day and next-hour markets are open 24/7.
TSO uses title product as primary tool	Yes	The MAM uses the title product on the Trading Platform to resolve nominated imbalances on behalf of network users. This is rather different from the `residual balancing role` envisaged in the Code, where network users are incentivised to balance, but are allowed to maintain open positions.
TSO uses Balancing Platform	No	-
TSO makes limited use of balancing services	Yes	The MAM does not have any balancing services.
TSO transparency about balancing action costs	No	<p>Data is available on the MAM website to indicate the quantities of gas transacted by the MAM to resolve nominated imbalances for network users. The Trading Platform (CEGH) publishes indices that give the weighted average price for the day. This will enable an approximate cost of the actions on behalf of network users to be assessed. Possible physical imbalances are handled through linepack management.</p> <p>Currently, there are no physical balancing actions on TSO level. There are no operational costs associated with balancing actions.</p>
Full daily cash-out implemented	No	The operation of the regime prevents network users from having any material daily imbalance. The resulting imbalances that are possible

		<p>are typically very small. Larger imbalances can only result from late renominations and insufficient time to be able to correct any resulting imbalances.</p> <p>This means that the transmission regime addresses only intakes and off takes on the transmission system. It delivers a nomination, rather than an actual imbalance regime.</p> <p>Any daily imbalance of less than 24 MWh is not cashed out, but rather rolled forward into the next Gas Day.</p>
Cash-out prices set using TP trades	No	<p>No cash-out price is set. The exchange does publish daily prices. These are not used in the market area balancing regime. Daily imbalances are not settled, but carried.</p> <p>A separate cash-out regime exists in the distribution network balancing settlement.</p> <p>The Agency advises that NRA and market players seize the opportunity to merge market area and distribution balancing.</p>
Small adjustment to deliver marginal cash-out price	None	
Neutrality fully implemented	No	<p>The neutrality principles have not been implemented. The operation of the regime creates no costs or revenues associated with a `residual balancing role`. All costs and revenues associated with the MAM's use of the Trading Platform are targeted back to those that have caused MAM to act. Whenever network users do not have a balanced nomination position, which is not corrected in a timely manner, the MAM intervenes on behalf of the network user. Costs and volume effects of the trade are directly borne by the network user.</p> <p>The WDO regime generates income from the imbalance charges. These are accumulated and used to reduce transmission charges in future periods. Yet, these effects are very small in financial terms.</p>
Within-day Obligations	Extensive	<p>Portfolio based WDO applies. It is very restrictive and expensive for individual users.</p> <p>The hourly imbalance charges are 1 euro/MWh up to 300 MWh and 10 euros/ MWh exceeding 300 MWh. Yet, these only apply if the system and portfolio directions are aligned.</p> <p>Thus, the regime requires that the network user has a very close look at the nomination balance throughout each gas day.</p>

13.2 Belux - Belgium and Luxemburg

Key elements	Coding	Explanation/ Comments
Implementation date	2015	<p>Services offered by a Hub Operator and the balancing operator is going to be integrated in one contract. Access to the VTP and trade notifications are enabled.</p> <p>Currently, Fluxys is the balancing operator in Belgium. Balansys is designated in Luxemburg. As a transitory measure, the imbalance in Luxemburg is transferred at the BE/LU border, so that the balancing actions for the whole BELUX are taken by Fluxys.</p>
Trade notification enabled	Yes	Verified with CREG in particular.
Trade notifications processed within x mins	30	
IP renominations enabled	Yes	
Info requirements - system status	No	<p>System level imbalance published within-day, but no initial value and hourly update of the end-of-day projection on the closing linepack.</p> <p>Balancing operator in the Belux balancing system provides:</p> <ul style="list-style-type: none"> • NON BINDING forecasting information on the individual position of the shippers and the aggregated position of the system, on an hourly basis for day D starting 15h day D-1. • BINDING information on the individual position of the shippers and the aggregated position of the system, on an hourly basis every hour of the day H+20 min. <p>https://gasdata.balancing.fluxys.com/SDPBSYS/Pages/Reports/BalancingInformation.aspx</p>
Info requirements - TSO balancing actions	Yes	The forecast and the hourly info clearly inform the shipper on the balancing operator's interventions, during the day.
Info requirements - network user portfolio	Yes	Variant 1 applied with users having updated information available on an hourly basis within-day.
Trading Platform available and	Available and used	ICE-Endex Platform operates as TP. As from 1October 2016, Fluxys Belgium will switch to the Powernext – Pegas commodity exchange for all the sales and purchases of natural gas, relating to the within-day and end-of-day balancing settlements of the Belux zone.

used by the TSO	by the TSO	
STSPs defined and available on Trading Platform	Yes	The end-of-day title product (for daily balancing use) is provided on the TP.
TSO uses Trading Platform as first gas source	Yes	See Merit Order file in the annex.
TSO uses title product as primary tool	Yes	No mention of any other tools, including balancing services in the merit order file.
TSO uses Balancing Platform	No	
TSO makes limited use of balancing services	Yes	
TSO transparency about balancing action costs	Yes	Imbalance data are available on the data Platform. On top of these data, every shipper has access to his individual information. https://gasdata.balancing.fluxys.com/transmission/
Full daily cash-out implemented	Yes	Corrections at the start of the day, from the previous day, would influence cash-out prices.
Cash-out prices set using TP trades	Yes	Weighted Average Price is based on the trades for the day.
Small adjustment to deliver marginal cash-out price	Moderate	Set at 0% helpers, 3% causers.
Neutrality fully implemented	Yes	Neutrality is applied on an <i>ex-ante</i> basis and is reassessed once a year, with all the balancing tariff parameters. Yet, it is not clear which costs/revenues go into neutrality. These costs/revenues should correspond to the balancing operator's actions, each day, to correct for net imbalance position of all network users, arising from the previous day

and cash flows associated with the end-of-day imbalance cash-out of all users. Initially, the charge has been set to zero, although anticipated and actual cash flows may well lead to a non-zero charge or credit applicable in coming years.

The cost related to TSO`s/Balancing Operator`s balancing actions are based on binding information. All TSO`s/ Balancing Operator`s within-day and end-of-day balancing actions are targeted to the those causing the balancing actions. There is no socialisation of the cost. Limited cost could arise from some small differences between buy and sell actions from TSO/Balancing operator. Currently, the neutrality fee is of zero.

<http://www.creg.info/pdf/Decisions/B656G-30FR.pdf>

**Within-day
 Obligations**

Limited

Not invoked frequently. It might suggest that, it doesn't generate a problem for users and successfully keeps the system within its manageable operational limits.

The regime defines a green zone (max and min market threshold). As long as the aggregated position of network users is within this range, then the balancing operator will not intervene.

When the thresholds are hit, the balancing operator will buy (short) or sell (long) gas. Causers of the action may take action or accept the costs linked to the balancing action (market price plus small adjustment).

13.3 DE -Germany: NCG and Gaspool

Key elements	Coding	Explanation/discussion
Implementation date	2015	Balancing Platform with minimal involvement, still operational until 2019.
Trade notification enabled	Yes	VTP effectively enables Trade Notifications.
Trade notifications processed within x mins	30	30 minutes is the min time for processing of a transaction.
IP renominations enabled (choice: renomination flexibility at the broader set of points)	Yes	IP renominations and systems processes are in place to enable day-ahead nominations and re-nominations within-day.
Info requirements - system status	Yes	<p>The Agency's view is that Article 3.4(5) requests that closing linepack value is updated on an hourly basis.</p> <p>The following link does not provide this information, on an hourly frequency: https://www.net-connect-germany.de/en-gb/Transparency-information/Aggregate-Imbalance-Position</p> <p>The Agency acknowledges that this satisfies the Code specifications Article 32(1). Yet, there is room for improvement.</p> <p>The publication of the aggregate imbalances of all shippers is a least effort solution. These aggregate imbalances are published only once per day. Hourly updates on projected closing linepack are desirable, further to support the short-term market development.</p> <p>In addition, a website that contains all TSO data will facilitate information provision.</p>
Info requirements - TSO balancing actions	Yes	Satisfying specifications from the Code - Article 32(2). NCG and GP provide good quality information in a timely manner.
Info requirements -	Yes	From October 2016, within-day tolerance level of +/-7.5% of end-of-day DM allocations is offered for network users to manage WDO charges. Variant 2 model is applied, with DSOs as forecasting party.

network user portfolio		Germany has implemented both Variant 2 for NDM forecast information and a portfolio-based WDO. Each of these approaches has merits. The trade-offs associated with these implementations must be assessed periodically, following the evolution of local circumstances.
Trading Platform available and used by the TSO	Available and used by the TSO	Delivered.
STSPs defined and available on Trading Platform	Yes	STSPs defined in TP rules and publicly available.
TSO uses Trading Platform as first gas source	Yes	Assessed Q4 2015 data and TSO is using TP as primary tool.
TSO uses title product as primary tool	No	From assessing the Q4 2015 data, the quality-specific products bought / sold on the exchange take a large proportion. The Agency recognises that the German balancing zones include separate high and low calorific zones transmission systems, which technically require the balancing gas to be delivered in the right gas quality.
TSO uses Balancing Platform	Yes	With modest volumes.
TSO makes limited use of balancing services	Yes	Using data for Q4 2015, balancing services are limited compared to the total balancing volumes. Associated costs are high compared with alternative tools and the costs of balancing services in other countries.
TSO transparency about balancing action costs	Yes	The data should be made available to satisfy Article 9(4) on the Merit Order by NCG and Gaspool. https://www.net-connect-germany.de/de-de/Informationen/Regelenergieanbieter/Ver%C3%B6ffentlichungen/Externe-Regelenergie https://www.gaspool.de/services/regelenergie/einsatz-ab-01102015/handelsgeschaefte/
Full daily cash-out implemented	Yes	Full daily cash-out would involve cash-out of all of the daily imbalance. TSOs use the wholesale market for operational balancing and conversion purposes. On gas quality, see: https://www.net-connect-germany.de/en-gb/Information-Services/Balancing-Group-Managers/Gas-Quality-Conversion/Development/Commercial-Conversion-Activities

https://www.gaspool.de/services/regelenergie/einsatz-ab-01102015/konvertierung/		
Cash-out prices set using TP trades	Yes	<p>Prices feeding the cash-out calculation are derived from title and quality specific title products trades.</p> <p>The locational, system-point specific products, are not derived from daily cash-out price.</p>
Small adjustment to deliver marginal cash-out price	Minimal	The threshold is set at 2% of Weighted Average Price.
Neutrality fully implemented	Yes	<p>Neutrality pots for DM and NDM are separated.</p> <p>In April 2016, NCG neutrality charges changed from 0 to 0, 4 euro/MWh for DM and 0, 8 euro/MWh for NDM, levied on the exits.</p> <p>Such additional charges, borne by the users on top of the within-day charges, increase expenses.</p>
Within-day Obligations	Extensive	<p>Portfolio based hourly WDO continues to apply in Germany.</p> <p>From October 2016, the financial consequences are more limited than in the past. A 7.5 % tolerance is applied. Charges are only levied when the MAM acts on both sides of the market (title trades Buy/Sell) and these trades generate costs for the MAM.</p> <p>The charge is determined <i>ex-ante</i>. It will be determined <i>ex-post</i> from 1 October on.</p> <p>The within-day hourly fee is 15% of the average between the daily marginal sell and the daily marginal buy prices.</p> <p>Within-day imbalance volumes are not set to zero, but carried forward.</p> <p>The within-day hourly cash-out fee might be considered as expensive for traders.</p> <p>The WDO is compliant with the Balancing Code. Yet, WDOs limit the commercial freedom of network users within-day. Thus, they should be avoided, unless a cost-benefit analysis shows that material cross subsidies arise from a fully daily regime.</p> <p>WDOs should be kept under regular review, to see if they can be relaxed, or removed, with a view to enabling a better functioning market.</p>
Interim measures agreed by the NRA	Yes	<p>MAM submits an annual implementation report, including a review of implemented and planned interim measures in accordance with Article 46 of the Code.</p> <p>NRA approved Balancing Platform, which plays a limited role. Its use shall be reconsidered in 2019.</p>
Series of steps identified	No	
Evidence of first step	Taken	

**Evidence or
process for
second step**

Envisaged

13.4 DK -Denmark

Key elements	Coding	Explanation/discussion
Implementation date	2015	Implemented in two phases: 2014 and 2015.
Trade notification enabled	Yes	GTF facility enables Trade Notifications. Gas Point Nordic exchange delivers data into TSO systems from exchange based trades.
Trade notifications processed within x mins	120	
IP renominations enabled	Yes	Renomination flexibility is available.
Info requirements - system status	Yes	Expected system closing balance (E(SCB)) is published hourly within-day. This information also defines the manageable projected end-of-day linepack range outside of which the TSO will take a balancing action : http://online.energinet.dk/data/Pages/System-Commercial-Balance.aspx?gasday=27-07-2016
Info requirements - TSO balancing actions	Yes	Information is published automatically within minutes of each balancing action being taken : http://online.energinet.dk/data/Pages/System-Commercial-Balance.aspx?gasday=06-10-201
Info requirements - network user portfolio	Yes	Information relating to both intra-daily metered actual consumptions and NDM forecasts are provided five times within-day. The data is forwarded directly to shippers, therefore, no link to provide.
Trading Platform available and used by the TSO	Available and used by the TSO	TSO trades on the Gas Point Nordic exchange.
STSPs defined and available on Trading Platform	Yes	STSPs are defined. The TSO has confidence that it can balance the system using only the title product.
TSO uses Trading Platform as first gas source	Yes	
TSO uses title product as primary tool	Yes	The merit order is strictly applied, so transactions would be expected on the exchange. TSO has access to a limited service of storage. This has been reduced significantly from previous years, now that confidence in the short-term market is growing.
TSO uses Balancing Platform	No	
TSO makes limited use of balancing services	Yes	Option has been retained via a small storage service provision.

TSO transparency about balancing action costs	Yes	The information is published via the balancing evaluation, which is found at : http://energinet.dk/EN/GAS/Produkter-og-handel/Balance-model-fra-oktober-2014/Sider/default.aspx
Full daily cash-out implemented	Yes	Full daily cash-out implemented.
Cash-out prices set using TP trades	Yes	Currently, WAP is based on 50% of within-day trade prices and 50% of day-ahead price on Gas Point Nordic exchange. This is based upon the current view that the within-day market is not liquid enough to deliver robust prices. The basket price has also the advantage of taking into account the flexibility available on a specific day. TSO's individual balancing transaction may set marginal prices. The cash-out price will be based 100% on the Gas point Nordic within-day prices from 1 Oct 2016.
Small adjustment to deliver marginal cash-outs price	Minimal	2 Levels are currently used: 0.5% and 2%. The higher adjustment is only charged where the closing linepack finishes outside of the manageable "green zone". The latter level will increase from a minimal to a moderate level (3%) from 1 October 2016. This level has been set to take account of the cost of delivering flexibility from storage. The small adjustment has been set so that it should be cheaper for a network user to utilise a storage service to reduce an imbalance rather than leaving imbalances to be cashed out.
Neutrality fully implemented	No	Neutrality net costs are very small. The NRA has elected to include neutrality within the more general treatment. No explicit neutrality charges are set.
Within-day Obligations	None	

13.5 FR - France

Key elements	Coding	Explanation/ discussions
Implementation date	2015	
Trade notification enabled	Yes	Powernext records trades at the two VTPs, PEG Nord and TRS. No restrictions applied. Storage regulation is under review.
Trade notifications processed within x mins	30	
IP renominations enabled	Yes	
Info requirements - system status	Yes	Currently, the end-of day closing linepack is published per TSO and not at the level of the zone (until 2018 – merger of zones TRS and PEG Nord). PEG Nord: http://www.smart.grtgaz.com/en/SECprojete/Nord PEG South: http://www.smart.grtgaz.com/en/SECprojete/Sud TIGF: https://tetra.tigf.fr/SBT/public/StockGazConduite.do?action=listePrev GRTgaz provides the end-of-day imbalance for the TRS zone: http://www.smart.grtgaz.com/en/position_desequilibre_fin_journee/TRS
Info requirements - TSO balancing actions	Yes	Currently, the balancing actions are published per TSO and per zone, and not at the level of the zone (until 2018 – merger of zones TRS and PEG Nord). To get TRS information, one has to aggregate TIGF and GRTgaz information. GRTgaz monthly publication: http://www.grtgaz.com/acces-direct/clients/fournisseur-trader/equilibrage.html TIGFs public info: https://tetra.tigf.fr/SBT/public/Equilibrage.do?action=listeTransaction
Info requirements - network user portfolio	Yes	GRTgaz: Available on www.smart.grtgaz.com with log-in. TIGF: available on https://tetra.tigf.fr via log in. For TIFG, the imbalance notice per user is described here : https://www.tigf.fr/fileadmin/Nos_publications/Publications_transport/Balancing_notice_TIGF.pdf

Trading Platform available and used by the TSO	Available and used by the TSO Pegas	Trading Platform is Powernext, a Pegas member. Dedicated sections of Pegas in Powernext, are, Pegas Spot PEG Nord and PEGAs Spot TRS. http://www.powernext.com/#sk;tp=app;n=page;f=getPage;t=page;fp=system_name:PGS_Contract_Specifications;lang=en_US;m=pegas
STSPs defined and available on Trading Platform	Yes	http://www.powernext.com/#sk;tp=app;n=page;f=getPage;t=page;fp=system_name:PGS_Contract_Specifications;lang=en_US;m=pegas GRTgaz uses a simple locational product on Trading Platform: http://www.grtgaz.com/fileadmin/clients/fournisseurs/documents/en/Locational-reminder.pdf http://www.powernext.com/f/docs/cdp/20151116_PEGAS_Launch_Locational_Products.pdf
TSO uses Trading Platform as first gas source	Yes	
TSO uses title product as primary tool	Yes	
TSO uses Balancing Platform	No	
TSO makes limited use of balancing services	Yes	The extent of the use of balancing services by TIGF cannot currently be assessed by the NRA. (Note: This has been reflected on the scoring with a limited 0.25 points reduction)
TSO transparency about balancing action costs	Yes	Currently, the information is published per TSO and not at the level of the zone (until 2018 – merger of zones TRS and PEG Nord). Aggregated information would be more user-friendly. TIGF monthly publication: https://www.tigf.fr/en/our-publications/transport-publications/imbalance-settlement.html https://tetra.tigf.fr/SBT/public/Equilibrage.do?action=listeReglementDesequilibres GRTgaz monthly publication: http://www.grtgaz.com/acces-direct/clients/fournisseur-trader/equilibrage.html http://www.smart.grtgaz.com/en/soldes_desequilibres http://www.smart.grtgaz.com/en/prix_bourse
Full daily cash-out implemented	Yes	http://www.cre.fr/en/documents/deliberations/approval/balancing-rules2 Linepack service may undermine some of the incentive properties of full daily cash-out at marginal price.

See the following link for GRTgaz :

<https://www.grtgaz.com/fileadmin/clients/fournisseurs/documents/en/Find-out-more-about-Balancing-Rules-and-Alizes-service-on-October-1-2015.pdf>

For TIGF:

<https://www.tigf.fr/nos-offres/transport/contrat-de-transport/le-service-deequilibrage-transport-set.html>

Clearing of the flexibility occurs in M+2.

Cash-out prices set using TP trades **Yes**

Small adjustment to deliver marginal cash-out price **Moderate** Set at 2.5%, but linepack service effectively sets 0 for linepack service holders, where TSO is not an active balancer on the day.

Neutrality fully implemented **Yes** Each TSO manages its physical balancing and takes balancing actions accordingly.

Within-day Obligations **None**

13.6 HU- Hungary

Key elements	Coding	Explanation/discussion
Implementation date	2015	With a few obligations for FGSZ, to implement by 2016.
Trade notification enabled	Yes	VTP effectively enables Trade Notifications. Possible restrictions to be screened.
Trade notifications processed within x mins	120	There is little justification from an IT perspective why 120 mins would be necessary to handle what is essentially an IT transaction.
IP renominations enabled (choice: renomination flexibility at the broader set of points)	Yes	To be checked with the Hungarian NRA, whether this is implemented also for the border between Hungary and Romania. (IMR mentions discussions for that point). Otherwise, renomination timelines and frequency respected.
Info requirements - system status	Yes	Satisfying specifications from Article 32(1) of the Code. https://fgsz.hu/hu-hu/partnereinknek/adatszolgaltatas-a-715-2009-ek-rendelet-1-melleklet-3-fejezete-alapjan End-of-day linepack is provided and updated on an hourly basis. http://tsodata.fgsz.hu/fgsz_pipeline
Info requirements - TSO balancing actions	Yes	Satisfying specifications from Article 32(2) of the Code.
Info requirements - network user portfolio	Yes	Satisfying specifications from Article 32(3) of the Code. Currently, the DSOs are the forecasting parties. They provide two forecasts during the day. NDM forecast are under revision. Improvements in the forecasts of the DSOs may be envisaged by a penalty scheme. https://fgsz.hu/hu-hu/partnereinknek/adatszolgaltatas-a-715-2009-ek-rendelet-1-melleklet-3-fejezete-alapjan
Trading Platform available and used by the TSO	Available and used by the TSO	The existence of two Trading Platforms, one on the exchange and the other one operated by the TSO, reduces liquidity and ease of trading. The envisaged merger of activities by October 2016 could be pursued for improvements. https://fgsz.hu/hu-hu/partnereinknek/informatikai-platformmal-kapcsolatos-informaciok/informatikai-platform-elerhetosege https://www.ceegex.hu/hu/SEARCH/Lapok/default.aspx?k=monthly%20reports&cs=This%20Site&u=http%3A%2F%2Fwww.ceegex.hu%2Fen%2Fpiaci_adatok
STSPs defined and available on Trading Platform	Yes	STSPs defined on TP. Rules as applicable published: https://fgsz.hu/hu-hu/Documents/kereskedesiplatform/Kereskedési%20Platform%20Szabályzat%2020160201.pdf . Products also published: https://fgsz.hu/en-

		gb/partnereinknek/kapacitaskereskedelmi-informaciok/kereskedesi-platform-kp#/
TSO uses Trading Platform as first gas source	Yes	Based on the Q4 2015 data, the trades are made on the two Trading Platforms, one of which also caters for locational products. A minority of locational products (HEGO) are traded on the Balancing Platform.
TSO uses title product as primary tool	No	<p>There are one exchange, one Trading Platform and a Balancing Platform in Hungary, as of October 2015.</p> <p>The exchange CEEGEX will become the primary Platform as of October 2016. The Trading Platform, led by the TSO, will cease to exist by October 2017. The current Balancing Platform will cease to exist by October 2016.</p> <p>The exchange and the Trading Platform accommodate 99% of the market trades volumes and 75% of the traders, as estimated by the NRA. Small traders are not interested to join these Platforms.</p> <p>Registration fees of CEEGEX are reasonable and the clearing fees may be of concern for small shippers. Currently, the registration fees at the Platform run by the TSO are included in the tariffs, therefore users do not perceive them as an immediate cost. As of 1 January 2017, these fees will be collected outside tariffs and users will be faced with the registration charges on the TSO's TP as well.</p> <p>Based on the Q4 2015 data, the balancing actions are dominated by locational products traded on the Trading Platform.</p>
TSO uses Balancing Platform	Yes	This is temporary. The Balancing Platform trades are envisaged till October 2016.
TSO makes limited use of balancing services	Yes	No balancing services are used.
TSO transparency about balancing action costs	Yes	The data should be made available to satisfy Article 9(4) on the Merit Order.
Full daily cash-out implemented	Envisaged	<p>Different rules apply, depending on users and whether they are registered on a trading venue or not.</p> <p>For users of the exchange and the Trading Platform, as provided in the Rules of the Trading Platform, Chapter 7.1 (Kereskedési Platform működési szabályzata), the prices are set to 0 at the end of each gas day. For network users that are not registered on one of the trading venues, a tolerance level of -/+2 % applies, together with a penalty of 0.1642 HUF/kWh. The penalty aims to outbalance the tolerance and incentivise users to register on one of the trading venues. The tolerance may also serve the purpose to counterbalance the quality of the information these users receive. This will require a further look in the Agency's next Report on balancing.</p>

Cash-out prices set using TP trades	Yes	<p>Aligned with the rules provided in Article 22 of the Code. Relevant rules are provided in chapter 7.2.1. Rules of the Trading Platform. The cash-out prices include title products, including the locational products currently traded on the Balancing Platform. The role of the Imbalance charge committee (Elszámolóár Bizottság) to be clarified with the NRA. For now, it seems that creates alignment across the two Trading Platforms that are available in Hungary.</p> <p>http://tsodata.fgsz.hu/fgszelszamoloar/2016-09-30/2016-09-01</p>
Small adjustment to deliver marginal cash-out price	minimal	<p>The current level is 0. The level is under revision. It will be raised in line with the model change. The NRA should consider to propose a low value through which the market is incentivised to balance efficiently.</p>
Neutrality fully implemented	No	<p>Both the methodology (Hungarian Gas Code, pages 179 to 183, https://fgsz.hu/hu-hu/Documents/uKSZ törzs hatályos 2016 02 09-tól 505-2016 MEKH hat.pdf) and the actual costs are available: https://fgsz.hu/hu-hu/partnereinknek/kapacitaskereskedelmi-informaciok/kereskedesi-platform-kp/az-ertekesitesi-kulonbozet-es-az-egyensulyozasi-intezkedesekkel-kapcsolatosan-felmerult-koltsegek-elszamolasa</p> <p>The Neutrality is targeted to those causing the imbalances and not to the throughput (Article 30.3 of NC BAL).</p>
Within-day Obligations	None	-

13.7 NL-The Netherlands

Key elements	Coding	Explanation/ discussion
Implementation date	2015	The Netherlands claimed Code compliance well before Oct 2015 deadline applied.
Trade notification enabled	Yes	Some terminology issues may be relevant - website indicates that trades may need to be reflected in "programmes" before 22:00 (within-day?), but that trades can be completed later than this.
Trade notifications processed within x mins	30	Timely confirmation essential, given the nature of the within-day regime.
IP renominations enabled (choice: renomination flexibility at the broader set of points)	Yes	
Info requirements - system status	No	System Balance Signal is the aggregation of the Portfolio Imbalance Signals (POSs) of all shippers active in our network. The SBS shows the prediction for the coming hour (the prognosis value). In addition, it shows the total sum of the helpers, the total sum of the causers and the buffer zones. Projections to end-of-day System Balance Signal are not available - just projection for next hour. https://www.gasunietransportservices.nl/en/shippers/balancing-regime/sbs-and-pos .
Info requirements - TSO balancing actions	Yes	https://www.gasunietransportservices.nl/en/shippers/balancing-regime/balancing-actions/summary
Info requirements - network user portfolio	Yes	Variant 1 delivered, but with far greater than mandated frequency of info provision.
Trading Platform available and used by the TSO	Available and used by the TSO	https://www.theice.com/products/31435802/Dutch-TTF-Gas-Spot/specs
STSPs defined and available on	Yes	Seems that the only product used in respect of "end of day" balancing is within-day balance of day title product.

Trading Platform		
TSO uses Trading Platform as first gas source	Yes	As shown in the merit order annex.
TSO uses title product as primary tool	Yes	No locational products apparent. Next-hour temporal product used as part of WDOs regime to deliver system integrity.
TSO uses Balancing Platform	No	Balancing Platform not needed.
TSO makes limited use of balancing services	Yes	No balancing services are applied.
TSO transparency about balancing action costs	Yes	https://www.gasunie transportservices.nl/en/transparancy/reports/physical-gas-balance https://www.gasunie transportservices.nl/en/transparancy/transparancy-requirements
Full daily cash-out implemented	No	Daily imbalances are not cashed out, but rather a "linepack service charge", currently 0.4% of the weighted average traded price is applied to "end of day balances". <i>ACM is of the opinion that the current implementation of the linepack flexibility service, together with the daily cash-out is compliant to the Code. It has been consulted with market parties and found to be cost-efficient.</i> The Agency's next Report may take a closer look at the regime applied, also based on the calculation WDO volumes x WDO prices / end-of-day volumes x linepack service charges, as ACM suggested.
Cash-out prices set using TP trades	Partial	There is no daily cash-out, although TP trades do feed into the charge for linepack service usage. The setting of the cash-out prices is critical for the good functioning of the balancing regime. https://www.gasunie transportservices.nl/en/shippers/balancing-regime https://www.gasunie transportservices.nl/en/shippers/balancing-regime/linepack-flexibility-service
Small adjustment to deliver marginal cash-out price	Minimal	No adjustment defined, given that the daily imbalance quantities are set to zero (see Article 21.2) by the linepack service. The linepack service charge has a very similar effect to the small adjustment applied in a full daily cash-out regime. The linepack service charge is light when compared to other countries.

		The use of linepack service charges as proxy for small adjustments is debatable. The rationale behind the charge raises concerns. Its value is an important component of the daily cash-out price as it must give a clear signal to the market.
Neutrality fully implemented	No	<p>No neutrality concept, as defined in Balancing Code.</p> <p>The approach in the Netherlands effectively targets costs of balancing actions to those causing the balancing actions, and so, this could be considered as an alternative to neutrality.</p>
Within-day Obligations	Limited	<p>The regime in the Netherlands mixes within-day regime and the daily balancing concept. An effect similar to the daily regime could be delivered with different charges applicable to the linepack service.</p> <p>The regime provides within-day disciplines (linepack zone of +/- 30 GWh (3 mcm). This may curtail network users from running within-day imbalances. This needs to be explored in the Agency's next Report, based on Article 26.2(c) and (f).</p>

13.8 SI-Slovenia

Key elements	Coding	Explanation/discussion
Implementation date	2015	
Trade notification enabled	Yes	VTP enables Trade Notifications. In fact, Trading Platform has been embedded into the VTP. The TSO is operating the Trading Platform and acts on it also as a shipper.
Trade notifications processed within x mins	120	The legal limit is 120.
IP renominations enabled (choice: renomination flexibility at the broader set of points)	Yes	Condition relates to IP renominations, hence systems processes must be in place to enable day-ahead nominations and renominations, including whether nominations are against bundled or unbundled capacities.
Info requirements - system status	No	At the moment, only 'forecast of the aggregate imbalance position of all users at the end of transport day' is published. http://www.plinovodi.si/en/for-users/network-information/imbalance-position/ According to the NRA, the TSO was requested to publish also the linepack according to art. 3.4 (5) of Regulation (EC) 715/2009. Expecting in next weeks.
Info requirements - TSO balancing actions	Yes	Aggregated monthly data on quantity and costs are published. http://www.plinovodi.si/wp-content/uploads/2011/03/20168.pdf
Info requirements - network user portfolio	Yes	The network user's inputs and off-takes for the gas day are published under the network user portfolio data (user log in required). Info available only with user log in. Demonstration to NRA by TSO scheduled for October 2016.
Trading Platform available and used by the TSO	Available and used by the TSO	See previous comment on the facilitation and the Trading Platform. More evidence is being collected.
STSPs defined and available on Trading Platform	Yes	STSPs should be defined in TP rules as applicable between TPO and TSO. STSPs is in minority, when it comes to TSO actions.
TSO uses Trading Platform as first gas source	Yes	Improvements took place since Q4 2015 to Q1 and Q2 2016 based on fresh data provided by the NRA.

TSO uses title product as primary tool	Yes	Improvements took place since Q4 2015 to Q1 and Q2 2016 based on fresh data provided by the NRA. The Agency will continue assessing the progress, based on a longer time frame, in its next Report.
TSO uses Balancing Platform	No	-
TSO makes limited use of balancing services	Yes	Balancing services are clearly below the 50% threshold in Q1 and Q2 2016. The Agency will continue assessing the progress based on a longer time frame in its next Report.
TSO transparency about balancing action costs	Envisaged	The data should be made available to satisfy Article 9(4) on the Merit Order, which is currently pending. The Agency will continue assessing the progress.
Full daily cash-out implemented	Yes	Linepack service is envisaged by the legislation, but they are not applied.
Cash-out prices set using TP trades	Yes	Yes - should correspond to situation where only "prices" feeding the cash-out calculation are derived from relevant TP trades. The cash-out prices are closely related to daily and within-day products, as opposed to what the Agency received in the survey. [These are prices that are <i>traded prices on the TP</i> . This Platform is used by the TSO, though the TSO operates the Trading Platform].
Small adjustment to deliver marginal cash-out price	Large	Range from 2.5% up to 10%. Takes the maximum offered by the regulation.
Neutrality fully implemented	Envisaged	The neutrality provisions are expressed in the national network code and foresee a quarterly calculation (Art. 116). Currently, the data is published monthly but the billing to the users is done only quarterly (art. 29.4 of NC BAL). The Regulator has proposed an amendment in this respect. http://www.plinovodi.si/wp-content/uploads/2011/03/20168.pdf
Within-day Obligations	None	Article 101 of the national code allows WDOs. The TSO has, so far, not requested the approval for the use of WDOs to the NRA (art. 27 of NC BAL).

13.9 UK-GB - Great Britain

Key elements	Coding	Explanation/ discussion
Implementation date	2015	Major design elements were adopted in 2002.
Trade notification enabled	Yes	
Trade notifications processed within x mins	30	
IP renominations enabled (choice: renomination flexibility at the broader set of points)	Yes	
Info requirements - system status	Yes	Projected Closing Linepack (PCLP) is made available via "Prevailing View". It is updated at least hourly. http://marketinformation.natgrid.co.uk/gas/frmPrevailingView.aspx
Info requirements - TSO balancing actions	Yes	Detailed information available via "report Explorer" facility. http://www2.nationalgrid.com/uk/industry-information/gas-transmission-operational-data/report-explorer/ In Report Explorer: Reports > Energy – Daily Reports > After Day > Daily Balance Report (NORD01) > Daily Operation Information (NORD01c).
Info requirements - network user portfolio	Yes	Information provision exceeds Code requirements with more than 2 NDM forecasts being provided. Awaiting link from NRA.
Trading Platform available and used by the TSO	Available and used by the TSO	OCM Trading Platform as provided by ICE-Endex is used as National Grid's primary balancing tool.
STSPs defined and available on Trading Platform	Yes	

TSO uses Trading Platform as first gas source	Yes	
TSO uses title product as primary tool	Yes	National Grid has evolved its use of the OCM. It places great emphasis on the use of title product. Locational products have not been used for several years.
TSO uses Balancing Platform	No	Balancing Platform was used prior to October 1999. It was then replaced with the OCM (Trading Platform).
TSO makes limited use of balancing services	Yes	National Grid has some limited gas resources available in emergency situations. They are used to manage an orderly rundown of the system.
TSO transparency about balancing action costs	Yes	<p>Provided via after the event reporting.</p> <p>http://www2.nationalgrid.com/uk/industry-information/gas-transmission-operational-data/report-explorer/</p> <p>In Report Explorer: Reports > Energy – Daily Reports > After Day > Daily Balance Report (NORD01) > Daily Operation Information (NORD01c).</p>
Full daily cash-out implemented	Yes	
Cash-out prices set using TP trades	Yes	The cash-out price determination is based upon WAP, small adjustment and residual balancer's transacted prices. WAP is derived from all OCM title transactions for the day.
Small adjustment to deliver marginal cash-out prices	Moderate	It is derived each year via an updated methodology. It is currently set at 1.1 p/them. This is just below 3% of current prices, observed on the balancing market.
Neutrality fully implemented	Yes	Neutrality generates a modest cash surplus for redistribution back to network users, in proportion to their system throughput. The level of credit is slightly higher than in earlier years. It may suggest that the small adjustment is slightly higher than it might need to be.
Within-day Obligations	None	<p>Effectively none.</p> <p>There are some ramp rate restrictions at large direct connected loads. They are implemented to protect installed equipment. They do not restrict the commercial freedom of users beyond physical requirements.</p>

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14.1 CZ-Czech Republic

Key elements	Coding	Explanation/discussion
Implementation date	2016	Revision of 349/2015 of 8 December 2015 implements NC BAL in the Gas Market Rules, with effect from 1 July 2016.
Trade notification enabled	Yes	<p>Trade Notifications are described as <i>input and off-take obligation nominations</i> (Section 62).</p> <p>Interface to users are via the market operator (OTE) - this appears to extend to physical renominations as well. The market operator submits the resulting (re)nominations to the TSO. Cleared entities can renominate up to 05:00 on the relevant Gas Day (Section 74). Market operator manages all processes, including acceptance, registration or rejection (Section 74(4)).</p>
Trade notifications processed within x mins	30	Trade Notifications: users see the confirmation/ rejection within less than 30 minutes.
IP renominations enabled	Yes	<p>Implementation was complete and effective on 1 Oct 2015. Nominations are made up to gate-closure (14:00 D-1) (Section 66). Renominations are later but possible throughout the day (Section 69). Sections 67 and 70 define requirements to approve, validate nominations, renominations.</p> <p>However, foreign entities are restricted to nominate in and out (transit). (Article 17.2) The Agency will take a closer look at the provision in its next edition.</p>
Info requirements - system status	No	<p>Point 3.4(5) of Annex 1 Reg 715/2009, the requirement is for hourly forecasts of end-of-day linepack to be published. Alternatively, an aggregated imbalance position for all users could be published.</p> <p>The linepack value is published once a day at 6:00: http://extranet.net4gas.cz/linepack.aspx</p> <p>Information on actual and future demand and supply of gas is published also once a day at: http://extranext.net4gas.cz/supply_demand.spx</p> <p>According to the NRA, “The Czech gas transmission is predominantly transit in nature (with a ration of domestic consumption to total throughput 1 to 5). It follows that the volume of available linepack gives very little information about the balance between injections and off-takes. At the same time the volume of linepack is rather large relative to the overall size of the local market.”</p>

Info requirements - TSO balancing actions	Yes	<p>The TSO`s Account gas requirements are defined after the end of the unused flexibility auction. Depending on quantities required gas could be secured for the following day or for the current day (Proposals page 11).</p> <p>ERU suggests (Proposals, page 13, Section 11) that post-balancing actions information about all trades associated with its balancing actions will be published. Schedule 9 defines the requirement, without specifying when and how the information will be provided.</p> <p>This link provides the daily values: http://ote-cr.cz/statistics/imbances-nc-bal-gas/balancing-actions.</p>
Info requirements - network user portfolio	Envisaged	Distribution System Operators will address the issues of the Type B metering by the middle of 2017, including the related obligation to update also the anticipated consumption for these supply points twice during the day.
Trading Platform available and used by the TSO	Available and used	OTE is an available proven Platform used by the market. http://www.ote-cr.cz/
STSPs defined and available on Trading Platform	Envisaged	The STSPs will be published on the OTE website at the next update of this website. The Q4 2015 merit order is not applicable anymore. A new Merit order was not provided by NRA by the time the drafting of the Report was closed.
TSO uses Trading Platform as first gas source	Envisaged	<p>The linepack service may undermine the users` incentives to balance daily, at marginal price. The merit order in Czech Republic, including linepack service in Q4 2015 raises some doubts.</p> <p><i>According to the Regulator, "According to art. 6(1)(b) balancing actions should be consistent with economic and efficient operation of the transmission network; art. 6(4)(b) requires the TSO to have regard to any obligations to operate an economic and efficient transmission network. Given the characteristics of the Czech transmission system [transit is predominant] a threshold has been set under which no balancing action is required while the transmission can be maintained within its operational limits as per art. 6(1)(a). ERÚ regards the chosen model cost-effective and, we also believe it encourages retail competition from new entrants."</i></p>
TSO uses title product as primary tool	Yes	Schedule 7 provides a very clear demonstration that the TSO has to go to the market first. If the market does not deliver transactions, the TSO can go for other products (buying in adjacent zone or balancing services).
TSO uses Balancing Platform	No	
TSO makes limited use of balancing services	Yes	Merit order places title products first and foresees trades with the adjacent markets and balancing services as well.

<p>TSO transparency about balancing action costs</p>	<p>Envisaged</p>	<p>http://ote-cr.cz/statistics/imbalances-nc-bal-gas/balancing-actions</p> <p>Provides TSO balancing actions on OTE. This should, in the future, also include the Balancing Services used by the TSO or the TSO should publish that on its own website.</p> <p>http://www.ote-cr.cz/statistics/yearly-market-report keeps an up-to-date summary of the imbalances and associated costs.</p>
<p>Full daily cash-out implemented</p>	<p>No</p>	<p>ERO explained that <i>“All the imbalances are subject to daily cash-out. For every cleared entity and foreign participant, the market operator shall keep an imbalance account. For a given gas day, the preliminary value of the imbalance account is the sum of the closing value of the imbalance account from the preceding gas day and the daily imbalance of the cleared entity for that gas day.”</i></p> <p>The Agency found difficult to understand how all imbalances can be subject to daily cash-out and carried over at the same time. The daily cash-out should impose that imbalances are cleared. It may be that, the linepack service is not limited and its charging is also unclear.</p> <p>The linepack service will be evaluated in the Agency’s next Report, (including how it is accounted in the shippers accounts on a daily basis; how it impacts shippers cash-out price exposure).</p>
<p>Cash-out prices set using TP trades</p>	<p>Yes</p>	<p>Cash-out prices are a function of OTE Traded prices. Rules are defined to specifically address only a single trade or days with traded quantities less than 100 MWh (public notice on Gas Market rules, appendix 10).</p>
<p>Small adjustment to deliver marginal cash-out price</p>	<p>Moderate</p>	<p>Schedule 10 defines the range from 2 to 5% for each of marginal buy price and sell price. The adjustment is a function of both the size and direction of the system imbalance.</p>
<p>Neutrality fully implemented</p>	<p>No</p>	<p>No explicit charge/credit for Balancing Neutrality and identified within invoicing. Cash flows absorbed within transportation tariffs. No methodology statement was made, including no rules for apportionment. The website of balancing action costs does not provide this information.</p> <p>According to the NRA, <i>“the neutrality principle should be regarded as a continuum rather than a binary category. The Czech Republic may not be as advanced as in some other Member States [...] this is out of regard for practicality and economic efficiency. [...]The essence of the neutrality principle is to ensure that the TSO can neither gain nor lose money as a result of its balancing activities with a view to preventing any perverse incentives. This is ensured through a dedicated regulatory account as per the gas price decision as amended on 1 July 2016 (available at http://www.eru.cz/documents/10540/2041142/ERV_5_2016, only in Czech). Due to the characteristics of the Czech transmission system [the fact that transit is predominant] only very few balancing actions</i></p>

are expected to occur (which is corroborate by empirical evidence so far - there has been only one balancing action totalling 5 204 MWh since 1 July). That, in connection with the information provision model implemented, reduces the need and indeed the very purpose of having short-term neutrality charges.”

Within-day Obligations

None

14.2 ES - Spain

Key elements	Coding	Explanation/discussion
Implementation date	2016	Spain applies transitory measures.
Trade notification enabled	Yes	VTP (PVB) effectively enables Trade Notifications, since November 2015. Day-ahead and within-day notifications are possible up to three hours before the end of the gas day (circular, section 6, para 4)
Trade notifications processed within x mins	30	Notifications before the gas day may legally have a 120 minute assessment to the processing period. (Circular Section 6, para 4)
IP renominations enabled (choice: renomination flexibility at the broader set of points)	Yes	Nominations and renominations are enabled in a common procedure at all points of entry to or exit from the network (Including to / from SSOs and LSOs).
Info requirements - system status	Yes	<p>Satisfying specifications from Article 32(1) of the Code. The process is still ongoing. The publication is effective as of 1 October 2016 on the following link:</p> <ul style="list-style-type: none"> • http://www.enagas.es/enagas/es/Gestion_Tecnica_Sistema/Mercados/Indexe_de_Desequilibrio • http://www.enagas.es/enagas/en/Gestion_Tecnica_Sistema/Operacion_del_Sistema_Gasista/SeguimientoDiarioDelSistema <p>The aggregated system imbalances and linepack value (IDQ) are published with hourly updates during the gas day.</p>
Info requirements - TSO balancing actions	Yes	<p>Satisfying specifications from Article 32(2) of the Code as of October 2016.</p> <p>Balancing actions are invoiced within one month after occurring.</p> <p>http://www.enagas.es/enagas/es/Gestion_Tecnica_Sistema/Operacion_del_Sistema_Gasista</p> <p>Further evaluation of the regime will follow in the next edition of the Report.</p>
Info requirements - network user portfolio	Yes	<p>Satisfying specifications from Article 32(3) of the Code. Base case selected with some elements of the information provision requirements of variant 1. DSOs are obliged to provide relevant information. (Circular, section 16, para 4b(3)- cumulated data provision)</p> <p>The websites are functioning and require registration.</p>

Trading Platform available and used by the TSO	Available and Used	<p>Market players rely on existing non-market-based arrangement for their balancing needs. As of 1 October 2016, the TSO must use Mibgas for balancing. MIBgas started as foreseen:</p> <p>http://www.mibgas.es/mercados-de-gas/</p> <p>http://confl.mibgas.es/confluence/login.action?os_destination=%2Fhomepage.action</p>
STSPs defined and available on Trading Platform	Yes	<p>STSPs are defined in TP rules.</p> <p>The use of locational products will become possible after October 2016.</p> <p>The locational products are associated with the need for the TSO to acquire at the PVB an equivalent opposite - see Section 7, para 6. (Circular, Section 3, para 4b, Section 7, para 6).</p> <p>The use of locational products is expected to be marginal. After the regime is put in place, the use of locational products should be reviewed.</p>
TSO uses Trading Platform as first gas source	Envisaged	<p>Circular 7.6 requires that the balancing actions will preferably be conducted on the Trading Platform (MIBGAS).</p> <p>The Agency will review this in the next edition of the Report.</p>
TSO uses title product as primary tool	Envisaged	<p>In accordance with the Circular 7.6, which defines a strict merit order, the Technical System Manager is required to prioritise within-day title, at the first level within the merit order. Link to legislation and technical protocols:</p> <p>http://www.boe.es/boe/dias/2016/09/30/pdfs/BOE-A-2016-8927.pdf</p> <p>http://www.enagas.es/enagas/es/Gestion_Tecnica_Sistema/Seguimiento_del_Sistema_Gasista/Protocolos_detalle</p>
TSO uses Balancing Platform	No	
TSO makes limited use of balancing services	Yes	<p>The legal framework allows TSOs to use balancing services. To this day, TSOs have not subscribed to that option. TSOs' confidence in their ability to manage the system under the new regime may come from the obligation for shippers to store a certain amount of LNG in order to face peak demand. This shall be assessed on future data made available after October 2016.</p>
TSO transparency about balancing action costs	Envisaged	<p>The data should be made available to satisfy Article 9(4) on the Merit Order. Quantities, prices, costs and reasons for TSO balancing actions will be published before invoicing, on monthly basis (Circular, section 9, para 1). Consolidated information on balancing actions will be provided to the NRA every six months and yearly reporting obligations will be also provided (Circular, section 9, para 2-3).</p>

		One needs to be registered to get access to the site.
Full daily cash-out implemented	Yes	Full daily cash-out implemented. //Storage flexibility service (Circular, section 17) is an option in the national regulation, which will not apply for the first year.
Cash-out prices set using TP trades	Yes	<p>All trades contributing to daily balancing (i.e. including month-ahead transactions) contribute to the cash-out price. The market is short-term oriented. CNMC does not anticipate situations when transactions, other than within-day, are so predominant that they would hamper the ST trading influence over the balancing price.</p> <p>Prices are published by the market operator. http://www.mibgas.es/apps/reports/index.php?lang=es</p>
Small adjustment to deliver marginal cash-out price	Moderate	<p>It is set for 2.5% for a transitory period. This figure will be revised once the Code enters in full application. The methodology defining the imbalances tariffs and small adjustment, as foreseen in Circular, section 13, para 3, was approved on 12th May 2016 and published on the CNMC webpage http://www.cnmc.es/Portals/0/Ficheros/Energia/Resoluciones/2016/Mayo/160512_INF_DE_042_16_.pdf</p>
Neutrality fully implemented	Envisaged	<p>Neutrality methodology is published. It ensures that the Technical System Manager passes cost and revenues arising from users' daily imbalances and the Technical System Manager's balancing actions to network users.</p> <p>Neutrality costs and redistributions are not separate from transmission revenues. (see Articles 29.4 and 30.4)</p> <p>The profits of the TSOs are socialised across the system.</p> <p>The losses of the TSOs are paid by those with end-of-day imbalances, rather than system usage (see Article 30.3). Neutrality provisions are charged monthly (Circular, section 14, para 3, 4, 7)</p> <p>The way in which neutrality costs and redistributions among users are structured will be revised by the NRA CNMC to separate balancing costs from transmission tariffs, next year.</p> <p>The Agency recommends that CNMC take a closer look to the redistribution of neutrality costs and place the costs on the largest user base possible, namely on all network users.</p>
Within-day Obligations	None	

14.3 HR - Croatia

Key elements	Coding	Explanation/discussion
Implementation date	2016	Transitory measures - to deliver the Code until Oct 2016.
Trade notification enabled	Yes	VTP enables Trade Notifications. As confirmed by HERA, notifications are enabled for any gas trader or gas supplier registered as balancing responsible party.
Trade notifications processed within x mins	120	Based on the ENTSOG report.
IP renominations enabled (choice: renomination flexibility at the broader set of points)	Yes	IP renominations and systems processes are enabled.
Info requirements - system status	Envisaged	https://www.sukap.plinacro.hr For now, only Aggregate Imbalance Positions are published. Should the base case model prevail, the end-of-day linepack with an hourly frequency forecasts, should be published.
Info requirements - TSO balancing actions	Envisaged	As confirmed by HERA, this is envisaged after October 2016.
Info requirements - network user portfolio	Envisaged	As confirmed by HERA, this is envisaged after October 2016.
Trading Platform available and used by the TSO	TP envisaged	TSO uses currently the Balancing Platform for locational products and also buys balancing services. TP is expected to be operational as of October 2016. Trading Platform and the new market rules are drafted. The rules are consulted and will be reviewed by the NRA, as reported by HERA mid - September. The Agency will review this in the next edition of the Report.
STSPs defined and available on Trading Platform	Envisaged	STSPs are defined and expected to be launched by October 2016.
TSO uses Trading Platform as first gas source	Envisaged	This information shall be revisited by the Agency in 2017.
TSO uses title product as primary tool	Envisaged	The Agency will review the future merit order. For the Q4 2015, locational products play a prominent role.

TSO uses Balancing Platform	Yes	The Balancing Platform will expire and the Trading Platform will carry out the balancing trades by 1 October 2016. http://www.hrote.hr/default.aspx?id=286
TSO makes limited use of balancing services	Yes	Based on the Q4 2015 merit order data, this is already the case. After October 2016, the TSO has still envisaged the use of balancing services. The Agency's assessment should be revised in 2017.
TSO transparency about balancing action costs	Envisaged	The data should be made available to satisfy Article 9(4) on the Merit Order and data shall be published on a yearly basis.
Full daily cash-out implemented	Envisaged	As confirmed by HERA, this is envisaged after October 2016. Methodology is provided under the link: http://narodne-novine.nn.hr/clanci/sluzbeni/2016_05_49_1330.html The reference price for balancing services is CEGHIX daily. The Agency will review the provisions, once they are applied in its next Report.
Cash-out prices set using TP trades	Envisaged	As confirmed by HERA, this is envisaged after October 2016. The Agency notes, after checking the methodology that the cash-out prices are not based on the trades of the Trading Platform. The Agency will review the provisions, once they are applied.
Small adjustment to deliver marginal cash-out price	Large	As confirmed by HERA, a small adjustment of 10% is envisaged after October 2016.
Neutrality fully implemented	Envisaged	As confirmed by HERA, this is envisaged after October 2016.
Within-day Obligations	None	

14.4 IT - Italy

Key elements	Coding	Explanation/discussion
Implementation date	2016	Applied transitory measures. Current status confirmed at 29 July 2016. National regulation (312-16) confirms that the TSO shall apply the EU regulation, with a 1 October 2016 deadline. The NRA has the power to reconsider the start date, if evidence arises that things are not ready by the deadline.
Trade notification enabled	Partial	VTP effectively enables Trade Notifications. Certain restrictions will still apply for a certain period, in particular VTP trades cannot be registered between 3-6 am at least at day-ahead and within-day up to 3am on the morning of the Gas Day.
Trade notifications processed within x mins	30	Trade notifications are processed instantaneously and do not take more than 30 minutes. Transaction must stop between 3am and 6am.
IP renominations enabled	Yes	The Swiss and the Southern IPs (where foreign TSO are not bound to implement EU legislation) do not follow the nomination / renomination lead times. The TSO has to promptly report to AEEGSI in case of problems at Swiss border.
Info requirements - system status	Yes	TSO has recently enhanced provision of information, so that several within-day updates of projected closing linepack are provided. Recent regulatory decisions imply that full hourly updates are envisaged, as the full regime is implemented. http://www.snamretegas.it/en/services/Gas_transportation/8_network_operational_balancing_data/index.html#
Info requirements - TSO balancing actions	Yes	From GME there are two balancing markets, (1) for locational products (MPL) and (2) for stored gas (MGS). http://www.mercatoelettrico.org/En/Mercati/PB-GAS/PBGAS.aspx The imbalance price, volume and the TSO's action (volume traded by the TSO) are reported too: http://www.mercatoelettrico.org/En/esiti/MGS/EsitiMGS.aspx
Info requirements - network user portfolio	No	After the consultation, the interpretation in Italy is that the provisions of NC BAL for NDM demand only apply to NDM load, connected directly to the transmission system. Italy has 226 DSOs out of which 29 DSOs supply more than 100,000 clients. Article 39.1 of NC BAL foresees each DSO to provide

		forecasts, regardless whether the system is part of the balancing zone. This has not been fulfilled for these large DSOs. The NRA envisaged to review the information provision scheme, if it does not deliver as expected.
Trading Platform available and used by the TSO	Envisaged	Recent regulatory decision implies that a Trading Platform (GME continuous Platform) will be used by the TSO from 1 October 2016. Current PB-Gas Platform will be used to exchange gas within the storage system. The Agency will assess, in the next edition of the Report, the role of PB Gas. http://www.mercatoelettrico.org/En/Default.aspx
STSPs defined and available on Trading Platform	Yes	Recent regulatory decisions imply that, a full range of STSPs, including relevant locational products, will be available from 1 October 2016, or at a later date, as the final changes to the Balancing regime to deliver compliance are introduced.
TSO uses Trading Platform as first gas source	Envisaged	Recent regulatory decisions envisage that the GME continuous market will be the first gas source for TSOs
TSO uses title product as primary tool	Envisaged	Recent regulatory decisions envisage that a strict merit order will be applied from 1 October 2016, or from a later date, as the full package of final balancing reforms to deliver compliance are introduced.
TSO uses Balancing Platform	No	As soon as the final balancing reforms deliver compliance, the TSO will use the GME continuous Platform.
TSO makes limited use of balancing services	Envisaged	It is foreseen that the TSO doesn't make any use of balancing services. The national code does not define balancing services. However, the NRA also reports that the TSO's own storage will be used to balance its own position (compensate differences of losses, shrinkage, etc.), as an "extension" to linepack. The storage use of the TSO will be monitored by the NRA. The Agency notes that this issue shall be evaluated after implementation, based on factual use and on the new merit orders provided.
TSO transparency about balancing action costs	Envisaged	Balancing action costs are reported on the web site monthly (Chapter 9, Article 3.1 of the Code).
Full daily cash-out implemented	Envisaged	No tolerances and full marginal price cash-out exposure are envisaged.
Cash-out prices set using TP trades	Envisaged	The details on the cash-out price are set in Annex I, art. 5 of AEEGSI's deliberation 312/2016/R/gas of 16 June 2016 (valid from 1 October 2016).

		The average weighted price is equal to either, the daily System Average Price on the Gas Balancing Platform, or the average of the previous 30 days' System Average Price, in case the accepted volumes for the gas day on the Gas Balancing Platform are less than 2000 MWh.
Small adjustment to deliver marginal cash-out price	Small	A fixed number: 0.108 euro/MWh will apply. This represents a very small premium, designed not to unduly expose network users.
Neutrality fully implemented	Envisaged	<p>Currently, neutrality charges are calculated on a monthly basis and are applied for exit points only. The methodology is approved by the NRA and published on the TSO website, while the values are published on the website of the National settlement office (Cassa conguaglio).</p> <p>Similar neutrality principles will apply post 1 October 2016, although the precise details (about cash-in cash-out mechanism) are still being developed.</p>
Within-day Obligations	None	-

14.5 PT - Portugal

Key elements	Coding	Explanation/ discussion
Implementation date	2016	Applies transitory measures. Several consultations have been conducted to define the implementation. The last public consultation (July 2016) aimed to finalise approach. Regulatory decision is expected in September 2016 with implementation by 1 October 2016. Most processes and procedures are expected by 1 October 2016.
Trade notification enabled	Yes	Implemented by 1 October 2015 as confirmed by the NRA.
Trade notifications processed within x mins	120	Same business processes used for Trade Notifications as for Trade Nominations.
IP renominations enabled	Yes	IP nominations and renominations are enabled and effective from 1 October 2015.
Info requirements - system status	No	Hourly within-day projections of closing linepack are currently not envisaged.
Info requirements - TSO balancing actions	Envisaged	Information will be provided, although the frequency of information release remains to be established.
Info requirements - network user portfolio	Envisaged	A public consultation was launched by the NRA and “Variant 2” was identified as the preferred option.
Trading Platform available and used by the TSO	Envisaged	MIBGAS is already functioning within the Spanish market and the aspiration is that it will be operable within Portugal by, or shortly after 1 Oct 2016.
STSPs defined and available on Trading Platform	Envisaged	Title and locational products (involving physical delivery) will be available on MIBGAS to meet Portuguese market and TSO requirements.
TSO uses Trading Platform as first gas source	Envisaged	It is envisaged that the TSO will use the MIBGAS Platform for balancing from 1 October 2016. Even if the Portuguese part of the Platform is not operable, the TSO will access the Spanish market and transport gas into or out of Portugal.
TSO uses title product as primary tool	Envisaged	Shall be assessed on future data, made available after October 2016 (same as in Spain).
TSO uses Balancing Platform	No	-

TSO makes limited use of balancing services	Envisaged	<p>As of July 2016, no balancing services contractual arrangements have been put in place from 1 October 2016 onwards.</p> <p>TSO's current operational reserve facility (whereby, it can inject and withdraw gas supplied by all shippers into or from UGS) will no longer be available from 1 October 2016.</p> <p>From 1 October 2016 the TSO shall procure his operating gas on the market.</p>
TSO transparency about balancing action costs	Envisaged	<p>Frequency of information release remains to be determined. Preliminary view is that the frequency will be at least monthly.</p>
Full daily cash-out implemented	Envisaged	<p>Full daily cash-out will be implemented.</p> <p>Network users supplying DM users will be able to purchase, and use, a linepack flexibility service.</p> <p>It is anticipated that the linepack flexibility service will be priced at no less than the equivalent charge for UGS service.</p> <p>Subject to the regulatory approval of the full package the full daily cash-out will be implemented.</p>
Cash-out prices set using TP trades	Envisaged	<p>Where trades are not made in respect of the Portuguese zone cash-out prices will be set taking account of MIBGAS Spanish zone trades adjusted by the prices for Interconnection Capacity between Spain and Portugal.</p>
Small adjustment to deliver marginal cash-out price	Moderate	<p>A small adjustment of +/- 2.5% will apply.</p>
Neutrality fully implemented	No	<p>Proposals are still being developed and anticipated within the NRA's final decision.</p> <p>Current proposal is that neutrality charges/credits will be calculated and invoiced on a monthly basis.</p> <p>Since Variant 2 is anticipated, a separate neutrality charge for balancing, in respect of NDM offtakes, is required (Article 30.5).</p> <p>Portugal is currently considering an alternative approach, where reconciliation quantities will be addressed via future procurement of gas on MIBGAS.</p>
Within-day Obligations	None	

15 2019 Interim Measures Cluster

15.1 EL - Greece

Key elements	Coding	Explanation/discussion
Implementation date	Interim	Several interim measures are foreseen by the Member State.
Trade notification enabled	Envisaged	There is no VTP yet in place. (prerequisite)
Trade notifications processed within x mins	Not yet	See above.
IP renominations enabled	Envisaged	System processes for the cross-border IPs is in negotiation. The current scheme is under review. The application of the rules is expected for Q4 2016. Other points, e.g. LNG, may follow. Lack of renomination flexibility will limit the potential for individual shipper balancing.
Info requirements - system status	No	No hourly updates of projected closing linepack within-day is available. http://www.desfa.gr/?page_id=2790&lang=en Awaiting specific explanation from NRA.
Info requirements - TSO balancing actions	Yes	There is limited information available on the TSO website. The relevant file is updated frequently. Market is aware of quantities of gas used within the balancing Services contract. http://www.desfa.gr/?page_id=2958&lang=en
Info requirements - network user portfolio	Yes	Based on NRA submission, cross-checked with network users, satisfying article 32.
Trading Platform available and used by the TSO	No TP	No Trading Platform established yet.
STSPs defined and available on Trading Platform	No	No, see above.
TSO uses Trading Platform as first gas source	No	No evidence of this based on Q4 2015 data.
No evidence of this based on Q4/2015 data.	No	No evidence of this based on Q4 2015 data.
TSO uses Balancing Platform	No	A Balancing Platform is envisaged from Q2 2017, although no plans or details are available in the public domain.
TSO makes limited use of balancing services	No	From Q4 2015 submitted data, the TSO relies on balancing services supplied from services delivered using the LNG facility.

		<p>The balancing contract is annual. It is linked to a market index. It is re-tendered annually.</p> <p>Tender document for 2016 (EN):</p> <p>http://www.desfa.gr/wp-content/uploads/2015/10/Instructions-to-Bidders-554_151.pdf</p>
TSO transparency about balancing action costs	Yes	<p>Link to RAE decision:</p> <p>http://www.desfa.gr/wp-content/uploads/2016/05/RAE_470_2015.pdf</p> <p>Link to balancing actions:</p> <p>http://www.desfa.gr/?page_id=2958&lang=en</p> <p>Link to balancing gas price:</p> <p>http://www.desfa.gr/?page_id=2981&lang=en</p> <p>There is no available information on the Merit Order.</p>
Full daily cash-out implemented	No	<p>Interim measures apply. There is no trade on Platforms. There is no basis for cash-out pricing.</p> <p>A charging methodology applies. It provides a daily price. The price does not change every day.</p>
Cash-out prices set using TP trades	No	<p>Prices are not yet related to the cost of short-term flexibility in a market on the day.</p>
Small adjustment to deliver marginal cash-out price	None	<p>This is not applicable.</p> <p>The current regime does include differential charging for within and beyond tolerance cash-out. The premium increases with imbalances. Higher premium are applicable to larger imbalances.</p>
Neutrality fully implemented	Yes	<p>Neutrality rules are defined in Article 56 Balancing Settlement Account of the Code.</p> <p>A methodology redistributes net balancing neutrality costs over a year, via a retrospective annual adjustment. Charges are proportional to the Gasification Quantity.</p> <p>Gas Network Code (EN) (chapter 8):</p> <p>http://www.desfa.gr/wp-content/uploads/2016/03/Unofficial-Translation-of-NC-v3.pdf</p>
Within-day Obligations	None	
Interim measures agreed by the NRA	Yes	<p>NRAs assess if:</p> <ol style="list-style-type: none"> 1) liquidity is/has been inadequate, and 2) more time is necessary.

Series of steps identified	No	A Balancing Platform is envisaged from Q2 2017, although no plans or details are available in the public domain. It is unclear how the interim measures would phase out fully by 2019. The process is in delay (VTP, etc.)
Evidence of first step	No	"First step actions" are envisaged with NRAs/TSOs. Renominations facilitation, establishing a VTP and satisfying basic information requirements, have not been achieved.
Evidence or process for second step	Not Envisaged	Depends on first annual update of the IMR.

15.2 IE - Ireland

Key elements	Coding	Explanation/ discussion
Implementation date	Interim	
Trade notification enabled	Yes	
Trade notifications processed within x mins	30	
IP renominations enabled	Yes	
Info requirements - system status	Yes	TSO transparency info is available at : http://web1.gnigtms.ie Annexe 3.4.5 information is supplied to network users via logged messages. Within-day, these are delivered on an hourly basis.
Info requirements - TSO balancing actions	No	Retrospective information is available within a Monthly published report : http://www.gasnetworks.ie/en-IE/Gas-Industry/Transparency/Transportation-Montly-Reports/ This provides information about balancing quantities executed via the Balancing Services agreement. It does not indicate the prices associated with the transactions.
Info requirements - network user portfolio	Yes	NDM processes have been long established in Ireland. The base case information provision should be satisfied.
Trading Platform available and used by the TSO	No TP	The original IMR committed to a plan involving a "Trading Platform Feasibility Study". This was broadened to "Balancing Options Assessment' in early 2016. This broadening aimed to articulate the Transporter's preliminary assessment of the various options. It proposed to undertake a more detailed Cost Benefit Analysis, at a later date. This resulted in slowing progress compared with original IMR proposals. The TSO is exploring the regulatory and commercial arrangements necessary to enable the TSO to use a Trading Platform. Update from TSO on 3 August 2016 indicated that workshops involving industry and NRA (CER) are ongoing. An analysis of relative options will be supplied to the NRA in the next few weeks.
STSPs defined and available on Trading Platform	Yes	The TSO does not publish the precise specification. The TSO has indicated that it proposes to include title products in its suite of balancing tools. See "Balancing Options Assessment": http://www.gasnetworks.ie/Global/Gas%20Industry/BGN%20Gas%20Industry%20Website%20Content/Gas%20Industry%20Documents/GNI%20Files/Code%20of%20Operations%20Documents/Code%20M

		<p>ods/Interim%20Measures/160125_Balancing%20Options%20Assessment%20Report%20v1.0.pdf</p> <p>It proposes that “two title products be developed:</p> <ul style="list-style-type: none"> • Day-ahead title product; and • Day-ahead title product” <p>No detailed specification is indicated.</p>
TSO uses Trading Platform as first gas source	No	TSO, currently, solely uses balancing services. No commitment has been made as to when a Platform might be utilised. Should a Trading Platform be implemented, the TSO envisages it would be its first source of gas.
TSO uses title product as primary tool	No	Currently, only Balancing Services are used. However, the TSO proposes to retain Balancing Services contract arrangements to provide, at least initially, a backup to the use of a Trading Platform, until sufficient liquidity to satisfy balancing requirements via the Trading Platform is established.
TSO uses Balancing Platform	No	No Balancing Platform exists. TSO proposed the implementation of a BP in June 2016 to the industry. There was no significant appetite for same, and investigations into the use of an independent Trading Platform have been continuing since.
TSO makes limited use of balancing services	No	TSO, currently, solely uses balancing services. The earlier "Balancing Options Assessment" showed scepticism about reliance on the short-term market. Recent discussions indicate that Balancing Services will be retained until such time as a Trading Platform is implemented and displays sufficient liquidity to provide confidence that Balancing Services may longer be necessary.
TSO transparency about balancing action costs	No	Data about the cost and price composition of the agreed terms under the Balancing Services contract is not available in the public domain.
Full daily cash-out implemented	No	The full daily imbalance is cashed out each day. Substantial tolerances still exist. The majority of gas cash-out occurs within tolerance, the so called "First Tier", at a +/- 2% premium/discount to the proxy weighted average price, set by reference to the System Average Price in Great Britain.
Cash-out prices set using TP trades	No	The prices are set by reference to the three prices defined in the Network Code in Great Britain: SMP_{Buy} , SMP_{Sell} , and SAP. There is currently no organised Trading Platform functioning in Ireland that can provide local reference prices. The TSO uses prices from the adjacent balancing zone in Great Britain, defined by the Trading Platform used by the TSO in Great Britain to balance its network.

Small adjustment to deliver marginal cash-out price	Moderate	<p>The current prices are set so that at least a +/- 5% spread of the proxy price (GB SAP), for imbalance cash-out, applies outside of the currently available tolerances. This has been altered as of 1 September 2016 to +/- 2.5%, as an interim measure rather than an enduring solution</p> <p>There is no price reference that would adequately reflect the price of balancing gas within the zone. This is because the TSO is not using local market for short-term balancing. Until a Trading Platform is in place, and since 1 September, the TSO uses wide differentials (+/- 2.5% of the proxy price) to provide an adequate incentive for Irish network users to balance.</p>
Neutrality fully implemented	No	<p>Neutrality principles apply, not only to balancing, but also to the costs of the provision of shrinkage gas, as well.</p> <p>Balancing generates net credits, withheld and refunded only after the end of the Gas Year. Net costs are charged back to shippers in much shorter periods. This creates asymmetry in the regime. The Agency notes that shippers have the option of using these credits against their monthly invoices.</p> <p>Neutrality should be applied at least monthly in accordance with the Balancing Code.</p>
Within-day Obligations	None	
Interim measures agreed by the NRA	Yes	<p>First Implementation Monitoring Report signed-off by the NRA on 17 Apr 2015.</p> <p>http://www.cer.ie/document-detail/EU-Gas-Network-Codes/1027</p>
Series of steps identified	Yes	Several steps were identified.
Evidence of first step	Taken	<p>From 1 October 2015, first step of tolerance reduction took place.</p> <p>From 1 April 2015, a further incentive was introduced into First Tier Imbalance cash-out (I.e. within tolerance), whereby long shippers would be cashed out at a price which is less than or equal to System Average Price in Great Britain (SAP), less 2%. Short shippers charged at least SAP plus SAP, in respect of within tolerance cash-out.</p>
Evidence or process for second step	In Process	<p>Discussions are currently ongoing, in relation to the next steps of tolerance reduction.</p> <p>Currently, no price for short-term balancing gas can feed into the cash-out price determination.</p> <p>The system faced low summer demand, next to high new indigenous supply of gas. The physical reverse flow into Great Britain could not be ensured at this point. Overall, this resulted in a temporary increase of the balancing incentives of users. As an outcome, the TSO considers</p>

the development of a Trading Platform at the request of the stakeholders.

15.3 LT - Lithuania

Key elements	Coding's	Explanation/discussion
Implementation date	Interim	Following the Code (Article 46.3), late announcement of the interim regime.
Trade notification enabled	Yes	VTP effectively enables Trade Notifications.
Trade notifications processed within x mins	30	30 minutes is the min time for processing of a transaction.
IP renominations enabled (choice: renomination flexibility at the broader set of points)	No	The renomination cycles have been properly designed, implemented. Yet, restrictive rules require network users to nominate a balanced position. (Rule 42 in the BALANCING RULES published by Amber Grid).
Info requirements - system status	Yes	Satisfying specifications from Article 32(1) of the Code. https://www.ambergrid.lt/en/transportation-services/balancing/inbalancing
Info requirements - TSO balancing actions	Envisaged	Satisfying specifications from Article 32(2) of the Code, according to Rule 57 in the BALANCING RULES, published by Amber Grid. However, the Amber Grid website is under reconstruction to reflect on TSO balancing actions – not yet available.
Info requirements - network user portfolio	Yes	Satisfying specifications from Article 32(3) of the Code, based on NRA clarification. Users are provided with a log-in to the Amber Grid Website as foreseen in Rule 41 of the BALANCING RULES published by Amber Grid.
Trading Platform available and used by the TSO	Available	GET Baltic gas exchange is available for TSO. It was not used by the TSO since its opening.
STSPs defined and available on Trading Platform	Yes	STSPs are defined, available, but not used by the TSO.
TSO uses Trading Platform as first gas source	No	Based on the assessment using Q4 2015 and Q2 2016 data, there is no evidence to support a "yes".
TSO uses title product as primary tool	No	Based on the assessment using Q4 2015 and Q2 2016 data, there is no evidence to support a "yes".
TSO uses Balancing Platform	No	-
TSO makes limited use of balancing services	No	Based on the assessment using Q4 2015 data, it is shown that the predominance of balancing services is a major balancing instrument.

		NCC informs the Agency that, upon the end of the balancing services contract, the TSO will review the use of its balancing services and will evaluate whether it will start trading of STSPs on a TP.
TSO transparency about balancing action costs	Envisaged	<p>Pursuant to Art. 7.1 of NRA resolution on “The information to be submitted by the energy undertakings”, the TSO shall, each month (at the latest 20 days after the accounting month) submit to the NRA the report on the quantities of balancing gas sold/bought to/by network users each day, during the balancing period the gas injected/taken to/from gas storage or transmission system, by providing balancing gas cost, also the information on the gas owned for balancing purposes.</p> <p>https://www.etar.it/portal/it/legalAct/937116e0c3fa11e4bac9d73c75fc910a</p> <p>Pursuant to Art. 7.2.1 of NRA resolution on “The information to be submitted by the energy undertakings”, the TSO shall, each quarter (at the latest 40 days after the accounting quarter), submit to the NRA the report on incomes and costs, including those from balancing activity https://www.etar.it/portal/it/legalAct/937116e0c3fa11e4bac9d73c75fc910a</p> <p>The Transmission System Operator must publish on its website information on balancing services purchased and natural gas purchased or sold for the balancing purposes (rule 57 in the BALANCING RULES published by Amber Grid).</p> <p>NCC confirms receiving the information. The information is not made public yet. Amber Grid website is currently under reconstruction to reflect on TSO balancing actions.</p>
Full daily cash-out implemented	No	<p>Tolerances are applied. The user is not totally faced with daily imbalances. (see Article 22.2)</p> <p>2 tolerance levels are defined: 5% and 15%.</p>
Cash-out prices set using TP trades	No	<p>Imbalance charge is set using gas exchange price.</p> <p>As indicated in the BALANCING RULES published by Amber Grid:</p> <p>Marginal sell price means a lower price of balancing gas over the balancing period, among the lowest gas price at which the Transmission System Operator purchased gas during the balancing period, and (or) sold under a bilateral sale and purchase contract and (or) on the Exchange, and the weighted average price of gas traded on the Exchange over the balancing period, which shall be published by the market operator.</p> <p>Marginal buy price means a higher price of balancing gas over the balancing period among the highest gas price at which the Transmission System Operator purchased gas during the balancing period, and (or) sold under a bilateral sale and purchase contract and (or) on the Exchange, and the weighted average price of gas</p>

		<p>traded on the Exchange over the balancing period, which shall be published by the market operator.</p> <p>Marginal buying prices and marginal selling prices of balancing gas are available on Amber Grid website https://www.ambergrid.lt/en/transportation-services/balancing/pricesofbalancing</p> <p>The Agency observes that such provisions are not an exact transcription of Article 22 of the Code. “[G]as price at which the Transmission System Operator purchased gas during the balancing period, and (or) sold under a bilateral sale and purchase contract” includes operations that happen outside the Trading Platform.</p> <p>The TSO never used the exchange. The Cash-out prices were never based on TP trades.</p>
Small adjustment to deliver marginal cash-out price	Large	10% applied.
Neutrality fully implemented	No	<p>The neutrality charge is not set separated from transmission tariffs (Article 30.4).</p> <p>The neutrality rules foresee that the balancing activity of the TSO is neutral.</p> <p>The transmission tariff is corrected to compensate the eventual profits or losses from balancing actions according to Art. 29 of the NRA resolution on “The methodology on setting the state regulated prices in natural gas sector” (http://www.regula.lt/SiteAssets/teises-aktai/o3-367.pdf).</p>
Within-day Obligations	None	-
Interim measures agreed by the NRA	Yes	NRAs assessed as follows: Lithuania is a small and quite isolated gas market, there are only few market players active on wholesale market. The only adjacent balancing zone, Latvia, is still closed market, enjoys a derogation based on Article 49 of Directive 2009/73/EC and is not implementing the Code, approved by the NRA on 30 December 2015 (NCC Decision No O3-698, as of 2015-12-30). Tolerances will apply till 2019.
Series of steps identified	Yes	Only for the tolerance levels, which shall be revised annually.
Evidence of first step	Taken	<p>Imbalance charge is set using gas exchange price.</p> <p>The Agency observes that such provisions are not an exact transcription of Article 22 of the Code. “[G]as price at which the Transmission System Operator purchased gas during the balancing period, and (or) sold under a bilateral sale and purchase contract” includes operations that happen outside the Trading Platform.</p>

	<p>The TSO never used the exchange. The Cash-out prices were never based on TP trades.</p>
<p>Evidence or process for second step</p>	<p>Envisaged</p> <p>NCC informs the Agency that, upon the end of the balancing services contract, the TSO will review the use of its balancing services and will evaluate whether it will start trading of STSPs on a TP. The tolerance levels are revised annually.</p>

15.4 NI - Northern Ireland

Key elements	Coding	Explanation/discussion
Implementation date	Interim	Please see Interim Measure Report and UR response in: http://www.uregni.gov.uk/uploads/publications/2015-03-04 Northern Ireland Interim Measures Report.pdf http://www.uregni.gov.uk/uploads/publications/2015-03-27 Letter to PTL and BGTL re Interim Measures.pdf
Trade notification enabled	Yes	The national rules confirm that Trade Nominations (in local terminology) enable a gas transfer between network users. The NRA confirmed that the process is made available to network users.
Trade notifications processed within x mins	30 min	The trade notifications are processed within 30 minutes, as reported by Unireg.
IP renominations enabled	Yes	
Info requirements - system status	No	Only one value for each Gas day is supplied. No hourly updates within-day of projected closing linepack are delivered.
Info requirements - TSO balancing actions	Yes	Monthly data detailing balancing actions and associated costs and revenues published monthly: http://www.premier-transmission.com/transparency.htm
Info requirements - network user portfolio	Yes	NDM information is not addressed in the Transmission code, but rather in the Distribution code. Two updates on the exit nominations are offered to users, which is then matched by users with their entry nominations. The update is at D-1 and twice within-day. Northern Ireland uses the base case model.
Trading Platform available and used by the TSO	No TP	No attempt appears to have been made to seek to establish a Trading Platform.
STSPs defined and available on Trading Platform	No	
TSO uses Trading Platform as first gas source	No	
TSO uses title product as primary tool	No	
TSO uses Balancing Platform	No	

TSO makes limited use of balancing services	No	<p>TSO uses balancing services relying on purchases from the market in Great Britain. The NRA shall review, on an annual basis, the necessity of such services.</p> <p>The Agency will assess whether this has been the case in its next Report.</p>
TSO transparency about balancing action costs	Envisaged	<p>Quantities and costs on a daily basis are published: http://www.premier-transmission.com/TRANSPARENCY/Copy%20of%20Balancing%20actions%20Oct%2014-%20Dec%2015.pdf</p> <p>The TSO published data for Q4 2015. Users can follow TSO costs in their invoices. The Agency will follow up, in its next Report, on how the publication of the aggregated costs are made available.</p>
Full daily cash-out implemented	No	<p>Tolerances apply and are calculated each year for each individual shipper. The tolerance is applied taking account of the expected contribution of 4 different load categories and derives a % tolerance factor for each network user. This factor is then multiplied by the network users total exit allocations (excluding sell traded quantities).</p> <p>Imbalances within tolerance are cashed at a neutral price proxy defined by the System Average Price in Great Britain. Shortfalls beyond the tolerance are charged at 150% of the GB SAP whereas over deliveries are paid at 70% of GB SAP.</p> <p>Section 4.2 of PTL and WTL Codes.</p> <p>http://www.mutual-energy.com/transportation-code-downloads/</p>
Cash-out prices set using TP trades	No	<p>There has been no attempt to establish a Trading Platform.</p>
Small adjustment to deliver marginal cash-out price	Large	<p>Large adjustments (30 and 50%) are applied to the proxy price used as a reference. These are large adjustments, but not applied to a price directly related to the local cost of balancing.</p>
Neutrality fully implemented	Yes	<p>Monthly financial neutrality invoicing occurs.</p> <p>Section 5.6 in the PTL Code and WTL Code.</p> <p>http://www.mutual-energy.com/transportation-code-downloads/</p>
Within-day Obligations	None	
Interim measures agreed by the NRA	Yes	<p>http://www.uregni.gov.uk/uploads/publications/2015-03-04_Northern_Ireland_Interim_Measures_Report.pdf</p> <p>http://www.uregni.gov.uk/uploads/publications/2015-03-27_Letter_to_PTL_and_BGTL_re_Interim_Measures.pdf</p>

Series of steps identified	No	No clear plan for how interim measures (proxy price inputs to cash-out price determination) and tolerances will be removed.
Evidence of first step	Taken	Tolerances and cash-out pricing (based on Proxy prices from the ones in Great Britain) introduced.
Evidence or process for second step	Envisaged	The review of the measures are foreseen for Q4 2016, as reported by the NRA.

15.5 PL - Poland high cal zone

Key elements	Coding	Explanation/discussion
Implementation date	Interim	A detailed regime has been developed according the requirements of the NC BAL.
Trade notification enabled	Yes	The TSO has enabled a Trade Notification facility. Network users can submit day-ahead and within-day trades. This is independent from the interface associated with the TGE Platform (see opening hours of TGE below).
Trade notifications processed within x mins	120	The TSO uses similar functionality to that used for physical nomination/renomination approval and, so, the time for processing is 120 minutes.
IP renominations enabled	Yes	Based on the ENTSOG report. NRA understands renomination requirements at IPs has been delivered.
Info requirements - system status	No	<p>TSO publishes aggregate imbalance position of all users. http://en.gaz-system.pl/strefa-klienta/system-przesylowy/tsotransparencytemplate/</p> <p>Total imbalance is indicated in the point 3.4(5). The TSO`s website does not indicate hourly within-day updates of projected closing linepack.</p> <p>URE believes that such approach is in line with Article 3.4(5). This article specifies that TSOs may publish, per balancing zone, the aggregate imbalance position of all users at the start of each balancing period and the forecast of the aggregated imbalance position of all users at the end of each gas day.</p> <p>The Agency's view is that Article 3.4(5) requests that closing linepack value is updated on an hourly basis. The alternative approach is permitted in combination with variant 2 of information provision. The polish TSO applies a base-case approach.</p> <p>More frequent information can assist the development of the short-term market. It is essential to consider this in an interim regime, willing to build up a liquid market.</p>
Info requirements - TSO balancing actions	Yes	<p>The NRA confirms that, every month, the relevant costs and revenues of the activities connected with balancing are published. TSO, NRA and market players should explore whether any information beyond the minimum requirements specified in the Code is needed to assist market functioning.</p> <p>http://en.gaz-system.pl/customer-zone/transmission/balancing-services-market/system-services-performed/</p>

Info requirements - network user portfolio	Yes	<p>The Agency understands that the DSO has been designated as the forecasting party. DSO Polska Spółka Gazownictwa sp. z.o.o. is responsible for NDM forecasts from 1 September 2016.</p> <p>Polska Spółka Gazownictwa sp. z.o.o. published the document: "Methodology of forecasting of NDM off takes by network users". It is available in Polish only: http://www.psgaz.pl/prognozowanie-ilosci-odbieranych-przez-zud</p>
Trading Platform available and used by the TSO	Available and used by the TSO	The merit order with Q4 2015 implies that the TP is used as primary tool, with most usage occurring with within-day products. Within-day market on TGE Trading Platform starts at 8 a.m. until 3.30 pm.
STSPs defined and available on Trading Platform	Yes	Limited title STSPs are defined, products are published. Locational products are available on the TSO's Balancing Platform. A remaining question is whether the locational products could be placed on the exchange, instead of a Balancing Platform. As informed by URE, the locational products could be available on the exchange, but this should be the decision of the Polish exchange (TGE) to offer such a possibility. At the moment, GAZ-SYSTEM supports the idea to make locational products available on the exchange. The discussion with the Polish Exchange (TGE) is ongoing. No binding declarations have been made, so far. The option to extend opening hours of the gas exchange to 22 h is also discussed.
TSO uses Trading Platform as first gas source	Yes	The Agency assessed Q4 2015 data and the TSO uses the TP predominantly. The Trading Platform (TGE) would benefit from enhancement to offer locational products so that the Trading Platform could be used by the TSO to replace the Balancing Platform.
TSO uses title product as primary tool	Yes	The Agency assessed Q4 2015 data and the TSO uses the title market predominantly.
TSO uses Balancing Platform	Yes	The Balancing Platform provides a backup tool for the TSO. It can be used out of Trading Platform hours, or when locational actions are needed, or where insufficient liquidity exists at TGE.
TSO makes limited use of balancing services	Yes	The Agency assessed Q4 2015 data and the TSO uses title, predominantly. The Agency understands that some specific balancing services have been contracted at the border between Poland and Czech Republic. At Branice IP Balancing services contracted and deployed are small This agreement expires on 1 October 2016.
TSO transparency about balancing action costs	Yes	The publications are available on a yearly basis following article 9.4 :

		http://en.gaz-system.pl/strefa-klienta/taryfa/bilansowanie/mechanizm-zapewnienia-neutralnosci-kosztowej/
Full daily cash-out implemented	No	A tolerance of a 5% applies for the Gas year 2015/16.
Cash-out prices set using TP trades	Yes	Only prices from the within-day market trades are feeding in.
Small adjustment to deliver marginal cash-out price	Large	The small adjustment represents 10% of the Weighted Average Price, which is based on the within-day exchange price index.
Neutrality fully implemented	Yes	<p>Neutrality costs and redistributions are calculated based on a methodology that is compliant to the Code. Neutrality is separated from transmission charges.</p> <p>Invoices contain:</p> <ol style="list-style-type: none"> 1. neutrality rate, applying in a given settlement period, and 2. total volume of gaseous fuel, sent by the Shipper in the settlement period. <p>Charges for 2015/16 have been set on forward looking basis (and set to zero) for 2015/16. Cash flows will be taken into account in setting next year's neutrality charges. It is planned that neutrality charges will be set on a more frequent basis in the future, with monthly neutrality price setting.</p>
Within-day Obligations	None	Discussions continue and WDOs may be introduced in one small part of the system. (Tietierowka IP - ID 572405)
Interim measures agreed by the NRA	Yes	<p>NRA's assessed whether:</p> <ol style="list-style-type: none"> 1. liquidity (either observed or envisaged) has been inadequate, and 2. more time is needed for an orderly transition. <p>The NRA also provided conditions under which the interim measures will be withdrawn (e.g. churn rate comparable with adjacent market, availability of the exchange for 22 hours, locational products available on the exchange).</p>
Series of steps identified	Yes	Balancing Platform and tolerances are reviewed on yearly basis. Information will be published to satisfy minimum requirements specified in the Code. Next round will take place in October 2016.
Evidence of first step	Taken	First steps are taken and progress will be evaluated on a yearly basis.
Evidence or process for second step	Taken	The TSO consulted the updated Interim Measure Report, published in July 2016.

The TSO observed that network users can manage their imbalance exposures, within the 5% tolerance level. Following the consultation, network users requested to keep the 5% tolerance level.

This suggests that a tolerance reduction is a sensible step towards the removal of the interim measures.

15.6 RO - Romania

Key elements	Coding	Explanation/ discussion
Implementation date	Interim	<p>Proposed arrangements do not apply to the full network.</p> <p>From Transgaz' Interim Measures Report ("IMR"), [...] <i>the interim measures described in this report apply only for the NTS entry/exit area, which does not include natural gas transmission pipelines without transshipment on the territory of Romania, [...].</i></p> <p>The separate part of the Romanian system that connects Ukraine and Bulgaria is not covered by the Romanian Balancing implementation.</p>
Trade notification enabled	Envisaged	<p>IMR makes reference to VTP in Section 2.2. The use of the VTP is limited. Network users use it to balance physical entry and exit nominations.</p> <p>Network users are also enabled to make <i>ex-post</i> (i.e. after the end of the gas day) gas transfers to mitigate against imbalance exposures. This compensates inadequate information availability. In particular, portfolio demand forecasts are unreliable.</p> <p>The Agency found no evidence that Trade Notifications can be submitted within-day. Our current conclusion is that trading is not facilitated by a fully functioning VTP.</p>
Trade notifications processed within x mins	120	<p>There is insufficient evidence to classify the timings of the process.</p> <p>Trade Notifications are limited to specific circumstances. The 120 minute processing period (as indicated in ENTSOG's report) is only applicable within limited transaction timings.</p>
IP renominations enabled	Envisaged	<p>The Agency has no evidence that renomination is enabled at IPs. Rules prevent the nomination of an "open position", i.e. an out of balance nominated daily imbalance.</p> <p>IMR sections 2.2 and 2.3 refer to nominations and re-nominations. These sections provide limited information about if and when nomination, re-nomination windows will be implemented.</p> <p>The national IMR implies that nominations, renominations may be adjusted.</p> <p>In contradiction with this analysis, questionnaires that were returned to the Agency indicate that nomination provisions are implemented.</p>
Info requirements - system status	No	<p>Start of day linepack is published from 1 Dec 2015.</p> <p>Requirement extends to regularly updated linepack projection, or aggregated system imbalance. The Agency found no evidence of any approach being implemented.</p>

Info requirements - TSO balancing actions	Yes	<p>IMR 2.6 indicates that full details of each balancing action will be published to network users.</p> <p>The Transgaz website publishes a monthly spreadsheet with daily information on balancing actions taken and associated prices.</p> <p>http://new.transgaz.ro/en/informa%C8%9Bii-clien%C8%9Bi/balancing-rules-and-imbalance-tariffs</p>
Info requirements - network user portfolio	No	No evidence that forecasts are provided.
Trading Platform available and used by the TSO	No	<p>The IMR identifies two existing gas Trading Platforms: Romanian Commodities Exchange (BRM) and Operator of the Electricity and Natural Gas Market (OPCOM).</p> <p>The IMR states that the latter had not transacted gas (based on data up to 30 June 2015). BRM has some limited activity and its Platform STEGN provides short-term standardised products, enabling daily and intra-day products.</p> <p>It is not clear why BRM (using STEGN) has not been considered to include at least the title product(s) needed by the TSO. There are no standardised products available.</p> <p>Terms and conditions of trades are agreed after the identification of trading counterparties has been established. Therefore, the current Platform does not meet the requirements of a Trading Platform in the Balancing Code.</p>
STSPs defined and available on Trading Platform	No	No title product is currently available on any of the Platforms (see above). The Agency has no evidence that Transgaz has defined STSPs.
TSO uses Trading Platform as first gas source	No	From IMR Section 2.6, the tools that Transgaz might use for balancing, are defined without merit order.
TSO uses title product as primary tool	No	See above. In addition, the preferred Platform is not clear.
TSO uses Balancing Platform	No	<p>The IMR envisages a Balancing Platform in 2017/8.</p> <p>It is not clear why. The upgrading of an existing Trading Platform, or the establishment of a new Trading Platform, should be preferred.</p>
TSO makes limited use of balancing services	No	<p>The Agency found no evidence to make an assessment.</p> <p>Data published doesn't indicate the tools used for balancing and specifically how quantities and costs might be split between short-term products and balancing services.</p> <p>The questionnaire response indicates that the TSO has not procured any balancing services until now. From the questionnaire, balancing</p>

		<p>services are the last option in the merit order. No merit order is defined.</p> <p>From the questionnaire, Transgaz have statutory rights of access to UGS. Published information implies that, balancing actions are addressed via the use of UGS. The TSO may use storage to manage operational preferences for linepack levels. The extent of balancing services use is not transparent.</p>
TSO transparency about balancing action costs	Yes	<p>IMR Section 2.6 indicates that the TSO will publish on its website.</p> <p>Some information is already published. It could be made more user-friendly.</p> <p>http://www.transgaz.ro/ro/informatii-clienti/platforma-gmois</p>
Full daily cash-out implemented	No	<p>Interim arrangements are defined using within and beyond tolerance cash-out.</p> <p>After the day, trading is permitted within the regime. It undermines incentives to balance. At this stage, it is justified: users do not have adequate tools to mitigate their exposures, such as renominations, information, and liquid Trading Platforms.</p>
Cash-out prices set using TP trades	No	<p>IMR refers to a set of key inputs to cash-out price determination. These are: weighted average price of transactions, including those related to FTG, notified in PVT, together with highest and lowest prices of transactions performed by OTS.</p> <p>Cash-out prices are not based on actual trades, made on a designated Trading Platform day-ahead and within-day.</p>
Small adjustment to deliver marginal cash-out price	Large	<p>Small adjustment is defined as 10% in IMR.</p>
Neutrality fully implemented	No	<p>No methodology defined.</p>
Within-day Obligations	None	
Interim measures agreed by the NRA	Yes	<p>Approved by ANRE`s Decision from 11 Nov 2015, No. 2296.</p>
Series of steps identified	No	<p>Steps are not identified across a longer time span. Reference is made to a Balancing Platform in 2017/18. There is no clear definition of STSPs, Trading Platform.</p> <p>The National Gas Transmission Company "Transgaz" S.A. Mediaș is required to transmit to ANRE, for approval, the updated version of the Implementation Report, including an evaluation of the balancing activity carried out in the period 1 December 2015 – 1 June 2016, and the interim measures proposed for the implementation in the gas year 2016-2017.</p>

		<p>Our understanding is that a revised report has not been received because the TSO will not submit the report until changes in Romanian law are completed.</p> <p>Awaiting confirmation from NRA.</p>
Evidence of first step	Nothing yet	<p>ANRE`s Decision No. 2296 requires some actions from Transgaz :</p> <ul style="list-style-type: none"> • standard contracts for sale and purchase of balancing gas (from IMR Section 2.6) by Nov 15; • actions and schedule for the elimination of interim measures (by Jan 16); • detailed plans to establish and operate the Balancing Platform (by Jan 16).
Evidence or process for second step	Not Envisaged	

15.7 SE - Sweden

Key elements	Coding	Explanation/discussion
Implementation date	interim	Sweden applies interim measures.
Trade notification enabled	Yes	Swedegas confirms that trade notifications have been implemented and are processed immediately.
Trade notifications processed within x mins	30	Swedegas confirms that trade notifications are confirmed within 30 minutes.
IP renominations enabled (choice: renomination flexibility at the broader set of points)	Yes	Based on ENTSOG's implementation report, IP nominations and renominations are enabled.
Info requirements - system status	Yes	<p>The Agency's view is that Article 3.4(5) requests that closing linepack value is updated on an hourly basis.</p> <p>Swedegas publishes aggregated imbalance positions of users once a day :</p> <p>https://www.swedegas.com/Our_services/services/statistics</p> <p>(select settlement/actual imbalance)</p> <p>The Agency acknowledges that this satisfies the Code specifications Article 32(1). Yet, there is room for improvement.</p> <p>The publication of the aggregate imbalances of all shippers is a least effort solution. Hourly updates on projected closing linepack are desirable to support further short-term market development.</p> <p>[reference to Variant 2]</p>
Info requirements - TSO balancing actions	Yes	Based on ENTSOG's implementation report and Swedegas call, all the users are informed about the TSO's actions through a data exchange system.
Info requirements - network user portfolio	No	Sweden applies the base case and users are informed about their position through a data exchange system that flows information instantly. NDM represents 10% of the market. TSO does not provide NDM forecasts, as operators do not need this forecast.
Trading Platform available and used by the TSO	No	Based on ENTSOG's implementation report, implementation is planned after 2016. The ongoing project of studying potential benefits to have a joint balancing zone, consisting of Denmark and Sweden is under discussion.
STSPs defined and available on Trading Platform	No	Not yet, the design of STSPs will be followed up in 2017.

TSO uses Trading Platform as first gas source	No	See above.
TSO uses title product as primary tool	No	Not yet. Major design elements will follow in 2017.
TSO uses Balancing Platform	No	The Member State applies interim measures. The ongoing project of studying potential benefits to have a joint balancing zone consisting of Denmark and Sweden is under discussion.
TSO makes limited use of balancing services	No	<p><i>According to both the NRA and the TSO, Swedegas balances the short-term physical market by weekly trades that are running as regularly, opening on Monday. The trade/tender specifications are regulated. For example, it is required to have double amount of bids for the tendered quantity to go ahead. Prices are negotiated and determined by the users.</i></p> <p><i>The Agency notes that it cannot consider the weekly trades as title products and they may neither qualify as pure balancing services. They may qualify as other interim measures, as defined under Article 45(2).</i></p> <p>http://www.swedegas.com/Our_services/system_responsibility/balance_responsibility/conditions_and_fees</p>
TSO transparency about balancing action costs	Yes	<p>For operational balancing, Swedegas uses two types of balancing actions: short-term regulation trades and post week weekly trades. The former type is, when needed, used in order to maintain the transmission network within its operational limits. The latter trades are used to physically clear the difference between the change in physical linepack position during the week before compared to the one calculated from the sum of primarily allocations of inputs and off-takes for the same week. The prices obtained in the trades are used for calculation of final settlement prices. Both the daily imbalance prices and the price are used for settling differences between the primary and final allocation values.</p> <p>http://www.swedegas.com/Our_services/system_responsibility/gas_market_council</p>
Full daily cash-out implemented	No	Tolerances are applied. The imbalances are cleared on a monthly basis using the daily and weekly clearing.
Cash-out prices set using TP trades	No	[regarding post weekly trades] <i>The prices obtained in the weekly trades are used for calculation of final settlement prices; both the daily imbalance prices and the price used for settling differences between the primary and final allocation values.</i> In any case, this is not a daily, but a weekly cash-out.

		The short-term trades is an option that is used on very rare occasions. The weekly trades are used. Linepack services are permitted to the extent that daily trades are not needed.
Small adjustment to deliver marginal cash-out price	None	No information available – see above.
Neutrality fully implemented	No	Few imbalances trigger small potential profits / losses. These profits / losses are made transparent to the users and the necessary corrections are settled with the users, at least on a yearly basis.
Within-day Obligations	None	
Interim measures agreed by the NRA	Yes	<p>On April 1 2015, the Swedish Energy Market Inspectorate (Ei) approved an application from the Swedish TSO, Swedegas, on interim measures regarding gas balancing services in the Swedish market.</p> <p>The report concluded that, due to an insufficiently liquid gas market, Swedegas balancing regime could not comply with the Code (From SE NRA email on 2016 06 23 on Sweden's gas balancing arrangements).</p>
Series of steps identified	Yes	Preliminary steps are made to adapt the Danish balancing model. The Agency will review the progress made in its next edition of the Report.
Evidence of first step	Envisaged	Current model will be used for a couple of years. The ongoing project of studying potential benefits to have a joint balancing zone consisting of Denmark and Sweden is under discussion. It is a project / study which might lead to a decision to establish a joint balancing zone; however more information will be available in 2017.
Evidence or process for second step	Not envisaged	-

15.8 SK - Slovakia

Key elements	Coding	Explanation/discussion
Implementation date	interim	On 15 April 2015, URSO published a decision on interim measures. Eustream submitted its report to the NRA in October 2014. The Agency received both documents.
Trade notification enabled	Yes	Yes, according to ENTSOG report (p.13) and ACER/ENTSOG early implementation report.
Trade notifications processed within x mins	120	Yes, according to ENTSOG implementation report, 2015 (page 14).
IP renominations enabled	Yes	Yes, according to ENTSOG implementation report, 2015 (page 14).
Info requirements - system status	Yes	<p>Eustream publishes aggregated system imbalance with one end-of-day projection. https://tis.eustream.sk/TisWeb/#/?nav=bal.sysimb</p> <p>This is the minimum requirement based on point 3.4.5 of the Annex I of the Gas Regulation.</p> <p>The Agency will assess, in its next Report, whether the volumes published could not be brought to an hourly frequency.</p>
Info requirements - TSO balancing actions	No	<p>No actions reported, but the auction history contains information on past actions: https://tis.eustream.sk/TisWeb/#/?nav=bal.bp.bba</p> <p>It is unclear how this is functioning throughout the day.</p> <p>Eustream also disclose other information under the regulation here :</p> <p>http://www.eustream.sk/en_transmission-system/en_other-information/en_3122014-requirements</p>
Info requirements - network user portfolio	Yes	<p>According to ENTSOG implementation report (page 18).</p> <p>No NDM customers connected to the transmission system. ENTSOG reports that no information model and forecasting party was therefore identified.</p> <p>The Agency will assess in its next Report, whether the provisions of Article 39.1 are applicable in Slovakia.</p>
Trading Platform available and used by the TSO	No	<p>Slovakia has a Balancing Platform, and no Trading Platform. From the survey conducted by the Agency, no trade was reported.</p> <p>Since February 2016, Eustream conducted seven auctions on the Balancing Platform:</p>

		https://tis.eustream.sk/TisWeb/#/?nav=bal.bp.bba (choose "all")
STSPs defined and available on Trading Platform	Yes	Title products are offered on a Balancing Platform. All the seven auctions were conducted for Day-Ahead Title Transfer products. https://tis.eustream.sk/TisWeb/#/?nav=bal.bp.bba
TSO uses Trading Platform as first gas source	No	Eustream acts on a Balancing Platform. https://tis.eustream.sk/TisWeb/#/?nav=bal.bp.bba
TSO uses title product as primary tool	Yes	See above. (auctioned title products)
TSO uses Balancing Platform	Yes	Slovakia has a Balancing Platform and conducted seven auctions for Day-Ahead Title Transfer products. https://tis.eustream.sk/TisWeb/#/?nav=bal.bp.bba
TSO makes limited use of balancing services	Yes	Slovakia foresees the possibility for the TSO to use balancing services when STSPs are not likely to sufficiently address the needs of the market or network.
TSO transparency about balancing action costs	Partial	Eustream discloses information for the running month : http://www.eustream.sk/files/docs/eng/Neutrality_account.pdf and from auction history: https://tis.eustream.sk/TisWeb/#/?nav=bal.bp.bba No yearly reporting has been traced by the Agency.
Full daily cash-out implemented	Envisaged	Slovakia applies interim daily imbalance charges. Network users' daily imbalance quantities are reduced to zero each day, on payment of the daily imbalance charges. According to Eustream network code : <i>7.5.5. Daily Imbalance of gas occurs when the quantity of gas for transmission supplied by Shipper in Entry point differs from the quantity of gas handed over by the Shipper in Exit point on the same gas day. At the end of respective gas day, TSO shall register the daily Imbalance of gas (attach to / deduct from) the Shipper's balancing account.</i> <i>7.5.6 the Imbalance on the Shipper's balancing account shall be continuously compensated in kind in order to bring the Shipper balancing account as close to zero as possible.</i> Eustream is subject to: <i>9.1.1. A User shall be responsible for the Daily Imbalance Quantity and shall pay or receive the daily imbalance charge, which shall be determined by multiplying the Daily Imbalance Quantity and the applicable price. The methodology of calculation of the daily</i>

		<i>imbalance charge is published on the TSO's website. The applicable price is specified in the RONI's price decision.</i>
Cash-out prices set using TP trades	No	<p>The interim imbalance charge calculation (+ small adjustment) is not known to the Agency.</p> <p>According to the neutrality calculation methodology (decision 0016_2015), the reference to Ceghix index (the price index of the trading venue CEGH boerse Wiener exchange) - more specifically Index (ceghix + 0,5).</p> <p>According to Eustream network code:</p> <p><i>7.5.8 The amount of such financial compensation of the difference on the Shipper's balancing account shall be calculated by multiplying the gas quantity balance of Shipper's balancing account with the Reference price of gas in the TSO network ...</i></p> <p>From Eustream website:</p> <ul style="list-style-type: none"> Price limits on Balancing Platform: <p>Minimum price, in case Eustream sells gas: indicative gas price * 101.3%.</p> <p>Maximum price, in case Eustream buys gas: indicative gas price * 106.5%.</p> <p>Indicative gas price = last published CEGHIX index or actual gas price based on CEGH Gas Exchange.</p> <p>Eustream claims financial compensation under Regulation daily deviation (for all capacities under the new balancing regime).</p> <p>The methodology for calculating payments for daily deviation is in the pricing decision. Price calculation methodology is applied for determination of daily imbalance charge.</p>
Small adjustment to deliver marginal cash-out price	Large	<p>Slovakia reported the implementation of a small adjustment. According to the neutrality methodology. (decision 0016_2015) The small adjustment shall be 10 %.</p>
Neutrality fully implemented	Yes	<p>According to ENTSO report (page 27), the methodology for the calculation of the neutrality charges was published by 1 October 2015. Link to the published methodology :</p> <p>http://www.urso.gov.sk:8088/CISRES/Agenda.nsf/0/B32D5B483163FA17C1257ED2002C5484/\$FILE/0016_2015_P.pdf</p> <p>The Agency will further investigate in its next Report whether the provisions of Article 30(3) are observed.</p>
Within-day Obligations	No	

Interim measures agreed by the NRA	Yes	<p>Yes, according to a letter sent to the Agency (Decision No. 001/2015/P-PD)</p> <p>link:</p> <p>http://www.urso.gov.sk:8088/CISRES/Agenda.nsf/webFormRozhodnutiaOther?OpenForm&Category=P</p>
Series of steps identified	Yes	<p>According to ENTSOG report (p. 32) and Annex VII table 7.2: "... Eustream will, by 1 October of every year, submit an evaluation report on the implementation. In the report, Eustream will present results of monitoring the effectiveness of the measures, evaluate the degree of liquidity of the market and propose necessary measures. It is foreseen to operate Balancing Platform and to keep the interim imbalance charge until April 2019."</p> <p>This is confirmed in the interim report from Eustream. (Section 7)</p>
Evidence of first step	No	<p>The Balancing Platform declared as a first step, does not seem to be operational.</p> <p>The current analysis of liquidity is derived from a report from 2013 from URSO; it focuses on the HHI (5300), with a dominant market player (70%), followed by 2 mid-size players (18.7% and 2.7%) and 19 players sharing the rest. It observes that, this situation is due to "the gas import market size, structures, and possibilities of diversifying routes and sources of supply in the market. It offers no concrete solution to the issue".</p> <p>The "consultation" consisted in a period of 2 weeks (from decision 0001_2015). The invitation was published on 15 October 2014 and the gas market participants could make observations until 31 October 2014. During the consultation process on the Report no comments have been received.</p>
Evidence or process for second step	No	

15.9 BG - Bulgaria

Key elements	Coding	Explanation/discussion
Implementation date	interim	<p>On 20 July 2016 the TSO suggested interim measures to EWRC. The measures detail the intended implementation of the Balancing code.</p> <p>It is not clear whether and when, the proposal will become public. It is not clear when it will be approved.</p> <p>The Agency did not get access to the report. The Agency cannot assess the suggested implementation. Expected delivery dates are at risk of delay.</p>
Trade notification enabled	No	<p>Envisaged for Q4/2016, two VTPs will be established. One VTP is foreseen for transit and another one for the national network. These measures are being prepared by the TSO, Bulgartransgaz. Draft proposals in the public domain indicate that the VTP registration process must include details about price.</p> <p>EWRC indicates that the two VTPs will be integrated into one by 2018.</p>
Trade notifications processed within x mins	120	<p>Based on the ENTSOG implementation monitoring report. Assumed this will apply from the Q4/2016 implementation.</p>
IP renominations enabled (choice: renomination flexibility at the broader set of points)	No	<p>Renominations will be enabled for cross-border points, with Romania and Greece. The current renomination regime will be aligned with the Balancing code. It is envisaged for Q4/2016. The Agency cannot assess whether all the points in the national network will be fully aligned.</p> <p>Renominations are restricted to +/- 3% changes within day. The EWRC decision about Interim Measures (29 September 2015) indicates that the TSO is proposing that "renominations be for day ahead or once a day within the respective day."</p> <p>The proposed rule does not satisfy the requirements of NC BAL and in particular its Article 17.</p>
Info requirements - system status	No	<p>It has not been possible to identify a source for hourly within-day updates of closing linepack projections.</p> <p>(Awaiting for link from NRA)</p>

Info requirements - TSO balancing actions	No	<p>No information about balancing actions, quantities, costs appears to be available. Draft proposals do not include any explicit references to publication of information about TSO balancing activity.</p> <p>(Awaiting for link from NRA)</p>
Info requirements - network user portfolio	No	<p>No evidence that information is currently delivered to network users about portfolio text. Draft proposals in the demand indicate that TSO will be obliged to provide portfolio information to network users (See Article 20. DRAFT Natural Gas Market Balancing Rules.)</p> <p>(Awaiting for link from NRA)</p>
Trading platform available and used by TSO	No	<p>The NRA informed us of their intent to create a Trading Platform by 2018.</p> <p>A VTP must be enable before a Trading Platform is put in place. The VTP cannot be a trading venue.</p> <p>Right now Bulgaria applies an alternative to Balancing platform i.e. Balancing services. There is no intention to establish a Balancing Platform to bridge the gap between now and the creation of the trading platform.</p>
STSPs defined and available on Trading Platform	No	<p>EWRC indicates that STSPs are defined and being prepared to be rolled out during the period 2016-2019.</p> <p>In 2016, the title products would be introduced. In 2019, locational and temporal products would be introduced.</p> <p>The Agency notes that for the introduction of title products a trading venue is necessary.</p>
TSO uses Trading Platform as first gas source	No	<p>There are no plans to develop a Trading Platform in the period to 2018.</p>
TSO uses title product as primary tool	No	<p>The draft interim report from the TSO recognises the potential to use the short term market.</p> <p>EWRC indicates that by 2018 the TSO will reduce balancing services and will rely more on title products.</p>
TSO uses Balancing Platform	No	<p>Balancing platform is not envisaged under the Bulgarian interim measures.</p> <p>The plan is to use the VTP for trading is highly questionable. A VTP cannot be a trading venue. Unless a platform is created, a short-term balancing market cannot be established.</p>

TSO makes limited use of balancing services	No	<p>TSO uses alternative to balancing platform and the current system relies as such on balancing service contracts.</p> <p>EWRC indicates that balancing services could be gradually reduced by 2018.</p>
TSO transparency about balancing action costs	No	<p>As of today, no published data by the TSO based on the ENTSOG report Annex VII, Table 7.4, page 55.</p> <p>(Awaiting for link from NRA)</p>
Full daily cash out implemented	No	<p>A tolerance of +/- 5 % applies on the nominated monthly quantity of the respective user (based on the interim measures approved by EWRC in 2015).</p> <p>A revised tolerance level of +/- 2 % is envisaged in 2018.</p> <p>Absent the trading of title products the Agency does not understand the role played by the current tolerances.</p>
Cash out prices set using TP trades	No	<p>DRAFT Daily Imbalance Charge Calculation Methodology foresees two key components. One is based on the weighted average price of gas trading, if there are sufficient trades. The other one is the cost component of the price of natural gas for balancing. This component appears to address the recovery of capital costs. The Agency notes that this second component contradicts the NC Balancing and there is a missing component, which is the highest or lowest traded price associated with TSO balancing actions. (Article 22 of NC BAL)</p> <p>Given that there are no plans to implement a Trading Platform, it is unclear what this provision achieves.</p>
Small adjustment to deliver marginal cash out price	None	<p>The same draft indicates a small adjustment set at 10% (although subject to the discretion of the TSO it can subsequently be reduced to any level down to 3%). It is unclear how the small adjustment will be applied given that the imbalance cash out price is calculated, as the sum of two components: the reference price for natural gas plus the cost component of the price of natural gas for balancing.</p>
Neutrality fully implemented	No	<p>Some form of neutrality concept is reflected in Articles 21 and 22 in DRAFT Daily Imbalance Charge Calculation Methodology. It is not clear what operational and depreciation costs are included or why. There is no explicit charging or credits returned in proportion to network usage as required in the Balancing code.</p>
Within Day Obligations	Extensive	<p>Sever restrictions to renominations are applied that will limit individual network users ability to manage their</p>

		<p>imbalances and to supply surplus flexibility into the short term market. Entry-exit WDOs are applied.</p>
Interim measures agreed by NRA	Yes	<p>Basic measures to facilitate market-based balancing have not been established yet. Some measures are expected by Q4/2016. Under these conditions, the TSO reported low liquidity with no trades in the short-term wholesale markets in 2015.</p> <p>A plan towards an orderly transition has not been fully worked out. The interim imbalance charges are going to be implemented with a one year delay (late TSO submission). The annual review of the interim measures is foreseen for this year and the following years, until 2019.</p>
Series of steps identified	No	<p>Only the initial steps are identified by both TSO and NRA. EWRC indicates that a longer migration plan is foreseen for the period ahead.</p> <p>It is unclear whether the interim measures could end by April 2019. There are no explicit plans to create either a Trading Platform or a Balancing Platform before 2018.</p> <p>(Awaiting for an official document)</p>
Evidence of first step	No	<p>The VTP, full renomination cycle are still anticipated rather than delivered.</p>
Evidence or process for second step	None	<p>First steps have not yet been taken and there is no evidence of a transitional plan consistent with the delivery of a short term traded market.</p>

ANNEXES

Annex I: List of abbreviations and country codes

Annex II: The evaluation tool developed for the report (separate publication)

Annex III: Detailed Country assessment (separate publication)

Annex IV: Merit order (separate publication)

Annex I: List of abbreviations and country codes

Acronym	Definition
ACER	Agency for the Cooperation of Energy Regulators
ENTSO-G	European Network of Transmission System Operators for Gas
NRA	National Regulatory Authority
TSO	Transmission System Operator
EC	European Commission
EU	European Union
MS	Member State
BAL-NC	Balancing Network Code
IP	Interconnection Point
WDO(s)	Within-day Obligation(s)
MAM	Market Area Manager
STSP(s)	Short-Term Standardised Product(s)
DM / NDM	Daily metered / Non-daily metered

Acronym	Country
AT	Austria
BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Grand Duchy of Luxemburg
LV	Latvia
NL	The Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK-GB	Great Britain
UK-NI	Northern Ireland



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