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PART 1/2

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Commission Regulation (EU) No .../..

establishing a Network Code on Gas Balancing of Transmission Networks

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1. INTRODUCTION

Europe is facing increasing competition from rapidly growing economies around the globe. Competitive energy prices for European companies will be crucial in keeping our competitive advantage. Achieving a fully functioning and competitive European electricity and gas market can add an extra 0.6%-0.8% to EU GDP by 2020, create employment and curtail inflation.[1] The EU has committed itself to completing the internal market in electricity and gas by 2014[2], which means the building of an integrated and interconnected market in gas allowing all market players to compete on a level playing field while creating the framework for securing supplies.

The internal market for energy will ensure that energy is generated, transported, and consumed as efficiently as possible, avoiding losses along the value chain. But in order for our gas market to deliver these benefits, Europe's gas transmission networks need to be able to facilitate trade and accommodate changing flows patterns. Gas generally travels further and crosses more borders than electricity does[3], but nevertheless European gas markets today remain predominantly national.[4] Reasons for this may be the historic development of the gas market, setting out from the promotion of national incumbents and perpetuated by the policy of producers to negotiate gas supply separately per Member State. For the transmission sector, which today is effectively separated from the trade and supply side[5], this means that gas is usually transported through one or more Member States up to the final border, where it is handed over to the supplier active in that particular Member State.

Before liberalising the gas markets and before the start of European market integration the same party was often responsible for inputting and off-taking gas from the system and operating it. Therefore the responsibility for balancing the transmission system in a Member State[6] was sitting wholly with that party. However, since unbundled Transmission System Operators (TSOs) have been separated from the network users trading gas in order to create the basis for a supply market based on non-discriminatory competition, it has become important for network users to have the ability and the incentive to balance their own gas inputs and off-takes to make the system more efficient and promote trading among market participants.

In order to develop a single European gas market where gas flows are efficient and go from low priced to high priced areas, it is important that the balancing rules promote

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1 Impact assessment accompanying the legislative package on the internal market for electricity and gas SEC(2007)1179.

2 The political objective of completing the internal market for electricity and gas is set out in the European Council Conclusions of 4 February 2011.

3 This is simply due to the fact that the EU imports two-thirds of the natural gas it consumes whereas electricity imports are negligible compared to EU production.

4 Nevertheless there are clear differences as to the level of progress of market integration between EU regions.

5 This separation between transmission and supply is being achieved with the unbundling provisions of the Third Energy Package.

6 In most cases a national incumbent was responsible for operating essentially all levels of the gas sector.

cross-border trade and contribute towards the development of liquid market-based trading. Rules on balancing are of utmost importance in order to develop an EU gas market where multiple network users input and off-take gas from the transmission systems at different entry and exit points.

That said, national rules continue to differ from one Member State to another some arrangements being discriminatory and hampering the creation of an efficient internal market for gas by 2014. Developing EU-wide balancing rules will remove obstacles deriving from these national arrangements and facilitate the completion of the EU internal energy market. The development of EU-wide rules on gas balancing has been consistently supported by essentially all stakeholders.

Key steps have already been taken on the road towards improving access to capacity in EU gas networks with the adoption of the Guidelines for Congestion Management Procedures (CMP)[7] and the near finalization[8] of the Commission Regulation establishing a Network Code on Capacity Allocation Mechanisms (CAM) in Gas Transmission Systems[9]. These will go a significant way in alleviating contractual congestion[10] and the fair allocation of capacity in EU gas pipelines. Addressing the issue of Balancing in Gas Transmission systems is thus the next important step.

In the process of developing the harmonised rules for Balancing in Gas Transmission Systems (BAL) there have been numerous and extensive consultations, workshops and studies, aimed at better understanding the nature and extent of the problem and the possible benefits and drawbacks of the various options which could be considered to improve the current EU rules for balancing in the gas sector. It is not expected that third countries, including gas producers, will be directly impacted by the harmonisation of rules for balancing. However the development of short term liquid wholesale gas market is expected to ensure that gas production is delivered to the location where it is valued most.

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7 2012/490/EU: Commission Decision of 24 August 2012 on amending Annex I to Regulation (EC) No 715/2009 of the European Parliament and of the Council on conditions for access to the natural gas transmission networks Text with EEA relevance, Official Journal L 231 , 28/08/2012 P. 0016 – 0020.

8 The Network Code has been approved by the Gas Committee. It now enters the 3 monts period for EP and Council opinion.

9 http://ec.europa.eu/energy/gas_electricity/codes/gas_en.htm

10 Contractual congestion is a situation where it is not the physical gas flow but (unused) contractual rights that are blocking market players for being granted access to pipeline capacity.

2. PROCEDURAL ISSUES

2.1. Identification

(1) Lead DG: DG ENER

(2) Associated DGs: SG, COMP, LS, ENTR, EMPL, ECFIN, ENV

(3) Agenda planning/WP references: 2013/ENER/041

2.2. Organization and timing

2.2.1. Drafting process

This Impact Assessment analyses the effect of the new measures as proposed in the European 'Network Code' (NC) on Balancing in Gas Transmission Systems to improve existing EU rules on balancing in the EU gas transmission networks.

European-wide Network Codes are introduced by the Third energy package. Their goal is to set, in specific areas, detailed rules on the coordinated technical or commercial operation of gas and electricity transmission networks. Regulation (EC) No. 715/2009 ("the Gas Regulation") foresees the development of network codes in areas such as capacity allocation and congestion management, balancing, tariffs, etc. Given their highly technical nature they are drafted by different stakeholders at different stages in the establishment process as laid down in the Gas Regulation.[11] In short, three main stakeholders – the Commission, the representative bodies of regulators (ACER[12]) and network operators (ENTSOG[13]) – are subsequently responsible for the text and scrutinize each other's work. Details on the drafting process of the NC BAL can be found in the **Annex 1.**

The Impact Assessment does not analyse the effect of rules on gas balancing in transmission systems with regard to the Energy Community Countries. In March 2013 the Energy Community issued and assessment on Gas Transmission Balancing in the Energy Community reflecting the requirements of the NC BAL and analysing the gaps between the balancing approaches currently applied in the Contracting Parties with the requirements of the Third energy package.[14]

2.2.2. Impact Assessment

The Impact Assessment has been prepared by DG ENER with input from ACER and ENTSOG in their respective roles as authors of the Framework Guideline and the Network Code. DG ENER also received contributions from an Inter-service Steering

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11 Article 6, 7 and 8(6) of the Gas Regulation

12 Agency for the Cooperation of Energy Regulators, a Commission Agency established b Regulation (EC) No. 713/2009.

13 ENTSOG is the acronym for the European Network of Transmission System Operators for Gas

14 http://www.energy-community.org/pls/portal/docs/2010184.PDF

Group where representatives from the following Directorates General were invited: the SG, LS, DG COMP, DG ENTR, DG EMPL, DG ECFIN and DG ENV.

2.2.3. Amendments of the Impact assessment based on the Opinion of the IAB

The Impact Assessment has been amended in several areas on the basis of the recommendations of the Impact Assessment Board. In particular Chapter 2 ("Problem description") has been modified to better explain why current incentives to achieve balancing by existing network users are not efficient and pose difficulties to new entrants. Also in Chapter 4 ("Policy Options") a further assessment on a set of realistic and alternative options for key components of the current preferred option, notably, the definition of harmonised balancing periods and the determination of imbalance charges have been introduced. The analysis in Chapter 5 ("Impact per measure") has been improved with respect to the impacts on different types of stakeholders, administrative burden, third countries and Member States. Finally the description of the views of the different stakeholders has been improved and it has been explained how representative they are.

2.3. Consultation and expertise

As described in Annex 1, both ACER and ENTSOG have repeatedly solicited input to their work from all segments of the gas sector from the outset and problem identification phase up until the fine-tuning of the detailed technical elements in the final text of the NC BAL.

The consultations included formal written consultations as well as a series of dedicated workshops and bilateral meetings by both ACER (ERGEG) and ENTSOG. Further details on the consultation process of this project can be found in Annex 3-5.

In the development of the Network Code ENTSOG dedicated one full work shop session in order to involve Eastern EU countries more actively. On 18 April ENTSOG hold the so called Central and Eastern European Countries (CEEC) Roadshow Workshop in Vienna were over 50 stakeholders from the CEEC were present.[15] Furthermore in December 2012 the European Commission has held an informal Member State meeting on the balancing network codes in Warsaw, especially addressing Eastern EU countries. Furthemore EU Eastern countries are represented in the responses to the public consultation through associations such as Eurelectric (Association of the electricity industry in Europe), Eurogas (Association of the gas industry in Europe); GEODE (Association of European independent distribution companies of gas and electricity), OGP (International association of oil & gas producers) and EFET (European Federation of Energy Traders) which have actively contributed to the development of the Network Code on Balancing in Gas Transmission Systems throughout the whole process.

[15] The material presented and the minutes of this CEEC Roadshow can be found on ENTSOG Website under following links:
http://www.entsog.eu/public/uploads/files/publications/Balancing/2012/120418_CEEC%20Road%20Show_all%20presentations.pdf
http://www.entsog.eu/public/uploads/files/publications/Balancing/2012/BAL287-12_120418_BAL%20NC%20-%20CEEC%20Road%20Show%20notes_final.pdf

The proposed option 2 foresees interim measures for markets with not yet enough liquidity. These measures where in particular introduced to deal with the current state-of play of emerging gas markets in the Eastern EU countries. Gas End-Users have been actively involved trough IFIEC (International Federation of Industrial Energy Consumers) in the development of the Network Code.

2.4. External expertise

External consultants were used at different stages in the preparation of both the FG and the NC by ACER and ENTSOG respectively. DG ENER has also commissioned a study with regards to problems that gas companies encounter in trading across borders due to the respective Balancing rules[16] (KEMA report I) and another study with regards to the synergies between Electricity and Gas Balancing Markets[17] (KEMA report II). Furthermore in order to develop the baseline scenario, DG ENER developed a questionnaire and invited ENTSOG and ACER to liaise with TSOs and NRAs respectively to collect and analyse the necessary information for all Member States affected by the NC BAL[18].

3. PROBLEM DESCRIPTION

Diverse national, overly statutory rules for balancing have long been seen as a major obstacle to a functioning gas market.

3.1. Context of the problem

For operational security reasons, pressures of gas in transmission systems need to be kept within a certain range. Fluctuations in pressure occur when the level of gas in the system varies. As such, it is important that the volume of gas exiting the gas transmission system equals the volume of gas being put into the transmission system. Gas within the system (known as 'line pack') can be used to adjust imbalances between the two to some extent. The operational range available in each system differs from system to system and is determined by the line pack and/or the storage available to the system. In the pre-liberalisation, monopolistic sector structure, where the same party was responsible for inputting gas (whether from national sources of production, storages or through contracts with other countries), off-taking gas from the system (e.g. to supply consumers) and operating the transmission system, the responsibility for balancing the transmission system could sit wholly with that party.

In a more efficient and competition-based market structure, where multiple network users are inputting and off-taking gas from the transmission system at different entry and exit points, balancing becomes more complex. In order to develop a single European gas market where gas flows are efficient and are directed from low priced to high priced areas, balancing rules that promote cross-border trade and contribute towards the development of liquid market-based trading are needed. Recital 19 of the Gas Regulation therefore states *"To enhance competition through liquid wholesale markets for gas, it is vital that gas can be traded independently of its location in the*

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16 KEMA Report, Study on Methodologies for Gas Transmission Network Tariffs and Gas Balancing fees in Europe, Tender No: TREN/C2/240-241-2008, submitted to the European Commission, Directorate-General Energy and Transport, December 2009 (hereafter: "report by KEMA")

17 KEMA Report, Study on Synergies between Electricity and Gas Balancing Markets (EGEBS), Tender No: TREN/R1/350-2008 Lot 3 submitted to DG ENER, October 2012, http://ec.europa.eu/energy/gas_electricity/studies/doc/20121220_ebegs_final_report.pdf

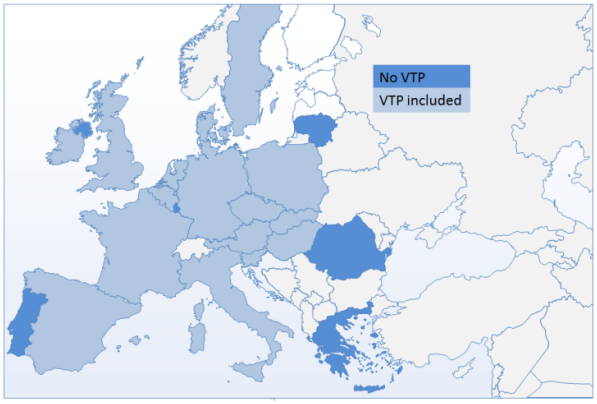
18 See Annex 1

system. The only way to do this is to give network users the freedom to book entry and exit capacity independently, thereby creating gas transport through zones instead of along contractual paths. The preference for entry-exit systems to facilitate the development of competition was already expressed by most stakeholders at the 6th Madrid Forum on 30 and 31 October 2002."

In order to allow market participants to trade freely inside an entry-exit system and across the border, harmonised market-based rules are vital to enable them to balance their portfolio. This balancing of the portfolio will happen at the so called Virtual Trading Point (VTP). In accordance with the Third Energy Package, many Member States have already established a VTP as an integral part of their entry-exit system. The establishment of a VTP is essential as it ensures that gas can be traded independently of its physical location in the system and without the need to book entry or exit capacity to the transmission system ("paper trade"). Thus gas can easily change ownership at the VTP through title transfers.

This will promote liquidity at the hub. Not all Member States have established VTPs as part of their entry-exit systems yet.

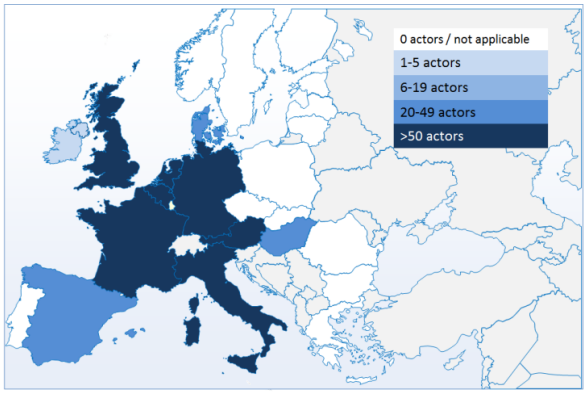
Figure 1: Virtual trading points in place



Source: ENTSOGs analysis of answers to DG ENER questionnaire

Besides markets without any VTP, there are also countries where the VTP is not very liquid - and/or the number of actors is limited - and where most of the gas trading happens at the physical cross-border interconnection point ("trading at the flange").

Figure 2: Actors Trading Gas at the Virtual Trading Point in 2011



Source: ENTSOGs analysis of answers to DG ENER questionnaire

3.2. Current regulation

3.2.1. The Third energy package

Adopted in 2009, the Third energy package is seen as the key piece of legislation in the stepwise liberalisation of the EU's gas and electricity markets. The rules concerning balancing are mainly to be found in the Gas Regulation of the Third energy package, which specifically deals with conditions for access to Europe's transmission grids. Recital (28) stresses the need for a common minimum set of balancing rules whilst acknowledging that at present there are obstacles to the sale of gas on equal terms[19].

Article 21 of the Gas Regulation sets out various high level requirements in relation to gas BAL which are the following:

- balancing rules shall be designed in a fair, non-discriminatory and transparent manner and shall be based on objective criteria
- balancing rules shall reflect genuine system needs taking into account the resources available to the TSO
- balancing rules shall be market-based
- In order to enable network users to take timely corrective action the TSOs shall provide sufficient, well-timed and reliable on-line based information on the balancing status of network users
- Imbalance charges shall be cost-reflective to the extent possible, whilst providing appropriate incentives on network users to balance their input and off-take of gas.

19 *"Non-discriminatory and transparent balancing systems for gas, operated by transmission system operators, are important mechanisms, particularly for new market entrants which may have more difficulty balancing their overall sales portfolio than companies already established within a relevant market. It is therefore necessary to lay down rules to ensure that transmission system operators operate such mechanisms in a manner compatible with non-discriminatory, transparent and effective access conditions to the network."*

- Imbalance charges shall avoid cross-subsidisation between network users and shall not hamper the entry of new market entrants.

- Member States shall ensure that TSOs endeavour to harmonise balancing regimes and streamline structures and levels of balancing charges in order to facilitate gas trade.

Article 12 (2) of the Gas Regulation promotes operational arrangements between TSOs with a view to the integration of the balancing mechanisms.

Article 13 of the Gas Regulation, on tariffs for access to networks, says that where differences in tariff structures or balancing mechanisms would hamper cross-border trade between different transmission systems, TSOs must actively pursue convergence of tariff structures and charging principles including in relation to balancing.

Annex 1 of the Gas Regulation furthermore includes a number of obligations on the TSO to publish information required for gas balancing.

Even though the principles currently laid down in the Gas Regulation thus aim at realizing market based balancing by all TSOs, they do not prescribe the mechanism as such. The reason is that the European legislator expects more detailed rules on balancing to be laid down in a NC. According to Article 8 (6 j) of the Gas Regulation a NC BAL shall cover balancing rules including network-related rules on nomination procedure, rules for imbalance charges and rules for operational balancing between TSOs. Therefore the NC BAL will further harmonise the rules laid down in Article 21 Gas Regulation. Once the NC BAL is adopted it will supplement and form and integral part of the Gas Regulation.

3.2.2. Interrelation with the CMP Guidelines and NC CAM

With regard to the rules on nominations (respectively re-nomination) interdependency between the NC BAL, CMP and NC CAM exists.

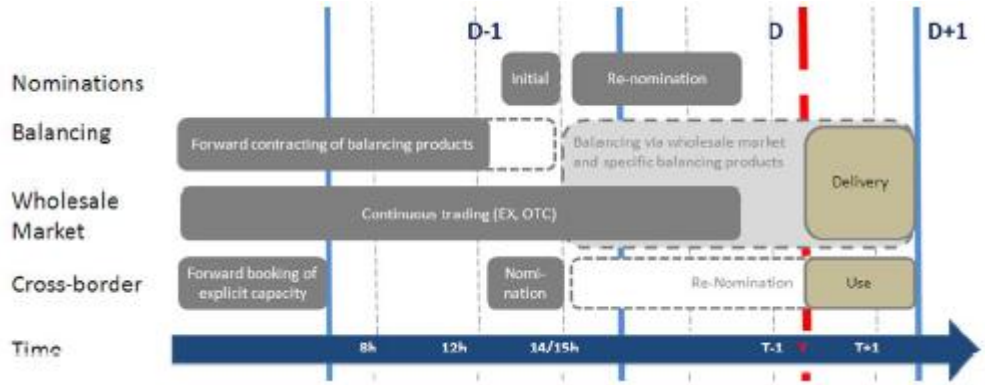
3.2.2.1. CMP Guidelines

The CMP Guidelines require an amount of unused day ahead capacity (if any) at Interconnection Points ('IPs') to be released in the day ahead capacity auction. Accordingly, having the necessary information from the nomination process is required before the day ahead capacity auction begins. The timings proposed for the day ahead nominations in the NC BAL needed to be designed to be compatible with this process.

3.2.2.2. NC CAM

As regards the NC CAM, there are interactions between the timing of day ahead and within day capacity auctions, the impact of CMP and the schedule of initial nominations and re-nominations.

Figure 3: Role of Daily Balancing in the natural gas market



Source: DNV KEMA, KEMA report II

3.2.3. National and EU Network Codes

Currently, each TSO operates its own grid on the basis of the national network code. It is connected to other TSOs in neighbouring Member States (or in some cases in their own country) at so-called interconnection points. In order to ensure the efficient functioning of the entire European transmission grid, it is essential that TSOs across borders intensify their cooperation.

3.3. Problem Identification

Currently gas balancing rules differ widely across Europe and in many cases are neither adapted to multiple market players competing in the wholesale gas market nor facilitating cross-border trade. In some Member States gas network users have currently no requirement nor possibility to trade gas intraday in order to balance their portfolio which leads to a lack of liquidity and competition in these markets. Where network users do not have access to the necessary information to balance their portfolio and in addition are facing penal imbalance charges it undermines the possibility of new competitors entering these gas markets.

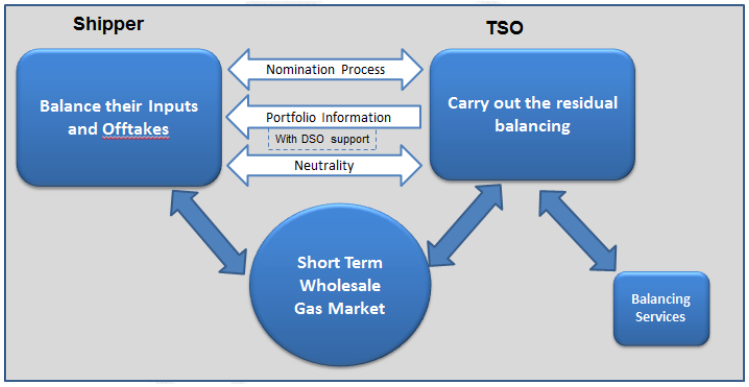
Some approaches of TSOs procuring or selling gas themselves, as well as significant differences between respective approaches can also inhibit the trading of flexible gas between national markets. For example, if the majority of capacities in storage, LNG imports or pipelines to provide flexibility are reserved by TSOs, these capacities will not be available to network users. This can contribute to low levels of liquidity in the wholesale gas markets, which in turn results in inefficient price discovery for flexible gas. The lack of flexible gas on offer will impede gas trade, as new entrants or network users with a small portfolio of customers will face a higher risk of imbalances. Furthermore, in some of the smaller balancing zones, it will be difficult to develop sufficient liquidity in the gas wholesale market without further market integration.

This Chapter sets out the main elements of a balancing regime which relate to operational balancing, nominations, calculation of imbalance charges, the balancing period and network users access to relevant information and explains why the absence

of harmonised rules for balancing in gas transmission systems is detrimental for the functioning of the gas wholesale market in the EU.

When identifying the problems with the current balancing regime this is done in light of an optimal market based balancing regime as requested by Art. 21 Gas Regulation. An optimal market based balancing regime requires the TSOs to maximise the amount of their gas balancing needs to be fulfilled through the buying and selling of short-term standardised products on the wholesale market while only carrying out residual balancing. At the same time the network users have the financial responsibility for the balancing of the balancing zone and will be incentivised to balance their portfolios.

Figure 4: Market based Balancing - "Balancing target model"



Source: ENTSOG presentation

3.3.1. Operational Balancing

Operational Balancing describes the roles and responsibilities, shared between network users and Transmission System Operators (TSOs) to balance the system. A TSO has the overall responsibility for system security and hence for ensuring that the transmission system is balanced. However, since unbundled TSOs will be increasingly separate from the network users trading gas, it is important that network users have the ability and the incentive to balance their own gas inputs and off-takes to the extent possible.

Since the precise off-take will usually not be known in advance, there is a risk that imbalances occur over the whole portfolio of all network users within one balancing zone. The more network users are able to 'balance' their own inputs and off-takes, the less gas the TSO has to buy or sell on behalf of the network users (residual balancing).[20] There may however still be actions that the TSO need to take in response to constraints at particular points in the system. The method by which TSOs procure gas to balance the system is relevant to how imbalance charges are calculated for the overall balancing costs and it can influence gas market liquidity.[21] Some

[20] Network Users *typically* express a preference to balance their own portfolios rather than be subject to a smeared charge applied to all by the TSO.

[21] Simply put, by the TSO procuring its balancing gas by using as much as possible the same short-term products network users use to balance their portfolios, then the market liquidity should be further enhanced.

approaches of TSOs procuring or selling gas themselves, as well as significant differences between respective approaches can also inhibit the trading of flexible gas between national markets. Therefore, the principle that the need for TSOs to take balancing actions should be reduced if network users are able to balance their portfolio efficiently is crucial.

3.3.2. Nominations

A transport contract[22] provides the network user the right to flow a specified maximum volume of gas per hour for a certain period of time (contract duration). In order to make use of their transport contract, the network users have to inform the TSO about their intended utilisation of their booked capacity. A nomination means the prior reporting by the network user to the transmission system operator of the actual flow that the network user wishes to inject into or withdraw from the system. Some systems require this information at an hourly level and others at a daily level. While the Network Code on Capacity Allocation Mechanisms (NC CAM) harmonises the means for network users to access capacity at interconnection points, nominations provide the means for network users to utilise this capacity.

The provision of nomination services to network users currently differs considerably across Member States. Some Member States do not allow network users to re-nominate or change their intended gas flows at interconnection points during the gas day. Consequently, they have limited possibilities to trade at VTPs and to move gas across borders within the gas day[23]. While other systems allow network users to re-nominate during the gas day, the number of opportunities to do so can be limited to specific time windows. Again, this unduly limits the flexibility offered to network users and their opportunities to trade gas.

Even though some systems allow continuous re-nominations during the gas day, the rules pertaining to these can differ, resulting in difficulties for network users applying each systems unique rules. A particularly important issue is the lead time[24] required for gas flows to change following a re-nomination by a network user, as for example a long time period reduces the amount of gas the network user can deliver to the VTP compared to a shorter lead time. Different nomination regimes may hinder cross-border trade as network users face different flexibility and differing risks at different borders, also resulting in higher administrative costs for cross-border shippers having to implement and cope with various regimes (e.g. in their software) compared to a unified nomination regime. Another rule which exists in many member states is that network users must match their inputs and off takes at all times.

Figure 5: Overview of availability of continous renominations in Europe

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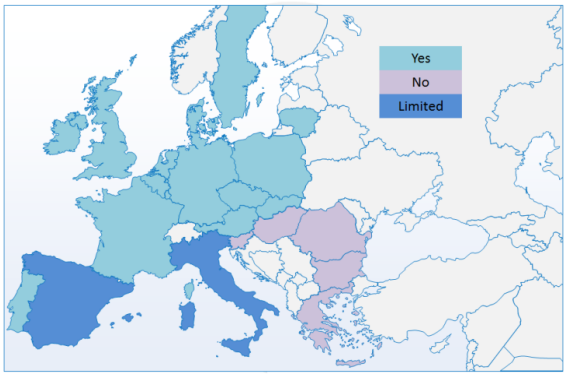
22 booking of a capacity product by a Network User

23 The gas day comprises a period of 24 hours. The start and end time will be standardised via the NC CAM, i.e. from 5:00 to 5:00 UTC for winter time and from 4:00 to 4:00 UTC when daylight saving is applied.

24 L**ead time** is the delay between the (re)nomination and execution of the gas flow.



Source: ENTSOGs analysis of answers to DG ENER questionnaire

3.3.3. Calculation of imbalance charges

The "imbalance charge" is the charge applied by TSO to network user for financial settlement of differences between their inputs into and off takes from the gas transmission system (balancing zone). The imbalance charge for each network user for each balancing period is determined as imbalance charge = imbalance quantity x imbalance price. The imbalance charge is therefore part of the network user's costs for gaining access to the network. Depending on the consumption profile and the characteristics of the end costumer supplied (e.g. industry, households, the risk of running our out of tolerances (if existent) can differ significantly. The costs of imbalances may therefore be far more important for new entrants than network tariffs.[25]

The current approaches to calculating imbalance charges vary widely across Europe whereby all provide incentives for network users to balance their portfolio. However, in some Member States, network users may face artificially increased imbalance charges (implicit penalties) resulting in an increased risk for network users to enter the market as network user with smaller portfolio face higher risk of imbalances.

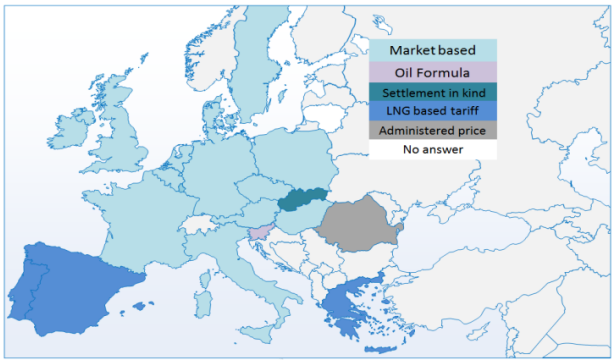
The KEMA report I notes that in many Member States, TSOs rely on regulated or bilaterally negotiated long-term contracts with storage operators or gas companies in other countries for flexible gas. Where gas is procured via long-term contractual arrangements, it is difficult for the imbalance charge to reflect the actual cost of the TSO in procuring or selling gas on that day; this leads to the need for imbalance charges to be indexed to gas prices in other markets. The review of current mechanisms in place shows that, while the majority have some degree of market pricing, no two member states actually apply the very same methodology to determine the imbalance price.

National regulatory authorities are according to Art. 41 of Directive 2009/73/EC responsible for fixing or approving sufficiently in advance of their entry into force the methodologies used to calculate the imbalance charges. When each NRA applies a different mechanism to calculate imbalance charges the result can be counterintuitive and from an overall perspective inefficient cross border gas flows (i.e. from a hub exhibiting higher gas prices to one of lower gas prices). Differences in balancing rules

[25] KEMA report I, page 21.

across the EU are unlikely to swiftly solve itself, since the current patchwork of national systems would require changes in the technical rules in many Member States that would have to result in compatible systems across the border. Thus a high degree of cross-border coordination would be needed which is difficult to achieve without the cooperative legislative framework of the EU.

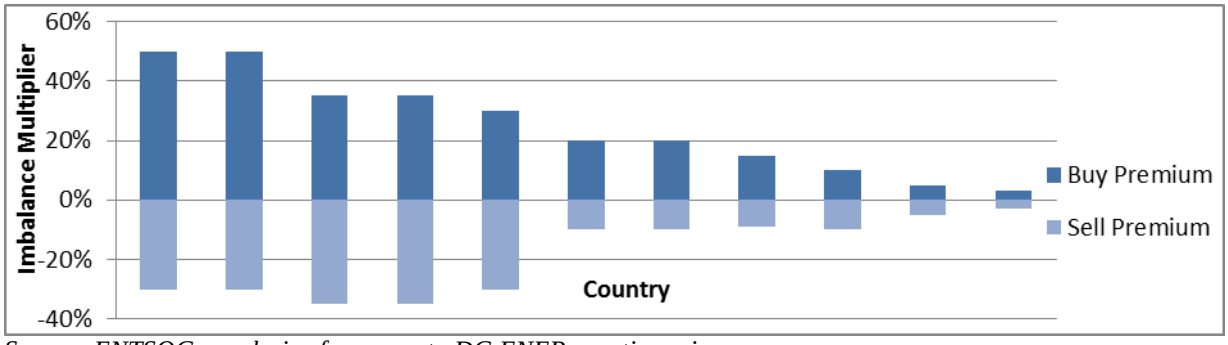
Figure 6: Overview of different imbalance mechanisms used in Europe



Source: ENTSOGs analysis of answers to DG ENER questionnaire

For those systems that apply an incentive via a marginal buy price and marginal sell price, the extent of the incentive varies greatly as shown in the figure below. Penal imbalance prices coupled with a lack of access to flexible gas can create a considerable barrier to new entrants into a market. Although not directly comparable, a wide range of percentages are applied as imbalance penalties across the different systems which use such an approach. The incentive for the buy premium is typically stronger than the sell premium.

Figure 7: Imbalance Incentive Samples



Source: ENTSOGs analysis of answers to DG ENER questionnaire

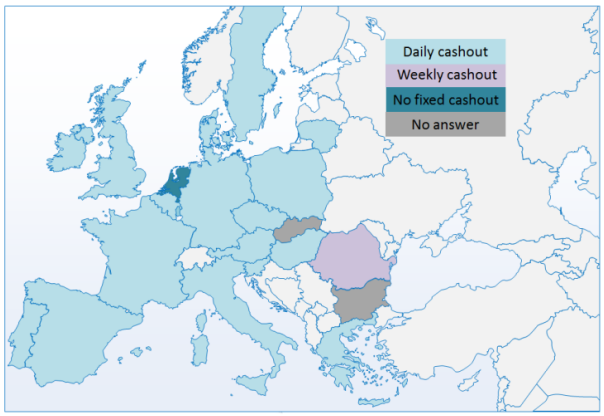
3.3.4. Balancing period

Most Member States apply a daily balancing period[26]. This means that a network user needs to be 'in balance' over the gas day as a whole. Although most countries formally apply a daily balancing period, the effective balancing period is often much shorter

[26] Or a monthly period, with daily constraints

due to the use of penalty charges with a shorter timeframe.[27] Within-day obligations are imposed to network users in order to incentives them to balance their input and off-takes during the day (e.g a network user is obliged to be 'in balance' every hour). In the Netherlands Gas Transport Services is operating a balancing system based on continuous balancing. Furthermore Austria, Belgium, Germany, Luxembourg, and the UK register hourly imbalances, enabling the TSO to impose within-day obligations and take balancing actions during the day when required. Although the systems are relying on daily balancing, at the same time applying hourly and cumulative fees, incentivizing network users on hourly level, which results in being in fact rather similar to systems with hourly balancing.

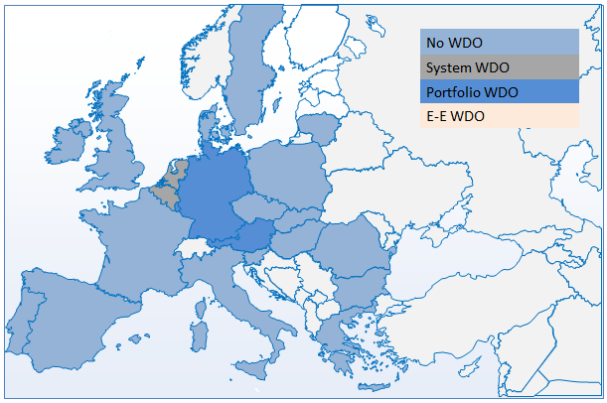
Figure 8: Overview of cash out periods in Europe



Source: ENTSOGs analysis of answers to DG ENER questionnaire

[27] KEMA report I, page III.

Figure 9: Use of Within Day Obligations



Source: ENTSOGs analysis of answers to DG ENER questionnaire

Differences in the balancing period and within-day obligations may create arbitrage/abuse opportunities for network users between markets with different balancing regimes. For example this could create incentives for network users to flow (flexible) gas during the day from a purely daily balanced market (balancing zone) into markets where network users are incentivised to balance on an hourly basis and then flow it back to the market with the purely daily balancing regime at the end of the day. Such flows may be inefficient, if they do not reflect the differences in the value of flexible gas in the neighbouring market. They may then distort cross-border trade or pose challenges for balancing within the neighbouring markets.

There is trade-off between a purely daily balancing, which is more attractive to market participants (particularly new entrants) and within-day obligations which allow the TSO to target the cost better to the network users causing them and therefore providing incentives to network users to maintain gas flows during the day within a specific range. However, especially for new entrants in markets with low levels of flexibility, a within-day obligation may cause a significant risk. Furthermore the lack of a harmonised balancing period hinders cross border trade, as the traded product for flexible gas, the 'within-day gas' differs across Member States.

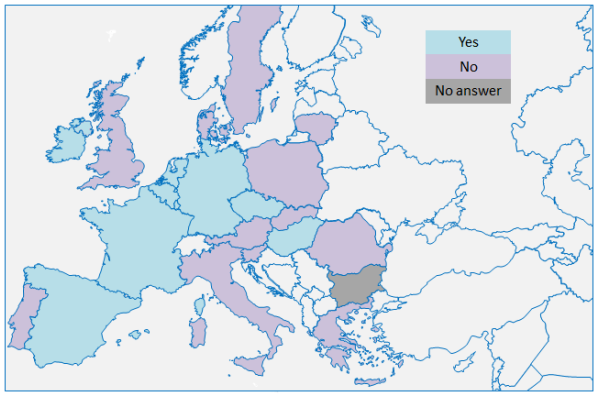
3.3.5. Network users' access to relevant information

As explained above, balancing systems incentivise network users to balance their portfolios by imposing imbalance charges. Network users' exposure to imbalance charges varies depending on the national balancing rules. In some Member States network users have tolerances within which they can vary their input and off-takes without being charged with an imbalance fee. In other Member States some network users are expected to balance the part of their portfolio corresponding to non-daily metered customers (NDM) against pre-determined, standard load profiles (SLP). As a consequence, any (residual) deviations (e.g. from that forecasted demand in case of SLP), which cannot be instantaneously detected by the network user, will be balanced by TSOs within the day.

However, regardless of the extent to which or how network users must balance their portfolios, network users can only effectively balance their own inputs to and off-

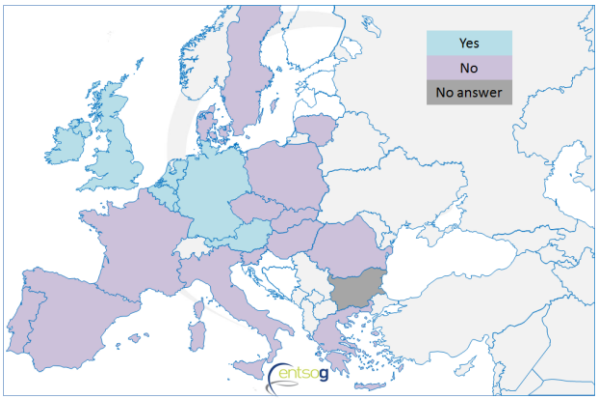
takes from the transmission system, and thereby reduce their exposure to such imbalance charges, if they have timely information on their inputs and off-takes, and access to flexible sources of gas and to network and/or storage and LNG capacity. In many Member States, network users do not have regular information on their inputs and their off-takes and are unaware of whether their portfolio is in balance. Without the necessary information and access to flexible sources of gas, it is difficult, in particular for new entrants and smaller network users to balance their inputs and off-takes, which means that they face greater exposure to imbalance charges than incumbents with large portfolios.

Figure 10: Availability of Network User Intra Day Meter readings within Day (aggregate or individual)



Source: ENTSOGs analysis of answers to DG ENER questionnaire

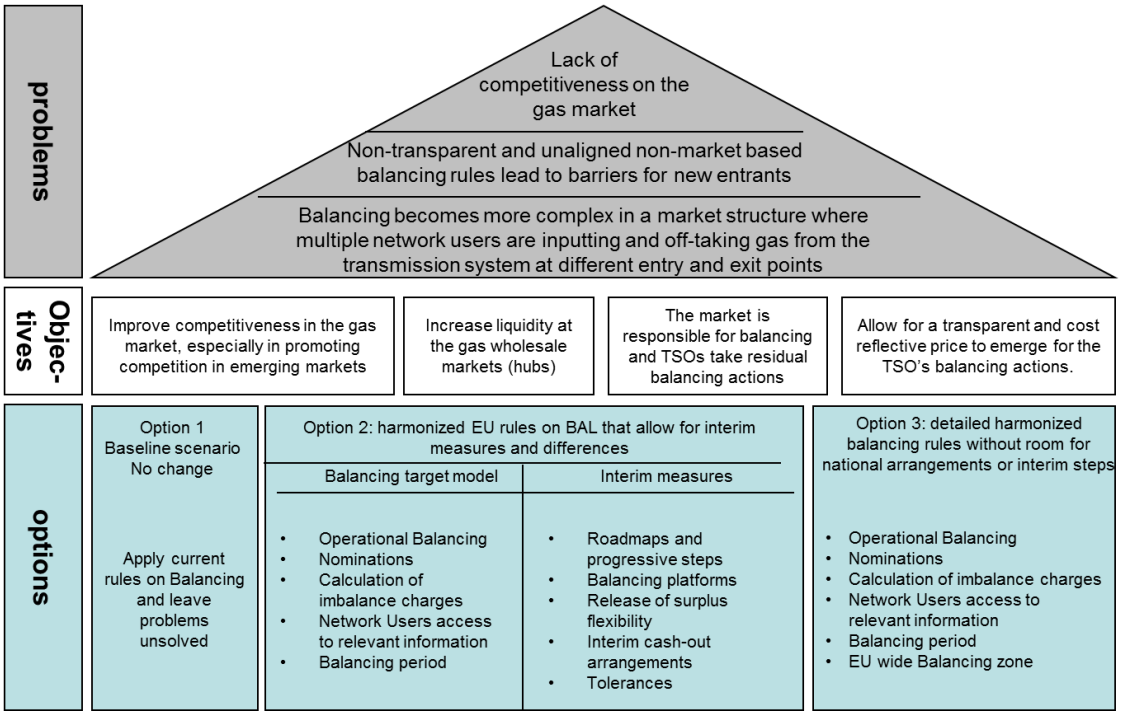
Figure 11: Provision of individual forecast information on NDM Offtakes to Network Users



Source: ENTSOGs analysis of answers to DG ENER questionnaire

4. OBJECTIVES

Figure 12: Schematic representation of the problem, objectives and policy options



4.1. General objectives

The general objective is to create the necessary framework for balancing rules to achieve the objective of a well-functioning, efficient and open internal gas market. This objective is enhancing the following general EU Treaty goals:

- to establish a functioning internal market in gas, in the spirit of solidarity between the Member States (Article 3(3) TEU; Article 194(1) TFEU);
- to ensure security of energy supply in the Union (Article 194(1)(b) TFEU);
- to promote the interconnection of energy networks (Article 194 (1)(d) TFEU).

4.2. Specific objectives

The specific objectives of harmonizing balancing rules across EU gas transmission systems are:

- Improve competitiveness in the gas market, especially in promoting competition in emerging markets
- Increase liquidity at the gas wholesale markets (hubs)
- Removal of barriers to cross-border gas trade
- Transparent and non-discriminatory rules in gas balancing

- Allow for a transparent and cost reflective price to emerge for the TSO's balancing actions

- Improve implementation of market-based balancing regimes in order to reduce ineffiencies

4.3. Operational objectives

The operational objectives of harmonizing balancing rules across EU gas transmission systems are:

- Trading of gas to balance the system (Operational Balancing) by market participants is done through market-based procedures.

- Harmonise the timing and requirements of nominations and establish the possibility to re-nominate.

- The calculation of imbalance charges shall strike the balance between cost-reflectivity and incentivising network users to balance their portfolio while avoiding penal charges.

- Introduce a daily balancing period and limit the use of within-day obligations and generate a harmonised daily gas product.

- Provide network users access to relevant information in a cost efficient way.

4.4. Legal base and subsidiarity principle

The right of the EU to provide a more detailed regulation on balancing (BAL) in gas transmission systems in the form of binding EU network codes (NC) is set out in Article 8(6)(j) of the Gas Regulation. The Commission's initiative to adopt a BAL NC is fully in line with the principle of subsidiarity, as the NC BAL only sets the minimum degree of harmonisation to be met to achieve non-discriminatory, transparent and market-based balancing rules. The Gas Regulation states that NCs shall, if appropriate take into account regional special characteristics. It also states that balancing rules shall reflect the genuine system needs and should take into account the resources available to the TSO.

There are significant variations in the amount of flexible gas available in different systems in different Member States. Some rely on a single source for flexible gas or on neighbouring sources and are still dominated by a single incumbent network user. These Member States have a longer way to go before their wholesale commodity markets could be considered fully liquid and competitive.

There are also significant differences in the amounts of gas needed to balance the various systems; some systems have large amounts of line-pack available whereas others do not.

These national differences will be taken into account in the NC BAL which will provide for the possibility of interim measures[28] to be taken and for the possibility to apply within-day obligations in case strict criteria set in the rules are met.

TSOs and Distribution System Operators (DSOs) should cooperate in developing and implementing the NC BAL, which will apply directly to DSOs where appropriate but will only harmonise DSOs' roles to the extent necessary to implement the principles set out in the BAL NC.

[28] Such as: roadmaps and progressive steps, balancing platforms, release of surplus flexibility, interim cash-out arrangements, tolerances.

5. POLICY OPTIONS

This Chapter aims at identifying and describing the different policy options to address the problems as described in Chapter 3.

To tackle the issue of balancing in gas transmission systems, the following options will be assessed in further detail:

- **Option 1:** no further EU action to address balancing rules (*baseline scenario*)
- **Option 2:** harmonised EU rules on balancing that allow for interim measures and differences
- **Option 3:** detailed harmonised balancing rules without room for national arrangements or interim steps

The option of developing non-binding guidelines of best practice will not be assessed further in this impact assessment as EASEE-gas[29] has, to the extent possible, already developed Common Business Practices. Therefore, the Commission services are of the view that the option of non-binding guidelines would not be sufficient to provide the necessary output in order to solve the outlined problems. Furthermore, the development of binding balancing rules through a Network Codes process was strongly supported by stakeholders and the Madrid Forum. In the development process of the NC BAL questions with regard to the introduction of an EU-wide balancing zone, the inclusion and the harmonisation of the role of the DSO in the balancing zone, the exclusion of the possibility to introduce within day obligations and the possibility to introduce identical rules for the procurement of balancing services and nominations in all Member states have been raised by stakeholders. The impact of those choices will be therefore further analysed in option 3.

5.1. Option 1: no further EU action

This policy option does not foresee any further rules on balancing beyond what has already been enshrined in the Gas Regulation, including any effects on balancing arrangements emanating from the Guidelines on CMP and NC CAM. Under this option no harmonised measures are proposed, but the principles set out in the Gas Regulation would still apply to each balancing regime. The balancing measures would develop either on a voluntary basis as market maturity grows, or as the national measures dictate. Under this approach one may need to consider that the national schemes would focus on the national specifics and may fall short when it comes to cross-border trade and cross border aspects of gas transactions.

[29] The European Association for the Streamlining of Energy Exchange-gas (EASEE-gas) was formed in 2002 with the aim of supporting the creation of an efficient and effective European gas market through the development of Common Business Practices (CBPs) that intend to simplify and streamline business processes between stakeholders.

The role of TSOs and network users would stay different across Europe. Imbalance charges would be calculated in different ways. Each TSO would apply individual principles according to which to procure balancing services. These balancing services would be defined in different ways. Balancing periods may differ between markets and no provisions may be developed to improve the way in which balancing regimes may interact with each other. Apart from existing information provision requirements in the annex to the gas regulation on transparency, the provision of information would be defined in national arrangements. As set out in chapter 3, there are currently very significant national differences in terms of balancing rules that are unlikely to converge to a significant degree and with it promote further market integration. A detailed overview of baseline scenario is attached in Annex 1.

The baseline scenario builds on the largely organic process of market integration as set out in the high-level principles of the Gas Regulation and Gas Directive but does not build on the stipulations of the former on the need for further binding EU-wide harmonised, technical market rules. In addition, the baseline scenario does not have the clear objective of completing the internal market by 2014.

5.2. Option 2: harmonised EU rules on balancing that allow for interim measures and differences

Under option 2, harmonised rules for a market based balancing regime that enable network users to trade gas efficiently, including across borders, would be set. These harmonised rules would leave room for national specificity where this better achieves the objectives, whilst ensuring that such specific arrangements do not go against the objectives of gas balancing arrangements. The application of interim steps would help ensure that the rules are sufficiently ambitious and at the same time achievable across the European Union.

5.2.1. Operational Balancing

Harmonised rules would set out that network users, through their portfolio balancing activities, shall be incentivised to match their inputs against their customers' off-takes from the balancing zone during the relevant balancing period. Where network users fail to balance as a whole, TSOs will need to ensure that the collective inputs and off-takes are in balance to ensure that the system remains within safe operational limits.

The option set out is for TSOs to buy and sell gas and procure balancing services in the same short-term wholesale gas market where network users would trade gas between themselves. This wholesale gas market could operate on a day-ahead and/or a within-day basis; and this would be reflected in the nature of the products being bought and sold on this market. The NC would define standardised products and related balancing services that TSOs may buy or sell. These standardised products would include very short-term products which are traded during the gas day either on a physical basis or through title transfer. They may also include longer-term products of up to one year. The NC would require TSOs to maximise the amount of their gas

balancing needs to be fulfilled through the buying and selling of short-term standardised products on the wholesale market. Incentives could be placed on the TSO to encourage a change in behaviour and/or the efficient undertaking of balancing action.

As this option requires confidence that the TSO can meet all of its residual balancing requirements through a liquid and competitive wholesale market, the option would provide for interim measures, where this confidence is not there yet. As an interim step, TSOs would be allowed to set up a balancing platform (market place), on which TSOs are party to every trade.

5.2.2. Nominations

This option provides for harmonising the key features of the nomination regime at interconnection points and provides for principles at non-interconnection points. Each system would be required to adhere to a set of rules, which facilitates the NC CAM and CMP guidelines, while also delivering flexibility to network users to balance their portfolio within day. This would be achieved by standardising the information required in nominations and also the timeline process for nominations/re-nominations both day-ahead and within day. This would ensure that network users submit their nominations by a specific deadline and TSOs revert to them within a defined period of time. This information is needed to enable the use-it-or-lose-it mechanism enshrined in the CMP guidelines. Similarly, TSOs would be required to respond to any amendment requests (re-nominations) from network users to their intended gas flows within a defined time.

This option would also provide that network users should not be obliged to match their inputs and outputs into the balancing zone, but are incentivised to do so. While it requires network users to nominate for each Gas Day, it would allow systems to require this information either on a daily basis and others on an hourly basis.

5.2.3. Calculation of imbalance charges

This option would propose to apply common principles for the determination of imbalance charges across Europe. This means that each balancing zone would have its detailed methodology for the determination of imbalance charges according to these common principles.

5.2.3.1. Sub-option 1 – Marginal price plus small adjustment

The principle put forward would be that the imbalance charge is based on the marginal price[30] incurred by the TSO procuring gas either in the wholesale market or

[30] A marginal sell price will be the lower of: (1) the lowest price of any trades in title products in which the transmission system operator is involved in respect of the gas day; or (2) the weighted average price of gas in respect of that gas day, minus a small adjustment.
A marginal buy price is the higher of: (1) the highest price of any trades in title products in which the transmission system operator is involved in respect of the gas day; or (2) the weighted average price of gas in respect of that gas day, plus a small adjustment.

via a separate balancing platform for daily products. The marginal price provides network users with an incentive to balance their portfolios since this charge will be less favourable to the network user than the average price. Where no balancing action is taken by the TSO, the imbalance charge would be based on an average gas price and a small adjustment to ensure that network users remain incentivised to balance their portfolio. Furthermore, a 10% cap on the small adjustment to the marginal price would ensure that network users are not exposed to punitive undue imbalance prices.

The imbalance charge would therefore be as cost-reflective as possible, but the marginal price would be slightly less favourable to network users than the average gas price in order to ensure that market participants are incentivised to balance their portfolios.

5.2.3.2. *Sub-option 2 - Charges based on an administered* price

The imbalance charges are based on the long-term TSO contracts for the procurement of balancing gas. In the absence of liquid markets, the imbalance charges will be based on an administered price. These contracts however shall rely on transparent tenders or regulated contracts. In any event it seems more complicated to derive a price for the actual value of the gas used by the TSO. The imbalance charge may be the same for a period of time (fixed in advance) or fluctuate within a range. Uplifts to the contract price could be envisaged to avoid that market participants face similar costs whether they balance their portfolios or not. These uplifts shall provide appropriate incentives on the market participants without penalising new entrants.

5.2.3.3. Sub-option 3 - Charges based on a cost proxy

An alternative option for setting up imbalance charges could be by using proxies such as references to baskets of prices in different wholesale gas markets - either single prices or combinations of them. This would allow the imbalance charge to reflect the variation of market prices in Europe. It may also render the need for uplifts to the imbalance charge (which avoids the risk of penalising new entrants) and may provide for more targeted incentives for market participants to balance their portfolios. Setting imbalance charges based on a cost proxy, may be a necessary interim step until imbalance charges can be based on the marginal price. This would be the case where TSOs are not yet procuring their balancing services on the wholesale market, i.e. where the interim steps on TSO procurement are in place.

5.2.4. Balancing period

5.2.4.1. Sub-option 1 – Daily system

The balancing period for a balancing zone would be a standardised daily interval, at the end of which network users are financially settled for any deviations, as accumulated over the course of the preceding 24 hours, between their inputs and off-takes from the balancing zone. This standardised gas day would take account of differences in time-zones across the union.

In some systems, where less linepack is available, it may be necessary for TSOs to take balancing actions during the gas day. This should be done in a market-based manner. Where this is the case, an option could be included that allows the TSO to impose specific obligations relating to network users' inputs and off-takes during the gas day ("within-day obligations"). This would only be allowed to minimise the need for the TSO to take residual balancing actions to a large extent.

The NC BAL would require that any within-day obligations shall not act as an undue barrier to cross-border trade or to new network users entering the market and shall only be adopted once network users are provided with sufficient information to enable them to comply with the obligations. Furthermore, any within-day obligation shall not undermine the principle of a daily balancing regime, i.e. the main costs to be incurred by network users in relation to their balancing obligations shall relate to their position at the end of the day.

5.2.4.2. Sub-option 2 – Hourly system

Under this option, every TSO would be required to adopt a system for the settlement of imbalances on an hourly basis. Imbalances could also be settled less frequently than hourly but on an intraday basis.

5.2.4.3. *Sub-option 3 – Cumulative system*

This model does not define the length of balancing periods, but defines these balancing periods according to the actions taken by the TSO. Under this option no imbalance charges are incurred unless the TSO takes an action. This means that, as long as the system is moving within a defined range, no imbalance charges are incurred. Only when the system's position moves beyond the range defined, the TSO needs to take action to restore system balance and network users will be financially settled, i.e. charged imbalance charges according to their positions at that point in time and their positions will be reset to zero.

5.2.5. Network users access to relevant information

TSOs, with the cooperation of DSOs, would be required to publish the aggregate network user input and off-take information in a clear and timely manner and on the same timescale to all network users in order for them to be able to take necessary actions to correct their imbalances.

TSOs would be required to provide, free of charge, to each network user the available information regarding its inputs on to and off-takes from the balancing zone at appropriate intervals during the balancing period in order for network users to be able to balance their portfolios. Appropriate intervals would be at least twice a day or more frequently, if necessary to enable network users to meet their balancing requirements, and to comply with any within-day obligations. Within 2 years of adoption of the NC BAL, TSOs would assess the costs and benefits of more frequent and accurate information provision and would consult stakeholders on this assessment, in

cooperation with DSOs where they are affected. Based on this assessment, the relevant NRA would be enabled to require more frequent information provision from the TSOs to the network users. Until such an assessment has been completed and any changes implemented, network users may be subject to less onerous balancing obligations via tolerances, if transitional arrangements are agreed by the relevant NRA.

In the absence of information being metered during the gas day and in order to facilitate new entry, the NC BAL would oblige TSOs to provide detailed forecasts of off-take volumes for non-daily metered customers at the day-ahead stage. The TSO would have to provide updates of this forecast at appropriate intervals during the balancing period, at least twice a day, unless network users are able to fulfil their balancing obligations with information provided day-ahead, e.g. they are cashed out against day-ahead off-take forecasts. The network code would require consultation on the design of these forecasts and also transparency on the accuracy of them.

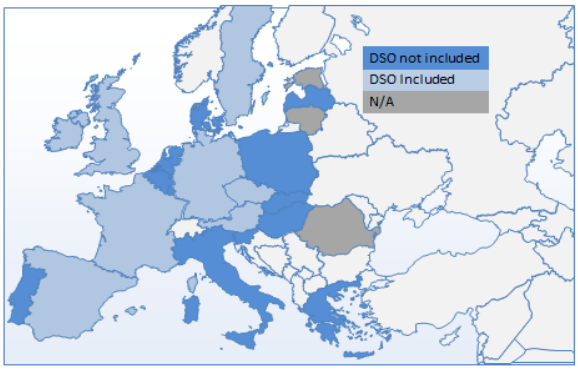
5.3. Option 3: Detailed harmonised balancing rules without room for national arrangements or interim steps

Under this option, there would be more prescriptive and more detailed harmonised rules across Europe without the possibility of system-specific solutions or interim steps. More elements of the European balancing regime would be defined in detail.

5.3.1. Operational Balancing

The role of network users, TSOs and DSOs would be harmonised in detail. DSOs would be included in the Balancing Zone in all EU Member States (which is currently not the case):

Figure 13: Status quo of Distribution zones included in the balancing zone



Source: ENTSOGs analysis of answers to DG ENER questionnaire

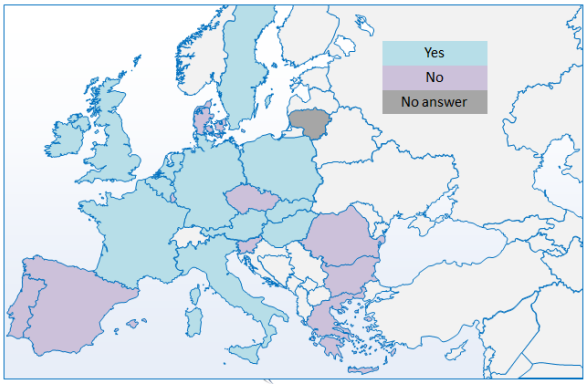
Harmonised rules would set out that network users, through their portfolio balancing activities, shall take primary responsibility for matching their inputs against their customers' off-takes from the balancing zone during the relevant balancing period. Where linepack is sold, TSOs should allocate the linepack to network users as a commercial product on a transparent and non-discriminatory basis. The allocation and pricing mechanism would be harmonised across the EU.

Where network users fail to balance, TSOs will need to ensure that the collective inputs and off-takes are in balance to ensure that the system remains within safe operational limits. The option set out is for TSOs to buy and sell gas and procure balancing services in the same short-term wholesale gas market where network users would trade gas between themselves. This wholesale gas market could operate on a day-ahead and/or a within-day basis; and this would be reflected in the nature of the products being bought and sold on this market.

This option requires confidence that the TSO can meet all of its residual balancing requirements through a liquid and competitive wholesale market and thereby ensure system integrity. These options would therefore exclude the use of long-term products, regardless of cases where they are more efficient to use. The NC BAL would require TSOs to only maximise the amount of their flexible gas to be fulfilled

through the buying and selling of short-term standardised products on the wholesale market.

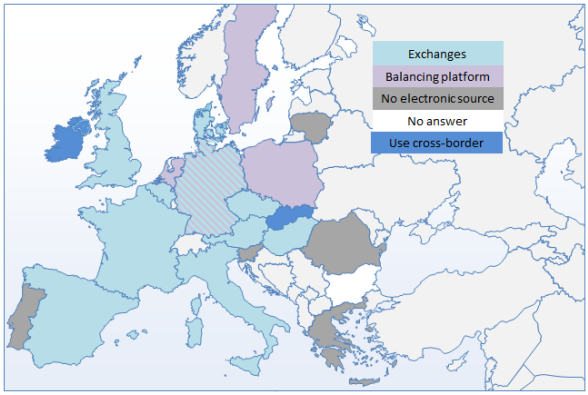
Figure 14: TSO use of Short Term Standardised Products in Europe



Source: ENTSOGs analysis of answers to DG ENER questionnaire

No interim step, such as a balancing platform would be allowed. Incentive mechanisms on the TSO would be harmonised and not tailored to the specific circumstance in each market.

Figure 15: Means to access Short Term Standardised Products in Europe

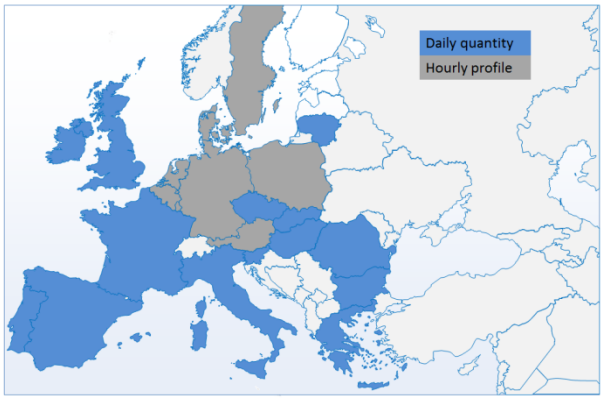


Source: ENTSOGs analysis of answers to DG ENER questionnaire

5.3.2. Nominations

Pursuant to this option, all nomination rules at both interconnection points and other points would be harmonised at an EU level. The principle of allowing profiled nominations (with hourly granularity) and daily flat nominations as proposed in option 2 would also need to be harmonised to achieve full matching of the systems. Unlike Option 2, which only provides for principles for nomination rules at non-interconnection points, under this option the harmonisation of nomination rules would extend beyond IPs and apply to all other relevant entry and exit points to the Balancing Zone.

Figure 16: Use of Daily and Hourly Quantities in Nominations



Source: ENTSOGs analysis of answers to DG ENER questionnaire

5.3.3. Calculation of imbalance charges

If network users fail to balance their portfolios, they will pay or receive 'imbalance charges'. This option would propose to apply defined detailed rules for the determination of imbalance charges across Europe. This would mean that there would be an EU-wide fully harmonised methodology to calculate imbalance prices. Also the small adjustment would be harmonised across the EU.

5.3.4. Balancing period

The balancing period for a balancing zone would be a standardised daily interval, at the end of which network users are financially settled for any deviations, as accumulated over the course of the preceding 24 hours, between their inputs in to and off-takes from the balancing zone. The BAL NC would fully harmonise the daily balancing period and prohibit that a TSO imposes specific obligations relating to network users' inputs and off-takes during the gas day ("within-day obligations").

5.3.5. Network users access to relevant information

There would be detailed rules regarding the information that needs to be published by TSOs. These would be more elaborated than under option 2 in order to harmonise such provision at an EU level. This may in turn require significant investment to be undertaken across Europe and – most importantly – that the role of DSOs would need to be the same in each entry-exit zone, which is neither the case today nor is it foreseen to be harmonised fully pursuant to option 2.

TSOs would be required to publish the aggregate network user input and off-take information in a clear, timely manner and on the same timescale to all network users in order for them to be able to take necessary actions to correct their imbalances.

TSOs would be required to provide, free of charge, to each network user the available information regarding its inputs in to and off-takes from the balancing zone at harmonised intervals during the balancing period in order for network users to be able

to balance their portfolios. Appropriate intervals would be set by at least five times a day.

The NC BAL would require DSOs to cooperate with TSOs and provide relevant information to enable TSOs to comply with the requirements on information provision set out in this Section. In the absence of information being metered during the balancing period, the NC BAL would oblige TSOs and DSOs to provide daily metered data for all customers injecting into and off-taking from the system.

5.3.6. Additional measures to promote market integration

Under this option, TSOs would be required to cooperate in order to integrate European gas markets into one EU-wide balancing zone.

6. IMPACT PER MEASURE

6.1. Option 1: No further EU action (baseline scenario)

Differences in balancing rules across the EU as identified in Chapter 3, will persist and potentially become more serious. The problem is unlikely to swiftly solve itself, since the current patchwork of national systems would require changes in the technical rules in many Member States that would have to result in compatible systems across the border. Thus a high degree of cross-border coordination would be needed which is difficult to achieve without the cooperative legislative framework of the EU. Moreover, it is not just the national regulatory authorities and the European legislator that have called for new rules on balancing in the Third energy package. Also gas traders and network users perceive balancing rules as one of the main obstacles for true market integration and strongly support addressing this issue as has been demonstrated in public consultations by ACER and ENTSOG.

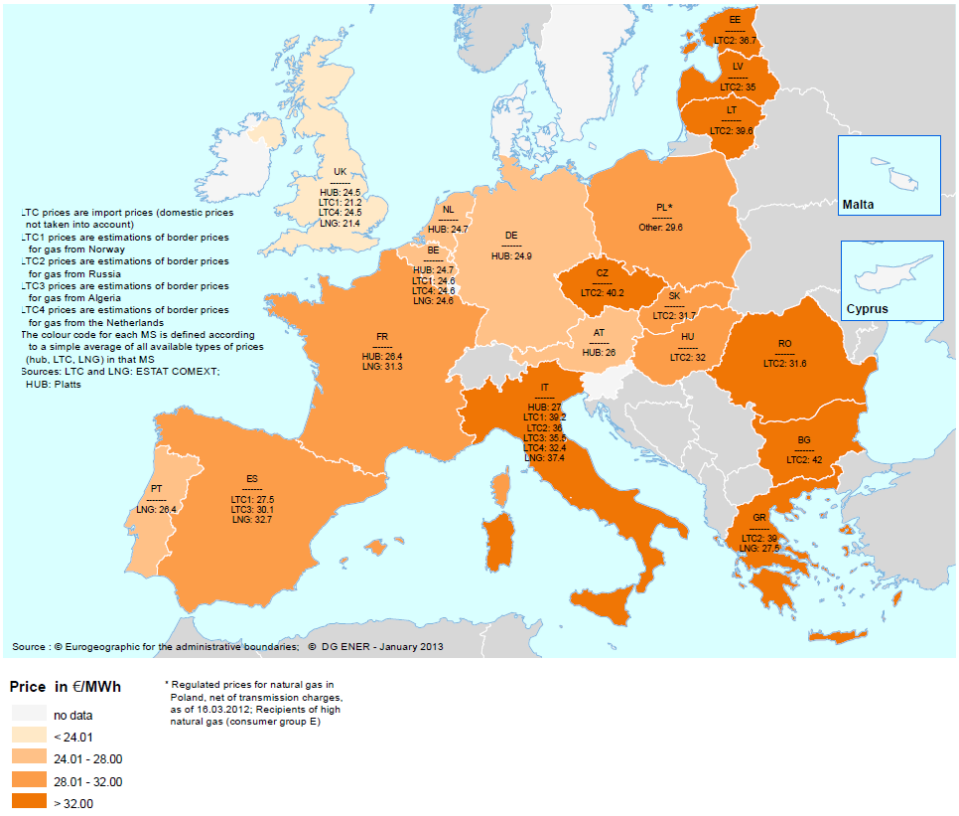
6.1.1. Economic Impacts

Market rules for gas transmission networks are very complex and technical. This in itself would likely inhibit or at the very least significantly prolong and render inefficient any organic initiative to improve balancing rules across the EU.

A key contributing factor of the development of gas hubs, and of gas-to-gas competition, is the diversity of gas contracts available in the EU. As the map below shows, this diversity is important, because markets with access to multiple sources of gas and competitive trading arrangements (e.g. North-West Europe, UK) have benefitted from lower prices in recent years. By contrast, Eastern European countries that depend predominantly on long-term, oil-linked contracts have paid relatively higher prices. It is worth noting, however, that not all EU markets have been equally affected by the sharp rises in the price of oil, which have pushed up natural gas prices. EU Member States with well-developed trading systems have not only enjoyed the benefit of greater price stability; the prices of piped gas imported under long-term contracts in these markets have also been lower. This further underlines the importance of hub based trading in the EU.

It goes without saying that balancing-related measures do not suffice to solve the situation shown in the map. Neither is the assertion made that improved balancing rules would not have significant benefits in markets where there is already today relatively liquid trading. Nevertheless the improvement and harmonisation of balancing rules will foster and enable hub based trading and market based price development of gas.

Figure 17: Average wholesale prices in the third quarter of 2012, Source: DG ENER



Source: DG ENER

Results of the public consultations: This option was not supported during the public consultation processes. During public consultations, the vast majority of consultation respondents expressed their agreement with the problem identification and their support for a pan-European measure such as a Network Code. No respondent has argued that no legally binding balancing rules should be developed across the European Union. Further details on the stakeholder consultation can be seen in Annex 2, 3 and 4.

Facilitating competition: The lack of harmonised balancing products may mean that less cross-border competition for balancing services will arise. The differences in balancing rules may create artificial arbitrage opportunities between systems, according to which flexibility moves to where the rules are strictest and TSOs with more liberal balancing regimes have to cover the costs. The absence of additional harmonised principles may mean that balancing regimes differ across Europe which may add complexity to the market rules. These could act as barriers to new entrants and cross-border trade. Furthermore different national regimes may hinder the development of liquid hubs in emerging markets.

Transparency and non-discrimination: Given that this model allows for various policy approaches, network users active in various national markets across the EU may need to build up substantial knowledge about the different rules that may apply in the

Member states, resulting in higher costs for practical application of the different rules. Equally, there is a risk that different policy approaches are followed. This would be particularly challenging for new entrants and small competitors as they might face higher risk to have an imbalanced portfolio and therefore face an even higher risk in case the imbalance charges are punitive.

Administrative Burden: This option is easiest to implement, as it leaves it up to national authorities how to implement the requirements from the Third Package. Whilst this may at the outset be perceived as being less onerous than to implement harmonised arrangements, it may also create significant inefficiencies in policy development. Importantly the administrative burden of keeping national balancing regimes increases with deepening market integration. What is more, the direct administrative and economic costs of disparate systems are likely to increase disproportionately as integration reaches its final stages.

6.1.2. Social Impacts

Direct social impacts are not significant. More important are the indirect impacts. As set out earlier, balancing in the gas sector is a technical albeit crucial aspect to ensure the proper functioning of the sector. As also set out, further integration of the electricity and gas markets has a significant potential to contribute to GDP growth and consequently also job creation.

Therefore the BAU option which does not foresee further harmonization of EU-wide balancing rules with the view of ensuring one of the operational backbones of an integrated EU gas market, which in turn may not benefit from efficient price discovery, may lead to undesired social impacts which follow from the likely scenarios developed when assessing the economic impacts. A decreased competitiveness of EU industries resulting from potentially higher gas prices, due to a less efficient market structure, may have negative effects on the European industry and therefore may have an impact on the labour market. The annual growth survey 2013 of the Commission therefore states that the performance of network industries across Europe also has a critical knock-on effect on the rest of the economy and can be significantly improved by ensuring the full transposition and implementation of the third energy package.[31] The survey especially calls for overcoming obstacles to activities in wholesale trade in order to tap potential new sources of growth and jobs as outlined in the first edition of the Single Market Integration Report.[32]

The report on the single market integration states that the GDP share of the energy sector in the EU has been increasing since 2000 and has exceeded 2½% in recent years. It states further that this indicator does not fully reflect the importance of the energy sector in the economy, which provides critical production inputs for all other sectors thus contributing significantly to their cost competitiveness. The report acknowledges that the internal energy market slowly but surely starts to bear fruit. Wholesale gas prices have been noticeably lower in those Member States where markets work better. Gas supplies to retail consumers have been more resilient to

[31] COM (2012) 750 final, Annual Growth Survey 2013, p.10.

[32] COM (2012) 752, State of the single market integration 2013- Contribution to the Annual Growth Survey 2013

temporary volume reductions by exporting countries thanks to more flexible infrastructure and clear price signals inside the EU.[33]

Markets with only a few actors are likely to see less trading and liquidity suggesting fewer jobs for new entrants. A restructuring of the gas market might have effects of job losses at the incumbent. Some countries or regions may be more affected than others. The impact on countries which already have a well-developed gas wholesale market is expected to be less. The quarterly review- December 2011 of EU Employment and Social Situation[34] showed that for the year 2010 in the gas sector[35] in total 253 job cuts and 700 job gains were reported.

Furthermore high level of gas prices may cause "energy poverty" and social exclusion of the most vulnerable groups.

At this stage no impacts on job rights, job equality or job health and safety are expected.

Stakeholders didn't provide views with regard to social impacts.

6.1.3. Environmental Impacts

The Commission Services believe that the baseline scenario has no direct environmental impacts. However, not fostering the internal gas market could have indirect impacts.

For example, when gas prices go up relative to coal due to oil-linked prices it has an impact on the choice of the generation source for electricity. A higher gas than coal price makes power producers switch to more polluting coal as the fuel of their choice, resulting in higher emissions. If the high prices were to last over a longer period of time they could also distort market participants' investment decisions potentially resulting in more polluting power generation facilities.

During the last two years coal's share is increasing in many European countries' power generation. In 2011 several EU Member States decided to reduce its reliance on nuclear power generation, having an immediate impact in some cases as significant amount of nuclear capacities were taken off the power grid. The missing nuclear capacities could only partly be replaced by the increasing renewable (mainly wind and solar) sources. The remaining part is being replaced in a large extent by coal-fired generation capacities. The increasing role of coal is supported by its relative cheapness compared to natural gas

The size of the indirect environmental impact of the baseline scenario is difficult to assess. It will not only depend on the level of gas prices but also on the price level of coal and the duration of the differences in price level.

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33 COM (2012) 752, p.13.

34 http://ec.europa.eu/social/BlobServlet?docId=7293&langId=en .

35 Manufacture of gas; distribution of gaseous fuels through mains (NACE 40.2**).**

6.2. Option 2: harmonised EU rules on balancing that allows for interim measures and differences

Under option 2, harmonised rules for a market based balancing regimes that enable network users to trade gas efficiently, including across borders, would be set. These harmonised rules would leave room for national specificity where this better achieves the objectives whilst ensuring that such specific arrangements do not go against the objectives of gas balancing arrangements. The application of interim steps would help ensure that the rules are sufficiently ambitious and at the same time achievable across the European Union. Interim measures are needed where the short term gas wholesale market is not sufficiently liquid yet as this would result in difficulties for the network users to source gas to balance their portfolio. The interim measures foreseen under option 2, such as balancing platforms have been used in several gas markets (eg. UK, DE and NED) and have consequently delivered liquidity. ENTSOG asked stakeholders whether the rules proposed under option 2 would enhance the functioning of the internal gas market. The feedback from 25 out of 28 stakeholders was positive. Only one stakeholder did not believe that the rules proposed under option 2 would (sufficiently) enhance the functioning of the internal gas market.[36] For more details on the stakeholder responses on the rules proposed by option 2 please see Annex 4.

6.2.1. Economic Impacts

6.2.1.1. Operational Balancing

Results of the public consultations: The vast majority of respondents, both during the public consultation processes, has expressed their support for the principle that network users should be incentivised to balance their portfolio and most agree that this would typically lead to a reduction in TSOs' balancing activities. Some have confirmed that the role of DSOs should not be harmonised.

Facilitating competition: Network users would be incentivised to balance their portfolio during the balancing period. To achieve this, network users may need to take balancing actions during the balancing period. TSOs would procure their flexible gas to the extent possible on the wholesale market. This will have a positive impact on the liquidity of wholesale markets, particularly in the short-term. The need for TSOs to hold long-term contracts for flexible gas would reduce which may release that flexibility to the market. Standardisation of short term products would likely result in greater cross border trade as arbitrage opportunities are easier to capture. It will be easier for new entrants to enter the market without having to invest in additional balancing services such as storage contracts.

[36] Reason given was that the Network Code should not just enhance the functioning of the internal gas market but that its objective should be more ambitious. It should allow for the implementation of a truly single, meaning EU-wide harmonised, gas market and not allow for within-day obligations.

Transparency and non-discrimination: TSO trading on the wholesale market to balance the system is the option that is the most market-based. It provides for a transparent and cost-reflective price for the TSOs balancing actions, which is important when setting imbalance charges.

Administrative Burden: This option does not impose additional information obligations on network users including SMEs. TSOs and potentially DSOs do have additional information obligations under this option as it will require greater information provisions thus higher operational costs by market participants and TSOs. Interim steps may support implementation and eliminate implementation problems.

Conclusion: This option places the short term gas wholesale markets at the heart of network users' portfolio balancing and TSO network balancing which will have a positive impact on the liquidity of these markets. On the other hand, this option also requires a liquid short-term gas market where multiple parties have the ability to trade gas with each other. Where liquid short-term gas markets (both intraday and day-ahead) do not exist yet, it will take some time to develop them. Where markets are not liquid yet, this option will help to develop them and furthermore foresees that TSOs, as an interim step, establish balancing platforms to buy or sell gas and other services to balance the system. Standardisation of short term products would likely result in greater cross border trade as arbitrage opportunities are easier to capture and therefore foster market based balancing. It will be easier for new entrants to enter the market without having to invest in additional balancing services such as storage contracts.

6.2.1.2. Nominations

As set out in Chapter 2 there exists a great variety of nomination regimes across member states, each resulting in a differing amount of flexibility to network users.

Results of the public consultations: Stakeholders in ENTSOGs process were almost unanimously supportive of the regime proposed in this option, viewing it as a fundamental pillar to both the NC BAL but also the wider delivery of the Third package.

Facilitating competition: This option would facilitate competition through providing equal flexibility to network users to amend their inputs and off takes to their portfolio. This is especially important for small competitors as they have less possibility to re-allocate flows within their smaller portfolio. Without this ability, the liquidity at VTPs is likely to be dampened as network users cannot react to changing conditions on the system. Furthermore the ability to change flows at interconnection points clearly facilitates cross border trade.

Transparency and non-discrimination: The rules provide for equal treatment of all network users at all interconnection points.

Administrative Burden: The administrative burden on network users is expected to diminish as a result of this option as all systems would provide the same facilities/rules for nominations at interconnection points. Some TSOs may require some initial changes to systems in order to facilitate such a process.

Conclusion: This option addresses all the core issues raised by stakeholders, while providing the features required, implementing a harmonised balancing regime and facilitating the implementation of the NC CAM and NC BAL. It also supports functioning of the VTP, necessary to deliver liquidity at these hubs and thereby foster cross border trade.

6.2.1.3. Calculation of imbalance charges

Sub-option 1 – Marginal price plus small adjustment

Results of the public consultations: The vast majority of respondents to the public consultations has agreed with the proposal to base imbalance charges on the marginal price.

Facilitating competition: This option would help to reduce barriers faced by new entrants, who tend to be more exposed than incumbents to imbalance charges, especially when imbalance charges are 'penal' and dissociated with the actual costs faced by TSOs in balancing the system. This option would avoid the potential for counterintuitive gas flows across member states borders and mitigate distortions.

Transparency and non-discrimination: Where the imbalance charge is based on the price in the wholesale gas market or on the balancing platform products that the TSO has paid for procuring flexible gas, charges based on the marginal price would be considered to strike the best balance between cost reflectivity and stimulus. Network users would be able to see the evolution of the marginal price in real time as the detailed daily imbalance charge methodology must be published and the rules will be transparent for all.

Sub-option 2 - Charges based on an administered price

Results of the public consultations: There has been no support for this option, except potentially as an interim measure.

Facilitating competition: This option may be deficient where the administered price does not reflect to network users the true cost they are creating by being out of balance. As with the "charge based on a cost proxy", administered prices may not result in appropriate incentives for network users. For example, where the imbalance charge is significantly higher than the cost of gas (which in Europe is often based on oil indexed contracts) network users will be encouraged to balance their portfolios, but if they fail, they may face unduly high imbalance charges depending on how the part of the charge that is over the gas cost has been defined. This can also act as a barrier to new entry. Where the imbalance charge differs from the cost of gas in oil-indexed contracts, network users may have no incentive to balance their portfolio, and may therefore leave it to the TSO to sell them gas (or buy it from them) in its role as a residual balancer. Residual balancing would then be more important the more network users step back from own balancing actions.

Transparency and non-discrimination: In principle this mechanism is transparent and non-discriminatory. However, if the charge contains a penalty element it may have a discriminatory effect on new-entrant network users.

Feasibility: This charge will require a more complex methodology to be used by TSOs. It will require more scrutiny by the regulator to assess the effects of the charge on market participants and the development of the market. There is more scope for it to deviate from actual costs so will also require a greater degree of monitoring and regulatory overview. The costs of this option depend on the actual charge used. However, it may be easier to implement it than the other options.

Sub-option 3 - Charges based on a cost proxy

Results of the public consultations: respondents generally considered this option to be inferior to the application of the marginal price. However, it was acknowledged that in the absence of a marginal price, i.e. where the TSO is not yet procuring its balancing services on the wholesale market, this may be a necessary interim step.

Facilitating competition: The difficulty with reference prices from other markets is that they will deviate from the true cost of procuring gas and may not result in appropriate incentives for network users. For example, where the imbalance charge leaves network users significantly worse off than procuring their own gas (often based on oil indexed contracts) network users will be encouraged to balance their portfolios, but if they fail will face unduly high (or unduly low) imbalance charges; this can act as a barrier to new entry. Where the imbalance charge leaves network users better off than procuring gas in oil-indexed contracts, network users will have no incentive to balance their portfolio, and will therefore leave it to the TSO to sell them gas (or buy it from them) in its role as a residual balancer. Residual balancing would then be more important the more network users step back from own balancing actions.

Transparency and non-discrimination: In principle this mechanism is transparent and non-discriminatory. However, if the charge contains a penalty element it may have a discriminatory effect on new entrant network users.

Feasibility: In principle this option is relatively straightforward to implement.

Conclusion - calculation of imbalance charges

The proposed option is sub-option 1 as this option strikes the balance between cost-reflectivity of imbalance charges while still incentivising network users to balance their portfolio. Network users will not be exposed to punitive imbalance charges which create entry barriers for them. The necessary pre-requisite for this option is that TSOs utilise the wholesale market to balance the system. Where gas has not yet been procured on a short-term basis through a trading platform or on a balancing platform and the conditions are not met to allow network users to be able to procure their own balancing gas, for an interim period imbalance charges may be based on a cost proxy.

6.2.1.4. Balancing period

Sub-option 1 – Daily system

Results of the public consultations: The majority of respondents to the public consultations supports the introduction of a harmonised daily balancing system across

Europe, according to which network users would be financially settled at the end of the gas day, and the inclusion of within-day obligations in the network code as an option, albeit only subject to stringent requirements regarding their nature and a role for NRAs in their approval. Some of the respondents to the public consultation continued to argue that within-day obligations should not form a part of the NC BAL.

Facilitating competition: A standardised balancing period of a gas day provides a fundamental building block for a liquid gas market (particularly within-day) as each system will have the same underlying traded product (daily gas). Having this allows for a price signal to evolve, optimising cross border gas flows. The implementation of a daily balancing system gives more opportunities for network users to trade or net off their imbalances during the gas day, therefore stimulating new entry and market liquidity. Over the course of a longer balancing period imbalance positions are more easily managed. Network users can correct their balancing status during the balancing period.

Transparency and non-discrimination: For daily balancing, network users would still need relevant information to be provided regularly. In principle, daily balancing is non-discriminatory but, compared to more granular balancing rules such as hourly, it can leave the TSOs to undertake more balancing actions within the gas day leading to less targeted imbalance charges on those network user that cause the imbalances than in hourly balancing regimes.

Administrative Burden: This option does not impose additional information obligations on network users. For those changing from an hourly system to a daily system, there could be an impact on costs, as IT systems would need to be adapted to allow for daily nominations, potentially at different times, if required by the harmonised gas day as opposed to hourly nominations. Compared to shorter balancing periods, operational costs for network users would be lower in a daily balancing regime. Network users would only need to balance towards the end of the gas day, rather than operating in the balancing market at every hour. Where within-day obligations will be applied it could on the one hand reduce the cost for balancing of the network and on the other hand providing the information necessary for within-day obligations could require significant investments by the TSO in measuring and data collection equipment and IT infrastructure.

Reliable cost estimates for a daily balancing regime require assumptions on the available linepack and possible products and prices for balancing gas. In 2012 the Austrian national regulatory authority E-Control has commissioned a study analysing the costs for the Austrian system. [37]

Sub-option 2 – Hourly system

Results of the public consultations: Respondents were of the opinion that an hourly balancing regime would introduce barriers to entry and cause significant implementation and ongoing operational costs.

[37] KEMA, Summary: Gas Balancing Study Austria, Bonn, May 2012.

Facilitating competition: Hourly balancing would incentivise network users to balance their positions closer to real time, which may further reduce the need for TSOs to take residual balancing actions. Where a liquid intraday gas market exists hourly balancing may be an efficient option. However in the absence of liquid wholesale gas markets, hourly balancing may create significant barriers to entry the market. Many new entrants without access to flexible gas or flexibility services offered by the TSO to match the hourly balancing period would not be able to efficiently manage their risk exposure. New entrants do not have the same ability to compensate overall imbalances that bigger participants have because of their holding of large supply portfolios. Small market participants would also not have the capacity to deal with the frequency of data required for network users to correct their imbalances on an hourly basis.

Transparency and non-discrimination: Hourly balancing information is currently not made available to network users and in many parts of Europe. Until this can be provided, hourly balancing would result in a sub-optimal arrangement from a transparency perspective.

Administrative Burden: Those balancing zones that are moving from a non-hourly balancing regime to an hourly one may incur significant implementation costs. Systems of TSOs and network users would need to be updated to cope with significantly larger amounts of information. In addition, data would need to be provided to allow network users to react to signals provided by the hourly imbalance charges, which potentially means more frequent than hourly updates. It is likely that the balancing information systems would need to be rebuilt. Compared to a daily balancing regime, the direct operational cost for network users may be increased significantly with the introduction of hourly balancing regimes. In a non-hourly balancing regime, it is not necessary for all network users to monitor their positions at every hour of the day. Many network users may be able to deal with their position in the balancing mechanism during normal working hours. In an hourly balancing regime, network users have to monitor their balancing position at every hour throughout the day. This means that some network users, which currently only trade during normal office hours, may be required to introduce operations at every hour of the day.

Sub-option 3 – Cumulative system

Results of the public consultations: Whereas some have responded, that this system was too complex, seven stakeholders have proposed for this system to be an additional option or an interim step.

Facilitating competition: Where market participants have access to liquid markets and have sufficiently regular information on i) the balance of their portfolios and ii) on the level of imbalance in the overall system in order to be able to assess whether imbalance charges are likely to occur, this system would promote trading and competition among market participants. If sufficient information were published and made available to market participants in neighbouring balancing zones, then it could also stimulate cross-border trade. The duration of the balancing period will vary, at

times of low demand it may be very long (several days) but at other times when the system is tight it may be very short (several times within day).

Transparency and non-discrimination: Provided that the relevant information was made available then it would be sufficiently transparent. Depending on how the imbalance charge was designed then it would also be non-discriminatory. One aspect of a cumulative balancing regime is that the same portfolio imbalance may or may not require the network user to pay an imbalance charge, depending on whether the system faces an imbalance or not.

Administrative Burden: The main costs will be caused by establishing the necessary infrastructure (IT systems and metering) in order to have sufficient and regular information where it is currently not available. A comparison of direct operational costs incurred through this option with direct operational costs incurred through other options depends on system conditions. Where a system is tight and the occurrence of imbalance charges is frequent, operational costs to network users would be significant compared to all other options. If, on the other hand, the occurrence of imbalance charges is infrequent due to a relatively larger system, direct costs incurred through this option would be lower compared to the other options outlined in this section. This is because there may only be a very limited requirement for network users to be subjected to imbalance charges.

Conclusion – balancing period

Implementing a daily balancing regime will facilitate market integration. Still a purely daily balancing regime could create costs and cross-subsidies in systems with low levels of line pack or other sources of flexible gas, particularly in relation to customers with potentially significant swings in gas off-takes (i.e. electricity power stations). These systems therefore will be exceptionally (fulfilling strict criteria) allowed to apply within-day obligations. Even though within-day obligations are not foreseen as interim measures, the need of within-day obligation might be lowered in the future in case the transmission operator increases the available line pack. The design of a within-day obligation will be dependent on the infrastructure in place to provide network users the necessary information to be compliant with the respective obligation.

Furthermore there is an interaction between the increased use of renewable sources of electricity and gas markets. Many of the renewable sources of electricity, such as wind power, are intermittent. Gas powered CCGT plants are often used to compensate for this intermittency. As a result, these gas fired power plants require gas on a profile that may not be flat or aligned with gas supplies. As the use of renewable sources of electricity increases, this may create new challenges for future gas balancing regimes.

6.2.1.5. Network users access to relevant information

Results of the public consultations: Most respondents have agreed that in order to meet their balancing requirements, network users need to receive appropriate information. Respondents have also stated that some of the information is not held by TSOs, but is held by other parties, such as DSOs, instead. Furthermore, some parties

pointed out that the costs and benefits of information provision may differ in different systems.

Facilitating integration and competition: Information provision is a key stepping stone for the development of market based balancing regimes. The provision of system information during the balancing period enables network users to make better judgements on the potential exposure to imbalance charges and therefore helps them optimise their portfolio position. The provision of all this information on a non-discriminatory basis helps create a level playing field and benefits the creation of liquid intraday markets.

Transparency and non-discrimination: The non-discriminatory provision or system and steering information is fundamental to a transparent balancing regime. It means that market participants operate on a level playing field.

Administrative Burden: This option does not impose additional information obligations on network users. TSOs do have additional information obligations under this option where sufficient information is not provided yet. It should also be noted that the development of information systems is typically done as part of an overall technical solution (could be an entire balancing regime) and therefore the specific costs are not easily identifiable.

The costs for implementing the minimum information requirements (for TSOs, DSOs and Network users) will differ greatly amongst balancing zones and will differ on a case to case. Key differences include the i) information model chosen, ii) metering infrastructure requirements, iii) IT systems capability and iv) number of distribution systems connected to the transmission system(s). This results in a variety of potential costs:

• No costs for those that comply already with the minimum information requirement;

• Approximately 1-5 million Euros for relatively smaller systems;

• Multiple millions or tens of millions Euros for larger systems, in particular where for example there are many distribution system operators and metering infrastructure is required.

In systems where information systems are developed to meet both the minimum information requirements and also to satisfy the within day obligation information requirements it can lead to higher costs, depending on the specific characteristics of the within day obligation put in place. This will be subject to a thorough consultative process.

Conclusion: The option sets out minimum requirements for information provision that are needed to implement a market based balancing regime where the network user has a major role in balancing the system. Beyond these minimum requirements, there may be additional transparency requirements. Those additional requirements will be assessed on a national level for each individual balancing zone in order to not create inefficient costs.

6.2.2. Social impact

Direct social impacts are not significant. More important are the indirect impacts.

Markets which better reflect supply/demand fundamentals are likely to generate positive impacts on the gas consumers. The strengthening of the hub based trading will enable gas traders' to link their contracts to the hub price instead of the oil price. A generally more stable market means lower probability of market shocks and price spikes leading also to more stability in effects on employment. Similarly, a more trusted market will indirectly benefit consumers. Strengthening the internal gas market is therefore expected to bring benefits to Europe's citizens and industries.

Option 2 will alleviate obstacles to activities in wholesale trade in order to tap potential new sources of growth and jobs as requested by the first edition of the Single Market Integration Report. The impact on countries which already have a well-developed gas wholesale market is expected to be less.

At this stage no impacts on job rights, job equality or job health and safety are expected.

6.2.3. Environmental impact

The Commission Services consider that option 2 has no direct environmental impacts, i.e. the mere improvement of the balancing regimes will not impact the environment. However the measures proposed under option 2 will foster the hub based trading of gas and therefore mitigating negative indirect environmental impacts, as described under the baseline scenario. A liquid hub based trading will enable network users to link their gas contracts to the respective hubs.

6.3. Option 3: Detailed harmonised balancing rules without room for national arrangements or interim steps

Option 3 differs from Option 2 in that it envisages going further and faster in harmonisation of balancing arrangements.

6.3.1. Economic Impacts

6.3.1.1. Operational Balancing

Results of the public consultations: There was general support to harmonise the role of TSOs and network users across Europe. However, there was significant opposition against harmonising the role of DSOs. Respondents commented that the harmonisation of the DSO role may be costly and many expressed a preference for only those issues to be harmonised which are needed for the introduction of market-based balancing regimes. Most stakeholders were in favour of TSO procurement on the wholesale market. However, almost all of these also acknowledged that there may be a need for balancing platforms as an interim steps, particularly where the TSO cannot reasonably procure all its balancing needs on the wholesale market.

Facilitating competition: As in option 2, network users would be incentivised to balance their portfolio during the balancing period. To achieve this, network users may need to take balancing actions during the balancing period. This could have a positive impact on the liquidity of wholesale markets, particularly in the short-term. Introducing identical rules for the procurement of balancing services could be beneficial for competition, if they are market-based. Our analysis above has shown that TSO procurement on the wholesale market could deliver significant benefits, but we have also acknowledged that currently this is not realistic in all European balancing zones. This could mean that less market-based mechanisms would need to be considered which may actually reduce competition in those markets where the TSO is already procuring balancing services on the wholesale market. Introducing identical rules for TSO procurement without interim steps would only be feasible across Europe if these rules allow for bilateral contracts. This would be a step back for some European balancing zones and its potential to increase costs incurred by the TSO could be significant.

Transparency and non-discrimination: If the identical rules for TSO procurement foresee options other than TSO procurement on wholesale markets, this may reduce transparency and introduce risks of discrimination in some balancing zones.

Administrative Burden: Harmonising the role of DSOs would incur significant costs which may outweigh the benefits.

Conclusion: Introducing identical rules for TSO procurement without interim step would only be feasible across Europe if these rules allow for bilateral contracts. This would be a step back for some European balancing zones. Including DSOs beyond what is necessary might result in significant costs without any subsequent tangible benefits.

6.3.1.2. Nominations

Results of the public consultations: While stakeholders strongly support the delivery of option 2 above, the introduction of rules beyond interconnection points would most likely garner less support due to the impact on other parties such as LNG and storage operators and potentially distribution system operators.

Facilitating competition: placing very prescriptive rules on nominations could facilitate competition. However it is not clear that harmonising beyond those key rules that are set out in Option 2 would provide any major benefits in achieving the objectives the network code on gas balancing.

Transparency and non-discrimination: it is not clear that setting out further detail would have any further impact on this issue beyond option 2.

Administrative Burden: making more specific rules on nominations would put a greater administrative burden on TSOs without any major discernible benefit. In particular a requirement for all systems to use the same granularity of information when nominating for a gas day (either by hour or Gas Day) would require significant changes from both TSOs and Network Users systems.

Conclusion: It is not clear that any further specification of rules at interconnection points would have any notable impact vis-à-vis option 2 above. In the context of cross border trade harmonisation, nomination rules at non-interconnection points are less prevalent. Furthermore the physical characteristics of each of these points are likely to differ in comparison to interconnection points.

6.3.1.3. Calculation of imbalance charges

Results of the public consultation: stakeholders did not seek greater prescription of the rules presented in option 2, other than seeking a percentage cap on the marginal price which was subsequently included in option 2.

Facilitating competition: If the underlying conditions in each market were similar, then setting out a very detailed imbalance methodology could indeed facilitate competition. However, systems would be unable to tailor some of the rules within the methodology to their own needs, thereby potentially resulting in perverse signals. This issue would be accentuated, if proxy measures were not allowed at least as an interim step.

Transparency and non-discrimination: this option would provide a similar level of transparency as option 2. Where issues arise as referred to above, new entrants or those with smaller portfolios could be discriminated against.

Conclusion: This option appears plausible in an environment where each member state starts with certain features such as a fully liquid wholesale market. In the absence of these features in many systems, it does not appear to deliver the necessary transitional tools towards reaching an integrated market.

6.3.1.4. Balancing period

Results of the public consultations: Most stakeholders acknowledged that an option to apply within-day obligations may be necessary for some balancing zones, but almost all agreed that these should fit the specificities of that system.

Facilitating competition: Not allowing for any within-day obligations across Europe is unlikely to fit every balancing zone. It may mean that they are not applied in markets where they are needed which could result in cross-subsidies distorting competition

Transparency and non-discrimination: Having identical balancing period without any within-day obligations could create a level playing field across European gas markets. However, the cross-subsidies mentioned above could have discriminatory elements.

Administrative Burden: This option does not impose additional information obligations on network users. For those changing from an hourly system to a daily system, there could be an impact on costs, as IT systems would need to be adapted to allow for daily nominations, potentially at different times, if required by the harmonised gas day as opposed to hourly nominations. Compared to shorter balancing periods, operational costs for network users would be lower in a daily balancing

regime. To not allow for any within-day obligation could lead to higher costs for balancing of the network.

Conclusion: A purely daily balancing regime could lead to cross-subsidies and costs in systems with low levels of line pack or other sources of flexible gas, particularly in relation to customers with potentially significant swings in gas off-takes.

6.3.1.5. Network users access to relevant information

Results of the public consultations: Whilst almost all stakeholders acknowledge the significance of transparency information provision, many have argued that these should also take into account the costs each individual TSO and some DSOs would incur as a result. Under this option, this would not be possible.

Transparency, non-discrimination and facilitation competition: Having identical detailed transparency requirements could create a level playing field across European gas markets.

Administrative Burden: It is feasible to create detailed rules for TSO information provision that can apply across Europe, but these would either have to allow for low frequency of information provision or they would cause significant costs for metering services.

Conclusion: It is feasible to create detailed rules for TSO information provision that can apply across Europe, but these would either have to allow for low frequency of information provision or they would cause significant costs for metering services.

6.3.1.6. Additional measures to promote market integration

Under this option, TSOs would be required to cooperate in order to integrate European gas markets into one EU wide balancing zone.

Facilitating integration and competition: In principle one EU wide balancing zone would meet the highest standard of market integration. The integration would be based on commonly agreed market-based mechanisms.

Transparency and non-discrimination: In principle on EU wide balancing zone would meet this criterion assuming that the common rules were appropriate.

Administrative Burden: This option would require agreement between Member States, NRAs, TSOs and market participants on the integration of particular balancing zones. Further work would be required to agree which zones to merge and to understand the physical realities of the various networks foreseen for the merger. As interconnection capacity is limited, this would be a significant barrier to merging balancing zones.

Conclusion: A major challenge in implementing this option would be agreeing how system operation would be managed and whether one TSO in the zone would be appointed as the main system operator. This option would incur large implementation costs to TSOs and a large amount of legal and even physical obstacles may need to be

addressed to merge all existing balancing zones into a single one. If a single EU balancing zone was to coincide with a single entry-exit system, large amounts of capacities would have to be created to remove EU internal bottlenecks and to allow for at least a minimal offer of "freely allocable capacities" (which represent one of the major beneficial attributes of an entry exit system) for such a large geographical zone, involving huge investment costs, that are very unlikely to be outweighed by potential benefits.

6.3.2. Social impact

Under option 3 we expect similar social impacts as under option 2. However, as regards a "big bang" type expansion as opposed to the potential for applying interim regimes, it is possible that such changes would firstly not be practically implementable but in case they were, the lack of solid market fundamentals may indeed lead to a worse and undesirable economic outcome.

6.3.3. Environmental impact

Under option 3 we expect similar environmental impacts as under option 2.

7. EVALUATION OF OPTIONS

7.1. Comparing the policy options

Table 1: The table indicates the scoring of the various options on the impact assessment criteria.

	Economic			**Social**	**Environment**	**Public consultation support**
	Facilitate competition	Transparency and non-discrimination	Administrative burden			
Option 1: no further EU action to address balancing rules (baseline scenario)	**0**	**0**	**0**	**0**	**0**	**0**
Option 2: harmonised EU rules on balancing that allow for interim measures and differences	**++**	**++**	**-**	**0/+**	**0/+**	**++**
Option 3: detailed harmonised balancing rules without room for national arrangements or interim steps	**+**	**++**	**- -**	**0/+**	**0/+**	**-**

Table 2: The table compares the policy options in terms of their effectiveness, efficiency and coherence of responding to specific criteria.

Specific objective	Option 1	Option 2	Option 3
Improve competitiveness in the gas market, especially in promoting competition in emerging markets	**0**	**++**	**-**
Increase liquidity at the gas wholesale markets	**0**	**++**	**+**
Removal of barriers to cross-border gas trade	**0**	**++**	**+**
Transparent and non-discriminatory rules in gas balancing	**0**	**++**	**++**
Allow for a transparent and cost reflective price to emerge for the TSO's balancing actions	**0**	**+**	**+**

Improve implementation of market-based balancing regimes in order to reduce inefficacies	**0**	++	+

7.2. The preferred policy option

The Commission services propose to pursue option 2, thereby submitting the NC BAL for treatment by the Gas Committee in the context of the Comitology procedure.

It was explicitly foreseen by the legislator in the Third Energy package that the rules had to be further complemented by more technical market design and network operation rules. In order for the 2014 political target of the completion of the internal gas market to be achieved, a purely national development is not sufficient.

Whilst Option 1 may at the outset be perceived as being less onerous than to implement harmonised balancing arrangements, it may also create significant inefficiencies in policy development. Importantly the administrative burden of keeping different national balancing regimes increases for TSOs, DSOs and network users with deepening market integration. Option 1 would not foster the liquidity of the European gas market and therefore hinder the development of competitive energy prices, something that is essential in maintaining the competitiveness for Europe's industries, in particular in Member States where currently there are not many actors trading gas at the virtual trading point.

It has been shown in the past that EU Member States with well-developed trading systems have not only enjoyed the benefit of greater price stability, but the prices of piped gas imported under long-term contracts in these markets have also been lower. The implementation of the Third Energy Package will, in itself, not solve the problems outlined in chapter 2. Balancing rules adopted at national level could only contribute to the integration of the European gas market if sufficiently coordinated. The Commission is not convinced that such coordination can be done on a voluntary basis as these measures are highly technical. The experience shows that in case of contentious issues, opposing national models and approaches, even between adjacent Member States, may not be resolved easily or could be resolved only over a lengthy period of time. The resulting barriers to cross border trade are vital and would significantly delay the integration of European gas markets beyond 2014. The Commission agrees with stakeholders that European wide binding rules on balancing are necessary in order to integrate the European gas market. Therefore option 1 is not appropriate to be pursued.

Option 3 differs from Option 2 in that it envisages going further and faster in harmonisation of balancing rules. Even though there is a general support by stakeholders to harmonise the rules for TSOs and network users across Europe, there is a significant opposition against harmonising the rules for DSOs. The harmonisation of the rules for DSOs may be costly and many expressed a preference for only those issues to be harmonised which are needed for the introduction of market-based balancing regimes. Reviewing national balancing systems completely would require much longer implementation times and would raise the complexity significantly.

Introducing identical rules for the procurement of balancing services could be beneficial for competition, if they are market-based. TSO procurement on the wholesale market could deliver significant benefits, but it needs to be acknowledged that currently this is not realistic in all European balancing zones. This could mean that, in order to ensure identical rules, less market-based mechanisms would need to be considered which may actually reduce competition in those markets where the TSO is already procuring balancing services on the wholesale market. Introducing identical rules for TSO procurement without interim steps would only be feasible across Europe if these rules allow for bilateral contracts. This would be a step back for some European balancing zones and its potential to increase costs incurred by the TSO could be significant. Furthermore if a single EU balancing zone was to coincide with a single entry-exit system, large amounts of capacities would have to be created to remove EU internal bottlenecks and to allow for at least a minimal offer of "freely allocable capacities" for such a large geographical zone, involving significant investment costs for TSOs, the benefits of which are unclear. Implementing a daily balancing regime will facilitate market integration. Still a purely daily balancing regime could create costs and cross-subsidies in systems with low levels of line pack or other sources of flexible gas, particularly in relation to customers with potentially significant swings in gas off-takes (i.e. electricity power stations). As the use of renewable sources of electricity increases, this may create new challenges for future gas balancing regimes.

Option 2 strikes the balance between costs and benefits and places the short term gas wholesale markets at the heart of network users' portfolio balancing and TSO network balancing. This will have a positive impact on the liquidity of these markets. In Member States where gas markets are not liquid yet, option 2 provides for interim tools to do so. Standardisation of short term products will likely result in greater cross border trade as arbitrage opportunities are easier to capture and therefore foster market based balancing. It furthermore addresses all the core issues raised by stakeholders with regard to nominations, while providing the features required for implementing a harmonised balancing regime and facilitating the implementation of the NC CAM and NC BAL. It also supports the functioning of the virtual trading points which is necessary to deliver liquidity at gas markets and fostering cross border trade. Option 2 also strikes the balance between cost-reflectivity of imbalance charges, while still incentivising network users to balance their portfolio. It will facilitate gas market integration by removing the main differences in balancing periods but still allowing the application of within-day obligations under exceptional circumstances. The design of a within-day obligation will be dependent on the infrastructure in place to provide network users the necessary information to be compliant with the respective obligation. Option 2 sets out minimum requirements for information provision that are needed to implement a market based daily balancing regime. Beyond these minimum information requirements, there may be additional ones needed which will be assessed on a national level in order to not create inefficient costs. Standardisation of short term products will likely result in greater cross border intraday trade as arbitrage opportunities are easier to capture and therefore foster a EU-wide market based balancing. It will be easier for new entrants to enter the market without having to invest in additional balancing services such as storage contracts.

8. MONITORING AND EVALUATION

Core indicators of progress in the field of improved balancing in gas transmission systems are:

- Improved liquidity on the gas wholesale markets
- Increased trading at the intraday gas market,
- Increased number of active network users and traders on the market.
- Increased trading at the virtual trading points
- Better price convergence between gas markets
- Market based pricing for flexible gas

Article 9(1) of the Gas Regulation tasks ACER with the monitoring of all the Network Codes. ACER can be assisted by ENTSOG where needed on the basis of article 8(9). The individual TSOs are obliged to cooperate with ENTSOG according to article 4. Article 41 of the Gas Directive 73/2009/EC foresees very broad monitoring rights and duties for NRAs.

9. ABBREVIATIONS

ACER	Agency for the Cooperation of Energy Regulators
BAL	Balancing in Gas Transmission Systems
CAM	Capacity Allocation Mechanisms in Gas Transmission Systems
CMP	Congestion Management Procedure
DSO	Distribution System Operator
ENTSOG	European Network of Transmission System Operators for Gas
ERGEG	European Regulators' Group for Electricity and Gas
FG	Framework Guideline
IP	Interconnection Point
NC	Network Code
NRA	National Regulatory Authority
TSO	Transmission System Operator
VTP	Virtual Trading Point

10. LIST OF ANNEXES

Annex 1: NC BAL development process

Annex 2: ENTSOGs analysis of answers to DG ENER questionnaire

Annex 3: ERGEGs Evaluation of the public consultation of the Framework Guideline on Gas Balancing[38]

Annex 4: ACERs Evaluation of the public consultation of the Framework Guideline on Gas Balancing[39]

Annex 5: ENTSOGs report on the Stakeholder Support Process for the refined draft BAL NC[40]

11. GLOSSARY

'allocation' means the quantity of gas attributed to a shipper by a transmission system operator as an input or an off-take expressed in kWh for the purpose of determining the daily imbalance quantity.

'balancing action' means an action undertaken by the transmission system operator to change the gas flows onto or off the transmission network, excluding those actions related to shrinkage gas and fuel gas.

'balancing activities' means all the activities undertaken by transmission system operators to fulfil the obligations set out in this Regulation which shall include but not be limited to balancing actions.

'balancing platform' means a trading platform where a transmission system operator is a trading participant to all trades.

'balancing portfolio' means a grouping of a shipper's inputs and off-takes.

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38 http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/GAS/Framework%20guideline%20on%20gas%20balancing/CD/E10-GNM-13-03b_BalancingFG-EOR_12_April_2011.pdf

39 http://www.acer.europa.eu/Official_documents/Public_consultations/Closed%20public%20consultations/PC-04_FG_Gas_Balancing_in_Transmission_Systems/Document%20Library/1/EoR_BoR_final_CCA.pdf

40 http://www.entsog.eu/public/uploads/files/publications/Balancing/2012/BAL412-12_121010_BAL%20NC%20-%20Report%20on%20SSP_final.pdf

'balancing service' means a service provided to a transmission system operator via a contract for gas required to meet short term fluctuations in gas demand or supply, which is not a short term standardised product.

'balancing zone' means an entry-exit system to which a specific balancing regime is applicable and which may include distribution systems or part of them

'base case' means a model for information provision for non daily metered off-takes where this information shall be a day ahead and within day forecasts.

'confirmed quantity' means the quantity of gas confirmed by a transmission system operator to be scheduled or re-scheduled to flow on gas day D.

'daily imbalance charge' means the amount of money a shipper pays or receives in respect of a daily imbalance quantity.

'daily imbalance quantity' means the difference in inputs and off-takes for a shipper's portfolio for a gas day.

'daily metered' means that the gas quantity is measured and collected once per gas day. This measurement excludes smart meters.

'flexible gas' means gas required to meet short term fluctuations in gas demand or supply.

'forecasting party' means the party responsible for deriving the forecast of a shipper's non daily metered off-takes and subsequent allocation, where appropriate.

'gas day' means the period from 5:00 to 5:00 UTC the following day for winter time and from 4:00 to 4:00 UTC the following day when daylight saving is applied.

'implicit allocation method' means an allocation method where, possibly by means of an auction, both transmission capacity and a corresponding quantity of gas are allocated at the same time.

'implied nomination flow rate' means respectively for a nomination the gas quantity to be transported divided by the number of hours in gas day D and for a re-nomination the remaining gas quantity to be transported from the time the re-nomination becomes effective divided by the remaining number of hours in gas day D from the time the re-nomination becomes effective.

'interconnection point' means a physical or virtual point connecting adjacent entry-exit systems or connecting an entry-exit system with an interconnector, in so far as these points are subject to booking procedures by network users.

'intraday metered' means that the gas quantity is measured and collected a minimum of two times within the gas day. This measurement excludes smart meters.

‘linepack flexibility service’ means a service provided by a transmission system operator to shippers allowing them to deliver or off-take gas to/from the transmission network over different gas days.

'neutrality charge for balancing' means a charge amounting to the difference between the amounts received or receivable and the amounts paid or payable by the transmission system operator due to performance of its balancing activities which is payable to or recoverable from the relevant shippers.

'non daily metered' means that the gas quantity is measured and collected less frequently than once per gas day.

'non daily metered derived forecast' means a forecast of a shipper's non daily metered off-takes for a gas day.

'notification quantity' means the quantity of gas transferred between a transmission system operator and a shipper or shippers or portfolios, as appropriate.

'processed quantity' means the quantity of gas that the transmission system operator is scheduling for flow, which takes into account the shipper's nomination (respectively re-nomination), contractual conditions and the capacity as defined under the relevant transport contract.

're-nomination cycle' means the process carried out by the transmission system operator in order to provide the shipper with the message regarding the confirmed quantities following the receipt of a re-nomination.

'shipper' means a network user holding a legally binding agreement with a transmission system operator defining the respective rights and obligations related to at least balancing;

'shipper's counterparty' means the shipper who delivers gas to or receives gas from a shipper at an interconnection point.

'shrinkage gas' means gas which is unaccounted for as off-taken.

'tolerance' means a reduction of a shipper's financial exposure to marginal sell price and marginal buy price.

'tolerance level' means an amount of the daily imbalance quantity to which the weighted average price is applied instead of the marginal sell price or the marginal buy price.

'trading platform' means an electronic platform provided and operated by a trading platform operator by means of which trading participants may post and accept, including the right to revise and withdraw, bids and offers for gas required to meet short term fluctuations in gas demand or supply, in accordance with the terms and conditions applicable on the trading platform and at which the transmission system operator trades for the purpose of undertaking balancing actions.

'UTC' means the used time reference defined and recommended by ITU-T.

'variant 1' means the model for information provision for non-daily metered off-takes and for daily metered off-takes where this information is based on apportionment of measured flows during the gas day.

'variant 2' means the model for information provision for non daily metered off-takes where this information shall be a day ahead forecast. In this model transmission system operators are entitled not to provide an update of this forecast during the gas day since the shipper's daily imbalance quantity shall be based on this day ahead forecast for non daily metered off-takes.

'within day charge' means a charge levied or a payment made by a transmission system operator on or to its shipper as a result of a within day obligation.

'within day obligation' means a set of rules regarding shippers' inputs and off-takes within the gas day imposed by a transmission system operator on its shippers.

EUROPEAN
COMMISSION

Brussels, XXX
[…](2014) XXX

PART 2/2

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Commission Regulation (EU) No .../..

establishing a Network Code on Gas Balancing of Transmission Networks

ANNEX 1 – NC BAL DEVELOPMENT PROCESS

For the development of a network code, the Commission invites ACER to develop a so-called Framework Guideline (FG) within a period of 6 months which remains non-binding. If the Commission considers that the Framework Guideline contributes to non-discrimination, effective competition and the efficient functioning of the market it may request ENTSOG to submit a Network Code – which is in line with the relevant Framework Guideline – to ACER within a reasonable time not exceeding one year. After submission of the network code by ENTSOG, ACER has to provide a reasoned opinion on whether the network code is in line with the framework guideline. Once ACER is satisfied that this is the case, it shall submit the network code to the Commission and may recommend its adoption. In case ENTSOG and ACER have failed to develop a (draft[1]) Network Code or in case ACER is not satisfied that the Network Code is in line with the Framework Guideline, the Commission may adopt the Network Code on its own initiative.[2]

The Framework Guidelines on Balancing in Gas Transmission Systems (FG BAL) were initially developed by ERGEG[3] in March 2011. ERGEG started off work in this area with a stakeholder consultation[4] in response to the conclusions of the Commission's energy sector inquiry[5] which highlighted that the current balancing markets and small balancing zones favour incumbents. As ACER has only been established officially on 3 March 2011, ERGEG, its predecessor, as well as ENTSOG has provided numerous input to the Impact Assessment and intensive discussions and stakeholder consultation have taken place already in relation to this project.[6] For details on the stakeholder consultation process see Annex 2, 3 and 4. After ACER took over from ERGEG, another public consultation was held which led to the adoption of the final FG BAL in October 2011.

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1 In case of ACER.

2 Art. 6 (11) Gas Regulation: *"The Commission may adopt, on its own initiative where the ENTSO for Gas has failed to develop a network code, or the Agency has failed to develop a draft network code as referred o in paragraph 10 of this Article, or upon recommendation of the Agency under paragraph 9 of this Article, one or more network codes in the areas listed in Article 8(6). Where the Commission proposes to adopt a network code on its own initiative, the Commission shall consult the Agency, the ENTSO for Gas and all relevant stakeholders in regard to the draft network code during a period of no less than two months. Those measures, designed to amend non-essential elements of this Regulation by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 28(2)."*

3 ERGEG, the European Regulators Group for Electricity and Gas, a forerunner to ACER, was a formal advisory group to the European Commission, created by the Commission in 2003 (Decision 2003/796/EC). With ACER fully operational, ERGEG was dissolved (Commission Decision of 16 May 2011 repealing Decision 2003/796/EC) with effect from 1 July 2011. All past works relating to ERGEG activity (documents, reports, Public Consultations etc.) can be found on the website of the European Energy Regulators (www.energy-regulators.eu).

4 ERGEG, Gas Balancing in Transmission Systems, Framework Guideline, Ref: E10-GNM-13-03, 10 March2011 at**:** http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Gas/Tab/E10-GNM-13-03_FG-Gas%20Balancing_2%20March%202011_final.pdf

5 Communication from the Commission – Inquiry pursuant to Article 17 of Regulation (EC) No. 1/2003 into the European gas and electricity sectors (Final Report) COM/2006/0851 Final ["Energy Sector Inquiry"], also see http://ec.europa.eu/competition/sectors/energy/inquiry/index.html

6 For further details see Annex 2.

By then, ENTSOG had already started working on the transposition of the high level principles set by the regulators into the detailed rules of a NC BAL. In total, ENTSOG held two consultations and eight workshops dedicated to specific parts of the NC BAL between October 2011 and October 2012.[7] As a result the final NC BAL, as adopted by ENTSOG on 26 October 2012, enjoyed a very high degree of stakeholder consensus. ACER in its Reasoned Opinion of 25 January 2013 however concluded that the NC BAL was not entirely in line with its FG, identifying eight areas of concern. ENTSOG modified the NC BAL accordingly and sent ACER the modified code on 21 February 2013. In reaction, ACER sent on 25 March 2013 a recommendation to the Commission, recommending that the NC be made binding through application of the Comitology process.

Building on the significant work of ERGEG, ACER and ENTSOG, including the multiple rounds of public consultations at various levels of maturity of the developing NC, work on this Impact Assessment started in November 2012.

Key dates in the NC BAL development process were:

- 18/08/2010 - 10/03/2011 ERGEG Framework Guideline development[8]
- 02/03/2011 - 18/10/2011 ACER Framework Guideline development
- 05/11/2011 - 26/10/2012 ENTSOG Network Code development
- 26/11/2012 1st meeting of the Inter-service Steering Group (ISSG)
- 11/05/2012 Informal Member State Meeting on i.a. BAL
- 05/12/2012 Informal Member State Meeting on i.a. BAL
- 25/01/2013 ACER Reasoned Opinion
- 25/01/2013 2nd meeting of the ISSG
- 13/02/2013 Submission of the Impact Assessment to the IAB
- 13/03/2013 IAB Meeting and IAB comments received
- 21/02/2013 New ENTSOG Network Code sent to ACER
- 25/03/2013 ACER Recommendation to adopt NC BAL to Commission
- 28/05/2013 Informal Member State Meeting on BAL

[7] http://www.entsog.eu/publications/balancing

[8] http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/GAS/Framework%20guideline%20on%20gas%20balancing/BG.

ANNEX 2 – ENTSOG'S ANALYSIS OF ANSWERS TO DG ENER QUESTIONNAIRE

Analysis of answers to DG Energy Questionnaire

Table of Contents

- Introduction

The European Commission (EC) issued a questionnaire on gas balancing arrangements to Member States' Transmission System Operators (TSOs) and National Regulatory Authorities (NRAs). ENTSOG have been provided with answers to these questionnaires and have prepared this report for the EC that graphically represents the answers given and provides observations on these graphics.

Assumptions

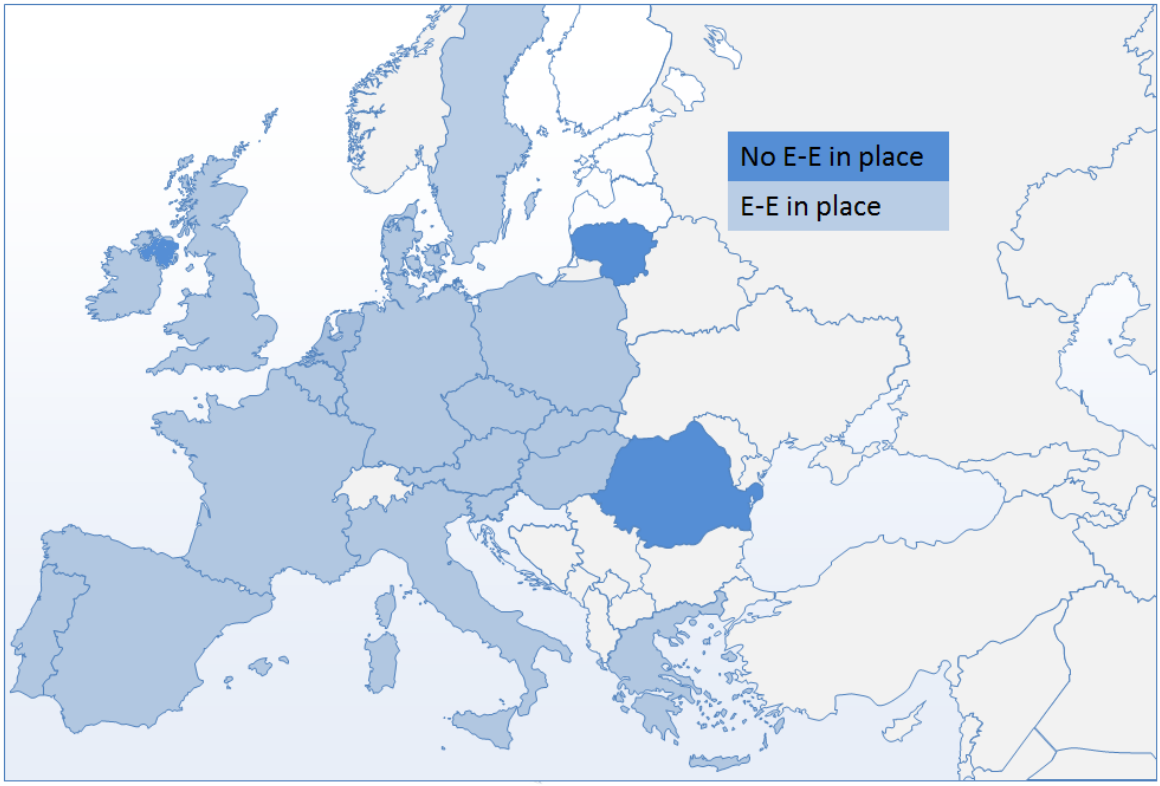
- Finland, Latvia and Estonia are not included in this report (based on exemptions from Regulation (EC) No 715/2009.
- All graphs where the respondents are TSOs include IUK, which is the interconnector TSO between Belgium and the UK.
- The system changes that Austria and Poland will implement in 2013 are included in the answers and graphic illustrations. All other data (primarily numerical) regarding Austria is related to 2011.
- No response was received from the Bulgarian NRA.

1. 1. MARKET ENVIRONMENT

1.1. Entry-exit systems in place

Question 1.1 (first part of the question): *Do you have an entry/exit system in place in your country?*

Figure: Entry-exit systems in place



Type of respondents: Countries (answers collected by ACER).

Notes:

– Greece will implement entry-exit system as of 1 February 2013.

– Austria and Slovenia will implement entry-exit system as of 1 January 2013.

– Poland will implement as of 1 December 2012.

– Romania has planned implementation of an entry-exit system in December 2012, but this is currently delayed. The exact date for implementation is not known.

– There may be more than one entry-exit system within each country.

Observations:

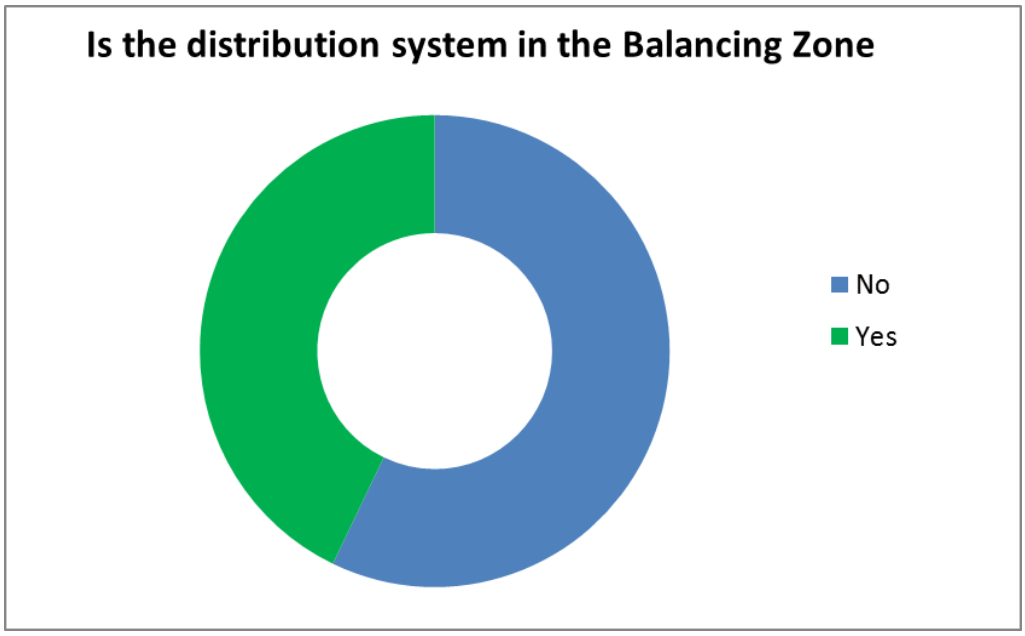
A number of countries, including Austria, Slovenia, Greece and Poland, will implement entry-exit systems by the end of 2012 and early 2013.The map therefore illustrates that there will be an almost complete implementation of entry-exit systems across Europe as of February 2013. Implementation of an entry-exit System is not a requirement of the Balancing Network Code but is nonetheless considered to be an important foundation for the development of market based balancing. A European gas market consisting primarily of entry-exit systems will therefore provide a basis for creating more competitive, liquid and markets where balancing primarily will be

performed by network users.

1.2. Balancing at the DSO level

Question 1.1. (second part of question): *"Is the DSO level part of your balancing zone?"*

Figure: Distribution systems in the Balancing Zone



Type of respondents: Countries (answers collected by ACER).

Notes:

– As of 1 January 2013 the DSO level will be part of the balancing zone in Austria.

– As of 1 December 2012 the DSO level will be part of the balancing zone in Poland.

– Lithuania and Romania did not provide an answer to this question.

Observations:

Some countries include the distribution system in the Balancing Zone and others do not, with the split being near equal. For those respondents that do not include the distribution system in the Balancing Zone, no respondents indicated that there is a separate requirement to balance within the distribution system.

The Balancing Network Code includes the following definition of a Balancing Zone:

"'Balancing Zone' means an entry-exit system, which may consist of more than one (1)

system, as defined in Article 2(13) of the Directive, to which a specific balancing regime is applicable. For the avoidance of doubt, Distribution Systems or part of them may be a part of a Balancing Zone."

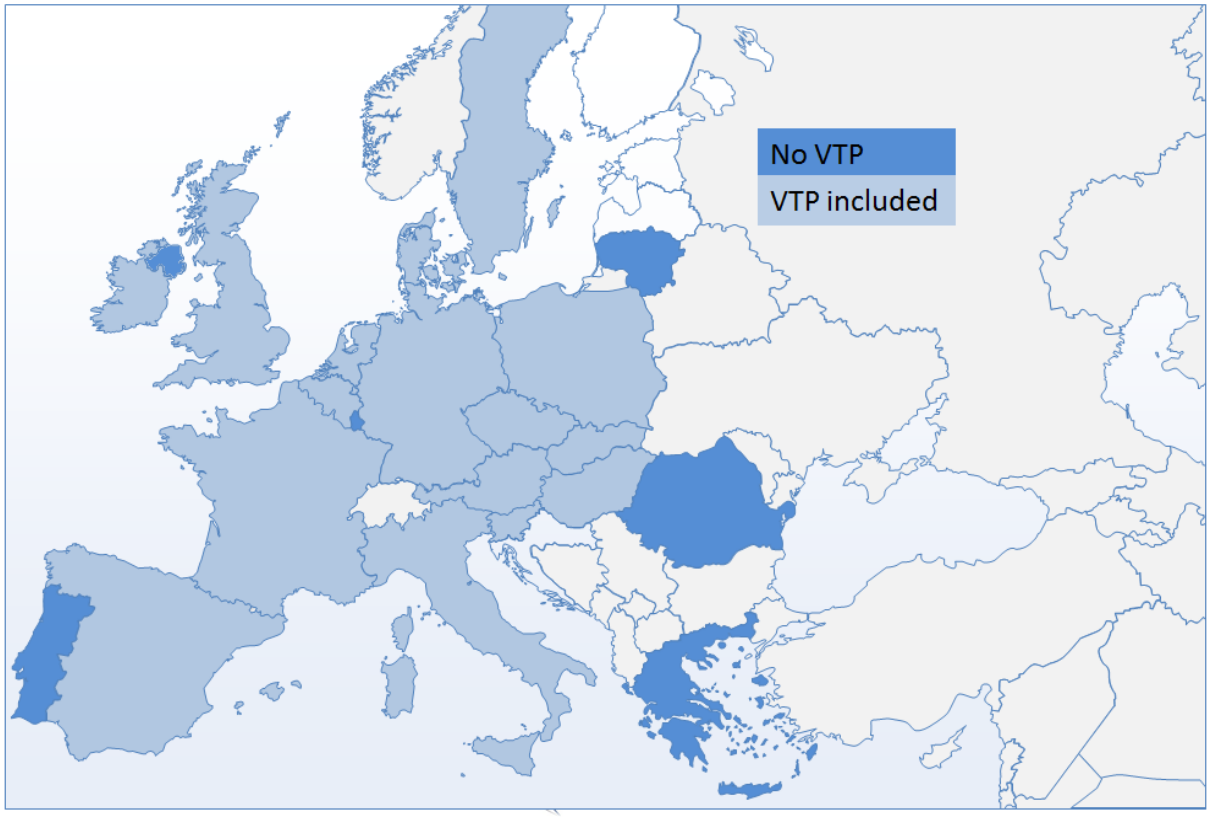
This is consistent with ACERs framework guidelines definition on the Balancing Zone:

"Balancing zone – an entry-exit system, which may consist of more than one system, as defined in Article 2(13) of the Gas Directive, to which a specific balancing regime is Applicable. Distribution systems may be part of the balancing zone. The entries from storage and LNG into the transmission system as well as the exits from the transmission system into the storage are part of the balancing zone."

1.3. Virtual trading point

Question 1.2.: *"Does the Entry/Exit zone have a virtual trading point?"*

Figure: Virtual trading points in place



Type of respondents: Countries (answers collected by ACER).

Notes:

– Slovenia, Poland and Austria will implement virtual trading points in their entry-exit systems as of 1 January 2013.

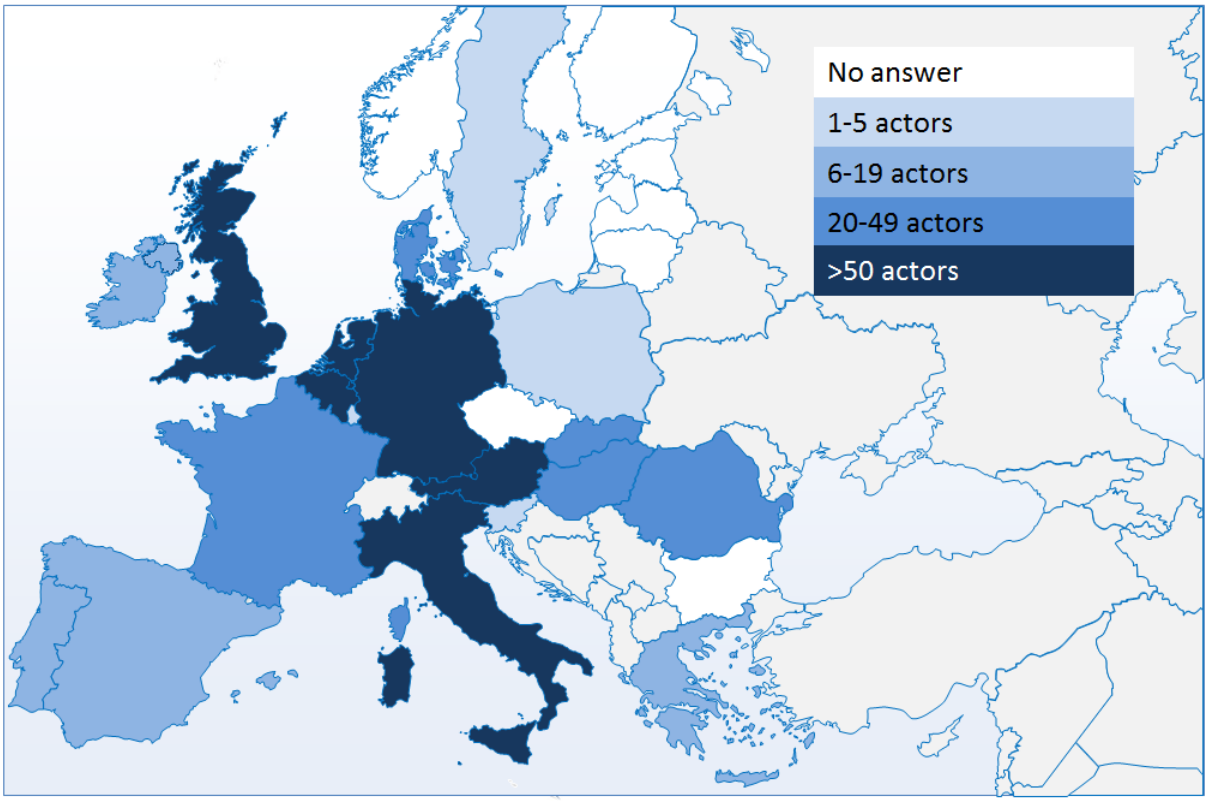
Observations:

Most countries in Europe have now implemented Virtual Trading Points (VTP) to their entry-exit systems. The establishment of VTPs is another important foundation for the development of market based balancing. A VTP therefore creates more flexibility and is a significant stepping stone towards more liquid markets.

1.4. Actors who have shipped gas into the entry-exit system in 2011

Question 1.4.: *"How many actors have shipped gas into the respective exit/-entry zone in the calendar year 2011?"*

Figure: Actors entering gas into the system



Type of respondents: Countries (answers collected by ACER).

Notes:

– Since not all countries had an entry-exit system in 2011, the answers apply to each system at the time.

– Lithuania, the Czech Republic and Romania did not provide an answer on this question.

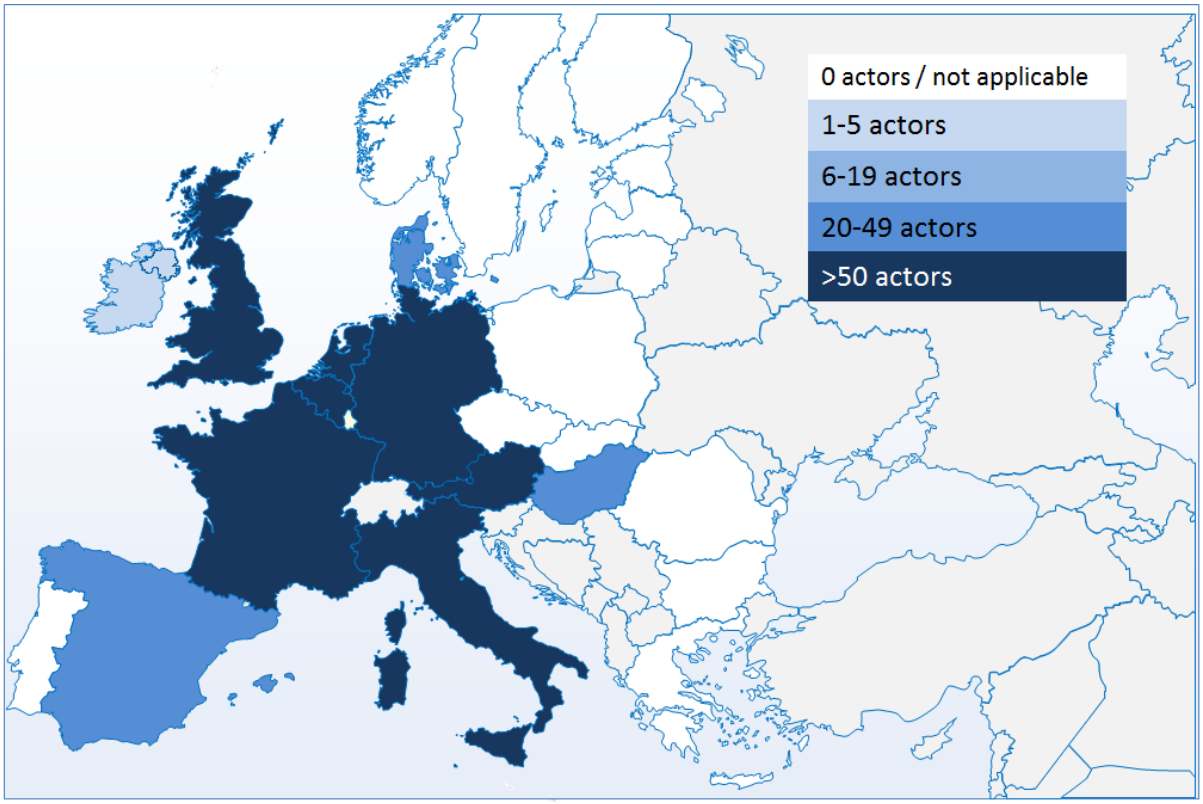
Observations:

The map indicates that a significant number of actors are presently delivering gas into many systems across the Member States in Europe. This will help develop competing sources of flexibility, providing a good basis for creating more liquid markets.

1.5. Actors trading gas at the virtual trading point in 2011

Question 1.2.: *"How many actors have traded gas at your Virtual Trading Point in the calendar year 2011?"*

Figure: Actors Trading Gas



Type of respondents: Countries (answers collected by ACER).

Notes:

– The trades for Austria and Belgium did not take place at a virtual trading point, but at a physical location (Baumgarten in Austria and Zeebrugge in Belgium respectively).

Observations:

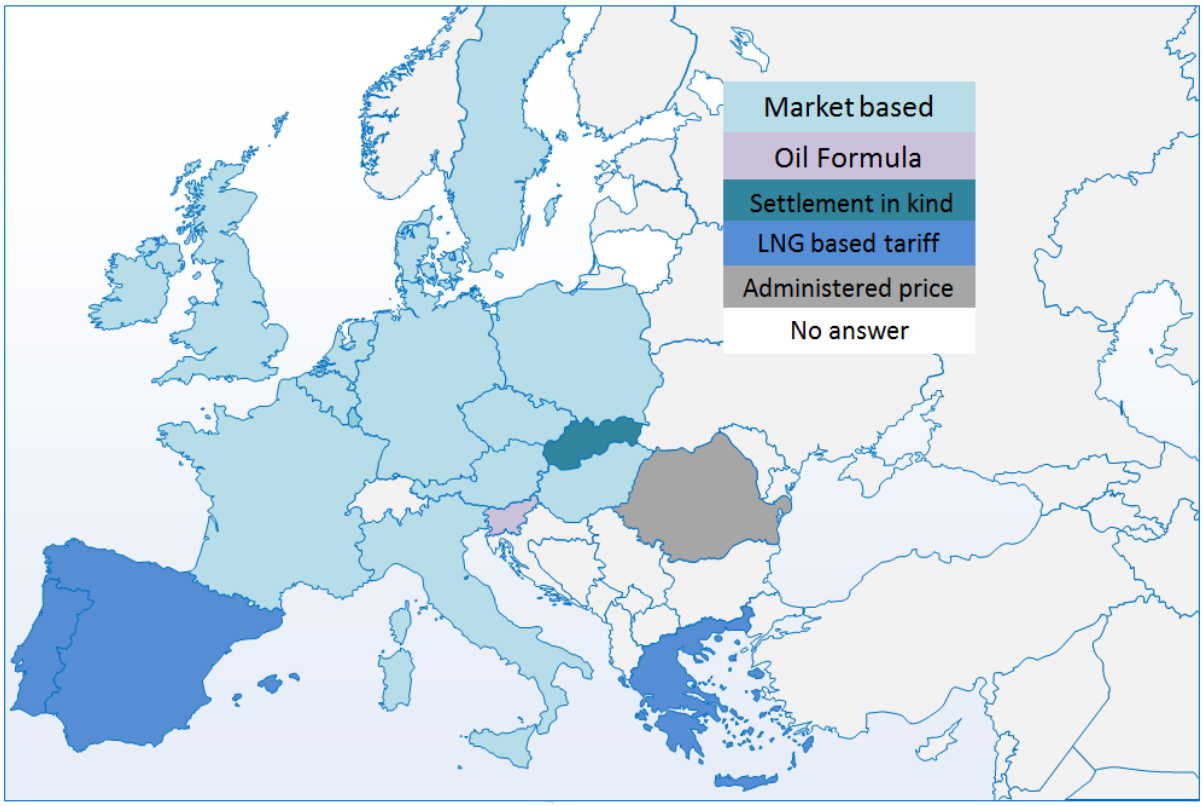
The map shows that a number of countries have a large number of actors trading. The countries with the largest number of actors trading are all adjoining each other. This could indicate some degree of market concentration but also that some markets are more mature than others. The Balancing network code will provide the same market based approach for balancing across Europe.

2. BALANCING AND IMBALANCE CHARGES

2.1. Imbalance charge setting and imbalance incentives samples

Question 2.1.: *"How is the imbalance charge set in your country?"*

Figure: Overview of different imbalance mechanisms used in Europe



Type of respondents: Countries (answers collected by ACER).

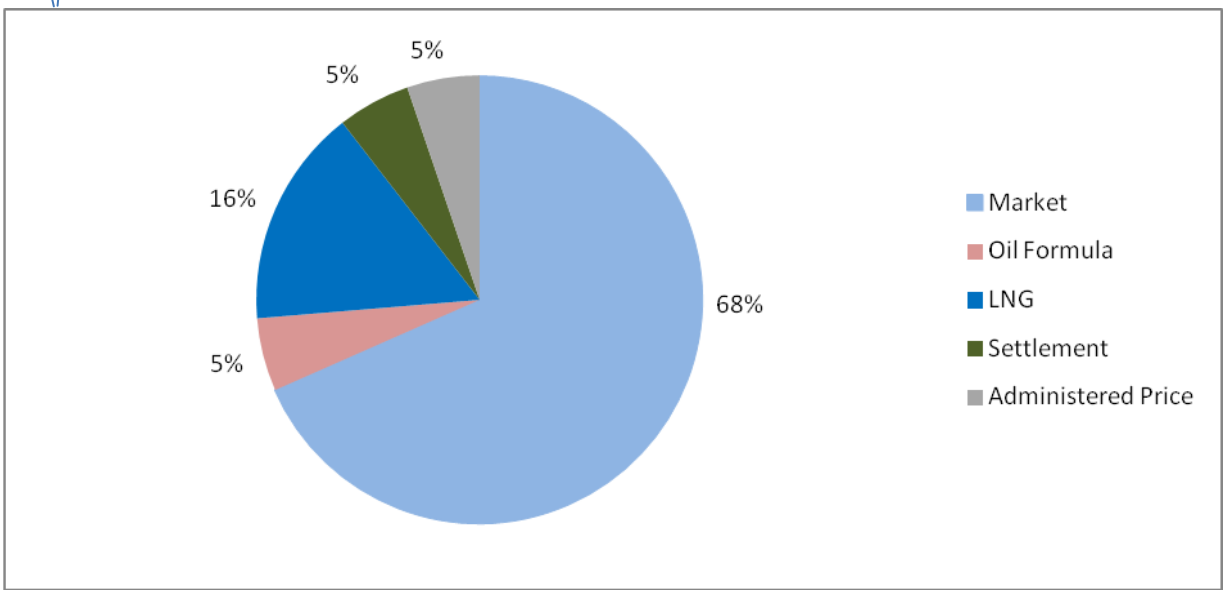
Notes:

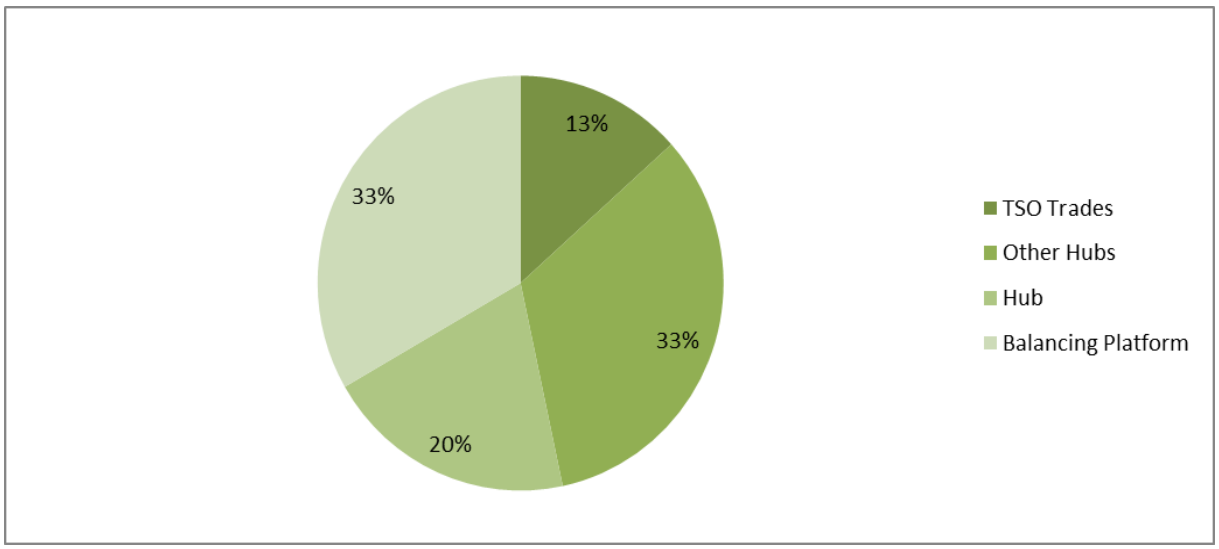
– 'LNG' in the pie chart means that the imbalance charges are derived from LNG storage tariffs applying a multiplier and/or LNG terminal tariffs applying a multiplier.

– Most countries use unique methods to calculate the imbalance charges. This means that countries clustered within a specific group in the pie chart do not necessarily use the exact same methodology to calculate the imbalance mechanisms, but share some of the same features.

– The imbalance charge mechanism has not been set in Lithuania yet.

Figure: Imbalance Mechanism Used





Type of respondents: Countries (answers collected by ACER).

Observations:

The illustration shows that a variety of imbalance mechanisms exist across Europe. In

fact, no two systems have identical imbalance calculation methodologies.

Within the category 'market-based' cashout prices can be derived differently. To illustrate some examples:

- based on the monthly average of the day ahead gas price at the gas exchange;
- A penalty charge of +- 35% of the neutral gas price;
- A system marginal buy and sell price similar to the methodology within the network code;
- Other market-related methodologies.

'Oil formula' means that the imbalance charge is bound to the oil price.

'LNG' indicates that the imbalance charges are derived by applying a multiplier to either LNG storage tariffs and/or LNG terminal tariffs.

'Settlement in kind' is a procedure where the TSO settles the gas imbalance in kind (with gas).

'Administered price' means that the imbalance charge is fixed.

The Balancing Network Code prescribes a detailed harmonised imbalance calculation methodology:

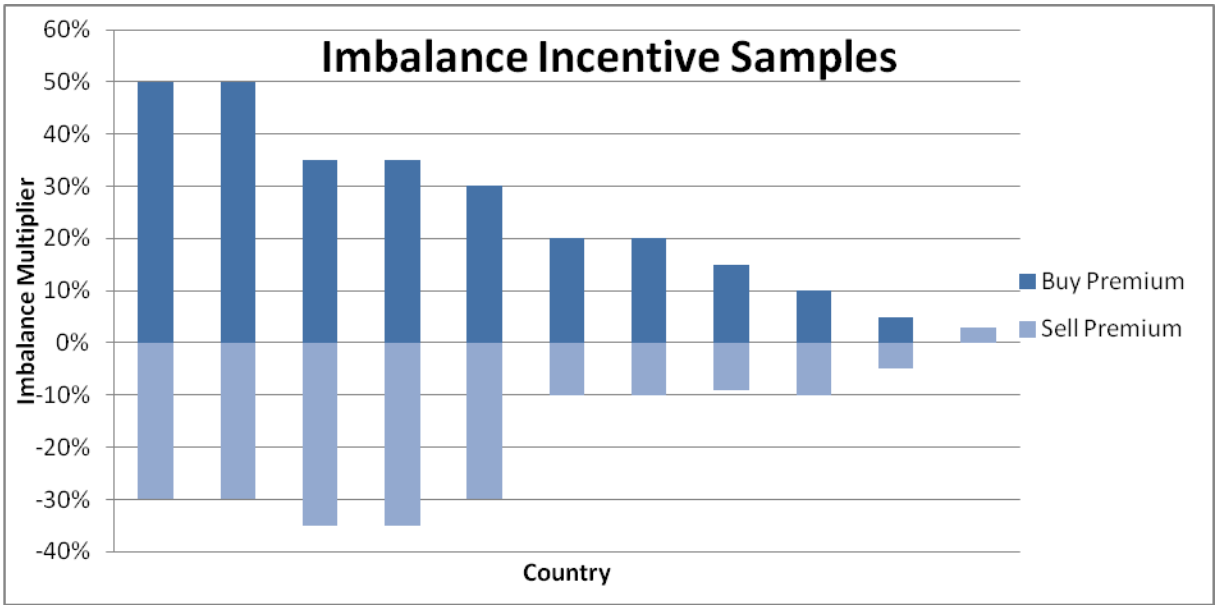
Chapter VI Daily Imbalance Charges (Article 26): Prescribes a daily imbalance charge which shall be cost reflective and shall take account of the prices associated with TSO'S Balancing Actions, if any, and of the Small Adjustment, in order to provide incentives for Network Users to balance their Portfolio(s).

Chapter XI Implementation, Interim Measures and entry into Force (Article 49): Interim imbalance cash-out price determination provides for a price determination based upon an administered price, a proxy for a market price or derived from Balancing Platform trades.

2.2. Imbalance Incentives Samples

Question 2.1.: *"How is the imbalance charge set in your country?"*

Figure: Imbalance Incentive Samples



Type of respondents: Countries (answers collected by ACER).

Notes:

– The definitions used in the Network Code Marginal Buy Price and Marginal Sell Price have purposely not been used as the incentives above are typically designed on a somewhat different basis.

– The percentages in the illustration above should be treated with caution as the underlying imbalance calculation differs for each system, so one cannot compare the numbers directly.

– Numbers have only been provided for 10 systems so there are a large number of systems where such a percentage figure is not applicable.

– Where systems allow a tolerance or multiple tiers for imbalance prices, the outer tier imbalance price is shown.

– The imbalance methodology in the Balancing Network Code also includes that TSO trades outside the Weighted Average Price plus/ minus the Small Adjustment can set the marginal price.

– In GB no fixed imbalance charge premium is used and the premium is set by the higher of the price of the TSO trade or a default value. In 2011 the default value was equivalent to around 3% of WAP and this value has been included in the graph.

Observations:

Although not directly comparable, a wide range of percentages are applied as imbalance penalties across the different systems which use such an approach. The incentive for the Buy Premium is typically stronger than the Sell Premium.

In the Balancing network code, the Small Adjustment is a key parameter in setting the imbalance prices between the Weighted Average Price and the Marginal Buy Price and Marginal Sell price.

The Small Adjustment shall (Article 29.3):

a) "incentivise Network Users to balance their Inputs and Off-takes;

b) be designed and applied in a non-discriminatory manner in order to:

- not deter market entry;

- not impede the development of competitive markets;

c) not have a detrimental impact on cross-border trade;

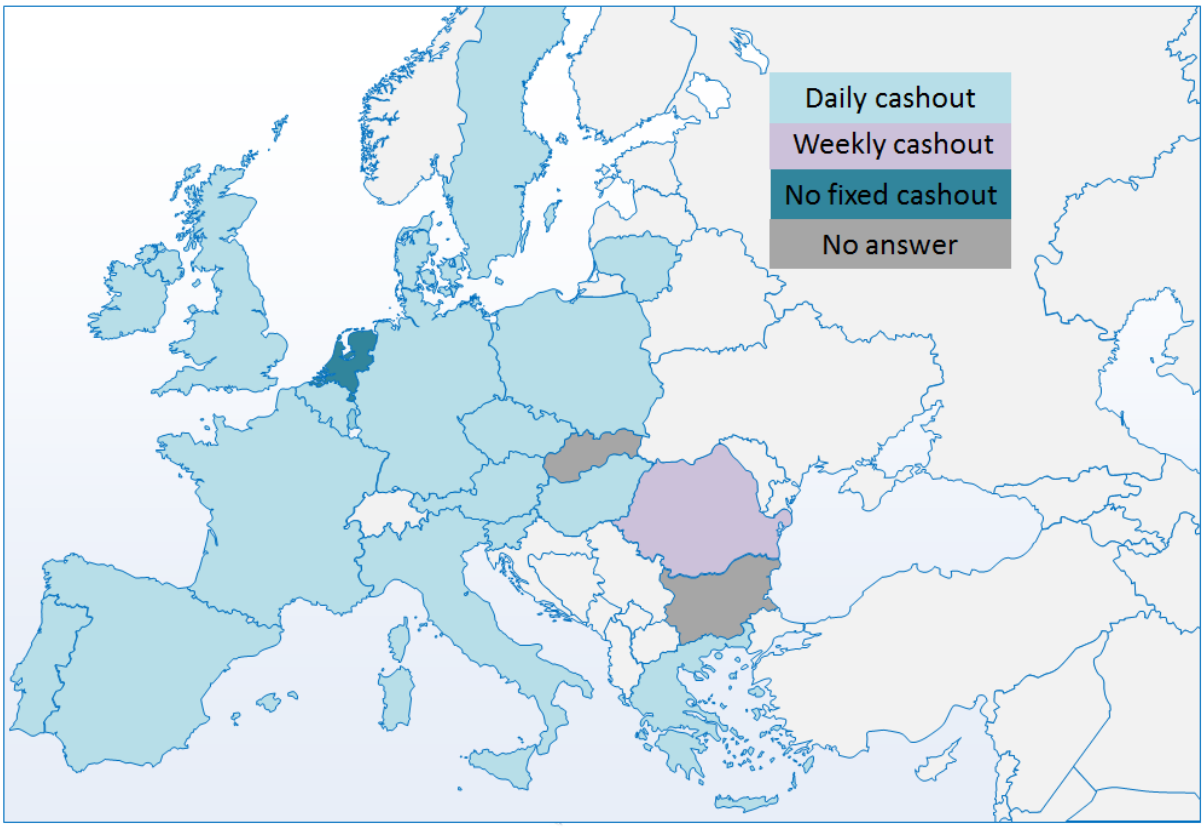
d) not result in Network Users' excessive financial exposure to Daily Imbalance Charges.

4. *The value of the Small Adjustment may differ for determining the Marginal Buy Price and the Marginal Sell Price. The values of the Small Adjustment shall not exceed ten (10) percent of the Weighted Average Price unless the TSO concerned can justify otherwise to the competent national regulatory authority and have it approved pursuant to Article 27."*

2.3. Imbalance periods cash-out

Question 2.2.: *"What is the frequency with which network users imbalances are cashed out?"*

Figure: Overview of cash out periods in Europe



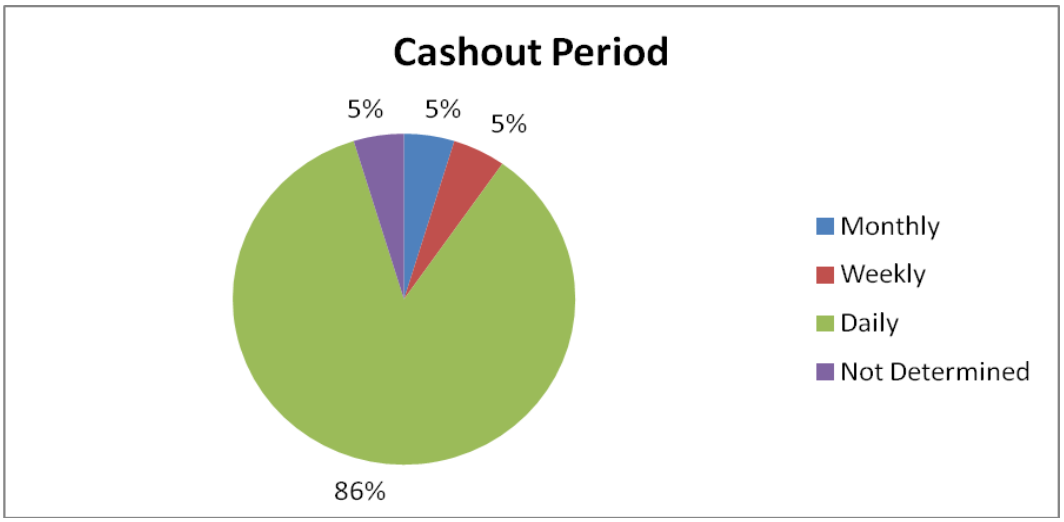
Type of respondents: Countries (answers collected by ACER).

Notes:

– The Netherlands have no fixed cash-out period.

– The answers represent the settlement period and not the invoicing period.

Figure: Cash-out Periods



Type of respondents: Countries (collected by ACER).

Observations:

The majority of countries apply daily cash-out periods even though a number of TSOs invoice the network users on a monthly basis.

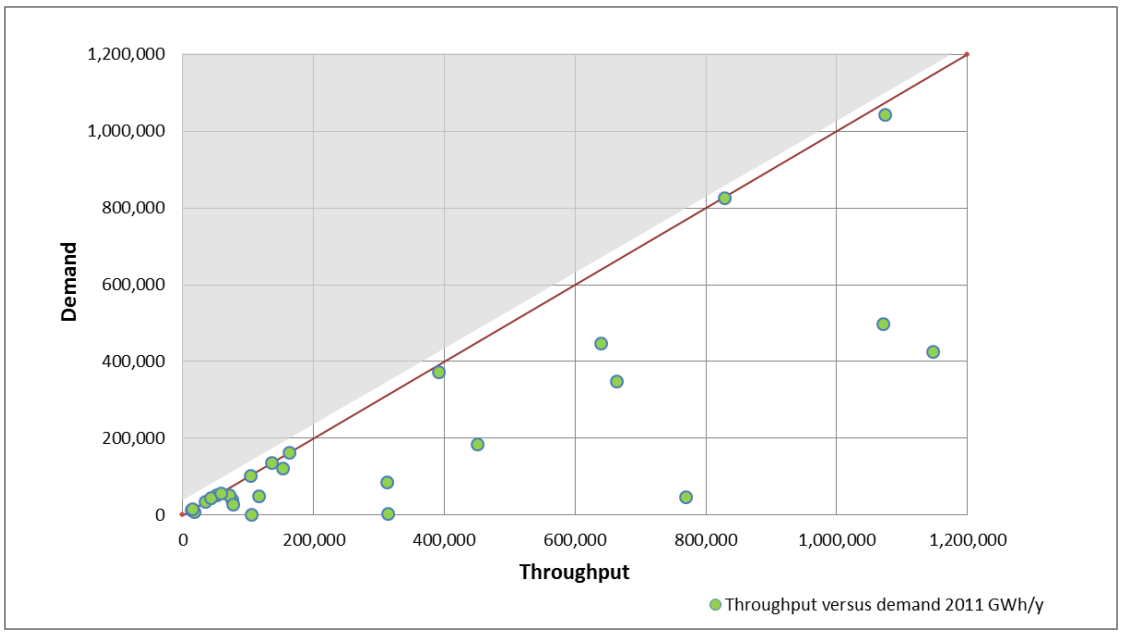
The Balancing network code prescribes a daily Balancing Period to be applied in all European countries (Article 26):

"Network Users shall be bound to pay or entitled to receive (as appropriate) Daily Imbalance Charges in relation to their Daily Imbalance Quantity for each Gas Day."

2.4. Throughput Versus Demand 2011

Question 2.3.: "*What was the system throughput and demand in your system in the year 2011?"*

Figure: Throughput versus Demand



Type of respondents: TSOs (answers collected by ENTSOG).

Notes:

– The red line demonstrates where demand equals throughput.

– The underlying assumptions for the calculation of demand (domestic) may vary somewhat in the answers to the questionnaire.

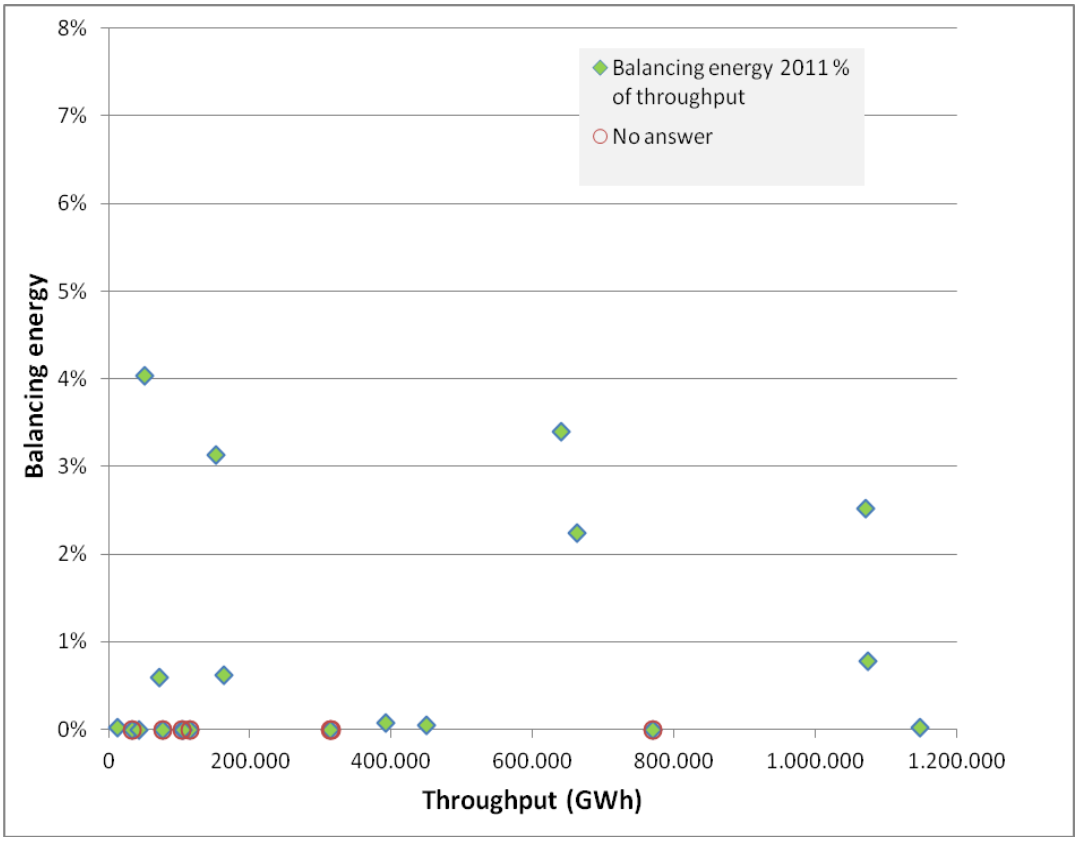
Observations:

The graph indicates that there is a high level of diversity in terms of scale and level of both transit and national demand across Europe. Although there are significantly different levels of use and consumption of gas, the Balancing Network Code applies to all European networks.

2.5. Balancing Energy

Question 2.6: "*What quantity of gas was necessary for balancing purposes in the year 2011?"*

Figure: Balancing Energy required per Throughput



Type of respondents: TSOs (answers collected by ENTSOG).

Eur/MWh

Observations:

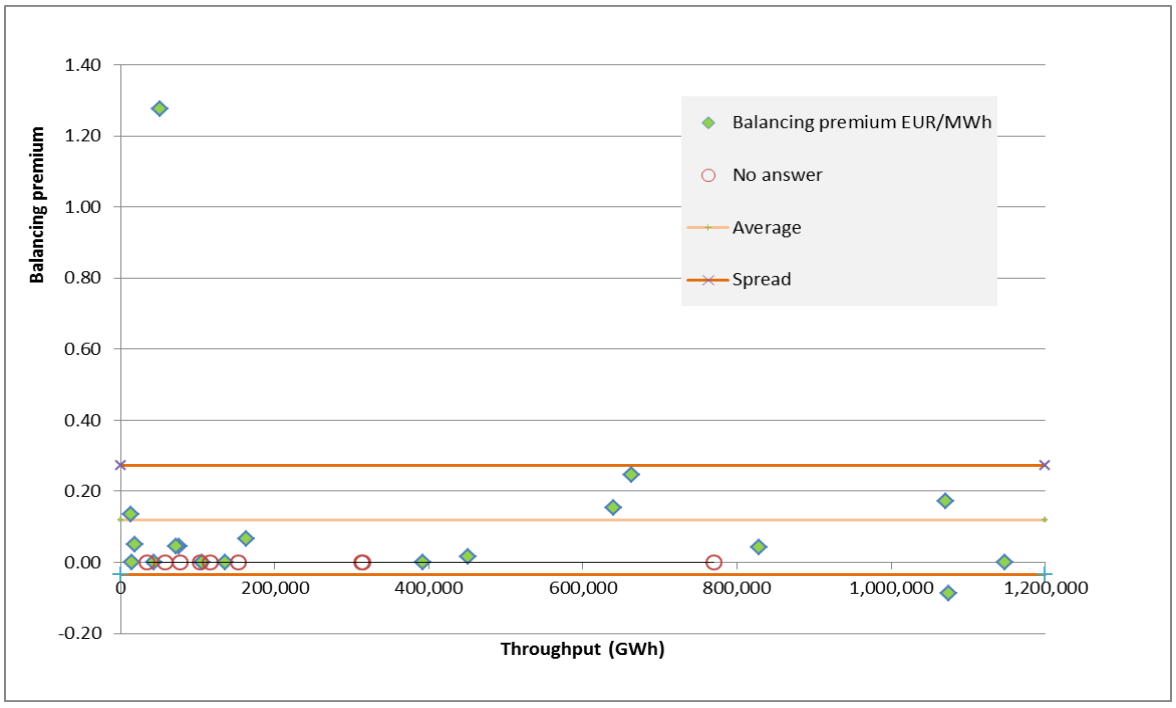
TSOs use different levels of energy to balance the systems in comparison to their throughput. While harmonised market arrangements are likely to lead to bring transmission networks closer together, the differing physical and market characteristics of each grid means they will never fully converge.

2.6. Balancing Premium

Question 2.5.b: "*What were the costs associated with TSO balancing actions and related service provisions (e.g. storage services) in the year 2011?"*

An analysis of the answers based on absolute costs would not be meaningful, as systems differ significantly in size and throughput. Instead the concept of a "balancing premium" is introduced. The balancing premium, in this context, is the average balancing cost the TSO incurs for each unit of energy transported.

Figure: Balancing premium versus throughput



Type of respondents: TSOs (answers collected by ENTSOG).

Notes:

– In the map above Balancing Premium is Euros divided by MWh.

– Most TSOs gave the total costs for their balancing actions in 2011. Where the TSOs didn't provide the information, in general the TSO didn't have this information available.

– Balancing premium for one TSO based on estimate.

Observations:

The graph provides an indication of the premium that is needed to cover the balancing costs of the TSO. This graph demonstrates that in relative terms the cost for

balancing, expressed per unit of throughput, is relatively modest. While harmonised market arrangements are likely to close the gap between transmission networks, the differing physical characteristics and rules for each network, means they won't perfectly converge.

5.

- The spread is partly caused by throughput
- If the cost of balancing with throughput is compared, then:
    - TSOs have a similar cost per transported MWh.
    - a high absolute cost is mainly triggered by a high throughput.
- The costs for TSOs' balancing energy are relatively low
    - on average less than 0.5% of the value of gas transported

3. WITHIN DAY OBLIGATIONS

3.1. Overview of countries applying WDOs in Europe Question 3.1.: *"Are there WDOs in place in your country?"*

Figure: Use of Within Day Obligations

Type of respondents: Countries/TSOs (answers collected by ACER and ENTSOG).

Note: Interconnector UK is not depicted on the map, but apply Within Day Obligations.

Observations:

The graph illustrates that five countries plus Interconnector UK that are using Within Day Obligations, or six overall. The TSOs applying Within Day Obligations highlight a number of reasons for applying this mechanism:

- It encourages shippers to nominate as close as possible to costumer consumption.
- The linepack buffer is not able to absorb expected imbalance on a daily basis.
- There are no other means to control gas consumption.
- It reduces the impact of big industrial consumers (power stations) on the integrity of the network.
- It prevents abuse of the Balancing System.

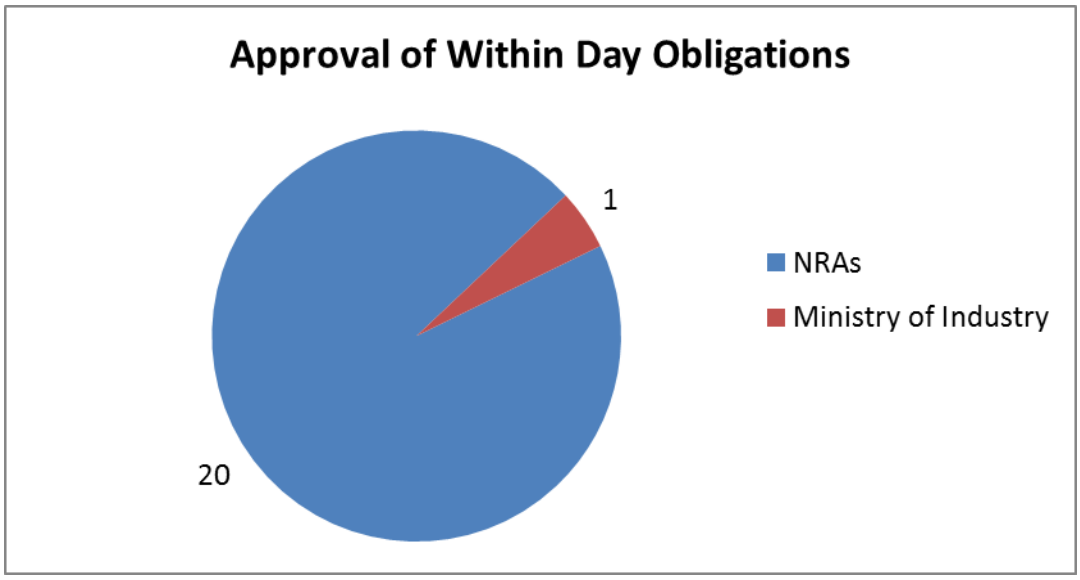
None of the balancing regimes have entry-exit type within-day obligations. If this type of WDO will be introduced in one of the regimes, it is likely to have a cross-border effect, for example to put a price on flexible gas that is imported between a system with daily nominated flows and one that has hourly nominations.

The Balancing Network Code describes three different types of Within Day Obligations that all serve the purpose of incentivising the Network Users to act in a certain way to help ensure system integrity. Within these descriptions can be found a detailed procedure for how to implement the Within Day Obligations, the NRA decision making process and the treatment of existing Within Day Obligations.

3.2. Relevant authority to approve WDOs

Question 3.3.: *"Who is the relevant authority to approve WDO's?"*

Figure: WDO Approval Authority



Type of respondents: Countries/TSOs (answers collected by ACER and ENTSOG).

Note: Estonia, which is not included in this analysis, is regulated by the national competition authority.

Observations:

Of the 24 countries in this the survey, 23 will have their (potential or real) WDOs approved by their NRA. 1 country requires approval from the Ministry of Industry. This demonstrates that almost all countries will need involvement of the NRA if or when a WDO is to be approved and implemented.

3.3. Charges associated with WDOs

Question 3.6.: *"If WDOs are in place, what charges are associated with the WDO?"*

Figure: WDO Charging Mechanisms

Charging mechanism for WDOs	Description
Belgium	A Balancing Action is taken by the TSO when the WDO were not fulfilled. In order to cover this Balancing Action TSO will enter into a transaction. The price for this transaction will serve to determine the settlement price which is used for the Within-Day Charge. The within-day charge will be applied on Network Users who contribute to the market imbalance which caused the Balancing Action taken by the TSO. This means that the Network Users that caused the balancing action will bear the costs.

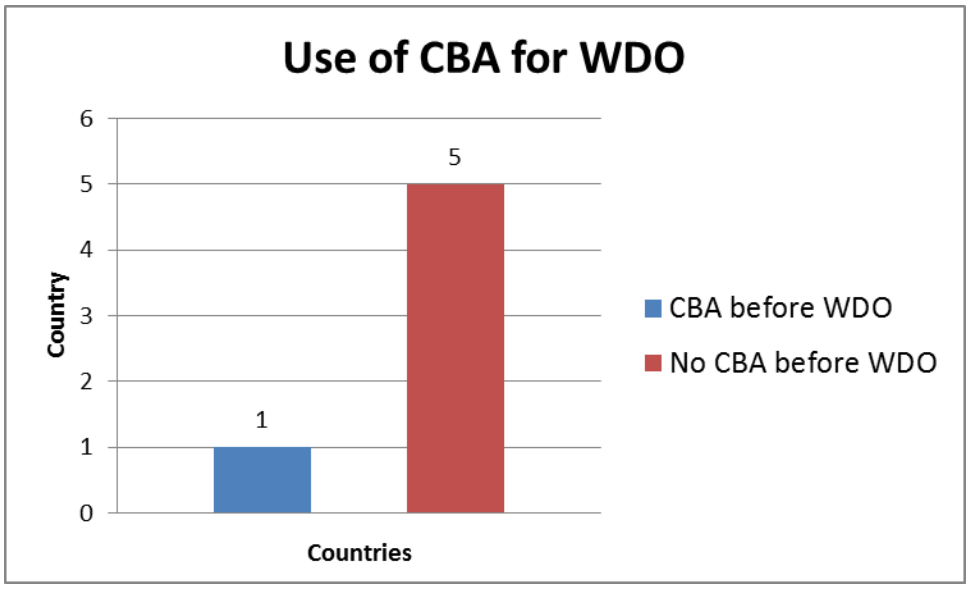
Luxembourg	Portfolio type WDO both on hourly imbalance and cumulative imbalance. Progressive charges based on administered price.
Germany	Structuring fee (charges on hourly imbalances) between respectively 10% and 20% (Gaspool market area sell and buy) and of 15% (Netconnect Germany market area) per hour on the mean of the positive and negative imbalance price of the gas day. Imbalance price is based on a price basket containing daily day-ahead reference prices of the exchanges EEX/NCG, EEX/Gaspool and others.
Interconnector	Portfolio type WDO on cumulative imbalance, tolerance depending on system throughput. There are no charges and network users are asked to change their flows if cumulative imbalances become too large. The TSO can change nominations as a last resort.
The Netherlands	Same as Belgium
Austria	The market area manager nets volumes nominated for each balance group and inform the balance responsible parties of any imbalances over the day. Should the relevant balance responsible party fail to renominate and thereby eliminate daily imbalances in the balance group, gas will purchased or sold at the virtual trading point by the Market Area Manager on behalf and for account of the balance responsible party, at the best available purchase/selling price at that time. The market area manager collects a balancing incentive mark-up (structuring fee) from the balance responsible parties to cover for within-day balancing of the hourly imbalances in each balance group.

Type of respondents: Countries (answers collected by ENTSOG).

3.4. Cost benefit analysis on WDOs.

Question 3.8.: *"Was a cost benefit analysis conducted before the introduction of the specific WDO?"*

Figure: Use of CBA for WDO Implementation



Type of respondents: Countries (answers collected by ENTSOG).

Observations:

1 out of the 6 Countries applying WDOs[9] performed a cost benefit analysis (CBA) before introducing the WDO. The conclusion of this analysis of the TSO using a CBA, showed that it would be most efficient if the Network User were responsible of balancing the system. Other TSOs did not perform a CBA before WDOs referring to the fact that it was not required.

The Balancing Network Code contains a specific requirement for the NRAs to assess that the WDO meet a number of criteria. This also means that the WDO in question shall respect the following (Article 32.2.f.):

"[...] the benefits of introducing a Within Day Obligation in terms of economic and efficient operation of the transmission network outweigh any potential negative impacts thereof, including hub liquidity."

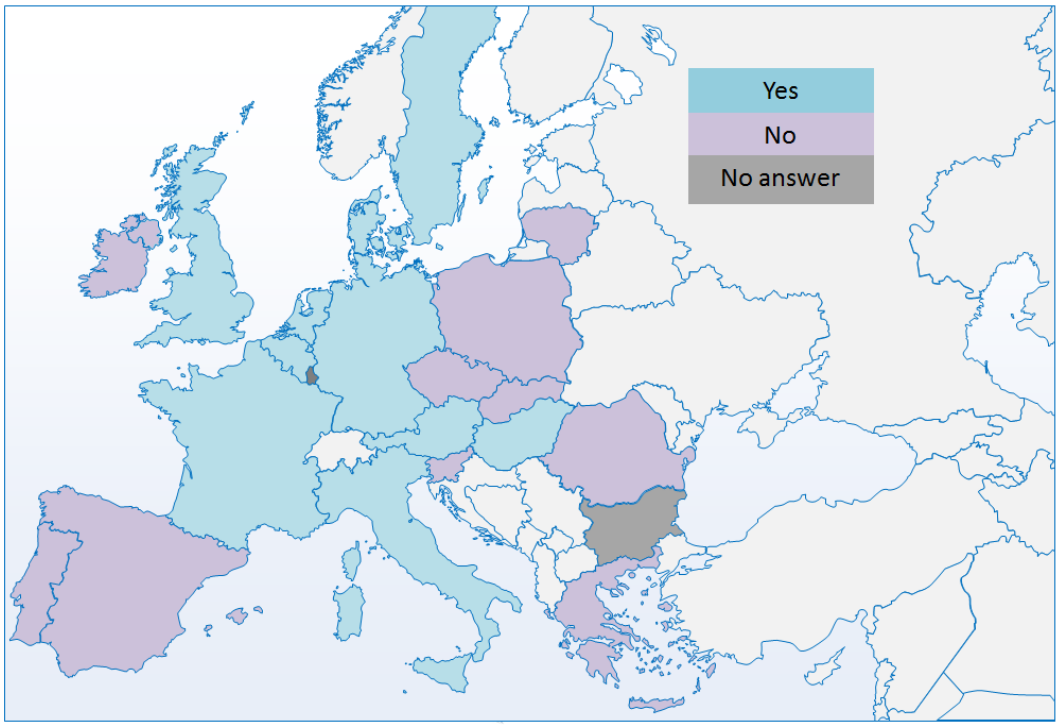
4. SHORT TERM STANDARDISED PRODUCTS

4.1. Availability of Short Term Standardised Products

Question 4.1.: *"Do you have standardised short term products for trading flexible gas? If yes, please describe them shortly and how they are traded."*

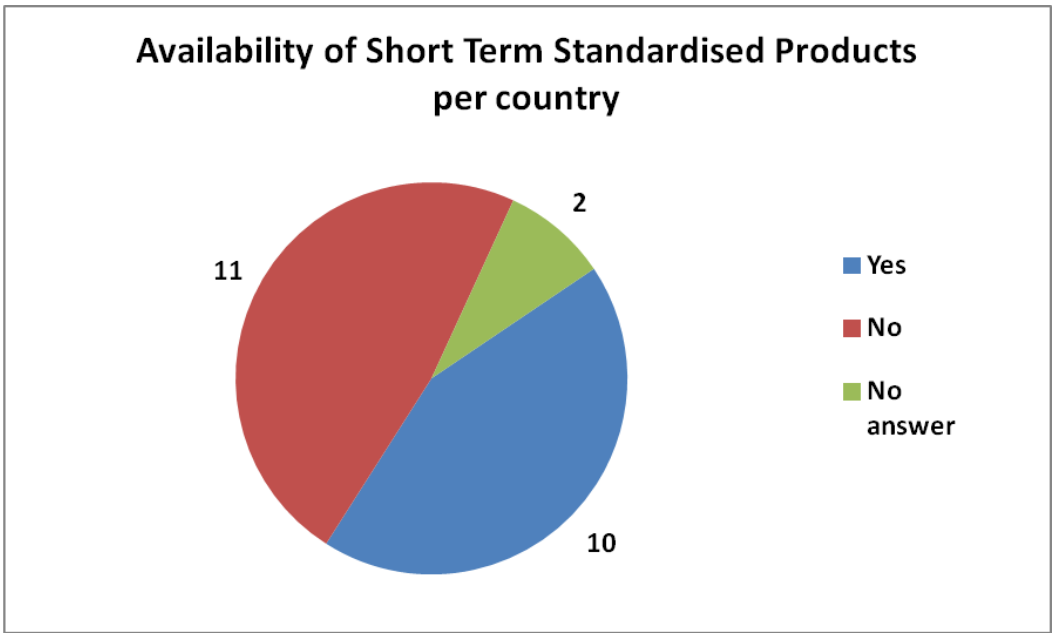
Figure: Availability of Short Term Standardised Products

[9] System and Portfolio Within Day Obligations only



Type of respondents: Countries (answers collected by ACER).

Figure: Availability of Short Term Standardised Products



Type of respondents: Countries (answers collected by ACER).

Observations:

The graphs show that the number of countries having access to Short Term Standardised Products (STSP) for trade is evenly split. From the results of the survey

the STSPs currently available typically consist of both day-ahead and within-day Title Products and in some cases Temporal products.

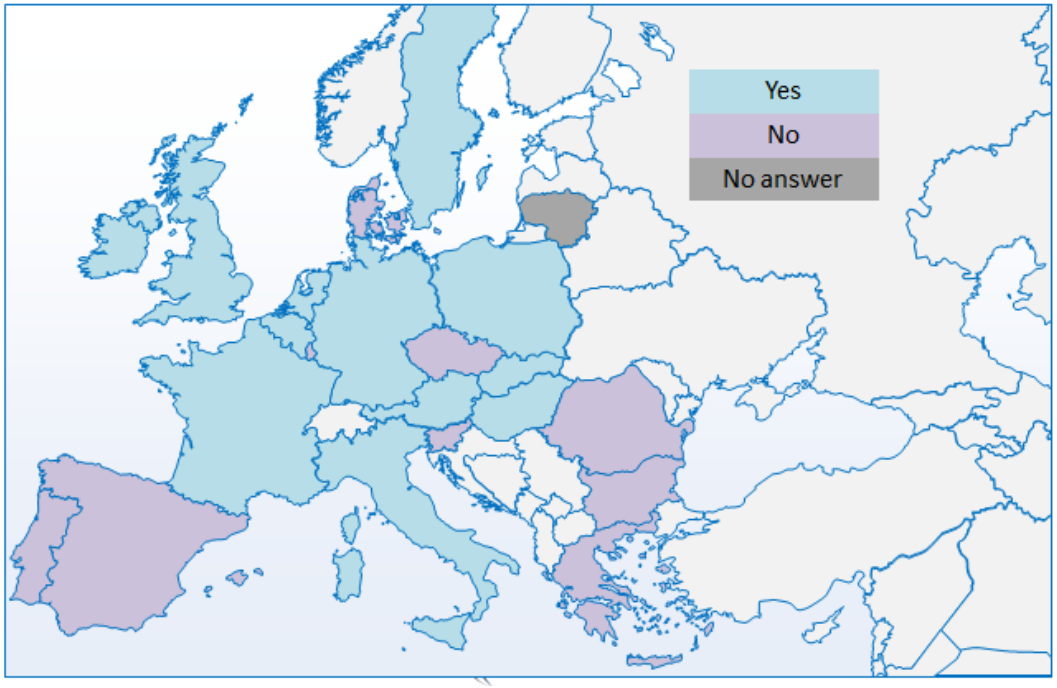
The Balancing Network Code provides several features regarding trading on the short term market (Article 14 and 15):

Article 15 outlines four Standardised Short Term Products, whereas Article 14 asserts that: *"The TSO shall endeavour to ensure that the criteria set forth in Article 14(1) are met on at least one (1) Trading Platform."* It also states that "*where the requirements set out in Article 14(2) cannot be fulfilled, the relevant TSO shall take the necessary measures towards the establishment of a Balancing Platform as set forth in Article 49*."

4.2. TSO Use of Short Term Standardised Products to procure balancing gas

Question 4.3.: *"Does the TSO have access to any form of market or platform to take any individual balancing actions? If yes, please describe shortly."*

Figure: TSO use of Short Term Standardised Products in Europe



Type of respondents: TSOs (answers collected by ENTSOG).

Note: The above map also includes cases where the TSOs use STSPs in other Balancing Zones.

Observations:

Approximately half of the TSOs are using STSPs as a source of flexible gas.

- Balancing Platforms or Trading Platforms are used to source this flexible gas.
- The TSOs all belong among those countries in 6.1 where there is access to Short Term Standardised Products.
- The TSOs apply STSPs to different extents, with the balance of their requirements met by the use of Balancing Services.
- The TSOs that do not use STSPs, utilize Balancing Services for the purpose of balancing.

The Balancing Network Code outlines a merit order that dictates the use of STSPs (Article 13) and rules for incentives (Article 17):

Article 13 Merit order:

"Subject to the principles set forth in Article 12(5), when deciding upon the appropriate Balancing Actions to undertake, the TSO shall prioritise the use of Title Products where and to the extent appropriate over any other available Short Term Standardised Products."

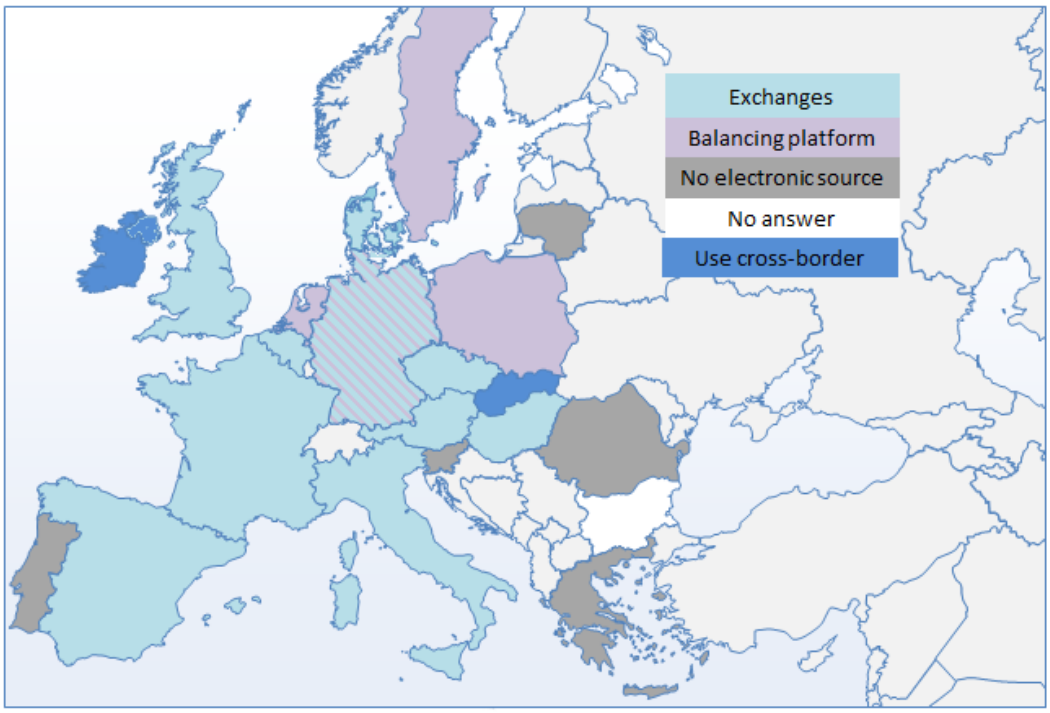
Article 17 Incentives

"The relevant national regulatory authority may incentivise the TSOs to promote the TSO's efficient undertaking of Balancing Actions and/or to maximise the undertaking of Balancing Actions through the trade in Short Term Standardised Products, in order to foster the Liquidity of the Short Term Wholesale Gas Market."

4.3. TSO access to market or platform

Question 4.2.: *"Does the TSO have access to any form of market or platform to take any individual balancing actions?"*

Figure: Means to access STSPs



Type of respondents: TSOs (answers collected by ENTSOG).

Notes:

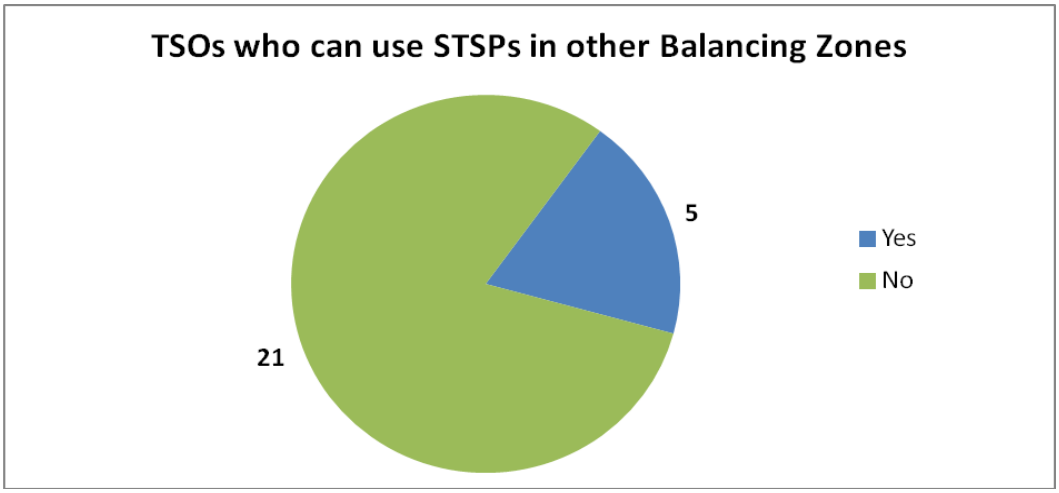
– Germany has access to both exchanges and balancing platform

– No electronic source means that the TSO does not

4.4. TSO use of STSPs outside Balancing Zone

Question 4.4.: *"Does the TSO have access to any sources of flexibility outside of its e/e zone (e.g. another hub, storage)?*

Figure: TSO use of Short Term Standardised Products in other Balancing Zones



Type of respondents: TSOs (answers collected by ENTSOG)

Observations:

The graph shows that just 4 TSOs use or can use Short Term Standardised Products outside their own Balancing Zone. The Balancing Network Code provides speicific provisions on the TSOs use of Short Term Standardised Products outside their Balancing Zone (Article 13.3):

"If prices in the adjacent Balancing Zone are frequently more favourable than those in the TSO's own Balancing Zone(s) then the TSO may seek approval from its own national regulatory authority to trade and have the gas transported to and from such an adjacent Balancing Zone as an alternative to trading Title Products and/or Locational Products in its own Balancing Zone(s).

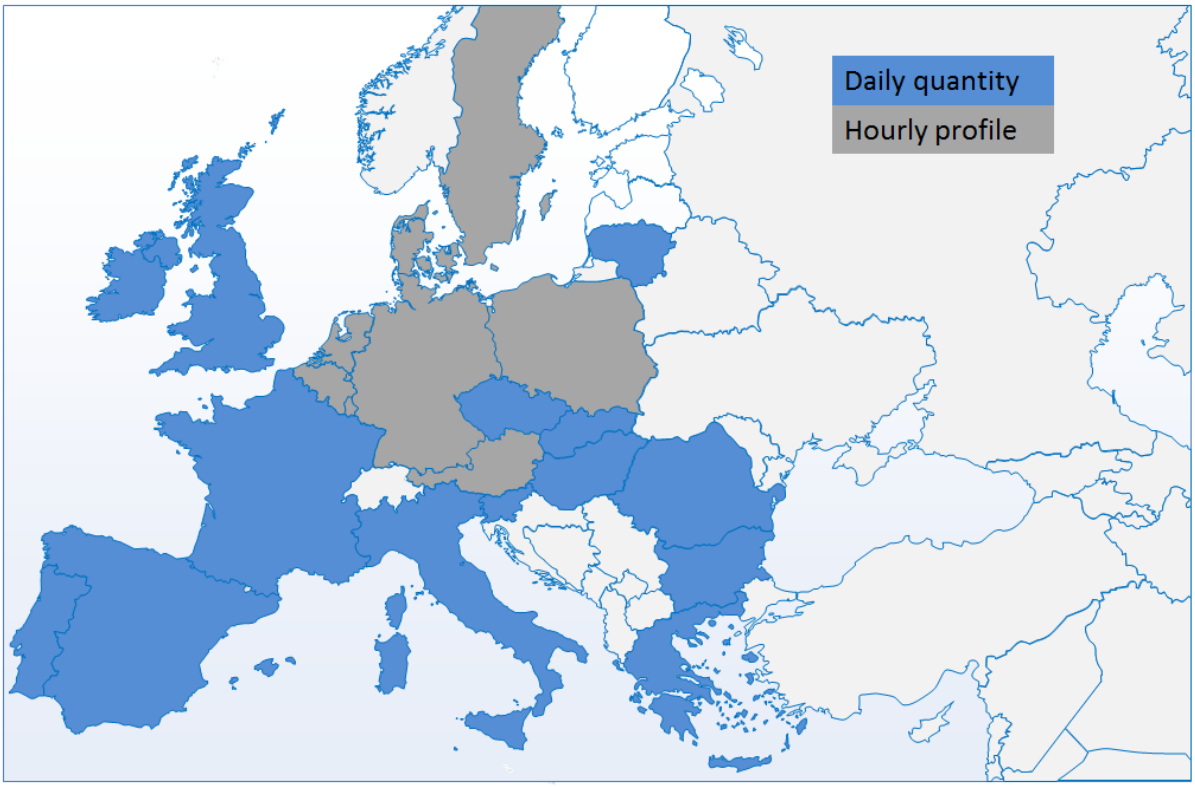
When deciding on granting the approval the national regulatory authority may consider alternative solutions to improve the functioning of the domestic market. The applicable terms and conditions shall be reconsidered on an annual basis by the TSO and the national regulatory authority. The use of this Balancing Action shall not limit the access and use by the Network Users of capacity at the Interconnection Point concerned."

5. NOMINATIONS

5.1. Use of Daily / Hourly Profile in Nominations

Question 5.2.: *"Are (re) nominations defined at a daily level? Do (re)nominations require sub-daily profile information?*

Figure: Use of Daily and Hourly Quantities in Nominations



Type of respondents: TSOs (answers collected by ENTSOG).

Observations:

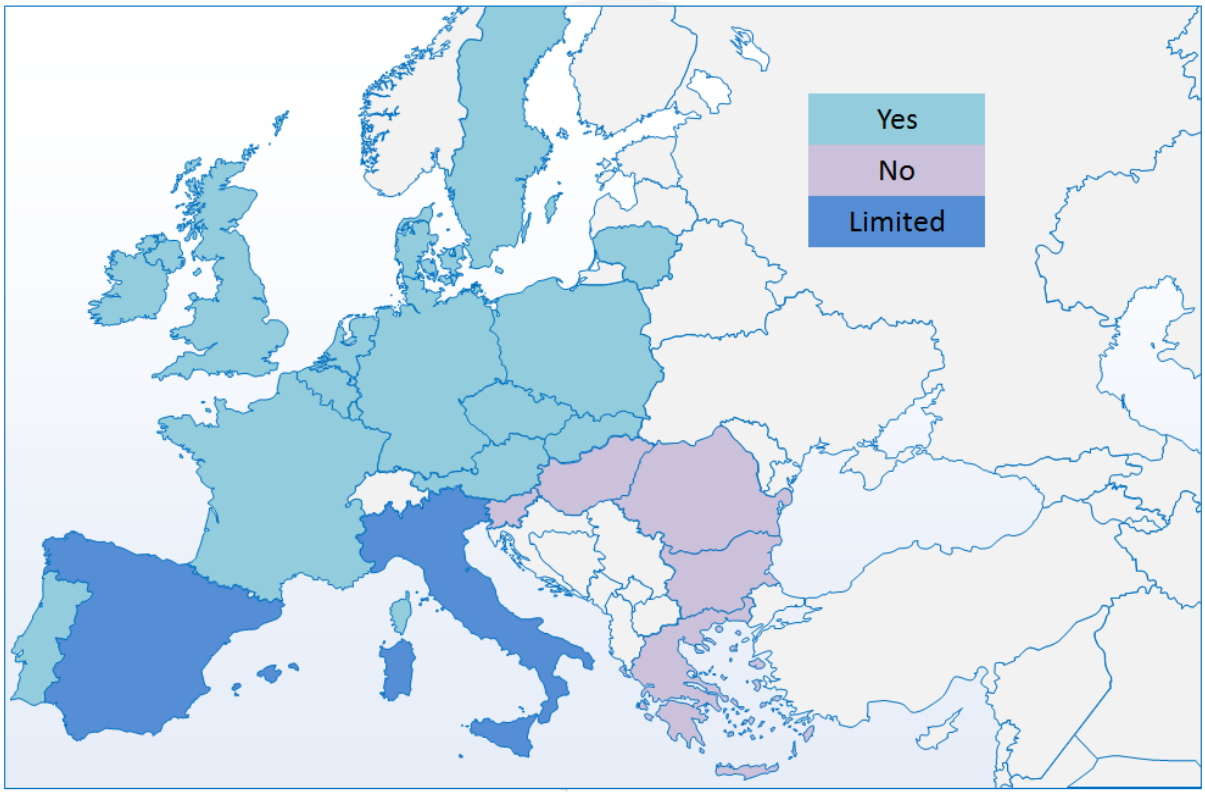
All systems require a nomination for a Gas Day. Some systems require this information at an hourly level and others at a daily level. The Balancing Network Code contains specific measures on this (Article 22):

"Where daily and hourly nominations (respectively re-nominations) co-exist at an Interconnection Point, the relevant TSOs or national regulatory authorities (as appropriate) may consult the relevant stakeholders for the purpose of identifying whether harmonised nominations (respectively re-nominations) should be submitted at both sides of this Interconnection Point."

5.2. Renomination facilities in place

Question 5.3.: *"Can network users submit a (re)nomination that defines different flow rates after a (re)nomination becomes effective?"*

Figure: Overview of availability of continous renominations in Europe

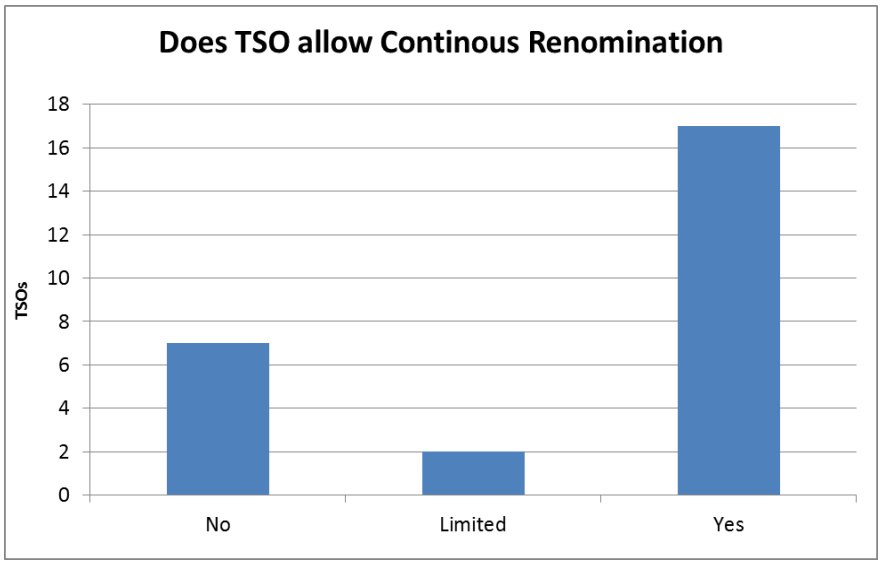


Type of respondents: TSOs (answers collected by ENTSOG).

Notes:

– "Limited" in the above refers to where Network Users are permitted a fixed amount of re-nominations.

Figure: Summary of renomination processes



Type of respondents: TSOs (answers collected by ENTSOG).

Observations:

Approximately just over half of TSOs currently offer Network Users the ability to continously renominate their Inputs and Offtakes at an Interconnection Point[10].

For the remaining TSOs:

- In the majority, re-nominations by Network Users are not permitted.
- For those left, re-nominations are allowed but are limited (for example one oppportunity)

The Balancing Network Code contains specific measures on nominations regarding the Re-nomination procedure at Interconnection Points (Article 21):

"Network Users may submit re-nominations within the re-nomination period which starts immediately after the Confirmation Deadline and ends no earlier than three (3) hours before the end of Gas Day D. The TSO shall start a Re-nomination Cycle at the start of every hour within the re-nomination period."

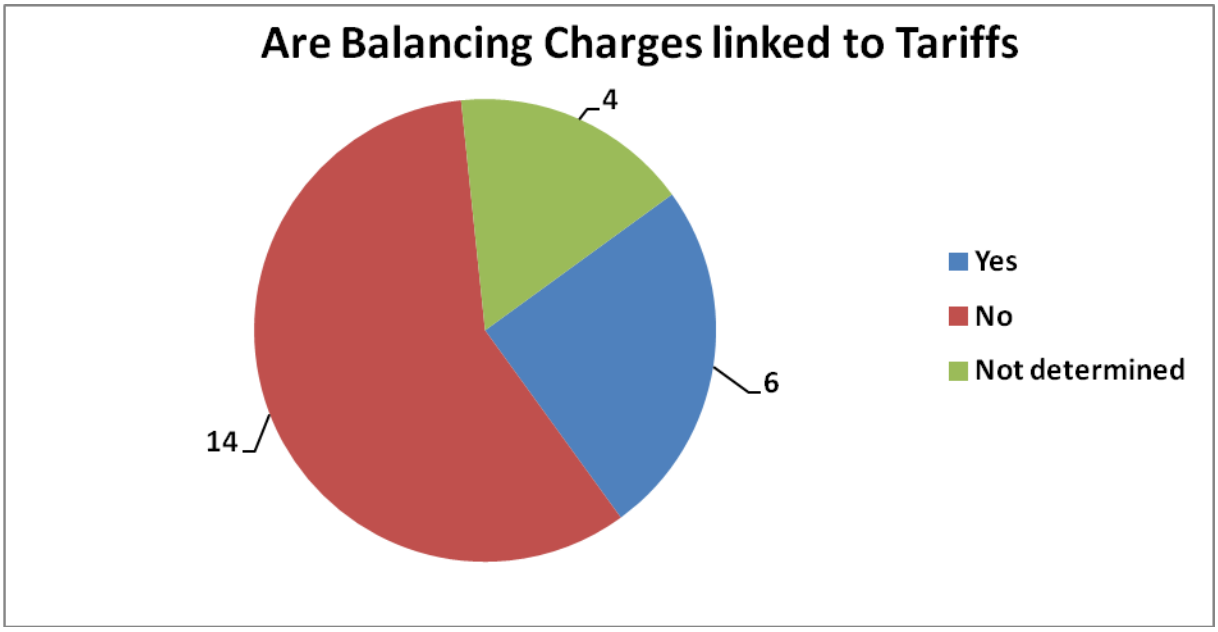
6. NEUTRALITY

6.1. Balancing charges via Tariffs

Question 6.2.: *"Are there any interactions between the balancing neutrality mechanism and the transmission tariffs in your country? If yes, please shortly describe how they interact."*

Figure: Link between Balancing Charges and Tariffs

[10] The term continuous means a Re-Nomination Cycle commences each hour.



Type of respondents: Countries (answers collected by ACER).

Observations:

More than half of the respondents responded that there are no interactions between tariffs and neutrality mechanisms. Transmission fees and balancing charges are thus billed separately.

The Balancing Network Code contains some relevant provisions in the article 26 concerning Balancing Neutrality Cash Flows (Article 26):

"The apportionment of Balancing Neutrality Charges to a Network User shall be related to the extent this Network User makes use of the relevant Entry and/or Exit Point(s) concerned or the transmission network under the related methodology. […} Balancing Neutrality Charges shall be identified separately when invoiced to Network Users and this invoice shall be accompanied by sufficient supporting information defined in the methodology referred to in this article."

6.2. TSOs who gain or lose from balancing activities

Question 6.3.: "*Does the TSO stand to directly gain or lose from the costs of its Balancing Actions?"*

Observations:

All TSOs' balancing regimes suggested that the TSO would not be able to either gain or lose money through balancing activity. The TSOs were to be cost-neutral and would not in the current balancing regimes have the possibility to make a profit or incur losses through Balancing Actions.

The Balancing Network Code outlines the following principles regarding the neutrality mechanism (Article 35):

"The TSO shall not gain or lose by the payment and receipt of Daily Imbalance Charges, Within Day Charges, Balancing Actions charges and other charges related to its Balancing Activities." […} Therefore, the TSO shall pass to Network Users:

a) any costs or revenues arising from Daily Imbalance Charges, Within Day Charges and other charges related to its Balancing Activities; and

b) Efficiently Incurred Costs and Revenues.

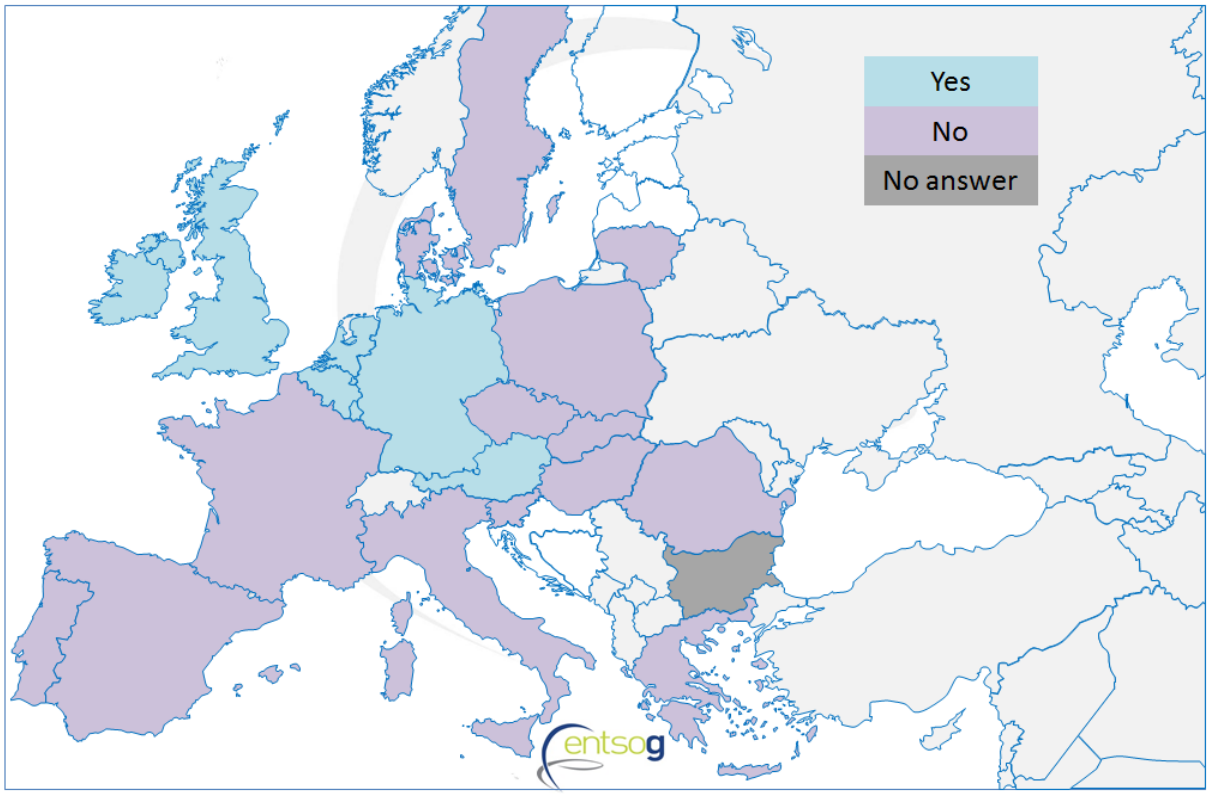
Where 'Efficiently Incurred Costs and Revenues' means all costs and revenues arising from the TSO's Balancing Actions undertaken in accordance with Article 13, unless an appropriately educated, experienced and trained party would consider these costs and revenues as incurred inefficiently having assessed the prevailing circumstances at the time the TSO decided on a Balancing Action."

7. INFORMATION PROVISION

7.1. NDM Offtakes Forecast Provided to Network User

Question 7.1.: *"What information do users receive from the TSO or elsewhere on their individual balancing (or portfolio) positions?"*

Figure: Provision of individual forecast information on NDM Offtakes to Network Users



Type of respondents: Countries (answers collected by ACER).

Observations:

The majority of countries do not provide individual forecasts of NDM consumption to Network Users.

The Balancing Network Code sets out three different information models for providing forecast information on NDM Off-takes (Article 40 (iv)).

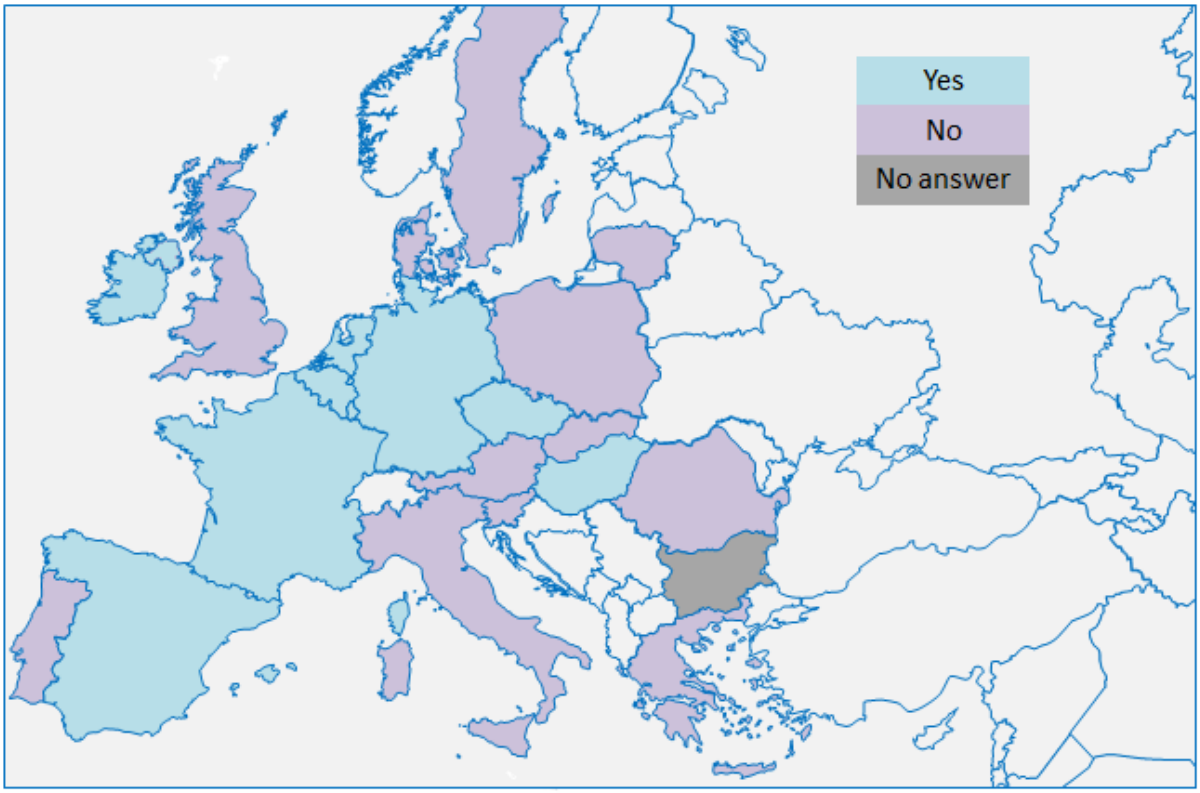
It equally provides a methodology based on a statistical demand model (Article 43): *"The Non- Daily Metered Derived Forecast methodology shall be based on a statistical demand model, with each Non Daily Metered Off-take assigned with a load profile, i.e. a formula of the variation in gas demand versus variables such as temperature, day of week, customer type and holiday seasons. The methodology shall be subject to consultation before its adoption."*

"A report on the accuracy of the Non Daily Metered Derived Forecast shall be published by the Forecasting Party at least every 2 (two) years."

7.2. Portfolio Specific Offtake Metering Information Within Day

Question 7.1.: *"What information do users receive from the TSO or elsewhere on their individual balancing (or portfolio) positions?"*

Figure: Availability of Network User Intra Day Meter readings within Day (aggregate or individual)



Type of respondents: Countries (answers collected by ACER).

Observations:

Within day metering information on larger meter points is available in some countries and not in others.

The Balancing Network Code sets out specific requirements on this matter (Article 40):

(i) Intraday Metered Inputs and Off-takes with Allocation equal to Confirmed Quantity:

"For those Intraday Metered Inputs and Off-takes to the Balancing Zone where a Network User's Allocation equals its Confirmed Quantity, the TSO shall not be obliged to provide information other than the Confirmed Quantity."

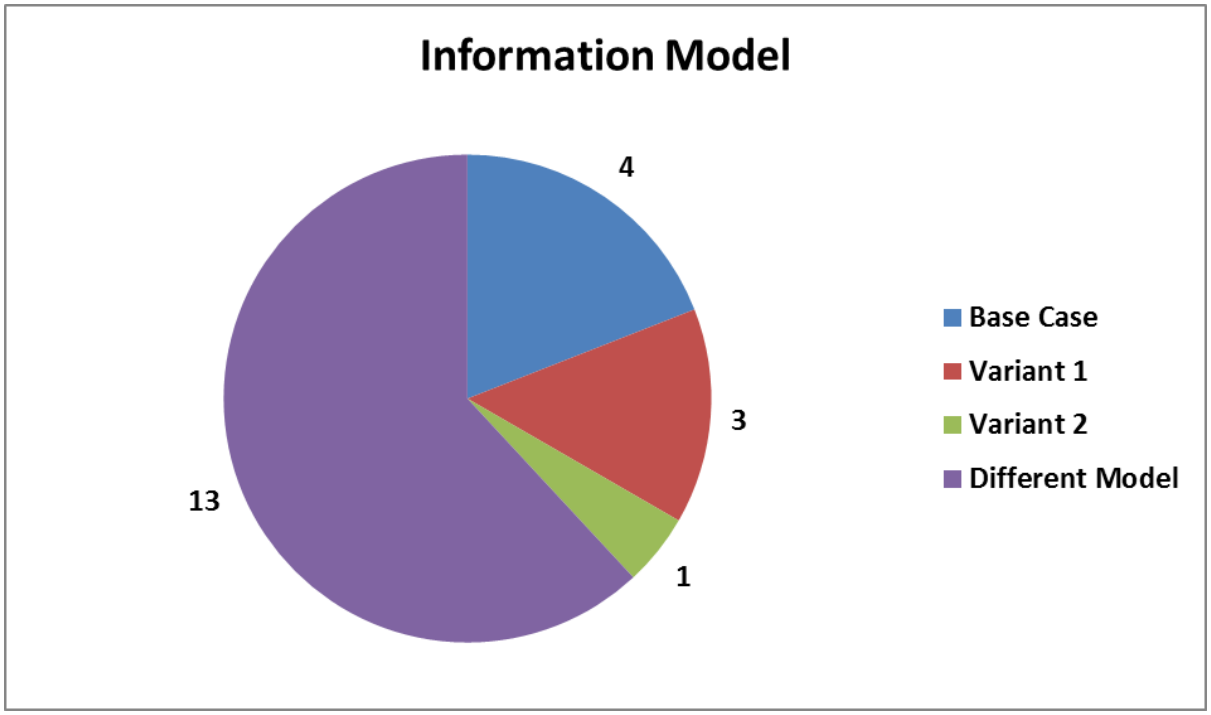
(ii)Other Intraday Metered Inputs and Off-takes:

On Gas Day D, the TSO shall provide Network Users with a minimum of two (2) updates of their measured flows for at least the aggregate Intraday Metered Inputs and Off-takes other than those covered under Article 40(i)(1) from either of the two (2) options as decided by the TSO

7.3. Information Model in use

Question 7.1.: *"What information do users receive from the TSO or elsewhere on their individual balancing (or portfolio) positions?"*

Figure: Information Model in place



Type of respondents: Countries (answers collected by ACER).

Notes:

– The assessment of whether a country has one of the three models set out in the Balancing Network Code has been done based on a desktop assessment of questionnaire responses. It is not an ENTSOG view of whether a country is compliant with the Balancing Network Code or not.

Observations:

The majority of Member States do not have an information model in place which meets the requirements of the Balancing Network Code.

The network code sets out detailed information models for TSOs to provided Network Users with information on their Portfolio Inputs and Offtakes in chapter IX on Information Provision(Articles 38-43).

End of Report