

BAL NC Monitoring Report

2016

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PART I

Second ENTSOG Monitoring Report on Implementation of Balancing Network Code



Executive Summary

The document represents the second ENTSOG Monitoring Report on the implementation of the Balancing Network Code (Report) with the aim of monitoring the status of NC BAL implementation in the EU by 1 October 2016.

Both ACER and ENTSOG are required to publish monitoring reports – on implementation as well as on effects of the network codes. ENTSOG has aimed for producing reports which can be considered supplementary to ACER's reports.

Out of 28 EU Member States, the Report evaluates 25 countries, including Estonia (AT, BE/LU, BG, CZ, DE, DK, EL, ES, FR, HU, HR, IE, IT, LT, NL, PL, PT, SE, SI, SK, RO, UK-GB and UK-NI).

Four countries (Cyprus, Finland, Latvia and Malta) were excluded due to the derogation held meaning that the application of the NC BAL (Code) is not mandatory. UK is mentioned as UK-GB and UK-NI due to two different balancing regimes in place.

The Code foresees three implementation deadlines: 1 October 2015, 1 October 2016 and up to April 2019. For 10 countries (AT, BE/LU, DE, DK, FR, HU, NL, SI, UK-GB) the Code has been applicable already by 1 October 2015. For another five countries (CZ, ES, IT, HR, PT) applied the transitory period option until 1 October 2016, the deadline for full implementation of the Code has also passed by 1 October 2016.

Instead of full implementation, interim measures can be implemented for up to five years from the entry into force of the Code (i.e. until 16 April 2019). 11 countries including Estonia (BG, DE, EL, IE, PL, RO, SE, SK, SI, and UK-NI) applied for interim measures until April 2019.

Based on the provisions of Article 8(8) of Regulation (EC) no. 715/2009 which empower ENTSOG to monitor and analyse the implementation of the network codes the information provided by the TSOs shows in general, a shift can be observed from the planning to implementation phase, particularly for countries applying interim measures and transitory period option, but changes have also been observed in the balancing regimes which has been implemented the Code in 2015.

It accounts for the obligatory (annual) reviews, the implementation deadline of 1 October 2016 for countries applying for the transitory period option as well as the changes due to the ongoing implementation of BAL NC provisions.

- ▲ TSOs were also observed to have improved in fulfilling and/or exceeding transparency obligations towards network users for better balancing of portfolios.
- ▲ A change towards the usage of another trading platform for balancing purposes has been reported by one country. The trading platform as well as the plan to implement one directly instead of the interim measure in place was also reported. Delays in implementing trading platforms were observed in two countries applying transitory period.
- ▲ 17 countries indicated having implemented the merit order in accordance with Art. 9 with STSPs in first place of the merit order. The decision process for implementing STSPs and/or balancing services was finalised in many countries by 1 October 2016. One country indicated that it no longer offered any balancing services. Two other countries reported a change to the merit order due to introduction of different products for emergency cases. The annual review of balancing services was confirmed by ten of 15 countries who reported performing balancing services in their current merit order.
- ▲ The information provisions according Art. 32 BAL NC (3 types of information) are provided by 19 countries and partially by five countries.
- ▲ Information model: The on-going implementation regarding the provision of information on forecasts, updates and allocations can be noticed as several updates or new implementation have been reported by different countries by 1 October 2016. For example, some countries provide more frequent updates than the minimum foreseen by BAL NC whereas some other countries have still not designated an information model and/or the forecasting party.
- ▲ The cost benefit analysis (CBA) deadline regarding the information provisions passed in April 2016. Most countries indicated a CBA was currently in progress or being postponed into the future. Nevertheless the implementation or the improvement of information provisions was reported in several countries.
- ▲ 14 countries reported the implementation of daily imbalance charge provisions while three countries partially implemented them. In one country the methodology is still under development. Three other countries reported recently the application of an interim imbalance charge, so that in total eight countries applied this interim measure. Of them, seven countries stated that the interim imbalance charge was implemented by 1 October 2016 while one plans to implement it during 2017.
- ▲ 14 countries reported the implementation of the methodology for calculation of neutrality charges. Three countries have another approved neutrality mechanism in place which fulfils the principals of neutrality as foreseen in BAL NC. Another 6 countries have partially implemented the neutrality provisions while the methodology is still under discussion for two further countries.
- ▲ Of the five countries that have already implemented WDOs, one country stated a change in its WDO regime regarding the calculation of WDO charges. Another country is still planning the establishment of WDOs.
- ▲ Five countries reported to have already offered linepack flexibility service by 1 October 2016. Of these, one country has partially implemented the provisions. Of three countries that were discussing the introduction of the linepack flexibility service or foreseen before, only one chose to finally implement it.
- ▲ Of the eleven countries applying for interim measures, one country indicated having moved forwards from planned towards implementation of interim measures while another country postponed the implementation into 2017. Other countries reported having implemented additional interim imbalance charge since the previous report. Four countries updated and published the interim measure report.



1 Introduction and Purpose

NC BAL was published on 27 March 2014 and applies to balancing zones within the borders of the EU¹⁾.

It establishes rules for natural gas balancing, including network-related rules on nomination procedures, imbalance charges, settlement processes associated with daily imbalance charges and provisions on operational balancing. Its implementation shall also account for the specific nature of interconnectors.²⁾

For countries like Cyprus, Estonia, Finland, Latvia, Luxembourg and Malta that hold derogation on the basis of Article 49 of Directive 2009/73/EC, it is not mandatory to apply NC BAL.

In this implementation report ENTSOG continues to monitor the implementation of NC BAL by 1 October 2016 in accordance with Article 8(8) of Regulation (EC) No 715/2009. The results will be published in 2017 in the ENTSOG Annual Report 2016.

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

2) Recital (8) of BAL NC. Due to the specific nature of interconnectors, IUK and BBL implemented the BAL network code on an “in=out” principle, whereby a network user’s delivery nominations must equal its offtake nominations. As such, network users cannot be exposed to an imbalance and there is no need to take balancing actions. Therefore, many of the requirements of NC BAL do not apply. Where BAL does apply, e.g. relevant rules on nominations, IUK and BBL have taken all reasonable steps to ensure compliance with the requirements. This approach was approved by the relevant NRAs.

2 Information Sources and Data Collection

ENTSOG sent a questionnaire on implementation monitoring of NC BAL on 2 December 2016 to TSOs of the 22 EU countries (AT, BE, BG, CZ, DE, DK, EL, ES, FR, HU, HR, IE, IT, LT, NL, PL, PT, SE, SI, SK, RO, UK)³⁾ where the NC BAL applies and to those countries holding derogation on the basis of Article 49 of Directive 2009/73/EC (Cyprus, Estonia, Finland, Latvia, Luxembourg and Malta).

Voluntary responses were received from Luxembourg and a voluntary partial response from Estonia. Thus data has been gathered from a total of 25 countries including Estonia (AT, BE/LU, BG, CZ, DE, DK, EL, ES, FR, HU, HR, IE, IT, LT, NL, PL, PT, SE, SI, SK, RO, UK-GB and UK-NI). (Further details are provided in [Annex I, Table 1.1](#))

This report uses the information provided by TSOs in each EU country as a data basis. Some

TSOs indicated that their responses to the questionnaire were provided in cooperation with their respective NRA.

The following section presents the implementation status of NC BAL by 1 October 2016 and a summary of the main results. Specific comments and explanations are shown where relevant. Some more detailed information provided by the TSOs for each country is shown in the annexes to the report.

3) UK is mentioned as UK-GB and UK-NI due to two different balancing regimes.



3 Evaluation of Responses to Questionnaire

NC BAL (Code) has been applicable since 1 October 2015 but contains a provision allowing its application to be postponed until 1 October 2016 if allowed by the national regulatory authority ('NRA') following the TSO's justified request and in case that no interim measures are applied. For those countries the deadline for full implementation of the Code has also passed by 1 October 2016.

Instead of full implementation, interim measures can be implemented for up to five years¹⁾ from the entry into force of the Code (i. e. until 16 April 2019). Such interim measures must be applied consistently with the options laid down in Chapter X of the Code as well as the general principles of the Code, while all other provisions in the Code are to have been implemented by 1 October 2015.

Since the various gas networks and markets differ from each other in their characteristics, the adopted Code grants NRAs and TSOs with a high degree of flexibility in their national implementation.

For ten countries (AT, BE/LU, DE, DK, FR, HU, NL, SI, UK-GB) BAL NC was applicable by 1 October 2015, while five countries (CZ, ES, IT, HR, PT) made use of the transitory period option until 1 October 2016. Eleven other countries including Estonia (BG, DE²⁾, EL, IE, PL, RO, SE, SK, SI, and UK-NI) applied for interim measures until April 2019.

Different updates regarding the implementation of the provisions in the BAL NC by 1 October 2016 have been reported for all of the following chapters by the majority of countries. Further details are provided in this chapter of the report as well.

These updates should also be seen in the context of key challenges and solutions reported by 11 countries (BG, CZ, DK, EE, EL, IE, IT, PL, PT, RO, UK-NI). Further details can be found in [Annex I, Table 1.2](#). The following challenges have existing or still exist during or following the BAL NC implementation phase in specific areas of concern:

- ▲ Low level of market liquidity and lack of flexible sources for balancing purposes (BG, DK, PL, RO, UK-NI);
- ▲ IT challenges (BG, CZ, EE, EL, IT);
- ▲ Network users behaviour (BG, IE, IT, PL, RO);
- ▲ Adjustment of legislation (BG, EL, RO);
- ▲ No trading platform implemented (IE, PT)

In all 24 countries (AT, BE/LUX, BG³⁾, CZ, DE, DK, EL, ES, FR, HR, HU, IE, IT, LT, NL, PL, PT, RO, SE, SK, SI, UK-GB, UK-NI) except Estonia⁴⁾ at least one or more balancing zone(s) as defined in the NC BAL was established by 1 October 2016.⁵⁾ Bulgaria reported the establishment of a virtual interconnection point between its two balancing zones as a transfer point by 1 January 2017. (Details regarding established balancing zones can be found in [Annex I, Table 1.1](#)).

1) And additional 5 years for the case of the interim measure of a balancing platform, pursuant to Article 47(3) of the NC.

2) Germany is doubled categorised as it applied in addition to its implemented trading platform an additional balancing platform under interim measures.

3) Bulgaria reported having created a Virtual interconnection point at IP GIS Ihtiman between the two balancing zones, called Transfer point by 1 January 2017.

4) In Estonia no entry-exit model is established.

5) The BBL interconnector operates on an in-equals-out balancing regime. Shippers cannot be imbalanced and, therefore, BBL has received approval from ACM and Ofgem not to implement the majority of NC Balancing provisions (all Articles except for Articles 12–18 on nominations and relevant aspects of Articles 32–42 on Information Provision).

3.1 OPERATIONAL BALANCING (CHAPTER III OF BAL NC)

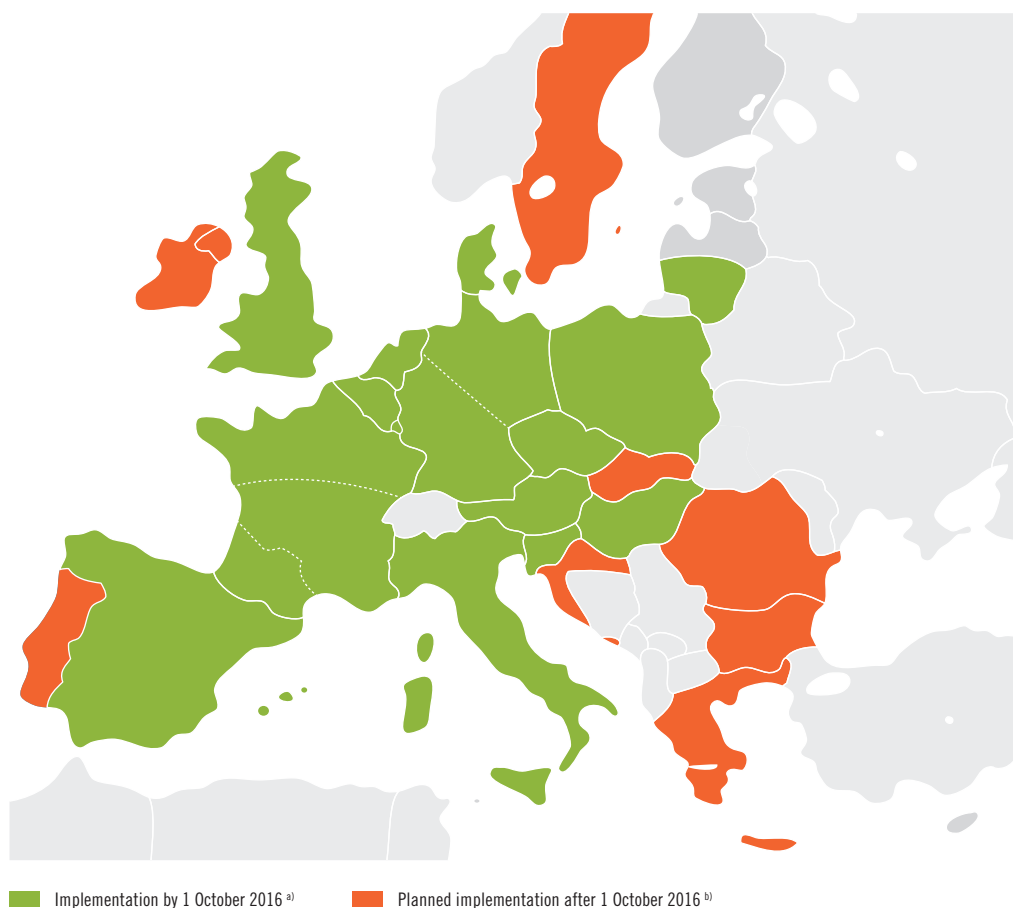
3.1.1 Trading platform

A trading platform provides sufficient support to both the network user and the TSO to procure gas via Short Term Standardised Products (STSPs) when balancing actions are needed.

Map 1 below illustrates that no changes regarding an implemented trading platform were reported compared to the previous report. 14 countries (AT, BE, CZ, DE, DK, ES, FR, HU, IT, LT, LU, NL, PL, SI, UK-GB) have a trading platform in place by 1 October 2016⁶⁾ according to Article 10 of BAL NC. Poland reported the new establishment of a trading platform also in the TGPS balancing zone as of March 2016. In any case, all three balancing zones now have a balancing platform in place.

Two countries (AT and BE) reported switching to a new platform. Austria has been using Powernext since 1 December 2016 and Belgium since 1 October 2016.

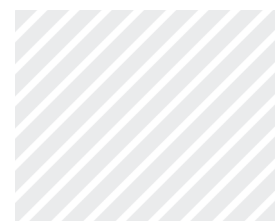
Of the five countries that were to implement BAL NC by 1 October 2016, 3 countries (CZ, ES and IT) reported having implemented a trading platform. The other two countries (PT and HR) plan to establish a trading platform. Croatia indicated that they would implement a trading platform by 1 April 2017.



a) In Germany an additional balancing platform is in place. In Poland a trading platform is in place for the H-gas and TGPS balancing zone. In addition, a balancing platform is in place for all three balancing zones.

For IT operational purposes, Italy additionally made possible the use of the established platform PB-Gas for locational products and indicated the termination of its usage by 1 April 2017.

b) Croatia indicated having implemented a trading platform by 1 April 2017. Ireland, which currently has an interim measure in place, is expected to go live with a trading platform in 2017. Romania, is currently in discussion with OPCOM gas exchange on using their platform for balancing purposes.



Map 1: Implementation of trading platform(s) also for balancing purposes by 1 October 2016

6) In Germany an additional balancing platform is in place. In Poland a trading platform is already in place for the H-gas and TGPS balancing zone. A balancing platform is only in place for the L-gas balancing zone.

Of the other eight respondents (BG, EL, IE⁷⁾, RO, SE, SK and UK-NI) including Estonia the latter confirmed that since a trading platform has not yet been developed, applied the interim measures instead.

Two countries (SE and SK) confirmed temporarily using a balancing platform while five countries (BG, IE, EL, RO and UK-NI) reported temporary

using (IE, EL, RO and UK-NI) or planning (BG) an alternative to the balancing platform by 1 October 2016. Ireland is expected to go live with their trading platform in 2017. Romania is currently in discussion with OPCOM-gas exchange on using their platform for balancing purposes. More information on those interim measures can be found in Chapter 3.9.

3.1.2 MERIT ORDER, STSP AND BALANCING SERVICES

BAL NC describes the order of products to be used by TSO for balancing actions as the so-called “Merit Order”. When procuring balancing actions, TSOs must first use the four STSPs (title products, locational products, temporal products and/or temporal locational products) traded on a trading platform for delivery on a within-day or day-ahead basis for seven days a week.

Within the STSP order the TSO must prioritise the use of title products where and to which extent appropriate over any other available STSP and then using, if any, other balancing products or contracts (‘balancing services’).

16 of 25 countries (AT, BE/LU, CZ, DE, DK, ES, FR, HR, HU, IT, LT, NL, PL⁸⁾, SK and SI) reported the implementation of a merit order according to Art. 9 of BAL NC, while six countries including Estonia (EL, PT, SE, RO⁹⁾ and UK-NI) implemented a merit order with balancing services only – mainly under interim measures.

UK-GB stated that the GB TSO is required to establish the “System Management Principles Statement” (SMPS) under its Licence to operate and its purpose is to describe the basis on which it will determine when a system balancing action is needed and the appropriate balancing tool to utilise while Bulgaria indicated its merit order by 1 January 2017.

Eight countries (BE, CZ, DE, FR, IT¹⁰⁾, PL, RO and UK-GB¹¹⁾ reported having updated merit order compared to October 2015.

Short Term Standardised Products (STSPs) offered in own balancing zone by 1 October 2016

Type of STSP product	Country where STSP is offered on trading platform or balancing platform	Country where STSP is planned to be offered on trading platform by 1 October 2016
Title products	AT, BE/LU, CZ, DE, DK, ES, FR, HU, IT, LT, NL, PL ^{a)} , SI, SK, UK-GB (16)	HR (1)
Locational products	DE, ES, FR ^{b)} , HR, HU, IT, UK-GB (7)	
Temporal products	DE, HU, NL, (3)	
Temporal locational products	DE (1)	–

a) In Poland title STSP products are implemented in the H-gas and TGPS balancing zone.

b) In France GRTgaz is still experimenting locational products.

Table 1: Short Term Standardised Products (STSPs) offered in own balancing zone by 1 October 2016

7) In Ireland a trading platform is expected to go live in 2017.

8) In Poland VTP has been implemented in the L-gas and TGPS balancing zone.

9) In Romania it was not possible to purchase natural gas to be delivered on short-term basis from the domestic gas exchange. Therefore the Merit Order has changed by prioritising this balancing type as compared to the balancing services supplied by the Storage Operator.

10) Italy reported that the merit order and standard products are in line with BAL NC by 01 October 2016.

11) In Great Britain new emergency products are also listed in the merit order implemented by 1 October 2016

Table 1 illustrates that 17 respondents (AT, BE/LU, CZ, DE, DK, ES, FR, HR, HU, IT, LT, NL, PL, SI, SK and UK-GB) offered STSPs by 1 October 2016. Compared to the previous report Germany reported having introduced new STSPs on the PEGAS trading platform.

Of those five countries with an implementation deadline by 1 October 2016, three of them (CZ, ES and IT) confirmed the implementation of title and locational products. Croatia continues to use its locational STSPs on the balancing platform due to an implementation delay of the trading platform which is planned for April 2017. Portugal also reported a delay in establishing a trading platform by 1 October 2016 has therefore decided to implement temporary balancing services.

Where locational or temporal products have been used, the countries stated that it was only

done when it was more economic and efficient than purchasing and selling a combination of title products or locational products.

From those countries to have implemented more than one STSP, Czech Republic stated not having taken into account cost-efficiency within the respective levels of the merit order. UK-GB stated it as not applicable.

While trading in short term standardised products, the TSO shall prioritise the use of within-day products over day-ahead products where and to the extent appropriate. Of the 16 countries using STSP in their merit order, only Czech Republic stated not doing so since the usage of STSPs is determined by national legislation.

In Lithuania the publication of information regarding the TSO balancing actions is foreseen for 2017.

Balancing Services:

When STSPs are not likely to sufficiently address the needs of the market or network, the TSO is also allowed to procure balancing services. Table 2 illustrates that 12 countries including Estonia (CZ, DE, EL, IE, LT, PL, PT, PL, SI, SK and UK-NI) confirmed using balancing services (partially under interim measures) by 1 October 2016.

In Poland balancing services are implemented in the H-gas balancing zone and planned in the L-gas balancing zone for 2017.

Romania confirmed the implementation of two balancing services, one to be procured via public tender (under interim measures) and the other directly procured via the underground storage services (under art. 8.4) which has been approved by the NRA.

Two respondents (BG and IT) still foresee the possibility of using them in the future. Bulgaria indicated the introduction of balancing services (as an alternative to a balancing platform) during 2017.

Opposing developments have been reported from two countries (DE and FR). In the German NCG market area one of two balancing services (intraday flexibility) has been discontinued since 1 May 2016. It was reported that the remaining balancing services are only used for emergency cases. France reported also having no balancing services in place anymore.

From those five countries with an implementation deadline by 1 October 2016, two countries (CZ and PT) finally decided to implement balancing services. Portugal reported a delay in the establishment of an organised market. To ensure

Reported use of balancing services accord. to Art. 8 of BAL NC by 1 October 2016	
Balancing services	Country
Use of balancing services ^{a)}	CZ, DE, EE ^{b)} , EL, IE ^{c)} , LT, PL ^{d)} , PT, RO, SI, SK, UK-NI (12)
Use of balancing services planned/under discussion	BG ^{d)} , HR, IT ^{e)} , (3)
No plan to use balancing services	AT, BE/LU, DK, ES, FR, HU, NL, SE, UK-GB (10)

a) Greece, Ireland, Romania and Northern Ireland are operating balancing services under interim measures.

b) Estonia holds derogation.

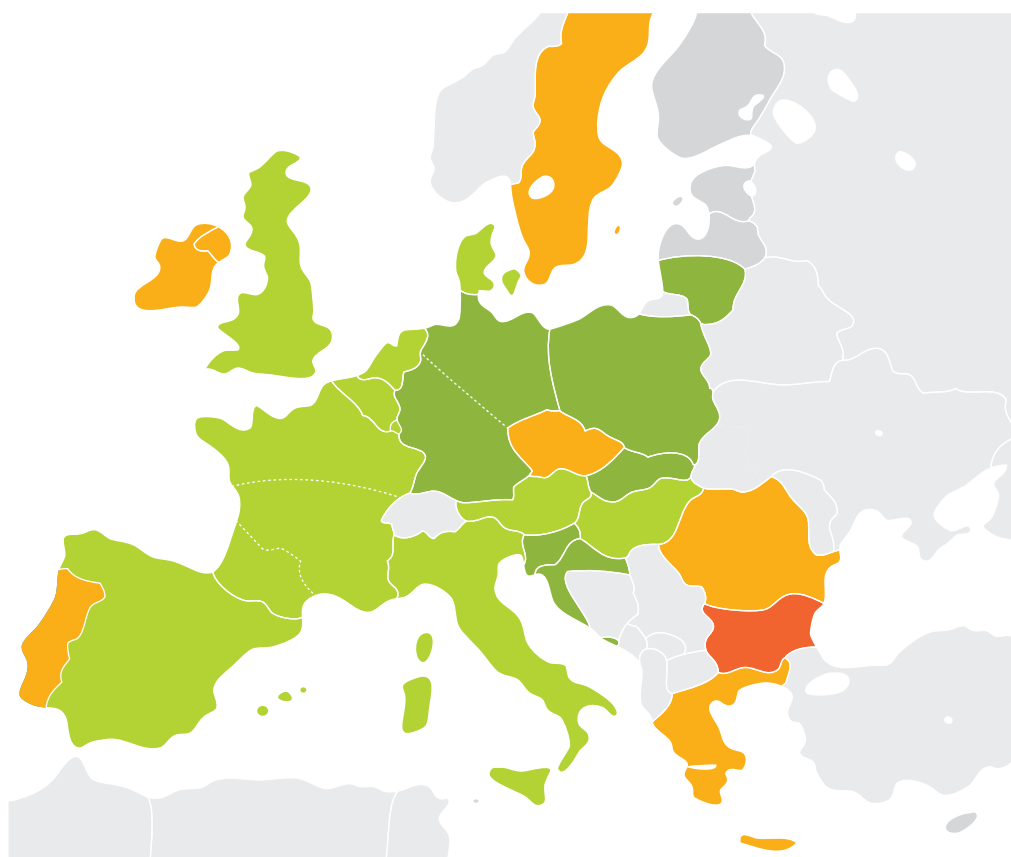
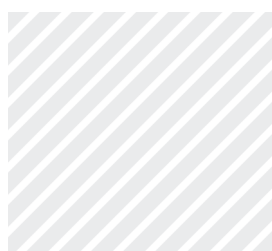
c) In Ireland the balancing services are pre-existing (re-tendered annually). Intention is to seek to phase out as liquidity is proven at an IBP base Trading platform.

d) In Poland balancing services are implemented in the H-gas balancing zone and planned in the L-gas balancing zone for 2017. In Bulgaria the implementation of balancing services is planned during 2017.

e) In Italy the possibility to use balancing services is already foreseen in the SRG Network Code. A process for the identification of the most appropriate balancing services is currently ongoing according to principles and criteria already established.

Table 2: Reported use of balancing services according to Art. 8 of BAL NC by 1 October 2016

- a) Slovakia operates its interim measure product on its balancing platform and has additional balancing services in place. Germany and Poland have additional IM products under interim measures on a balancing platform in place. In UK-GB additional new Emergency products listed in Merit order and were implemented by 1 October 2016.
- b) Portugal introduced temporary only balancing services. Greece, Ireland, Romania and Northern Ireland reported that balancing services are operated under interim measures. Sweden stated that they are operating a “weekly product” under interim measures.
- c) Bulgaria plans to introduce balancing services under interim measures during 2017.



■ Only STSP products by 1 October 2016
 ■ STSP and Bal. Services by 1 October 2016 ^{a)}
■ Only Bal. Services by 1 October 2016 ^{b)}
■ Planned Bal. Services by 1 October 2016 ^{c)}

Map 2: STSP and balancing services in own balancing zone by 1 October 2016

that the TSO's short term gas needs could be satisfied at any time, balancing services have been implemented as a temporary solution to be terminated once Mibgas commences operation in Portugal. The balancing services are procured via a short term auction approved by the Portuguese NRA. (More details with regards to balancing services can be found in [Annex II, table 2.1](#))

Croatia which is currently using balancing services in accordance with art. 8.4 BAL NC, plans to introduce a balancing service via a public tender procedure by 1 April 2017. Within its regulatory framework, Italy also foresees the possibility of introducing balancing services. Spain ultimately decided not to use balancing services, even though the regulatory framework provides this possibility.

Balancing Services can only be used for balancing purposes under certain circumstances. Of those 15 countries, six respondents including Estonia (CZ, EL, RO, SK and UK-NI) stated the absence of liquidity in STSP as the reason for

utilising balancing services while six ones (BG, HR, LT, PL, SI, and UK-NI) indicated that STSP was not providing the response required to keep the system within its operational limits. Three countries (DE, IE and PT) indicated other reasons. (Further details can be found in [Annex II, table 2.2](#))

An annual review of the usage of balancing services is obligatory according to the BAL NC. Ten of 15 countries (DE, EE*, HR, IE, LT, PL, RO, SK, SI, UK-NI) confirmed the obligatory annual review of the implemented balancing services. Other two countries (CZ and PT) have not yet passed the annual period. Greece stated that they are not yet necessary since no STSP are yet in place. Bulgaria indicated a review planned for Q3/2017. (Further details can be found in [Annex II, table 2.2](#))

3.1.3 Trading in Adjacent Zones

TSOs may seek NRA approval for trading STSP in adjacent zones as an alternative to the trading title products or locational products in their own balancing zone. In addition to the three countries (DE, PL and SK) that have already implemented this option, Czech Republic has also stated that the TSO request was approved by the respective NRA. In Czech Republic this option is ranked in the merit order as the last measure. It is expected to be used only exceptionally, therefore the limitation of access by other network users is reported as negligible. (Further details are provided in [Annex II, table 2.3](#))

Germany and Poland confirmed the annual review of applicable terms and conditions. Slovakia reported it as not applicable. It is only implemented in the merit order as a backup to the existing balancing platform.

An overview table of the reported merit order with the balancing products per balancing zone or country is available in [Annex II, table 2.4](#).

3.1.4 Operational Balancing Implementation Practices

Regarding the cross-border cooperation between TSOs when establishing any new STSP, only Germany reported having done it in accordance with to Art. 7.7 of BAL NC compared to 1 October 2015. Romania indicated that due to the limited interconnection capacity, the TSO does not currently have the possibility to include the IP in the balancing zone and therefore, it is not able to develop STSP with the neighboring countries. Spain clarified that the necessary cooperation was developed under the South Gas Regional Initiative umbrella. No new STSPs have been identified as necessary in the SGRI after 1 October 2015.

To foster the liquidity of the short term wholesale gas market, the NRA can incentivise the TSO to undertake balancing actions efficiently or to maximise the undertaking of balancing actions through trade in STSP. Four (AT, ES, IT and UK-GB) of the five countries that, in the previous report, had indicated that an incentive mechanism was already implemented or foreseen, confirmed having established an incentive mechanism for optimising TSO balancing actions by 1 October 2016. Further details are provided in [Annex II, table 2.5](#).

3.2 BALANCING SYSTEM (CHAPTER II OF BAL NC)

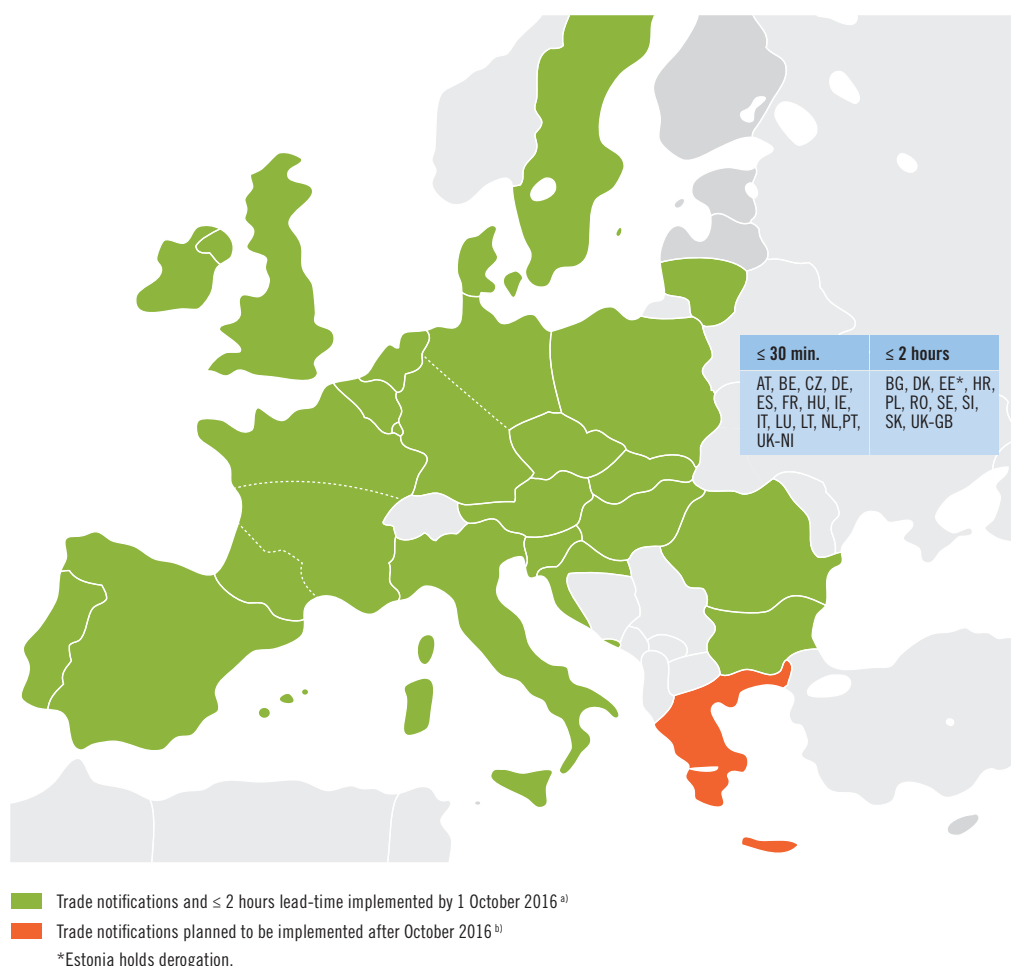
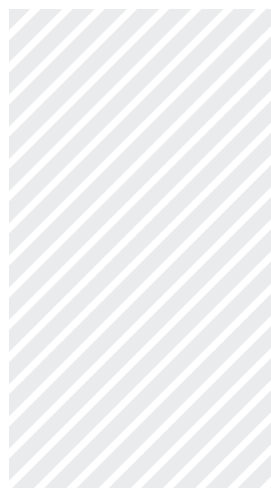
Gas transfer between two balancing portfolios within one balancing zone shall be done by disposing and acquiring trade notifications submitted to the TSO in respect of the gas day. The intention is to incentivise network users to optimise their gas portfolios efficiently, so that the need for TSOs to undertake actions would be minimised.

Independently from their applied implementation deadline, all countries must implement trade notifications by 1 October 2016.

In Map 3 below it can be seen that 24 countries including Estonia (AT, BE/LU, BG¹²⁾, CZ, DE, DK, ES, FR, HR, HU, IE, IT, LT, NL, PL, PT, RO, SE, SI, SK, UK-GB and UK-NI) except Greece have reported the establishment of a scheme that allows network users to transfer gas between two balancing portfolios within one balancing zone as well as establishing a trade notification by 1 October 2016. Greece indicated the planned implementation of the trade notification within 2018. However, network users are currently able to transfer gas between two balancing portfolios by submitting nominations at the Virtual Nominations Point (VNP) of the Greek NGTS.

12) Bulgaria reported having set Virtual interconnection point between the two balancing zones – Transfer point by 1 January 2017.

- a) Croatia, Portugal, Romania, Sweden and Slovakia indicated some limitations for trade notifications. In Italy and France the two allocation rules apply in cases of mismatches. (See also [Annex III, table 3.1](#) and [table 3.3](#)).
- b) In Greece network users are currently able to transfer gas between two balancing portfolios by submitting nominations at the Virtual Nominations Point (VNP) of the Greek NGTS.



Map 3: Implementation of trade notifications with up to 2 hours lead-time by 1 October 2016*

Some limitations for trade notifications were indicated by five of the 24 countries above (HR, PT, RO, SE and SK) mentioned. Portugal and Sweden indicated that trade notifications from network users are still dependent on their respective nomination behavior as a “shipper”. Croatia and Romania reported that the transportation contract is still the only legal basis that enables NUs to submit trade notifications. A separate contract is not offered. (See also [table 3.1 in Annex III](#)).

Regarding the lead-time Croatia has indicated the plan to minimise the time for proceeding trade notifications, but no date has yet been set. In Slovenia it is also under consideration. Three countries (PL, SE and SK) have indicated e.g. a connection with the nomination procedures. In Denmark no demand for a shorter lead-time has been indicated by the market, but it will be considered as a future development. (Further details are provided in [Annex III, table 3.2](#)).

When trade notification quantities are not equal, the TSO shall allocate either the lower notification quantities or reject both trade notifications. 22 countries (AT, BE/LU, BG, CZ, DE, DK, EE*, HU, NL, PL, PT, SE, SK and UK-GB), (EL¹³), ES, HR, IE, RO, SI and UK-NI) have stated to be applying to apply one of those rules in cases of mismatches.

Two countries (FR and IT) responded to use both mechanism. Lithuania¹⁴) stated that no default rule is applicable due to trade notification provisions by the seller which must be agreed upon with the buyer. (See [table 3.3 in Annex III](#)).

13) In Greece currently the nominations submitted by the network users (including VNP) have to be balanced. According to DESFA's proposal to the NRA regarding the revision of the Greek network code (pending approval), the lesser rule will apply.

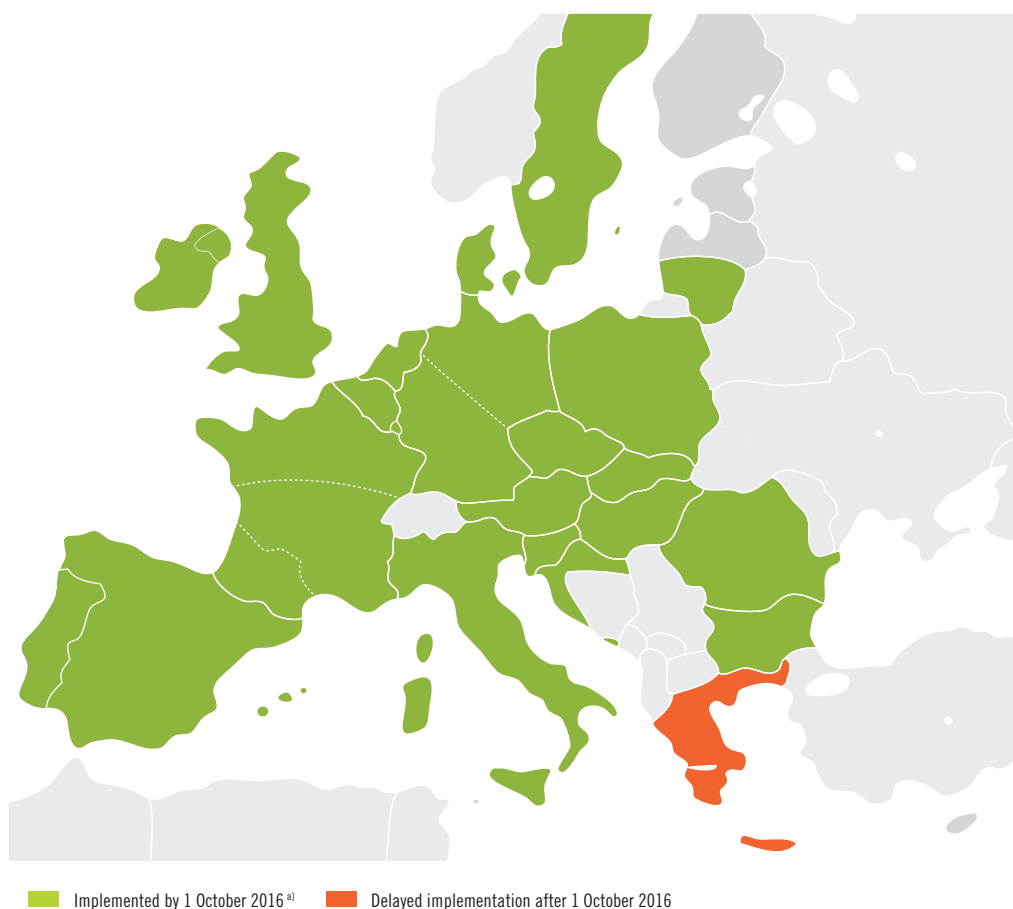
14) Notification is provided by seller, which is registered in NRA and trade notification has to be agreed with buyer.

3.3 NOMINATIONS (CHAPTER IV OF BAL NC)

Nominations are a central part of BAL NC since the information received by TSOs from a network user's gas nomination is essential to the safe and efficient balancing of the network. This information enables TSOs to also predict where and to what extent gas imbalances are likely to occur. BAL NC sets out basic nomination and re-nomination rules for TSOs and shippers to follow when nominating and re-nominating gas quantities.

Independently from their applied implementation deadline all countries have to implement nomination provisions by 1 October 2016.

Map 4 below illustrates that 20 countries (AT, BG, BE, CZ, DE, ES, FR, HR, HU, IE, IT, LT¹⁵⁾, NL, PL, PT, RO, SI, SK, UK-GB and UK-NI) reported the implementation of nomination rules at all IPs by 1 October 2016. Three countries (DK¹⁶⁾, LU¹⁷⁾ and SE) reported the implementation of the nomination provisions except the lead-time of two hours at IP Remich in Luxembourg and the implementation of single nominations in Denmark and Sweden. Estonia¹⁸⁾ and Greece indicated a planned implementation of the nomination provisions, including at its IP with Bulgaria in April 2017 and Q1/2017.¹⁹⁾



a) Exceptions of implementation at certain IPs are reported by five countries (DK, SE, HU, LT and LU) by 1 October 2016. In five countries (BG, CZ, EL, SK and PL) the default nomination rules currently in place are not agreed yet for all IPs.

Map 4: Implementation of nomination provisions by 1 October 2016

15) AB Amber Grid is currently interconnected just with the transmission system of Latvia which has derogation based on Article 49 of Directive No 2009/73 and BAL NC is not applied to Latvia.

16) In Denmark the single nomination will be implemented later this year.

17) See section 3.3.1 hourly re-nomination cycle and standard re-nomination lead-time of two hours for further information.

18) Estonia plans the implementation of nomination provisions for April 2017, e.g. regarding the use of energy units and the gas day will be changed to as defined in BAL NC in 2017.

19) 1st quarter 2017. Acc. to DESFA's proposal to the NRA regarding the revision of the Greek network code (pending approval) the full implementation of chapter IV of BAL NC is foreseen.) – 12.1 units (currently in MWh/d), 14.1 Nomination deadline, 14.3 Confirmation deadline, 15 Re-nomination procedure, 16 N/A, 17.1.b Re-nomination rejection, 17.2 Intakes shall be equal to offtakes, 17.3 N/A

3.3.1 Hourly Re-nomination Cycle and Standard Re-nomination Lead-time of Two Hours

22 countries (AT, BE, BG, CZ, DE, DK, EE*, ES, FR, HR, HU, IE, IT, NL, PL, PT, RO, SE, SI, SK, UK-GB and UK-NI) reported that the hourly re-nomination cycle and standard re-nomination lead-time of two hours are applied at all IPs

according to Article 15(3) of BAL NC by 1 October 2016. Exceptions are reported by two countries (LU and LT²⁰), while Greece²¹ has not yet applied them.

20) AB Amber Grid is currently interconnected just with the transmission system of Latvia which has derogation based on Article 49 of Directive No 2009/73 and BAL NC is not applied to Latvia.

21) No re-nomination procedure is in place yet. The re-nomination rules were not applied, at the IP Kulata (BG)/Sidirokastron (EL), until October 2016. Refer to the first sentence of this paragraph.



Image courtesy of Fluxys

3.3.2 Nomination and Re-nomination Provisions for Bundled Capacities

Where TSOs offer bundled capacities at IPs, the nomination and re-nomination provisions according to Article 12(3) of BAL NC shall also apply to single nominations and re-nominations for bundled capacity products. 20 countries²²⁾ (AT, BE/LU²³⁾, BG, CZ, DE, ES, FR, HR, HU, IE, IT, NL, PL, PT, RO, SI, SK, UK-GB and UK-NI) reported having applied the same rules for unbundled and bundled capacity products. Greece reported applying the same rules for bundled and unbundled capacities. However these rules are not compatible with the applicable provisions of BAL NC²⁴⁾. Four other countries

including Estonia (DK, LT²⁵⁾ and SE) responded not applying the same rules for unbundled and for bundled capacity. Denmark indicated that the single nomination will be implemented later this year.

Many countries applying the same rules, reported cooperating with adjacent TSO for the purpose of implementing nomination and re-nomination rules for bundled capacity products at IPs. On-going processes have been indicated for some IPs. (See outcome of co-operations in [Annex III, table 3.4](#))

3.3.3 Agreed Default Nomination Rule with Adjacent TSO if Valid Nomination (before deadline) is Not Sent by NU

In absence of a valid nomination sent by the network user before the nomination deadline, the respective TSO shall apply the default nomination rule agreed between these TSOs.

In total 23 countries including Estonia (AT, BG, BE/LU, DE, DK, EL, ES, FR, HR, HU, IE, IT²⁶⁾, LT, NL, PT, RO, SE, SK, SI, UK-GB and UK-NI) confirmed having a default nomination rule agreed for this case with the adjacent TSO. Two countries (CZ and PL) indicated no agreement with adjacent TSO.

Mainly two default rules (“lesser rule” and “zero”) are reported by 22 countries as a default nomination rule. In the matching process at IPs where both default rules are indicated by the adjacent TSOs the application of the zero rule would finally apply. In case of receiving no valid nomination before the nomination deadline, the TSO would apply zero for the shipper nomination in the matching process. Where the lesser of rule applies in the matching process, no gas flow would ultimately occur.

Exceptions are indicated by three countries (BG, RO and IT²⁷⁾). Bulgaria and Romania which take the last confirmed nomination into account at IP Negru Voda 1 and by Italy where a weekly and monthly planning is taken into account. In five countries (BG²⁸⁾, CZ, EL, SK and PL) the default nomination rules currently in place have yet to be agreed for all IPs. (Details can be found in table 3.5 in Annex III.

The interconnection points (IPs) where hourly and daily nominations coexist in twelve countries (BE, CZ, DE, FR, HU, IT, LU, NL, PL, SI, SK and UK-GB) can be found in [table 3.6 in Annex III](#). Table 3.6 in Annex III also lists the countries where NRAs have determined at what the nomination and renomination procedures are required at points other than the IPs.

22) AB Amber Grid is currently interconnected just with the transmission system of Latvia which has derogation based on Article 49 of Directive No 2009/73 and BAL NC is not applied to Latvia, bundled capacity is not offered. Estonia holding derogation does not apply the rules for bundled capacity.

23) See Section 3.3.1 hourly re-nomination cycle and standard re-nomination lead-time of hours for further information regarding IP Remich in Luxembourg.

24) See also footnote 21

25) See section 3.3.1 hourly re-nomination cycle and standard re-nomination lead-time of two hours for further information.

26) Last available information with the following order: weekly planning, monthly planning.
(See Snam Rete Gas Network Code (chapter 8, paragraph 6.3) at http://www.snamretegas.it/en/services/Network_Code/Aree/Codice_di_rete.html)

27) In Italy there is a different rule other than “lesser rule” and “zero rule”. The rule in place is agreed with the adjacent TSOs even if it is not the same they implemented.

28) In Bulgaria the default nomination rule is agreed for all IPs of our system except the IP with Greece – Kulata/Sidirokastro.

3.4 INFORMATION PROVISION (CHAPTER VIII OF BAL NC)

15 countries (AT, BE/LU, CZ, DE, DK, ES, FR, IT, NL, PL, SK, SI and UK-GB) indicated having implemented the information provisions while ten countries including Estonia (BG, EL, HU, HR, LT, PT, RO²⁹⁾, SE³⁰⁾, SK and UK-NI³¹⁾) reported

partial implementation. In addition, the cost benefit analysis is currently ongoing or planned for the future for almost all countries. Details can be found below in following sub-chapters.

3.4.1 Types of Information According to Article 32 of BAL NC

BAL NC outlines the information that TSOs must provide to network users during the gas day since network users are responsible for balancing their balancing portfolios in order to minimise the need for TSOs to undertake balancing actions. This information, according to article 32 of BAL NC, covers:

- ▲ Overall status of the transmission network,
- ▲ the transmission system operator's balancing actions and
- ▲ network user's inputs and off-takes for the gas day.

The information provisions set out in article 32 of BAL NC must be implemented by all countries by 1 October 2016 since the deadline for countries applying transitory period option has expired.

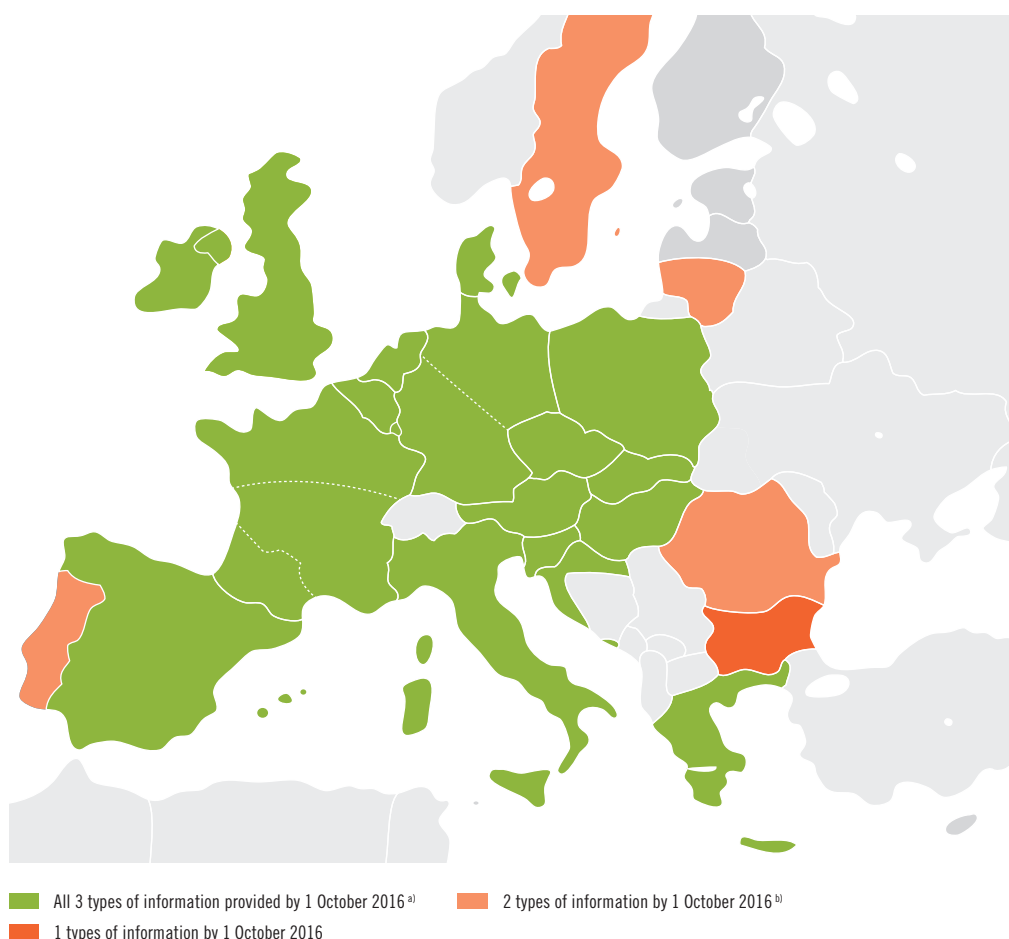
Map 5 illustrates that 19 respondents (AT, BE/LU, CZ, DE, DK, EL, ES, FR, HR, HU, IE³²⁾, IT, NL, PL, SI, SK, UK-GB and UK-NI) reported that all three types of information have been implemented and are provided to the network users by 1 October 2016. While four countries (LT, PT, RO and SE) partially implemented the provisions with two types of information, Bulgaria reported the provision of one type of information. (Links can be found in [table 1.3 in Annex I](#)). Estonia has not published any types of information yet.

29) In Romania the status of the implementation of the provisions of Art 32–42 is incompletely achieved. The provisions of Articles: 34, 35, 38, 39, 40, 41, 42 are not implemented.

30) In Sweden the forecast of non-daily metered off-takes not implemented and not demanded by network users

31) In UK-NI with regard to Article 39 forecasting party The NI TSOs are working on the development and implementation of these arrangements with a target delivery date of 1st October 2017.

32) In Ireland the overall status is provided directly to Shippers via TSO System Management IT System.



- a) In Poland two types of information are provided in the TGPS balancing zone due to art. 34.1 NC BAL.
- b) Lithuania plans implementation of all three types in 2017.

Map 5: Implementation of types of information provisions as reported by the countries

3.4.2 Information Model

Three different information models for daily and non-daily metered off-takes are allowed in BAL NC. These are a 'base case' model, a 'variant 1' and a 'variant 2'. In Article 35 and 36 of BAL NC it is specified how allocation data is calculated and how and whether forecasts are provided.

According to the definitions in BAL NC, 'base case' means the model for information provision where the information on non-daily metered off-takes consists of day ahead and within day forecasts; 'variant 1' means the model for information provision where the information on non-daily metered and daily metered off-takes is based on apportionment of measured flows during the gas day and 'variant 2' means the model for information provision where the information

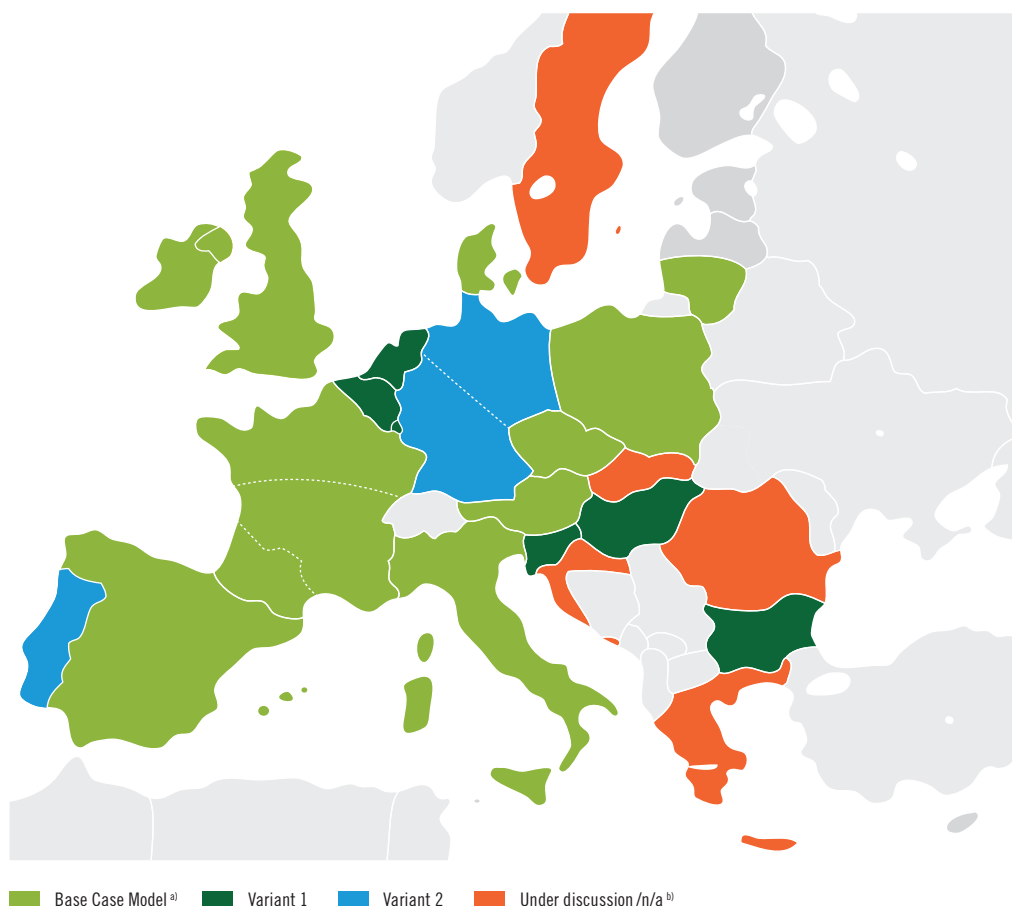
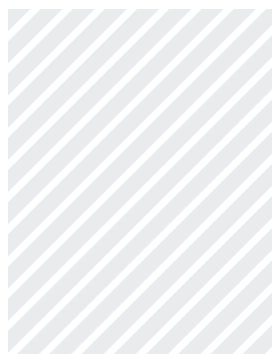
on non-daily metered off-takes is a day ahead forecast³³⁾. (Find some model descriptions provided by the TSOs in [table 4.2 in Annex IV](#).)

The information model provisions of BAL NC should be implemented by all countries by 1 October 2016 as the implementation deadline for countries applying transitory period option has also passed.

The following map 6 illustrates which information model for non-daily metered off takes applied in the respective countries by 1 October 2016.

33) According to article 36(1), where base case model is applied, TSO shall provide network users with a minimum of two daily updates of the forecast of their non-daily metered off-takes. According to article 36(4), where the information model variant 1 is applied, TSO shall provide network users with a minimum of two daily updates of their apportionment of measured flows. According to article 36(5), where variant 2 model is applied, TSO shall provide network users with a forecast of their non-daily metered off-takes, as referred to in paragraph 1(a): on gas day D-1, the TSO shall provide network users with a forecast of their non-daily metered off-takes for gas day D no later than 12:00 UTC (winter time) or 13:00 UTC (daylight saving).

- a) Czech Republic partially implemented the provisions for NDM off-takes. In Austria, NDM forecasts are provided by DAM based on data from DSOs. Bulgaria reported that data for IDM off-takes is provided to NUs only as no NDMs are connected to the transmission system.
- b) Sweden reported that no NDM provisions are implemented due to minor part of the market and no receiving interest from NUs. Reported as not applicable due to no daily and/or non-daily metered off-take points connected to the transmission system, in Slovakia and Greece.



Map 6: Information model chosen by NRA by 1 October 2016

The majority (19) of countries (AT, BE/LU, BG, CZ, DE, DK, ES, FR, HU, IE, IT, LT, NL, PL³⁴, PT, SI, UK-GB and UK-NI) reported having chosen an information model, except six countries including Estonia (EL, HR, RO, SE and SK) by 1 October 2016. While Portugal finalised the process by applying “Variant 2”, Croatia and Romania responded that it is still in progress. Slovakia and Greece repeated as a reason having no non-daily metered off-take points connected to the transmission system.

From those countries with an implementation deadline by 1 October 2015 implementation

changes and/or updates for IDM and/or NDM offtake points have been provided by three countries (DE, LT and PL).

Of the five countries with an implementation deadline by 1 October 2016, three countries (IT, ES and PT) reported the implementation by 1 October 2016. One country (CZ) partially implemented the provisions by 1 July 2016. In Croatia no information model is in place as the decision on it is still in progress.

[Table 4.3 to 4.7 in Annex IV](#) provide additionally an overview of countries per information model.

34) For the Polish TGPS balancing zone the information model provisions are reported as not applicable as it has no non-daily metered off-takes and no DSO is connected to the system.

3.4.3 Provision of Final Allocation Data

BAL NC does not define a time limit for TSOs to provide each network user with the final allocation for its inputs and off-takes and the final daily imbalance quantity. Such a time limit shall be defined at national level.

All 25 countries including Estonia (AT, BE/LU, BG, CZ, DE, DK, EL, ES, FR, HR, HU, IE, IT, LT, NL, PL, PT, RO, SE, SI, SK, UK-GB and UK-NI) indicated that the timeframe for initial allocation no later than D+1 as well as for final data allocation by 1 October 2016.

Croatia and Portugal have reported this time also the national applied timeframe for the final allocation data by 1 October 2016. Estonia provides the final allocation earlier as of 1 April 2016.

Different approaches are used regarding the final allocation provision. 22 countries including Estonia (AT, BG, CZ, DE, DK, EL, ES, FR, HR, HU, IE, IT, LT, PL, PT, RO, SE, SI, SK, UK-GB and UK-NI) use a comparably longer period (days/month) for the provision of final allocation data, however in these countries the data already includes a reconciliation procedure.

As in three countries (BE, LU and NL) the reconciliation is separated from the calculation of imbalance charges, the final allocation data can be provided for the whole gas day immediately within minutes after the gas day.

Details per country on the timeframe in which final allocation data, used for the calculation of the daily imbalance charges, is submitted to network users can be found in [Annex IV, table 4.6 and 4.7](#).

3.4.4 Cost Benefit Analysis (CBA)

BAL NC foresees the assessment of costs and benefits regarding the (1) frequency, (2) reduction of related timelines and (3) improvement of accuracy of the information provided by 16 April 2016. TSOs should have done a cost benefit analysis (according to art. 38) within two years as from the entry into force of BAL NC (16 April 2016).

Great Britain reported having performed its CBA including a public consultation. The finalisation of the process with an NRA decision on any proposed changes is yet to be completed. Two countries (DK³⁵ and FR) reported having completed the CBA earlier.

21 countries including Estonia (AT, BE/LU, BG, CZ, DE, EL³⁶, ES, HR, HU, IE, IT, LT, NL, PL, PT, RO, SE, SK, SI and UK-NI) reported that the complete CBA had not been performed by the deadline mentioned in BAL NC.

Austria indicated that TSOs fulfil their obligations and publish data nearly in real time, while three other countries (BE/LU and SK) reported providing information on an hourly basis. In Bulgaria the new Balancing Rules apply only by 1 January 2017. In Estonia data exchange rules are to be implemented once the national legislation is updated. In Slovenia the TSO is closely following the development of the balancing market and trading platform. The balancing market situation is discussed with market participants on a regular basis.

The Netherlands reported having performed CBA and the report will be sent to the NRA for their decision in January 2017. In three countries (HU, LT and PL³⁷) CBA is under preparation or under development. In Ireland a full implementation of all information provision required by EU Network Codes is indicated to commence in Q1 2017.

Northern Ireland reported that the CBA is in progress while Romania indicated the plan to prepare a CBA. Due to the modification of information provisions by 1 October 2016, the NRA in Germany decided to prolong the timeline for the CBA to October 2018.

For the five countries applying transitory period (CZ, ES, HR, IT and PT) the implementation deadline expired in April 2016, Portugal therefore reported it as not being applicable. Croatia explained that BAL NC is not yet fully implemented. For Czech Republic the period with regards to the implementation deadline by 1 July 2016 was too short. In Spain the NRA's Circular implementing BAL NC establishes the CBA process before 30 September 2018. Italy indicated that the evaluation of the CBA results within two years should be counted from the implementation date of BAL NC provisions.

35) In Denmark the CBA was conducted before the implementation, and lead to increasing the information provision from 2 to 5 times a day. It was clear from this analysis, that increasing the information to more than 5 times a day would be extremely costly for the DSO's, as this would require new measurement equipment for intra-daily metered sites. Therefore 5 times day was the final result of the CBA.

36) In Greece DESFA is in the process of upgrading our metering and SCADA system and installing a new IT platform for reasons that are not directly related to the implementation of BAL NC. As soon as this upgrade is completed the frequency of data provision may be increased.

37) For the Polish TGPS balancing zone: The allocation rule "allocation equal to confirmed nomination" shall apply. There is no need to provide any other information to network users. Therefore the CBA is not relevant.

3.4.5 Establishing a Forecasting Party

The forecasting party is responsible for forecasting a network user's non-daily metered off-takes and where appropriate its subsequent allocation. After prior consultation with TSOs and DSOs concerned, BAL NC foresees designating at least a forecasting party in a balancing zone. This may be a TSO, a DSO or a third party.

Table 3 below illustrates that 18 countries (AT, BE/LU, CZ, DE, DK, ES, FR, IE, IT, HU, LT, NL, PL³⁸, PT, SI, UK-GB and UK-NI) reported designating a forecasting party. In 16 countries except Hungary and Northern Ireland the forecasting parties were operating by 1 October 2016. In Northern Ireland its establishment is planned for October 2017. In Romania and Croatia the designation is still in progress while five countries including Estonia (BG, EL, SE and SK) the designation of a forecasting party is far not currently foreseen. In Sweden network users currently have agreed that they will forecast themselves. Greece and Slovakia reported that no NDM off takes exist in their balancing zones.

In ten of the above 18 countries with a designated forecasting party (BE/LU, DK, FR, IT, PT, SI, UK-GB and UK-NI) the TSO while in four other countries (DE, HU, LT and PL) the DSO is fulfilling the task. Four countries (AT, CZ, ES and NL) designated the task to a Third party.

In Austria the Third Party is the Distribution Area Manager (DAM). In Czech Republic the forecasting task is fulfilled by the Market operator (OTE), which is an independent subject on the market. In Spain ENAGAS in its role of the Technical Manager of the System must define the demand forecast in collaboration with the DSO and TSOs and their networks consumers. The Netherlands reported that so-called EDSN serves as the forecasting party.

Compared to the previous report three (ES, PL and PT) of the four countries (ES, HR, PL and PT) that were planning to establish a forecasting party, finalised the process by implementing the forecasting party by 1 October 2016. Poland reported not designating a forecasting party for the TGPS balancing zone due to not having any connected NDM offtake points and nor DSOs connected to the balancing zone. In three countries (HR, HU and RO) the designation process is still ongoing.

Overview of designated and implemented forecasting party by 1 October 2016				
FORECASTING PARTY				
TSO	DSO	Third party	Under discussion	No forecasting party foreseen
BE, DK, FR, IE, IT, LU, PT, SI, UK-GB, UK-NI (10)	DE, HU*, LT, PL (4)	AT, CZ, ES, NL (4)	HR*, RO* (2)	BG, EE, EL, SE, SK (5)

* Countries planning to establish a forecasting party.

Table 3: Overview of designated and implemented forecasting party by 1 October 2016

38) In the Polish TGPS balancing zone there is no need to provide any forecast due to non NDM offtakes in this balancing area. No DSOs are connected to the balancing zone

3.4.6 Cooperation of DSO(s), Forecasting party (-ies) towards TSO

Each DSO associated to a balancing zone and each forecasting party shall provide the TSO in the respective balancing zone with the information necessary for the information provision to the network users. It includes inputs and off-takes on the distribution system regardless whether the system is part of the balancing zone or not.

18 countries (AT, BE/LU, CZ, DE, DK, ES, FR, HU, IE, IT, LT, NL, PL, PT, SI, UK-GB and UK-NI) with the exception of six countries including Estonia (BG, EL, HR, RO and SK) reported that the TSO has cooperated with the DSO and forecasting party to define the information, its format and the providing procedure in order to ensure the due provision of information by the TSO to the network users.

According to BAL NC the national rules shall also define the format of the information provided to the TSO which shall be consistent with the format used by the TSO to provide the information to the network users.

16 countries (BE/LU, CZ, DE, DK, ES, FR, IE, IT, LT, NL, PL, PT, SE, UK-GB and UK-NI) confirmed the consistency of the format. Austria reported that the format is defined in the valid market rules (network users) or based on a bilateral agreement (system operators). ALOCAT and KISS-A according to the market rules; XML between the system operators. In five countries including Estonia (HR, HU, PT and UK-NI) finalisation of the format is still under development. Three countries (BG, EL and SK) indicated that it is not necessary or applicable while Romania reported as a reason the missing designation of a forecasting party.



Image courtesy of REN

3.5 DAILY IMBALANCE CHARGES (CHAPTER V OF BAL NC)

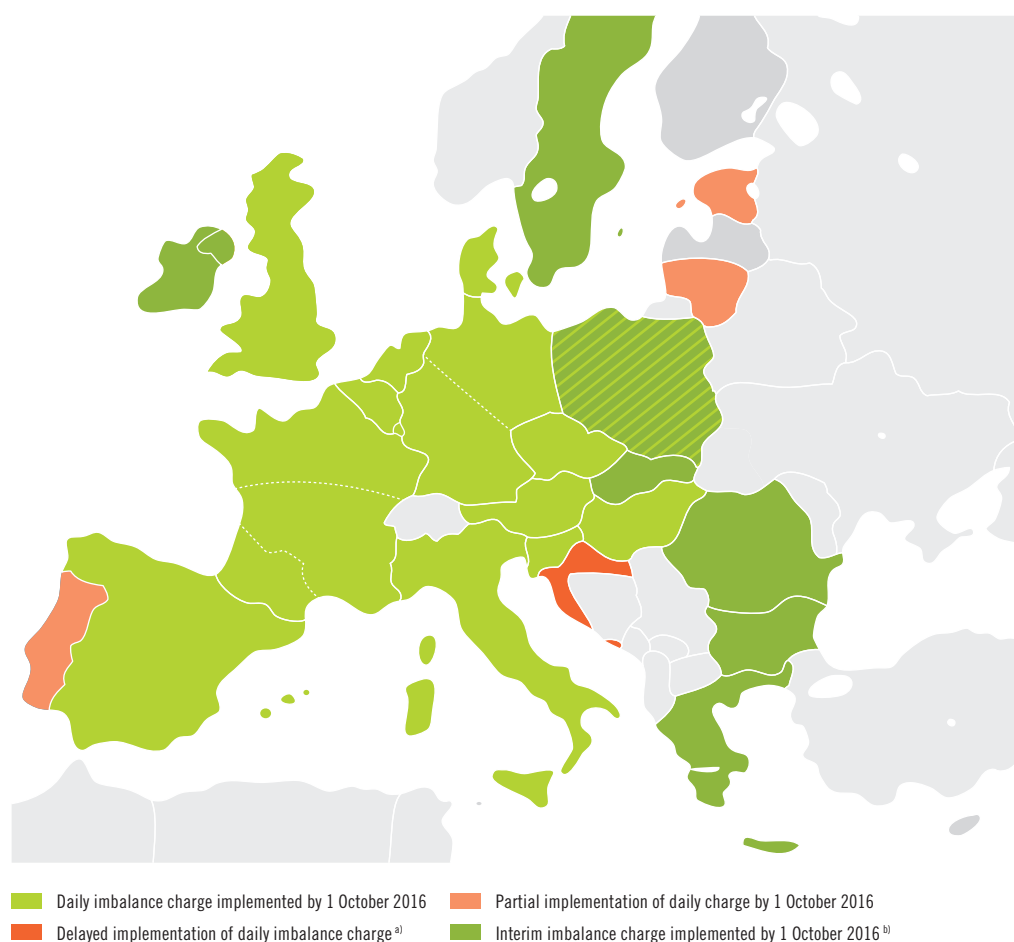
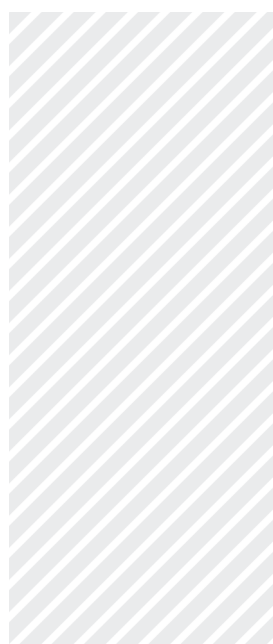
The daily imbalance charge mechanism is intended to incentivise network users to balance their balancing portfolios. Out of balance, network users are bound to pay or are entitled to receive (as appropriate) daily imbalance charges depending on their balancing position on a particular gas day. The daily imbalance charge is a cost-reflective mechanism and shall take account of the prices associated with transmission system operator's balancing actions, if any, and small adjustment.

The provisions should have been implemented by all countries by 1 October 2016, except for those countries that applied for interim imbalance charge.

Map 7 illustrates that 14 countries (AT, BE, CZ, DE, DK, ES, FR, HU, IT, LU, NL, PL, SI and UK-GB) reported the implementation of daily imbalance charge methodology by 1 October 2016. In three countries including Estonia (LT and PT), the daily imbalance charge methodology is partially implemented while in Croatia the methodology is under development.

Eight countries (BG, EL, IE, PL for L-gas and TGPS, RO, SE, SK and UK-NI) reported implementing the interim imbalance charge under the interim measures report. ([Table 5.1 in Annex V](#) and [Table 8.4 in Annex VIII](#)).

- a) Croatia plans to implement Daily imbalance charge as of 1 April 2017.
- b) Bulgaria plans to implement Interim imbalance charge during 2017.



Map 7: Implementation of Daily imbalance charge vs. Interim imbalance charge by 1 October 2016

Daily imbalance charge calculation methodology (Art. 20)

The methodology approved by the NRA has to be published on a relevant website. 24 countries including Estonia (AT, BE, BG, CZ, DE, DK, EL, ES, FR, HU, IE, IT, LT, LU, NL, PL, PT, RO, SE, SK, SI, UK-GB, UK-NI) provided the link to the published daily imbalance charge calculation methodology or to the published interim imbalance charge. Croatia³⁹⁾ published another applicable methodology which is currently under revision. The provided links to the published methodologies can be found in [Annex I, table 1.3](#).

According to BAL NC provisions, the daily imbalance charge calculation methodology shall define the calculation of the daily imbalance quantity, the derivation of the applicable price and any other necessary parameter.

Daily imbalance quantity calculation (Art. 21)

As part of the calculation methodology, the approved daily imbalance quantity shall be calculated for each network user's portfolio as the difference between the inputs and off-takes for each gas day. In 25 countries including Estonia (AT, BE, BG, CZ, DE, DK, EL, ES, FR, HU, IE, IT, LT, LU, NL, PL, PT, RO, SE, SK, SI, UK-GB and UK-NI) the daily imbalance quantity is calculated for each network user's balancing portfolio for each gas day.

In eight countries including Estonia (CZ, EL, ES, NL, PT, SE and SK) the above-mentioned daily imbalance quantity calculation is adapted according to BAL NC due to the fact that a linepack flexibility service is offered (CZ, NL, PT and SE) or an arrangement is in place (EE, EL ES and SK) whereby network users provide gas to the system. Further details can be found in [Annex V, table 5.2](#).

23 countries (AT, BE, BG, CZ, DE, DK, EL, ES, FR, HU, IE, IT, LT, LU, NL, PL, PT, RO, SE, SK, SI, UK-GB, UK-NI) except two countries (EE⁴⁰⁾ and HR) reported that the daily imbalance charge is based on the final daily imbalance quantity.

Applicable price (Art. 22)

As part of the calculation methodology, the applicable price for the daily imbalance charge calculation shall take into account the marginal sell/buy price, weighted average price of the gas and a small adjustment. Title and locational products can only be taken into account for determining the prices. Out of 18 countries where the daily imbalance charge methodology applies, 13 countries (BE, CZ, DE, DK, ES, FR, HU, IT, LT, LU, PL (H-gas), SI and UK-GB) reported the determination of the applicable price by 1 October 2016. Two countries (EE and HR⁴¹⁾) have not implemented the provisions while two other countries (AT⁴²⁾ and NL⁴³⁾) repeated as in the previous report that the provisions are not applicable.

Portugal have implemented partially the provisions of applicable price. Although a trading platform and STSPs have not been implemented yet, a default rule for derivation of weighted average price is in place, taking into account the trades at the PVB (Spanish Virtual Trading Point). According to the NRA's decision, Mibgás, S.A., operating the Spanish Trading platform at the Spanish VTP (PVB) shall be the future Market Operator in Portugal.

Where interim measures are necessary the price derivation may be calculated in accordance with the interim measure report which shall substitute the daily imbalance charge methodology.

In eight countries applying interim measures (BG, EL, IE, PL (L-gas and TGPS), RO, SE, SK, UK-NI) the price derivation is calculated in accordance with the interim imbalance charge. While Romania reported the implementation of the interim imbalance charge by 1 October 2016, Bulgaria indicated its finalisation by 1 January 2017.

According to BAL NC a default rule shall be defined in case a marginal sell price and/or a marginal buy price is not available. Further details can be found in [Annex V, table 5.3](#).

39) There is no implementation of daily imbalance charge; the current methodology is used according to the Rules on the Organisation of the Gas Market. The daily imbalance charge calculation methodology will be implemented by 1 April 2017.

40) Balancing gas sale and purchase offers

41) There is no implementation of daily imbalance charge; current methodology is used according to the Rules on the Organisation of the Gas Market.

42) In Austria, daily imbalances are settled at the exchange of the VTP in the name and on behalf of the respective balance group responsible party if the BGRPs do not balance themselves after receiving an imbalance notification. Thus, the imbalance charge is the market price at the exchange. Transactions at the VTP are executed at the reference price published on the website of the operator of the VTP (CEGH) at that time.

43) In the Netherlands, the daily imbalance charge is always zero, because the daily imbalance volume is always zero. The imbalance quantities are absorbed by the linepack flexibility service according to art. 21.2 BAL NC.



Image courtesy of ONTRAS

Small adjustment (Art. 22.6)

As part of the approved calculation methodology, the small adjustment contributes to determine the marginal sell and buy price. Its role is to incentivise network users to balance their inputs and off-takes.

Out of 18 countries where the daily imbalance charge methodology applies, 14 countries (BE, CZ, DE, DK, ES, FR, HU, IT, LT, LU, PL (H-gas), PT, SI and UK-GB) reported the implementation of a small adjustment in accordance with article 22.6 of BAL NC by 1 October 2016. In two countries (EE and HR) the daily imbalance charge calculation methodology is still under development. In Hungary, the small adjustment is zero. As already stated in the previous report Austria and Netherlands repeated the small adjustment as not applicable.⁴⁴⁾ (Further details can be found in [Annex V, table 5.4](#)).

The other seven countries (EL, IE, PL (L-gas and TGPS), RO, SE, SK and UK-NI) reported the implementation of an interim imbalance charge while Bulgaria plans to implement the interim imbalance charge during 2017. (More details can be found in [Chapter 3.9](#) of this report dealing with interim measures).

Daily imbalance charge calculation (Art. 23)

The reduction of network users' daily imbalance quantities to zero each day, instead of rolling over to subsequent days, is an important element of a daily imbalance charge methodology.

In 20 countries (BE, BG⁴⁵⁾, DE, DK, EL, ES, FR, HU, IE, IT, LT, LU, PL, PT, RO, SE, SK, SI, UK-GB and UK-NI) network users' daily imbalance quantities are reduced to zero each day on payment of the daily imbalance charges.

In Austria, if the imbalances are below tradable volumes (<24 MWh/d) they will be considered as carry-forward for the next gas day.

Due to the linepack flexibility service offered in Czech Republic, daily imbalance charge is paid only for a part of the individual imbalance that exceeds a specific range and the imbalance quantity within the range rolls over to subsequent days. In the Netherlands the daily imbalance quantities are absorbed by the offered linepack flexibility service according to art. 21.2 of BAL NC.

Estonia applies a monthly accounting period, while in Croatia a daily imbalance charge calculation methodology is under development.

44) See also footnote 51 and 52 for AT and NL in applicable price section.

45) The Methodology shall be applied during 2017.

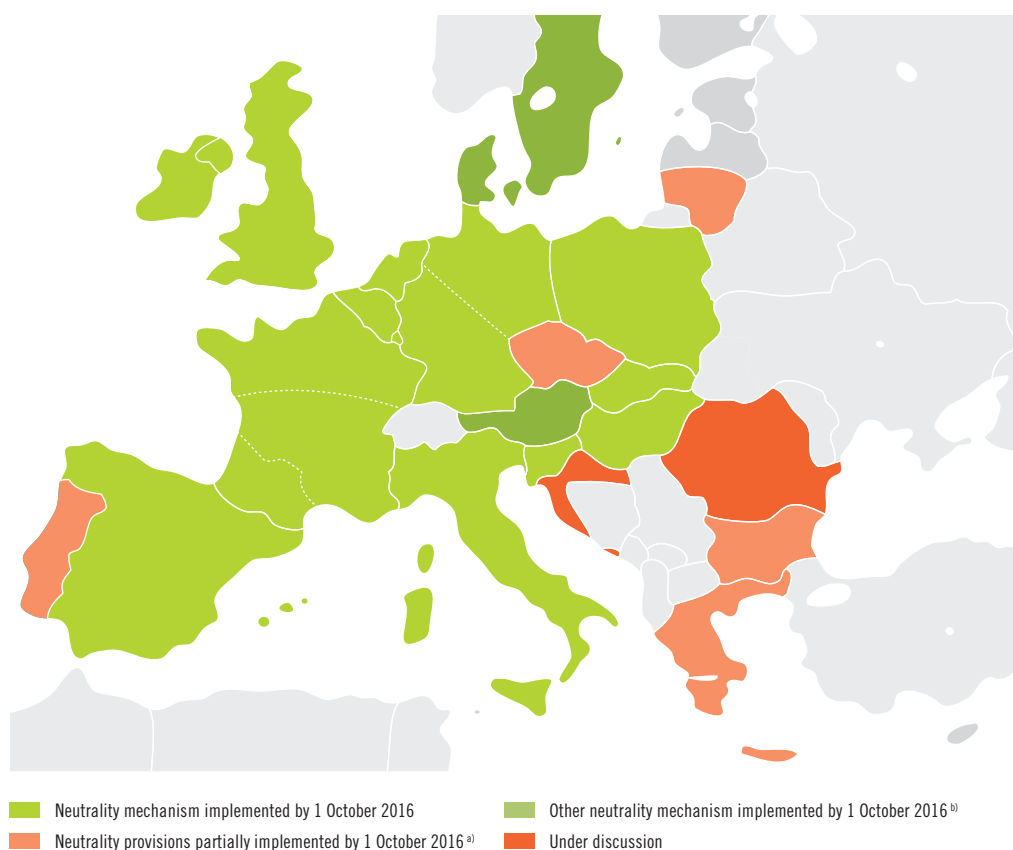
3.6 NEUTRALITY (CHAPTER VII OF BAL NC)

To ensure that it has neither to bear costs stemming from network users imbalanced positions nor perverse incentives to intervene or not in the market, TSO shall be neutral to the charges in relation to its balancing activities. Any costs or revenues arising from balancing activities shall be passed by TSO to network users.

The neutrality provisions must be implemented by all countries by 1 October 2016.

Map 8 illustrates that 14 countries (BE, DE, ES, FR, HU, IE, IT, LU, NL, PL, SK, SI, UK-GB and UK-NI) reported implementing neutrality provisions, while six countries including Estonia (BG, CZ, EE⁴⁶), EL, LT and PT) partially implemented them. An overview as well as further details on the partial implementation can be found in [Annex VI, tables 6.1 and 6.2](#).

Two countries (DK⁴⁷, SE⁴⁸) responded that since the TSO balancing economy is close to being balanced, NRAs have decided not to implement neutrality provisions. In Austria, another neutrality mechanism has been implemented⁴⁹.



- a) In Estonia TSO does not gain or lose by providing balancing actions, but no separate neutrality charge.
- b) The Danish NRA has approved that Energinet.dk does not have to implement the neutrality arrangements, based on two main parameters:
- 1) the balancing economy is close to being balanced and
 - 2) the economy of Energinet.dk is a rest-in-itself economy, and is thereby neutral in itself.
- In Sweden it has been reported that the amounts gained or lost due to balancing actions are almost negligible.

Map 8: Neutrality implementation by 1 October 2016

46) EE: TSO does not gain or lose by providing balancing actions, but no separate neutrality charge.

47) DK: The Danish NRA has approved that Energinet.dk does not have to implement the neutrality arrangements, based on 2 main parameters:

- 1) the balancing economy is close to being balanced and
- 2) the economy of Energinet.dk is a rest-in-itself economy, and is thereby neutral in itself.

48) SE: The amounts gained or lost due to balancing actions are almost negligible.

49) In case of a daily imbalance > 24 MWh, balancing actions per balance group are triggered by MAM in the name and on behalf of the BGR. No costs/revenues for the MAM, the BGR pays/receives the market price to/from the VTP. Hourly short imbalanced positions with short Market Area Position and short Carry forward account will be charged by balancing incentive markup. Finally, a last line of defence for balancing is to curtail imbalanced balance group, which causes network instability. Those balancing incentive markups generate income, which is accumulated and used to reduce transmission charges in future periods. As the balancing incentive markups were massively reduced since their introduction, the effect in total is small. As the MAM did not take measures for physical balancing, the total sum of the balancing incentive markup for 2013–2015 was returned to the network users via lower tariffs.

In other two countries (HR⁵⁰⁾ and RO⁵¹⁾) the implementation of neutrality provisions is under discussion.

According to BAL NC provisions, NRAs shall approve and publish the methodology for the calculation of the neutrality charges for balancing and TSOs shall publish the aggregate neutrality charges for balancing at least monthly.

Compared to previous report where in three countries (BG, HR and PT) no methodology for the calculation of the neutrality charges was published or was only planned to be published, Bulgaria and Portugal reported the publication of the methodology by 1 October 2016. Starting from the same date, Portugal is also publishing the monthly aggregated neutrality charges.

In Sweden, due to the fact that the amounts gained or lost by undertaking balancing actions are almost negligible, NRA decided not to implement the neutrality provisions, therefore no methodology was published. Links to the publication of methodology and of monthly aggregated neutrality charges can be found in [Annex I, table 1.3](#).

In all 25 countries (included Estonia) except in Croatia and Romania, the principle of neutrality

is observed when balancing actions are undertaken and, also, the costs and revenues arising from balancing activities are passed to network user.

The description of the rules for division of the neutrality charge for balancing components and the subsequent apportionment of the corresponding sums amongst the network users provided by the countries which decided to implement them (art. 30.6) can be found in [Annex VI, table 6.3](#).

Out of two countries (DE and PT) applying information model “variant 2”, Germany reported that the methodology for the calculation of the neutrality charges for balancing provides rules for a separate neutrality charge for balancing in respect of non-daily metered off-takes and offered a description. The description of the rules can be found in [Annex VI, table 6.3](#).

The methodology for the calculation of the neutrality charges may provide rules for the division of the neutrality charge for balancing components and for the subsequent apportionment of the corresponding sums amongst the network users. Four countries (DE, ES, IE and UK-NI) implemented these rules. Details can be found in [Annex VI, table 6.3](#).

3.7 WITHIN DAY OBLIGATIONS (CHAPTER VI OF BAL NC)

In order to incentivise network users to manage their within day position in view of ensuring the of the transmission system and minimising TSOs need to undertake balancing actions, BAL NC allows TSOs to implement Within day obligations (WDOs) which are a set of rules approved by the NRAs regarding network users’ inputs and off-takes within the gas day.

As stated in the previous report, five countries (AT, BE, DE, LU and NL) have already implemented WDOs prior to 1 October 2016, while Estonia finally decided not to implement any WDOs. Bulgaria reported the intention of introducing WDOs, therefore the rules have been elaborated and are subject to NRA’s approval. (See also Map 9)

Three countries (BE, LU and NL) applied a System Wide WDO whereas two countries (AT, DE) applied a Portfolio Based WDO. Compared to previous Report, no changes intervene in those countries.

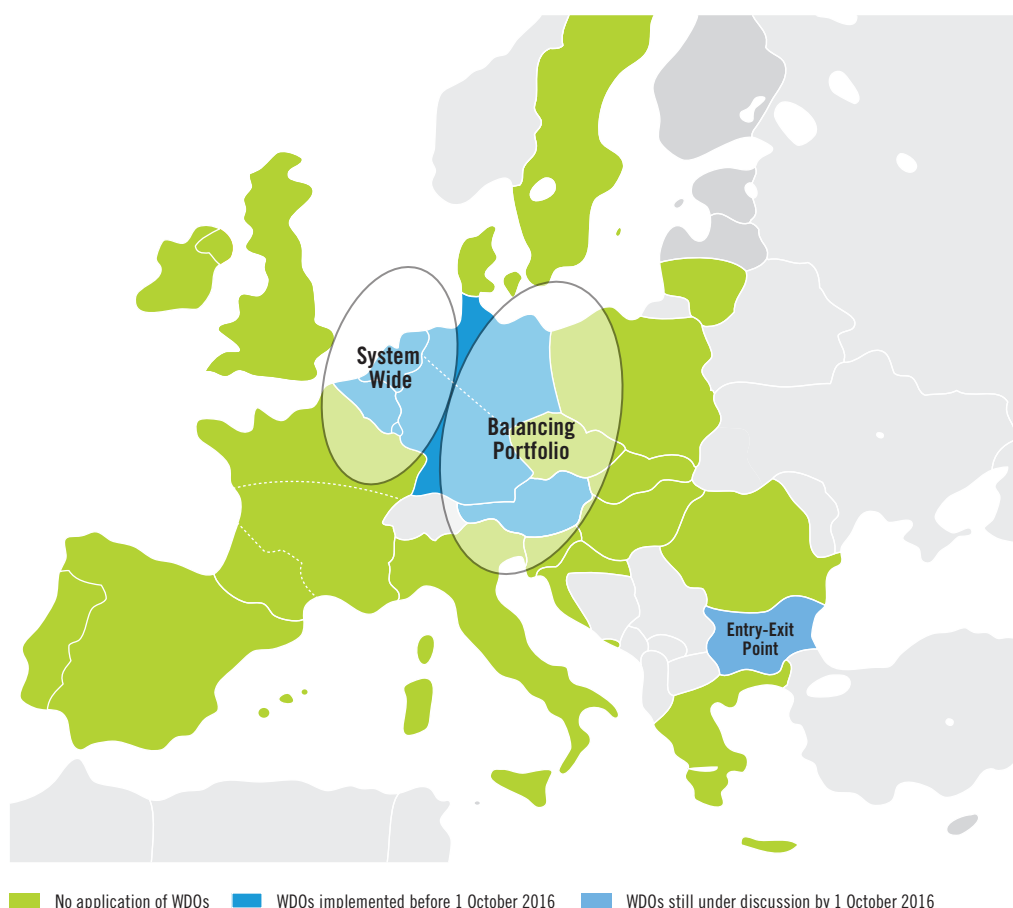
Compared to previous report, in Germany the regime of within-day obligations has changed by 1 October 2016⁵²⁾.

In all five countries, WDOs are applied in order to incentivise network users to manage their within day position and TSOs provided a description of the relationship between WDO and end of the day balancing systems that can be found in [Annex VII, table 7.1](#).

50) HR: The methodology for the calculation of the neutrality charges will be published and implemented by 1 April 2017.

51) RO: The document was in a public consultation in the beginning of 2016, and was subsequently withdrawn by NRA. Subsequently, based on the proposals and comments from the market NRA requested Transgaz to update the project, therefore it was submitted again to public consultation

52) Germany: As opposed to the former system the portfolio within-day charges are only applicable when the MAM is buying and selling gas in the first rank of the merit order list on the same gas day. In such a case, the applicable charge is determined by the difference of the weighted average buy and sell prices divided by two.



Map 9: The countries using Within Day Obligations by 1 October 2016

The requirements foreseen by art. 26.2 BAL NC are fulfilled in all five countries which also provided a description for each criteria. Further details can be consulted in [Annex VII, table 7.2](#).

BAL NC foresees the accomplishment of an analysis of the benefits of introducing WDOs in terms of economic and efficient operation of the transmission network. In six countries (AT⁵³, BE, BG⁵⁴, DE, LU, NL) the analysis of the benefits of introducing WDOs and the consultation of the market participants on introduction of WDOs application has already been done. In Bulgaria, WDOs rules are still awaiting approval from the NRA regarding the introduction of WDOs.

In four countries (BE, DE, LU and NL) steps has been undertaken according to the approved proposal and the recommendation document has been sent to ENTSG for information, according to art. 26.6 of BAL NC. In Austria, an analysis has been performed with the outcome that a change of WDOs is not necessary. Therefore no measures are proposed and no public consultation has been held.

Links to the public consultation and to the publication of recommendation document can be found in [Annex I, table 1.3](#).

53) Austria: An analysis has been done with the outcome that a change of WDOs is not necessary. Therefore no measures are proposed and no public consultation done.

54) Bulgaria: TSO has elaborated the rules for WDOs which are under NRA's approval.

3.8 LINEPACK FLEXIBILITY SERVICE (CHAPTER IX OF BAL NC)

TSOs may offer a linepack flexibility service to the shippers under the NRA's approval of the related terms and conditions. This commercial service which utilises the flexibility within the transmission system shall be consistent with the responsibility of the shipper to balance its inputs and off-takes throughout the gas day.

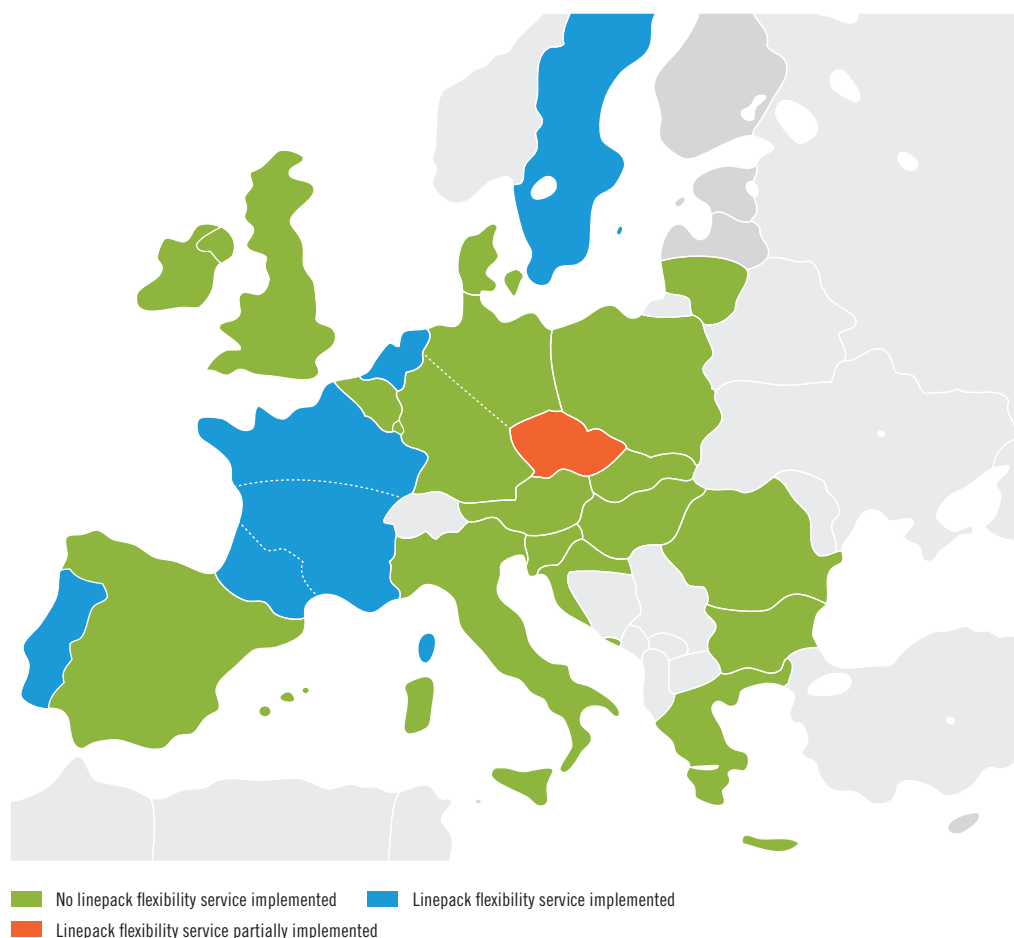
Five countries (CZ, FR, NL, PT and SE) reported already offering linepack flexibility service prior to or on 1 October 2016 (see map 10). Of the three countries (ES, PT and SI) where the introduction of this service has been discussed or previously foreseen, only Portugal decided finally to implement this service.

All five countries reported that the terms and conditions were approved by the NRA. While four of them (FR, NL, PT and SE) implemented the provisions of the linepack flexibility service, the TSO in Czech Republic responded that there are doubts whether all criteria foreseen in art. 44.1 of BAL NC are met due to different legal interpretations.

In France, the NRA decided that the neutrality mechanism does not apply to the linepack flexibility service according to art. 43.5 of BAL NC, due to the fact that linepack flexibility service is considered to be similar to any other service provided by the TSO.

Of the countries applying linepack flexibility service, the Netherlands implemented WDOs. The TSO therefore also confirmed the prioritisation of reducing WDO over the provision of a linepack flexibility service (art. 44.2 BAL NC).

Further details about the publication of the related documents can be found in [Annex I, table 1.3](#).



Map 10: Implementation of linepack flexibility service by 1 October 2016



Image courtesy of Fluxys

3.9 INTERIM MEASURES (CHAPTER X OF THE BAL NC)

BAL NC offers the flexibility of implementing interim measures in the absence of sufficient liquidity in the short term wholesale gas market in order to have enough time to develop a more liquid and competitive short term market.

Table 4 below provides an overview of the eleven countries including Estonia (BG, DE, EL, IE, LT, PL, RO, SE, SK and UK-NI) which have repeated (BG, DE, EL, LT, RO, SE and SK) or

reported (IE, PL for L-gas and TGPS, UK-NI) new implementation of interim measures. Bulgaria reported that the new balancing rules will come into force by 1 January 2017.

All of these countries except two (DE⁵⁵⁾ and PL⁵⁶⁾ which stated other reasons, reported that the absence of sufficient liquidity in short term wholesale gas market was the reason for applying interim measures.

Publication of updated interim imbalance report

Implementation of interim measures requires publishing the first interim measures report approved by the NRA and as well as any subsequent updated reports, if necessary on an annual basis.

Of ten countries applying interim measures four of them (DE, PL, SK and UK-NI) updated and published the interim measures reports. The links are provided in [Annex I, table 1.3](#).

The reasons given by these countries (BG, EL, IE, LT, RO and SE) for not updating the interim measures report are given in [Annex VIII, table 8.1](#).

55) Balancing platforms are used solely for the procurement of specific locational commodity products which are not offered at the trading platform in order to ensure security of supply. The balancing platforms are therefore only used in case there is a specific locational balancing demand which cannot be covered with STSPs traded at the wholesale market. Based on this strict limitation, the balancing platforms have no negative effect on the liquidity at the short term wholesale market, since it is hardly used and only serves as a backup solution. Offers of balancing gas suppliers at the balancing platform are furthermore non-binding for the supplier until they are accepted by the MAMs and therefore no flexibility is withheld from the short term wholesale market.

56) Poland applied for interim measures due to lack of locational products offered on the trading platform and no possibility of trading on short term markets (day ahead and intra-day) for up to 22 hours, 7 days a week, which will enable liquid balancing throughout the gas day.

Plans to remove interim measures

According to BAL NC provisions, TSO should identify the steps that will be taken to remove the interim measures, including the criteria for making these steps and for an assessment of the related timing.

The four countries (DE, PL, SK and UK-NI) reported in the updated report on next steps, milestones and deadlines planned to remove further the interim measures. All four countries foresee the usage of interim measures until April 2019. Further details can be found in [Annex VIII, table 8.2](#).

TSOs have the possibility to apply any other interim measures as an alternative or additionally, provided that such measures aim at promoting competition and liquidity of the short term wholesale gas market and are consistent with the general principles of BAL NC.

Poland reported implementing interim balancing products that are traded on the balancing platform in all three balancing zones.

Compared to the previous report, Romania implemented the planned interim measures, by 1 October 2016. Bulgaria plans to implement interim measures during 2017. Romania⁵⁷⁾ decided not to implement a balancing platform but to implement directly one or two trading platforms – until Q1-2017 (OPCOM platform) and until Q2-2017 (BRM platform). Greece prolonged the implementation timeline of the balancing platform until Q3-2017.

An Interim imbalance charge was reported as implemented in three countries (IE, PL (L-gas, TGPS) and UK-NI) compared to previous report at which time implementation was only planned.

Overview of the Interim measures applied by 1 October 2016

Country	Balancing platform	Alternative to a balancing platform	Interim daily imbalance charge	Tolerances
BG	–	Planned (during 2017)	Planned (during 2017)	Planned (during 2017)
DE	In place	–	–	–
EL	Planned (Q3/2017)	In place	In place	In place
IE	–	In place	In place	In place
LT	–	–	–	In place
PL	In place	–	In place for L-gas and TGPS	In place for H-gas
RO	–	In place	In place	in place
SE	In place	–	In place	–
SK	In place	–	In place	–
UK-NI	–	In place	In place	In place

Table 4: Overview of the Interim measures applied by 1 October 2016

57) Both BRM and OPCOM gas exchanges consider projects enabling them to introduce in short time the STSP, as follows: BRM works with KELER CCP for the introduction of STSP in cooperation with the clearing house – implementing deadline Q2-2017; OPCOM submitted the documentation for approval to NRA for the day ahead market (PZU), and the platform is expected to be commissioned in Q1-2017.

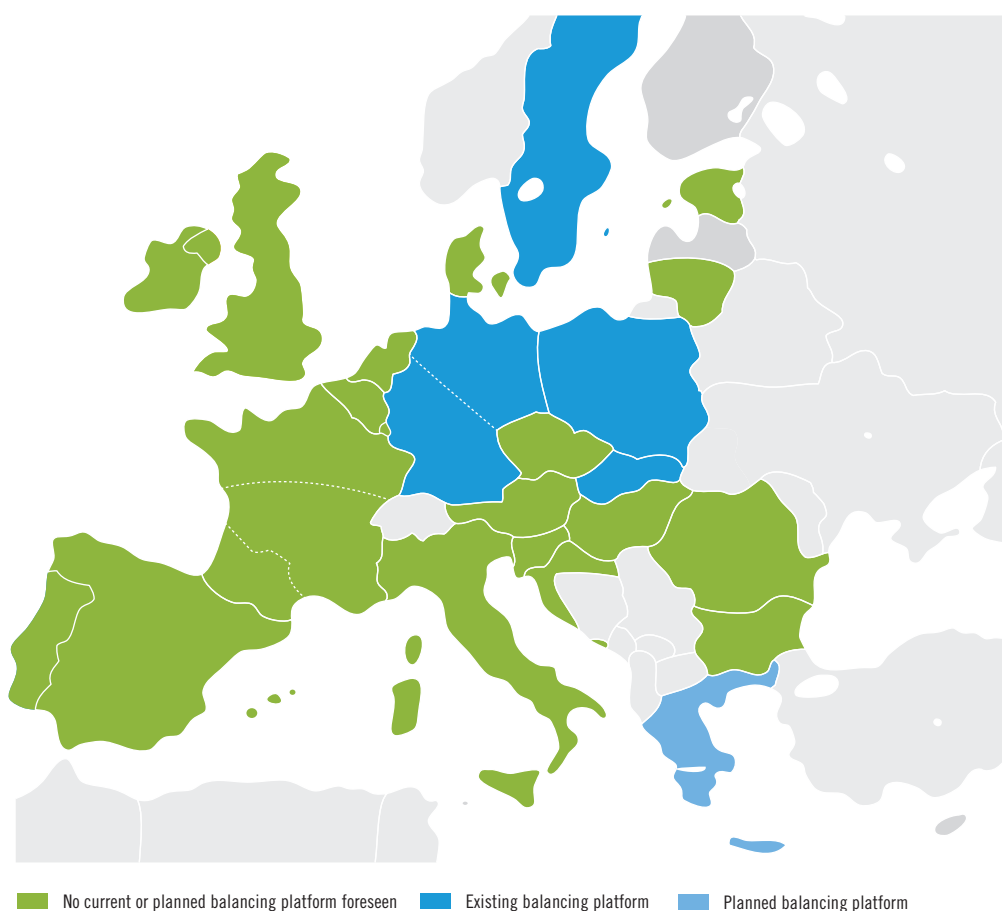
Balancing platform as interim measure (Art. 47 of BAL NC)

According to BAL NC provisions, a balancing platform can be established for the purpose of TSOs balancing in case the short term wholesale gas market has or is anticipated to have insufficient liquidity or where temporal and locational products required cannot reasonably be procured on this market.

In four countries (DE, PL, SK, SE) a balancing platform is already in use. In Poland, the balancing platform operates in all three balancing zones (H-gas, L-gas, TGPS) using interim balancing products.

Compared to the previous report, Greece foresees the implementation of a balancing platform in Q3-2017 while Romania will no longer continue to implement a balancing platform.

Map 11 below shows an overview of the current or planned usage of balancing platforms in Europe.



a) The map should be viewed in conjunction with Map 1 in section 3.1.1. The existence of a trading platform fulfilling all conditions in Article 10 of BAL NC makes it principally unnecessary to establish a dedicated balancing platform. All countries with existing or planned balancing platforms do not have a trading platform, except for Germany and Poland.

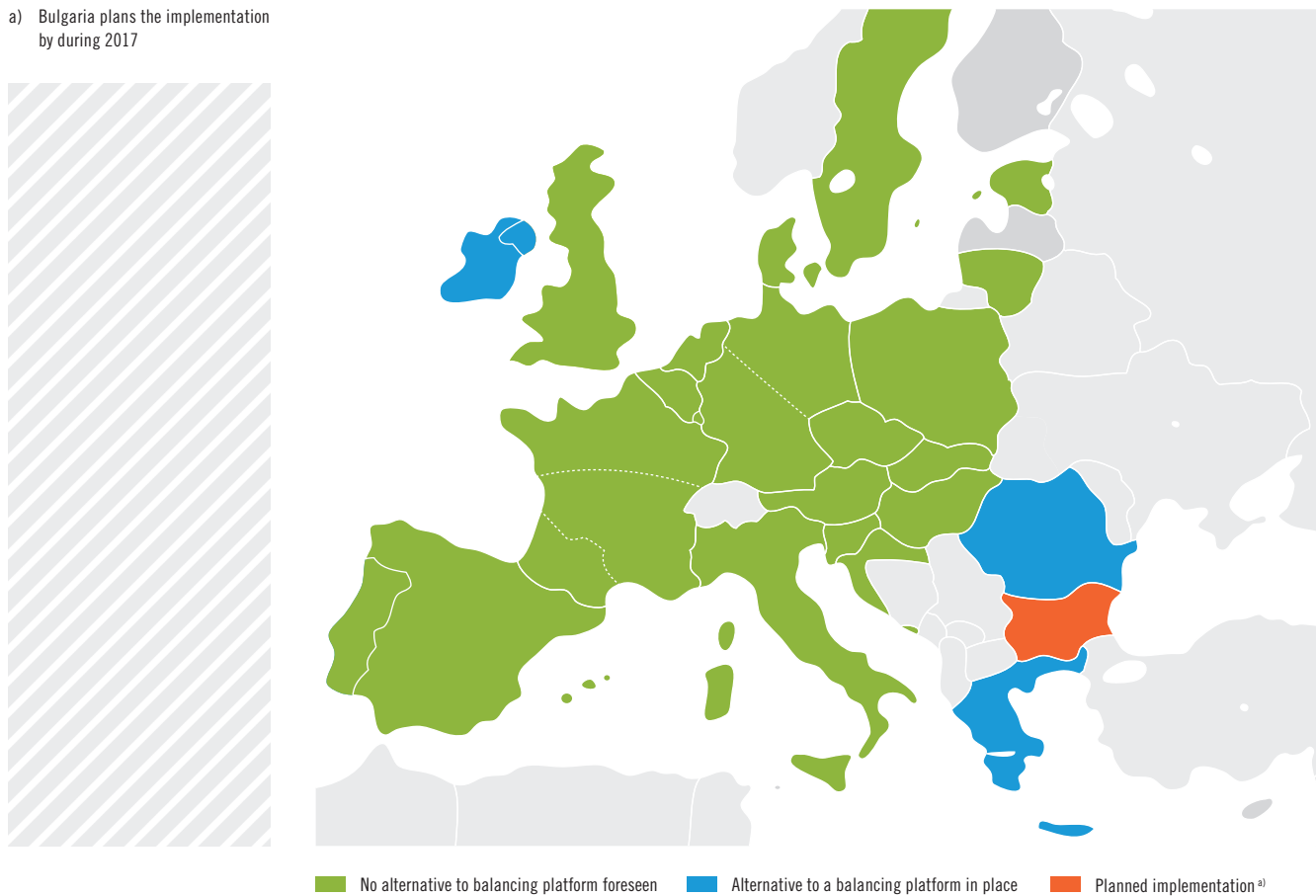
Map 11: Interim measures – Overview of current or planned usage of balancing platform^{a)}

Alternative to a balancing platform as interim measure (Art. 48 of BAL NC)

If a trading platform was not implemented since short term wholesale gas market has or is anticipated to have insufficient liquidity, BAL NC offers TSOs with the flexibility of implementing a balancing platform. Where a balancing platform cannot increase the liquidity of the short term wholesale gas market as a result of insufficient interconnection capacity between balancing zones, an alternative to a balancing platform may be used in order to enable TSO to undertake efficient balancing actions.

As Map 12 shows, four countries (EL, IE, RO and UK-NI) reported the implementation of balancing services as an alternative to a balancing platform. Compared to the previous report Romania stated that an alternative to a balancing platform is in place by 1 October 2016 while in Bulgaria, the implementation of balancing services as alternative to the balancing platform is planned for 1 January 2017.

a) Bulgaria plans the implementation by during 2017



Map 12: Interim measure – Overview of current use of an alternative to a balancing platform

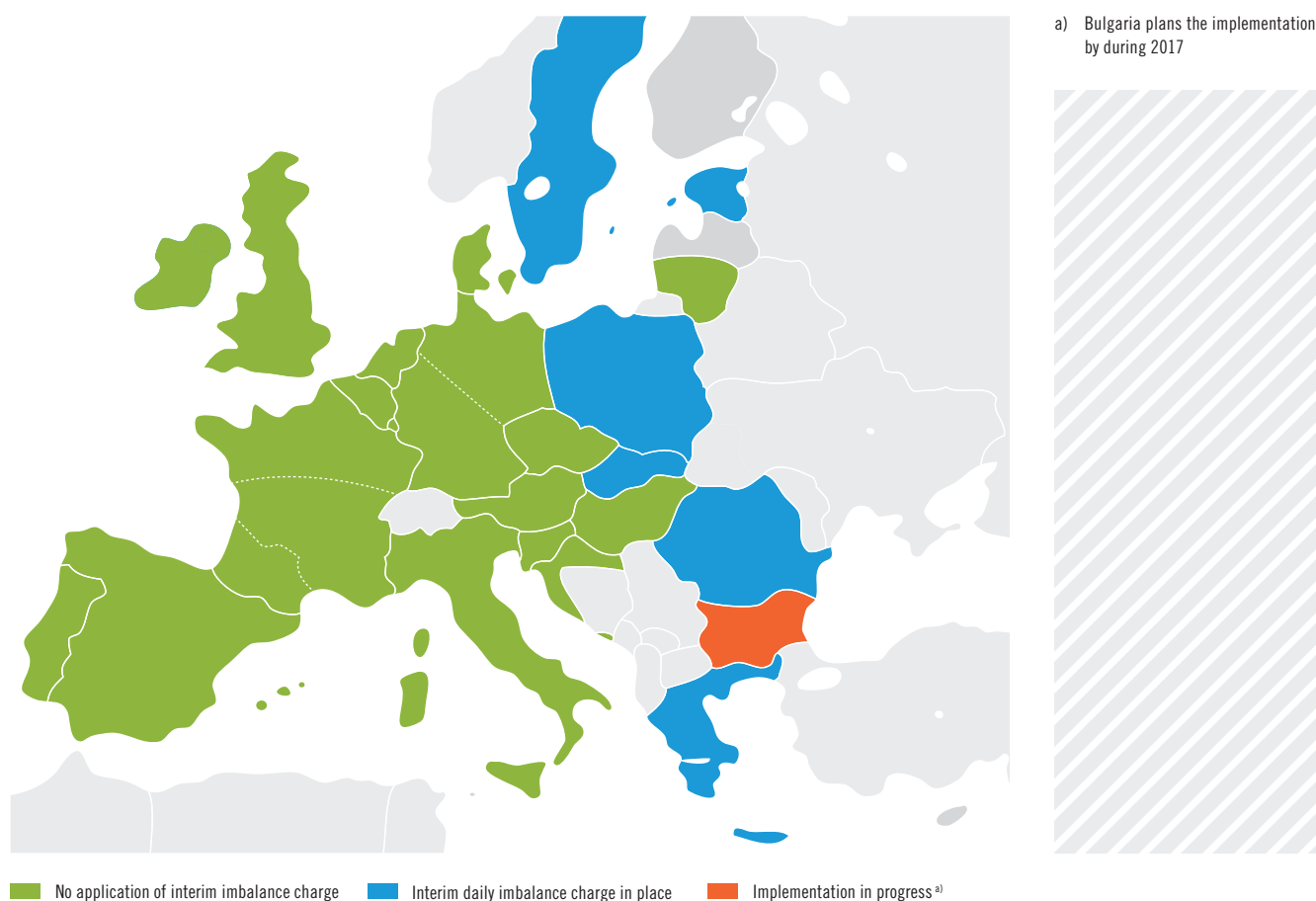
Interim imbalance charge (Art. 49 of BAL NC)

In the absence of sufficient liquidity of the short term wholesale gas market, TSOs may apply interim imbalance charge which shall substitute the daily imbalance charge calculation methodology.

As map 13 illustrates, eight countries including Estonia (EL, IE, PL, RO, SE, SK and UK-NI) reported having implementing interim imbalance charge. In Poland, interim imbalance charges are only applied for two balancing zones (L-gas and TGPS).

Compared to the previous report, in all countries, interim imbalance charge is in place, with the exception of Bulgaria, where the implementation of interim imbalance charge is planned for 1 January 2017.

The description of the implemented interim imbalance charge can be found in [Annex VIII, table 8.3](#).



Map 13: Interim measures – overview of current or planned use of interim imbalance charge

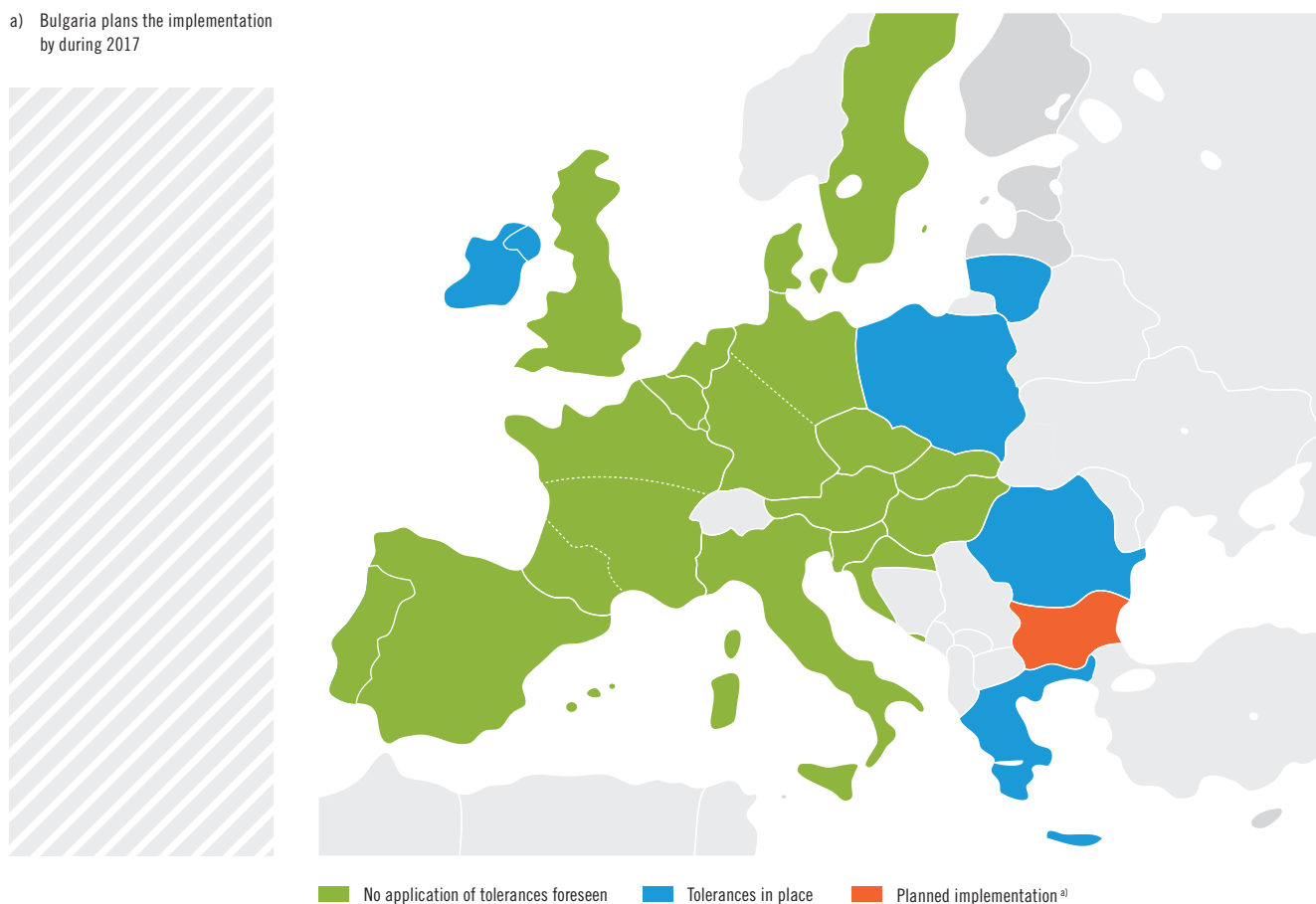
Usage of tolerances as interim measure (Art. 50 of BAL NC)

The tolerances are meant to reduce network user's financial exposure to the marginal sell or buy price in respect of a part of or the network user's entire daily imbalance quantity for the gas day.

Details on the reason for using tolerances, tolerance level and the expected timeline for the use of tolerances can be found in [Annex VIII, table 8.4](#).

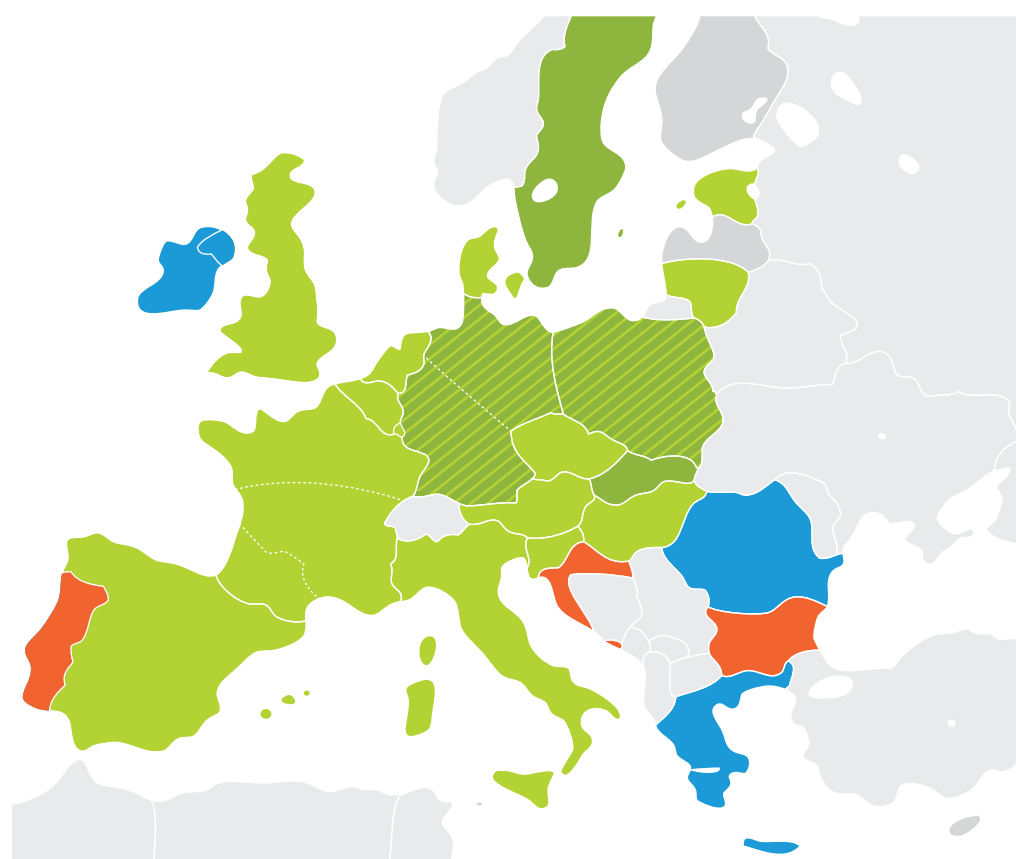
As Map 14 below illustrates, six respondents (EL, IE, LT, PL (H-gas), RO and UK-NI) have stated the implementation of tolerances by 1 October 2016 while Bulgaria plans the implementation during 2017.

a) Bulgaria plans the implementation by during 2017



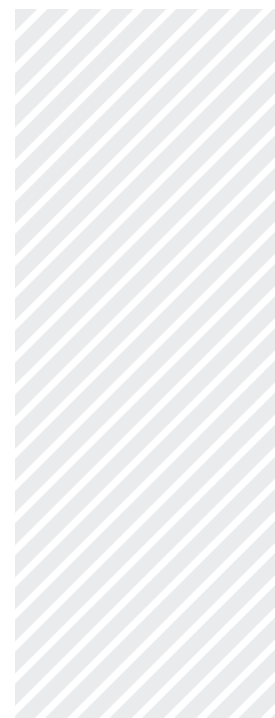
Map 14: Interim measure – Overview of current application of tolerances

Since one of the three options should have been implemented, Map 15 intends to provide an overview of the (planned) or implemented trading platform, balancing platform and alternative to a balancing platform.



■ Trading platform implemented
 ■ Balancing platform implemented
 ■ Alternative to a balancing implemented ^{a)}
■ Planned trading platform or alternative to a balancing platform after 1 October 2016 ^{b)}

- a) In Greece a balancing platform is planned for mid-2017.
- b) Bulgaria plans the implementation during 2017.



Map 15: Trading platform vs. balancing platform vs. alternative to balancing platform by 1 October 2016

4 Conclusion

4.1 IMPLEMENTATION DATES AND PROVISIONS OF BAL NC IN EUROPE

NC BAL (Code) has been applicable since 1 October 2015 but allows its application to be postponed until 1 October 2016. For those countries which applied for a transitory period, the deadline for full implementation of the Code was 1 October 2016.

Instead of full implementation, interim measures can be implemented for up to five years¹⁾ from the entry into force of the Code (i.e. until 16 April 2019) while all the other provisions in the BAL NC shall be implemented by 1 October 2015.

Of 10 countries (AT, BE/LU, DE, DK, FR, HU, NL, SI and UK-GB) applying the deadline by 1 October 2015, nine of them (AT²⁾, BE/LU, DE, DK, FR, NL, SI and UK-GB)³⁾ stated the implementation of BAL NC. One country (HU) reported having most of the provisions in place by 1 October 2016.

Of the 11 countries including Estonia (BG, DE, EL, IE, LT, PL, RO, SE, SK and UK-NI) that applied for interim measures until April 2019, eight of them (DE, IE, LT, PL, RO, SE, SK and UK-NI) reported having the interim measures in place. Two respondents (EE* and EL) partially implemented the planned interim measures by 1 October 2016 while one country (BG) is planning to implement the interim measures during 2017.

Three respondents (DE, IE, and UK-NI) stated that, except interim measures, all other provisions are in place while other eight countries including Estonia (BG, EL, LT, PL, RO, SE and SK) reported having partially implemented them by 1 October 2016.

Out of five countries (CZ, ES, HR, IT and PT) which applied for the transitory period option until 1 October 2016, two countries (ES and IT) have implemented BAL NC while in three countries (CZ, HR, PT) still had to perform further implementation steps. For these five countries annual reviews will be monitored with the next monitoring report.

Balancing implementation is an ongoing process – even following implementation. Due to continuous changes in the market environment, adjustments of the implementation might be needed to better achieve the goal. It can be noticed that steps forward from the planning to the implementation phase have been made especially by countries applying interim measures and the transitional period option to fulfil their implementation obligations. Those countries indicated that they had faced key challenges in the implementation process. In addition changes to the existing balancing regimes were reported by other countries.

In all countries the described CBA process on information provisions had not been fulfilled two years after BAL NC came into force. In some countries the implementation process is underway while in other ones it is planned or postponed for the future. The progress of this process must be further monitored in the next implementation monitoring report. Nevertheless the implementation or the improvement of information provisions was reported in several countries.

1) And additional 5 years for the case of the interim measure of a balancing platform, pursuant to Article 47(3) of the NC

2) In Austria, BAL NC has been implemented. As Austria is a transit country it was necessary to consider some “specialties and needs” of a transit network.

3) Including some exceptions for three countries (LU, DK and FR).

4.2 OVERVIEW TABLE OF DEGREE OF IMPLEMENTATION OF BAL NC

Without covering all the topics and all the details that are available in the report table 5 below displays a selection of information with the aim of providing an overview on the implementation state of BAL NC in countries by 1 October 2016. For more detailed information on the implementation status in the countries, refer to the annexes⁴⁾ of this report.

4) Please see also the previous report regarding more details which have not been reported as an update.

Overview table of selected information on implementation by 1 October 2016									
Country	Trading platform (in place/foreseen date)	STSPs (only title/also others/under discussion/no plans)	Balancing services (in place/foreseen or discussed/none)	Hourly re-nomination cycle, Standard Re-nomination lead time (≤ 2 hrs) Cluster 2015	Trade notifications and lead time (30 min / 30 mins < x ≤ 2 hrs / > 2 hrs)	Types of information provision art. 32 BAL NC (total out of 3)	Information Model (with established forecasting party)	Daily Imbalance Charge/implemented by 1 October 2016	Neutrality arrangements implemented
Cluster 2015									
AT	In place	Only title	None	Yes	30 min	3*	Base case (Third Party)	Yes	No ¹⁾
BE/LU	In place	Only title	None	Yes ²⁾	30 min	3	Variant 1 (TSO)	Yes	Yes
DE	In place	Also others	In place	Yes	30 min	3*	Variant 2 (DSO)	Yes	Yes
DK	In place	Only title	None	Yes	30 min < x ≤ 2 h	3	Base case (TSO)	Yes	Other mechanism
FR	In place	Also others	None	Yes	30 min	3*	Base case (TSO)	Yes	Yes
HU	In place	Also others	None	Yes	30 min	3*	Variant 1 (Third Party not implemented yet)	Yes	Yes
NL	In place	Also others	None	Yes	30 min	3*	Variant 1 (Third Party)	Yes	Yes
SI	In place	Only title	In place	Yes	30 min < x ≤ 2 h	3	Variant 1 (TSO)	Yes	Yes
UK-GB	In place	Also others	None	Yes	30 min < x ≤ 2 h	3*	Base case (TSO)	Yes	Yes
Cluster 2016									
CZ	In place	Only title foreseen (1 July 2016)	In place	Yes	30 min	3	Base case (Third Party)	Yes	Yes partially
ES	In place	Also others	None	Yes	30 min	3*	Base case (Third Party)	Yes	Yes
HR	Planned by 1 April 2017	Under discussion	In place	Yes	30 min < x ≤ 2 h	3	– (Designation of Third Party in progress)	Under development	No
IT	In place	Only title	foreseen	Yes	30 min	3	Base case (TSO)	Yes	Yes
PT	Planned	Under discussion	In place	Yes	30 min	3	Variant 2 (TSO)	Yes partially ³⁾	Yes

* One type of information is considered confidential and is provided via secured platform.

1) In Austria in case of a daily imbalance > 24 MWh, balancing actions per balance group are triggered by MAM in the name and on behalf of the BGR. No costs/revenues for the MAM, the BGR pays/receives the market price to/from the VTP. Hourly short imbalanced positions with short Market Area Position and short Carry forward account will be charged by balancing incentive mark-up. Finally, a last line of defence for balancing is to curtail imbalanced balance group, which causes network instability. Those balancing incentive mark-ups generate income, which is accumulated and used to reduce transmission charges in future periods. As the balancing incentive mark-ups were massively reduced since their introduction, the effect in total is small. As the MAM did not take measures for physical balancing, the total sum of the balancing incentive mark-up for 2013–2015 was returned to the network users via lower tariffs.

2) At the IP Remich between Germany and Luxemburg the re-nomination lead time on the Luxemburg side is two hours and 15 minutes. The additional time is used by Creos Luxemburg to re-nominate in case suppliers do not fulfil their nominations obligations/restrictions based on the forecast offtake at this IP. For all other IPs, the standard lead time of 2 hours applies.

3) Portugal has partially implemented the provisions of applicable price. Even though neither a trading platform nor STSPs have yet been implemented, a default rule for derivation of weighted average price is in place, taking into account the trades at the PVB (Spanish Virtual Trading Point). According to the NRA's decision, Mibgás, S.A., operating the Spanish Trading platform at the Spanish VTP (PVB) shall be the future Market Operator in Portugal.

Overview table of selected information on implementation by 1 October 2016									
Country	Trading platform (in place/ foreseen date)	STSPs (only title/also others/under discussion/ no plans)	Balancing services (in place/foreseen or discussed/ none)	Hourly re-nomi- nation cycle, Standard Re- nomination lead time (≤ 2 hrs) Cluster 2015	Trade notifica- tions and lead time (30 min / 30 mins $< x$ ≤ 2 hrs / > 2 hrs)	Types of infor- mation provision art. 32 BAL NC (total out of 3)	Information Model (with established forecasting party)	Daily Imbalance Charge/imple- mented by 1 October 2016	Neutrality arrangements implemented
Cluster 2019									
BG	Alternative to bal. platform planned during 2017	Under discussion	Foreseen or discussed	Yes	30 min $< x \leq 2$ h	1	Variant 1 designated (-)	Interim imbal- ance charge planned during 2017	Planned during 2017
EL	Bal. platform planned Q3/2017	Under discussion	Alternative to bal. platform in place	No	Not implemented	3	n/a**	Interim imbal- ance charge in place	Yes partially
IE	2019	Under discus- sion	Alternative to bal. platform in place	Yes	30 min	3*	Base case (TSO)	Interim imbal- ance charge in place	Yes
LT	In place	Only title	In place	No ⁴⁾	30 min	2*	Base case (DSO)	Yes	Yes partially
PL	In place ⁵⁾	Also others	In place for H-gas	Yes	30 min $< x \leq 2$ h	3*	Base case (DSO)	Interim imbal- ance charge in place for L-gas and TGPS	Yes
RO	Trading plat- form planned Q1-2017	Under discussion	Alternative to bal. platform in place	Yes	30 min $< x \leq 2$ h	2	—	Interim imbal- ance charge in place	Planned
SE	Bal. platform in place	No	None	Yes	30 min $< x \leq 2$ h	2	Base case (-)	Interim imbal- ance charge in place	Other mechanism
SK	Bal. platform in place	Also others	In place	Yes	30 min $< x \leq 2$ h	3	n/a**	Interim imbal- ance charge in place	Yes
UK-NI	Alternative to a bal. platform in place	No	Alternative to bal. platform in place	Yes	30 min	3*	Base case (TSO)	Interim imbal- ance charge in place	Yes
Derogation									
EE	Not indicated	Under discussion	in place	No-	30 min $< x \leq 2$ h	Not provided	(-) ⁶⁾	Yes partially	Yes partially

Table 5: Overview table of selected information on implementation by 1 October 2016

* One type of information is considered confidential and is provided via secured platform.

** Reported as not applicable due to no daily and/or non-daily metered off-take points connected to the transmission system in the balancing zone.

4) AB Amber Grid is currently interconnected just with the transmission system of Latvia which has derogation based on Article 49 of Directive No 2009/73 and BAL NC is not applied to Latvia.

5) In Poland the trading platform is implemented in H-gas and TGPS balancing zone.

6) In Estonia currently the network users have agreed that they will forecast themselves.

Annex I: List of Abbreviations and Countries with Codes and Balancing Zones

Abbreviations

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

Table 1.1: Overview of countries with their balancing zones ¹⁾		
ACRONYM	COUNTRY	BALANCING ZONE
AT	Austria	Austria – Market Area East ²⁾ *
BE	Belgium ³⁾	BELUX H-gas (with LU)*
		BELUX L-gas*
BG	Bulgaria	National balancing zone (NGTN)
		Transit balancing zone (GTNTT)
CZ	Czech Republic	Czech Republic*
DE	Germany	Gaspool Germany Market Area*
		Net Connect Germany (NCG) Market Area*
DK	Denmark	Denmark
EE	Estonia ⁵⁾	–
EL	Greece	Greece
ES	Spain	Spain
FI	Finland	Finland
FR	France	PEG Nord
		TRS
HR	Croatia	Croatia
HU	Hungary	Hungary*
IE	Ireland	Ireland*
IT	Italy	Italy
LT	Lithuania	Lithuania*
LU	Luxembourg	BELUX H-gas (with BE)*
LV	Latvia	Latvia
NL	The Netherlands	The Netherlands (GTS)*
PL	Poland	High-methane gas balancing area (H-gas)*
		Low methane balancing area (L-gas)*
		TGPS gas balancing area (TGPS) ⁴⁾
PT	Portugal	Portugal
RO	Romania	Romania
SE	Sweden	Sweden*
SI	Slovenia	Slovenia*
SK	Slovakia	Slovakia
UK-GB	Great Britain	Great Britain (NBP)

* Balancing zone included distribution system or parts of them (reported by 12 countries).

- 1) For NL the NC BAL is legally applicable on both TSOs GTS and BBL Company in the Dutch balancing zone. But BBL Company, is allowed by the NRAs ACM and Ofgem to continue the in = out regime, by definition no imbalances can occur on the pipeline. Therefore, only articles not dealing with actual balancing of the grid have a practical meaning for BBL Company. (BBL has received derogation from ACM and Ofgem for the majority of the NC Balancing (all Articles except for Articles 12 – 18 on nominations and relevant aspects of Articles 32 – 42 on Information Provision).
- 2) For the UK two replies were submitted. This reflects the fact that in the UK there are two balancing zones, one covering Great Britain and one covering Northern Ireland. These balancing zones are in different transmission networks and are regulated by different NRAs. In this report Great Britain will be referred to as UK-GB and Northern Ireland as UK-NI.
- 3) In Austria 3 market areas exist in total, but transmission systems with an entry-exit-system are only available in the market area east balancing zone (with two TSOs) – therefore two replies have been submitted. The entry-exit-points in the distribution system are included in the entry-exit-system and therefore part of the balancing zone. The final customers, biogas and the distribution system operators underlie a different balancing regime.
- 4) Belgium and Luxembourg established the first cross-border balancing zone BELUX (H-gas). In Belgium an additional L-gas balancing zone BELUX (L-gas) exists.
- 5) There are no DSOs connected to the Polish TGPS balancing area.
- 6) In Estonia no entry-exit system has been established yet.

Table 1.2: Reported key challenges and identified solutions in the implementation process

COUNTRY	KEY CHALLENGES REPORTED A) DURING AND B) AFTER THE IMPLEMENTATION AND C) THE SOLUTIONS IDENTIFIED
BG	a) low level of liquidity and lack of flexible sources for balancing purposes; IT issues; market constraints; b) network users inability to meet the requirements; need for additional regulatory actions; negotiations with the adjacent TSOs.
CZ	To set up internal rules for physical balancing, which the legislation presuppose, but which are not adequately described in the legislation. To set up principles into the ICT system and to train staff. To adapt the system of physical balancing to (in some cases) unclear, inaccurate or ambivalent legislation.
DK	b) Most significant challenge after implementation: low within-day market liquidity. c) within-day balance pricing, market-maker for within-day product at exchange, change in trading behaviour by TSO when balancing actions are needed.
EE	a) data exchange problems – consumption data from DSOs for balance settlement; b) implementing the data provisions; imbalance charge; c) data exchange IT solution
EL	a) – Information provision/IT systems – Need for fundamental changes of market model – Differences in market regimes of adjacent Transmission Systems b) – Achieve sufficient national market liquidity; – Implementation of Reg. (EC) 703/2015 provisions at IPs with non EU countries; – Achieve sufficient regional market liquidity.
IE	a) – lack of a Trading platform for the Irish Balancing Point (tender to be issued in early 2017). – 'Bandwidth' of the TSO and industry in a relatively small market to undertake implementation of the entire suite of EU Network Codes, as well as BAU activities (ongoing issue). – Initial lack of consensus amongst Irish industry as to the implementation plan and timescales (overcome through significant industry consultation and workshops).
IT	a) – Upgrading of IT systems to comply with BAL NC provisions. – Clarification of TSO goals in the participation to the market and corresponding incentives schemes. – Definitions of TSO operational flexibility. b) – Attitude of Users to trade in the within-day market instead of concluding OTC trades. – Improvement of 3rd parties metering in order to provide more reliable information to Users. a) + b) [challenges faced during AND after implementation phase] Implementation of EU harmonised Gas day. c) – Facilitation of gas trade and commercial exchanges. – Definition of appropriate commercial rules for the management of gas quantities allocation.
PL L-GAS	a) – all gas sources belong to one producer, – no connection points with adjacent balancing areas, no possibility to convert gas, – only 2 shippers active in this balancing area b) – no network users interested in activity on the balancing platform - no transaction on balancing platform, – no OTC transaction since VTP creation, – no possibilities and no interest to make the market liquid c) TSO will cooperate with trading platform operator to offer dedicated product for this balancing area at the trading platform. If no other possibility, the TSO will take balancing actions using balancing services.
PT	a) Establishing MIBGAS as the Trading platform and making available to TSO some kind of balancing actions; Implementing information provision based on variant 2, mainly type DM as it depends on DSO/TSO interaction. b) Establishing MIBGAS as the Trading platform (and future increase of liquidity) and making available to TSO any STSPs; also stabilising variant 2 information provisions. c) Mibgas is not yet operating in the Portuguese balancing zone due to legal administrative hindrances. For the purpose of making available balancing actions to the TSO, ERSE implemented balancing services based on ad hoc auctions triggered as per TSO needs. This is to be maintained during a transitional period until MIBGAS' trading platform and STSPs become available. The difficulties of implementing the information provisions of variant 2 are being dealt with stakeholder's involvement. Also, improvements are being made by the Forecasting Party on the NDM forecast model.
RO	Taking into account that we are still in the implementation stage, we will refer to the challenges faced during the implementation: – the incipient development stage of the domestic gas market; – the reluctance of the network users in adopting changes in the day to day practice; – the slow development and implementing the new provisions of the primary and secondary legislation.
UK-NI	The main challenge has been insufficient liquidity. Northern Ireland is a small region, in the context of the European Union. At present, there are 10 Shippers in Northern Ireland. Peak daily demand during 2013/2014 was around 6.5 mcmd, and in 2015/2016 it was a little lower, around 59 GWh (c.5.4 mcmd). For comparison, in GB there are over 200 companies registered as shippers, of whom at least 40 are sizeable and active parties. The highest demand day for GB during winter 2015–2016 was 393 mcmd. The Northern Irish market is evidently much smaller in terms of participants and in terms of gas demand than GB. Given the relatively small geographical scale of Northern Ireland, there is a limit to how much growth could ever be reasonably expected to develop within the market compared to GB. However, some small steps towards market development are occurring. Trading at the NI BP has commenced for the first time this year, and though at very low volumes, there is at least some trade taking place on a regular basis, reflecting the use of the NI BP as a contract delivery point.

Table 1.3: Overview of the provided publication links per country

		AT	BE/LU	BG	CZ	DE	DK	EL	ES	FR	HR	
INTERIM MEASURES	Updated Interim measures Report approved	n/a	n/a	— ¹⁾	n/a	Gaspool, NCG	n/a	— ²⁾	n/a	n/a	n/a	
	Interim imbalance charge	n/a	n/a	BG	n/a	n/a	n/a	EL	n/a	n/a	n/a	
LINEPACK FLEXIBILITY	Linepack flexibility service documents	n/a	n/a	n/a	—	n/a	n/a	n/a	n/a	GRTgaz/TIGF	n/a	
INFORMATION PROVISIONS	NU's inputs and off-takes for gas day (art. 32.3)	AT*	BE/LU	—	CZ	DE*	DK	EL	ES*	GRTgaz TIGF*	HR	
	TSO balancing actions (art. 32.2)	AT	BE/LU	—	CZ	NCG Gaspool	DK	EL	ES	GRTgaz TIGF	HR	
	Overall status of transmission system (art. 32.1)	AT	BE/LU	BG	CZ	NCG Gaspool	DK	EL	ES	GRTgaz TIGF	HR	
PROVIDED LINKS REGARDING NEUTRALITY PUBLICATION	Monthly aggregated neutrality charges for balancing (art. 29.4)	—	BE/LU	—	—	Gaspool, NCG	n/a	—	ES ³⁾	GRTgaz, TIGF	—	
	Approved methodology – calculation of neutrality charges (art. 30.2).	—	BE/LU	BG	—	DE	n/a	EL	ES	FR	—	
PROVIDED LINKS REGARDING WDOs PUBLICATION	WDO recommendation document (art. 26.6)	AT	BE/LU	—	n/a	Gaspool, NCG	n/a	n/a	n/a	n/a	n/a	
	Public consultation on WDOs (art. 26.4).	—	BE/LU	BG	n/a	link1 link2	n/a	n/a	n/a	n/a	n/a	
PROVIDED LINKS REGARDING DAILY IMBALANCE CHARGE	Daily imbalance charge calculation methodology	AT	BE/LU	n/a	CZ	Gaspool NCG	DK	n/a	ES	GRTgaz, TIGF	HR	
PROVIDED LINKS REGARDING OPERATIONAL BALANCING PUBLICATION	Balancing services: call for tenders and results	n/a	n/a	—	CZ	Gaspool: link1/ link2/ link3/ link4 NCG	n/a	EL	n/a	n/a	HR/HR	
	Marginal buy/sell price (in Engl.) (art. 10.5)	AT	BE/LU	—	CZ	Gaspool NCG	DK	EL	ES	GRTgaz TIGF	HR	
	(Annual) costs, frequency, quantities of balancing actions (art. 9.4)	AT	BE/LU	—	CZ	DE	DK	EL	ES	GRTgaz; TIGF	HR	

* Information is considered confidential and is provided via secured platform.

** UK-GB do not publish this information but provide the details to each shipper on a monthly basis via their neutrality statements.

*** UK-NI published the information on shipper invoice backing data.

1) Bulgartransgaz shall update and submit the annual report to the NRA after 6 months of implementation of the new Balancing regime.

2) DESFA's current consideration is that submission of an updated version of the report on Interim Measures is not necessary, since:

- Most of the measures included in the report (e.g. reduction of tolerance levels, revision of resale scheme, full re-nomination cycles) have already been incorporated in DESFA's proposal for the 3rd revision of the Network Code;
- The rest of the proposed measures are expected to be implemented according to schedule.

3) In Spain, the information is provided through the IT system SL-ATR (Logistics System for Third Party Network Access).

	HU	IE	IT	LT	NL	PL	PT	RO	SE	SI	SK	UK-GB	UK-NI		
	n/a	— ⁴⁾	n/a	— ⁵⁾	n/a	PL	n/a	— ⁸⁾	— ⁹⁾	n/a	— ¹⁰⁾	n/a	UK-NI	Updated Interim measures Report approved	INTERIM MEASURES
	n/a	IE	n/a	n/a	n/a	PL	n/a	RO	SE	n/a	SK	n/a	UK-NI	Interim imbalance charge	
	n/a	n/a	n/a	n/a	NL	n/a	PT	n/a	SE	n/a	n/a	n/a	n/a	Linepack flexibility service documents	LINEPACK FLEXIBILITY
	HU*	IE	IT	LT*	NL*	PL*	PT	—	SE	SI	SK	UK-GB*	UK-NI*	NU's inputs and off-takes for gas day (art. 32.3)	INFORMATION PROVISIONS
	HU	IE	IT	—	NL	H-gas L-gas TGPS	PT	RO	—	SI	SK	UK-GB	UK-NI	TSO balancing actions (art. 32.2)	
	HU*	IE*	IT	LT	link1 link2	H-gas L-gas TGPS	PT	RO	SE	SI	SK	UK-GB	UK-NI	Overall status of transmission system (art. 32.1)	
	HU	—	IT	—	n/a	PL	PT	—	n/a	SI	SK	UK-GB**	UK-NI***	Monthly aggregated neutrality charges for balancing (art. 29.4)	PROVIDED LINKS REGARDING NEUTRALITY PUBLICATION
	HU	IE	IT	LT	link1 link2	PL	PT	RO	n/a	SI	SK	UK-GB	UK-NI	Approved methodology – calculation of neutrality charges (art. 30.2).	
	n/a	n/a	n/a	n/a	NL	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	WDO recommendation document (art. 26.6)	PROVIDED LINKS REGARDING WDOs PUBLICATION
	n/a	n/a	n/a	n/a	NL	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Public consultation on WDOs (art. 26.4).	
	HU	n/a	IT	LT	NL	PL	PT	n/a	n/a	SI	n/a	UK-GB	n/a	Daily imbalance charge calculation methodology	PROVIDED LINKS REGARDING DAILY IMBALANCE CHARGE
	n/a	IE	—	LT/ LT	n/a	PL/PL	—	RO	n/a	SI/ SI	SK	n/a	UK-NI/ UK-NI	Balancing services: call for tenders and results	PROVIDED LINKS REGARDING OPERATIONAL BALANCING PUBLICATION
	HU	n/a	IT	LT	NL	PL	— ⁶⁾	RO	n/a	SI	n/a	UK-GB	UK-NI	Marginal buy/sell price (in Engl.) (art. 10.5)	
	HU	IE	IT	—	NL	PL	— ⁷⁾	RO	SE	SI	SK	UK-GB	UK-NI	(Annual) costs, frequency, quantities of balancing actions (art. 9.4)	

- 4) In Ireland, the focus of TSO, Regulator and industry has been on moving forward towards implementing an enduring balancing solution. It has been agreed by the Regulator and industry that the TSO will proceed to issue a tender for the provision of Trading platform services to the TSO, for the purposes of undertaking Balancing Actions. The TSO has also consulted on the imbalance cash-out prices and will issue a final proposal in early 2017.
- 5) In Lithuania, the updated report is being prepared at the moment.
- 6) In Portugal, publication is not applicable as the BAL NC was implemented by 1 October 2016.
- 7) In Portugal, according to the NRA's decision, Mibgás, S.A., operating the Spanish Trading platform at the Spanish VTP (PVB) shall be the future Market Operator in Portugal, which is currently delayed due to administrative legal hindrances.
- 8) In Romania, TSO requested from NRA an extension until December 2017 for the preparation of the updated report on the application of interim measures.
- 9) In Sweden, an updated annual report was sent to NRA on 2 January 2017.
- 10) In Slovakia, link to the publication is not available.

Annex II: Operational Balancing (Chapter III of BAL NC)

Table 2.1: Short Term Standardised Products offered in own balancing zone by 1 October 2016***

Type of STSP product	Country where it is offered on a trading platform or balancing platform	Country where it is planned to be offered on a trading platform by 1 October 2016
Title STSP products	AT, BE/LU, CZ, DE, DK, ES, FR, HU, IT, LT, NL, PL*, SI, SK, UK-GB ¹⁾ (16)	HR (1)
Locational STSP products	DE**, ES, FR, HR, HU, IT, UK-GB (7)	
Temporal STSP products	DE, HU, NL (3)	
Temporal locational STSP products	DE (1)	–

* In Poland title STSP products are implemented in the H-gas and TGPS balancing zone. (In the Polish L-gas balancing zone products (under interim measures) are available on balancing platform. There is no trading platform in this balancing area. There is no information available at the moment regarding a planned date. There are discussions with the trading platform operator but there is no decision yet regarding the possible products.

** In DE, the exchange offers products which provide global and quality effects. Additionally For market area NCG: On 24 March 2016, the trading platform operator PEGAS introduced temporal, locational and temporal locational STSPs. The temporal STSPs are realised within one hour of the gas day with a lead-time of three hours. The locational STSPs are realised on a within-day and day-ahead basis with a lead-time of three hours and delivery/offtake within a specified network zone. The temporal locational STSPs are realised within one hour of the gas day with a lead-time of 3 hours and delivery/offtake at specified network points at the Dutch/German border (IPs "Elten/Zevenaar" and "Vreden/Winterswijk").

*** In Estonia STSP are planned when the common Baltic balancing zone is implemented (2019).

*** In Greece the definition of STSPs is in progress. Estimated implementation time: July 2017 (establishment of a balancing platform). Ireland is currently in Interim Measures phases.

*** In Ireland STSP will be introduced to coincide with the introduction of an IBP (Irish Balancing Point) based trading platform. Planned for Q3/Q4 2017.

*** Portugal is on route to have soon an organised market functioning in its balancing zone. According to the NRA's decision, Mibgás, S.A., operating the Spanish Trading platform at the Spanish VTP (PVB) shall be the future Market Operator in Portugal, which is currently delayed due to administrative legal hindrances

*** In Romania the TSO took concrete steps towards both domestic centralised market operators to introduce short term standardised products, but because of the fact that a clearing house is not available to clear transactions in due time it was impossible to implement it. Both the BRM and the OPCOM gas exchanges consider projects enabling them to introduce in short time the STSP, as follows: BRM works with KELER CCP for the introduction of STSP in cooperation with the clearing house – implementing deadline 2Q2017; OPCOM submitted the documentation for approval to NERA for the Day ahead market (PZU), and the platform is expected to be commissioned in 1Q2017

*** In Sweden no STSP are implemented due to insufficient liquidity. Swedegas and Energinet.dk are exploring the possibility of a joint balancing giving access to STSP in Denmark.

*** In Slovakia due to Interim measures- on Balancing platform.

*** Trading was first introduced to the NI regime in October 2015 via a VTP and there is not currently sufficient liquidity. (STSP are currently not planned.)

1) New Emergency products listed in Merit order, implemented by 1 October 2016.

Table 2.2: Provided details of balancing services per country

COUNTRY	USAGE ACC. ART. 8.3 OR ART. 8.4	1) REPORTED REASON FOR THE (PLANNED) USAGE OF BALANCING SERVICES
		2) IN WHICH WAY MAY THE PROCUREMENT AND USE AFFECT THE LIQUIDITY OF THE SHORT TERM WHOLESALE GAS MARKET?
		3) OUTCOME OF REVIEWED THE USE OF BALANCING SERVICES ANNUALLY BY 1 OCTOBER 2016 (ART. 8.6) OR REASON WHY NOT REVIEWED.
BG	Planned for 1 January 2017	<p>1) STSPs are not providing the necessary response</p> <p>2) The procurement may incentivise the diversification and competition between the shippers.</p> <p>3) As the balancing rules are in force from the beginning of the year, we shall review the results in Q3</p>
CZ	Public tender (art. 8.3)	<p>1) In the absence of liquidity: The balancing service was implemented for cases of insufficient liquidity or failure of market system, however has not been used yet</p> <p>2) n/a</p> <p>3) Review will be done after one year since the implementation (after 1 July 2017)</p>
DE	Public tender (art. 8.3)	<p>1) Long Term Options can be used in case of a locational balancing demand if no short-term offers within the respective location are available. STSPs are usually very liquid and available for trade at any time of the day. Long Term Options are however contracted for emergency situations to ensure security of supply.</p> <p>2) Balancing Services are contracted for emergency situations and are only used when no corresponding short term offers are available. Priority is given to STSPs, meaning that available short-term offers are used first regardless of the commodity price.</p> <p>3) The annual review of balancing services was conducted in the annual report that was submitted to the NRA on 5 December 2016.</p> <p>Due to a policy paper of the Federal Ministry for Economic Affairs and Energy from 16 December 2015 both MAMs were required to put Long Term Options out for tender to ensure security of supply in emergency situation. The Long Term Options were successfully contracted for the time period of February and March but there was no need to use this products in both market areas.</p> <p>For market area NCG: The review highlights that the balancing service product "flexibility" was replaced by STSPs on 1 May 2016.</p> <p>For the market area GASPOOL: In the current situation there is still a need for the usage the Flexibility Products but it will be analyzed for the future.</p>
EE*	Public tender (art. 8.3)	<p>1) In the absence of liquidity: No gas exchange in Estonia.</p> <p>2) No liquidity currently exists, therefore no effect.</p> <p>3) No liquidity for STSP in Estonian market, therefore the framework contracts approach would be continued</p>
EL	Public tender (art. 8.3)	<p>1) in the absence of liquidity: A short – term NG market has not been established yet, due to low degree of network interconnectivity and congested upstream transmission networks.</p> <p>2) The provision of balancing services is planned to be limited when the balancing platform will be in operation; consequently the wholesale gas market is not expected to be affected from the provision of the balancing services.</p> <p>3) Review is not required since no STSP are in place yet.</p>
ES	No	<p>1) STSPs are not providing the necessary response</p> <p>2) Enagás in its role of Technical Manager of the System has not acquired any balancing service till now, although national legislation allows using balancing services if STSPs are not providing the necessary response, as long as they comply with art. 8 of the Regulation.</p> <p>3) No review yet as in Spain the code was fully implemented by 1 October 2016 and no balancing services have been acquired.</p>
HR	Other NRA approved procedure (art. 8.4) ¹⁾	<p>1) STSPs are not providing the necessary response</p> <p>2) Due to the price</p> <p>3) Outcome: STSP are not sufficient.</p>
IE	Public tender (art. 8.3)	<p>1) Currently in Interim Measures phases. (STSP will be introduced to coincide with the introduction of an IBP (Irish Balancing Point) based trading platform. (Planned Q3/Q4 2017))</p> <p>2) There is currently no Trading platform offering IBP STSPs. When one is established to the satisfaction of the CER and GNI, GNI will use such a Trading platform as its primary source of necessary balancing actions.</p> <p>3) No Trading platform is currently available. TSO is required to continue to use Balancing Services Contracts.</p>
IT	Public tender (art. 8.3)	<p>1) STSPs are not providing the necessary response</p> <p>2) In Italy the identification of potential balancing services is currently ongoing. In this process, the principles and procedures introduced by Art.8(3) of BAL NC will be followed since covered by the criteria currently foreseen by the Italian regulatory framework. When balancing services are actually introduced, they will be designed in a way that limits effects on the wholesale short-term gas market, as provided by SRG Network Code criteria. By the way, when balancing services are used in cases of scarce liquidity, their procurement and use are not expected to substantially worsen market conditions.</p> <p>3) No review yet as the balancing regime started on 1 October 2016 (see answer 1.2.1). A review of the use of balancing services would be possible only at a later stage, in case these products are actually introduced and used.</p>

1) RULES ON THE ORGANISATION OF THE GAS MARKET: Article 10, paragraph 7: In the event that the gas market operator for justifiable reasons does select an annual balancing energy bidder in accordance with Paragraph 2 of this Article, the annual balancing energy bidder for the next storage year will be determined as the energy undertaking on the gas market that is the balance group head with the greatest leased share of operational volume of the gas storage system in the Republic of Croatia for the next storage year.

Table 2.2: Provided details of balancing services per country

COUNTRY	USAGE ACC. ART. 8.3 OR ART. 8.4	1) REPORTED REASON FOR THE (PLANNED) USAGE OF BALANCING SERVICES
		2) IN WHICH WAY MAY THE PROCUREMENT AND USE AFFECT THE LIQUIDITY OF THE SHORT TERM WHOLESALE GAS MARKET?
COUNTRY	USAGE ACC. ART. 8.3 OR ART. 8.4	3) OUTCOME OF REVIEWED THE USE OF BALANCING SERVICES ANNUALLY BY 1 OCTOBER 2016 (ART. 8.6) OR REASON WHY NOT REVIEWED.
LT	Public tender (art. 8.3)	<p>1) Balancing services is applied taking in to account cost efficiency, also STSPs are not providing the necessary response to keep transmission network within its operational limits.</p> <p>2) Lithuania is small and quite isolated gas market, there are only few market players active on wholesale market. The only adjacent balancing zone Latvia is still closed market, has derogation based on Article 49 of Directive 2009/73EC and is not implementing BAL NC. We expect liquidity should increase in coming years (the market should be opened in Latvia since April 2017) due to regional market development (possible market measures) and changing market environment.</p> <p>3) With the expected increase of liquidity, it is foreseen that the use of balancing services could be reduced in 2017.</p>
PL (H-GAS)	Public tender (art. 8.3)	<p>1) STSPs are not providing the necessary response</p> <p>2) Balancing service used by TSO does not affect the liquidity of the short term wholesale gas market. This service has been implemented because only this balancing product was available to balance the small part of this balancing area. TSO chose the balancing service according to the merit order mentioned in Art.9 – only when there are no other possibilities to balance the system.</p> <p>3) This service has been implemented because no other balancing product is available in this case (there is no locational product available at the trading platform).</p>
PT	Other NRA approved procedure (art. 8.4) ²⁾	<p>1) TSO has no access to STSPs as there is no organised market in Portugal yet.³⁾</p> <p>2) As there is no organised market in force in Portugal, there are no STSPs available for market users in Portugal.</p> <p>3) Not applicable as the NC BAL was implemented by 1 October 2016</p>
RO	Public tender (under IM) and Other NRA approved procedure (art. 8.4) ⁴⁾	<p>1) In the absence of liquidity: At the moment there are no STSP on the domestic market, but only a product which can be customised based on the necessities of the delivery period, it may be used for short term products as well.</p> <p>2) Until the moment there is no wholesale market dedicated to short term products.</p> <p>3) Subsequent to the analysis performed it was concluded that the balancing services are still necessary.</p>
SK	Public tender (art. 8.3)	<p>1) In the absence of liquidity: Sometimes the required amount cannot be fulfilled through auction on Balancing platform.</p> <p>2) Balancing services are procured as stated in Art. 8.3. Balancing services are used only in case when Balancing platform Auction is not successful.</p> <p>3) Outcome of the review was to continue in using Balancing Services.</p>
SI	Public tender (art. 8.3)	<p>1) The only source of NG are the border IPs, therefore the TSO needs a last resort balancing services to keep transmission network within its operational limits in case STSPs do not provide necessary response.</p> <p>2) The balancing service is procured in a way to foster the balancing market before to use of balancing service, as the STSPs are favorable for the market participants.</p> <p>3) With the implementation of the STSPs the use of balancing service has decreased significantly.</p>
UK-NI	Public tender (art. 8.3)	<p>1) In the absence of liquidity: Northern Ireland is a small market. Trading was first introduced to the NI regime in October 2015 via a VTP and there is not currently sufficient liquidity.</p> <p>2) Steps taken by the NI TSOs to encourage market development through the re-design of the balancing gas tender and associated processes for GY16/17 have been unsuccessful. The NI TSOs propose to continue to utilise balancing contracts and will prepare the tender for 2017 – 2018 following responses to Interim Measures Report. The design of the tender process will aim to encourage market liquidity by encouraging participation and trade at the NI BP.</p> <p>3) Standardised products would not better meet the TSO's operational requirements nor could the use of balancing services be reduced for the next year. The residual balancing requirements for Northern Ireland do not appear to have been especially affected by the new arrangements put in place in October 2015, as balancing activity is fairly typical compared to previous years. Steps taken by the NI TSOs to encourage market development through the re-design of the balancing gas tender and associated processes have been unsuccessful.</p>

- 2) In Portugal the balancing services procedure was approved by the NRA whilst setting a transitional period until the Mibgás trading platform becomes operational in the Portuguese Market. During this period, the TSO shall fulfil its needs for operational gas, either buying or selling, through an auction mechanism, which is to be triggered by the TSO according to an approved methodology.
- 3) Portugal is on route to have soon an organised market functioning in its balancing zone. According to the NRA's decision, Mibgás, S.A., operating the Spanish Trading platform at the Spanish VTP (PVB) shall be the future Market Operator in Portugal, which is currently delayed due to administrative legal hindrances.
- 4) In Romania the balancing services are offered by the Storage operator based on a contract concluded annually. Based on the legal provisions, Transgaz has to own a stock of natural gas available in the underground storages, for balancing. The underground storage activity, the contracting procedure and the tariff are regulated by the National Regulatory Authority.

Table 2.3: NRA approved possibility of TSO's trading of STSP in adjacent balancing areas by 1 October 2016

COUNTRY	<p>1) NAME OF THE ADJACENT BALANCING ZONE (INCL. NAME OF THE TRADING PLATFORM IN ADJACENT ZONE).</p> <p>2) ALTERNATIVE SOLUTIONS WHICH MAY HAVE BEEN CONSIDERED BY THE NRA AND REASONS THEY NOT IMPLEMENTED INSTEAD.</p> <p>3) LINK TO THE APPLICABLE TERMS AND CONDITIONS FOR TRADING IN AN ADJACENT ZONE.</p> <p>4) HAVE THE APPLICABLE TERMS AND CONDITIONS BEEN RECONSIDERED ON AN ANNUAL BASIS BY THE TSO/NRA BY 1 OCTOBER 2016?</p> <p>5) PLEASE EXPLAIN THE CRITERIA FOR THE RESERVATION OF CROSS BORDER CAPACITY BY THE TSO AND HOW THIS RESERVATION DOES NOT AFFECT CROSS BORDER CAPACITY USE (ART. 9.3).</p>
CZ	<p>1) GASPOOL, NCG (trading platform – PEGAS)</p> <p>2) Not available</p> <p>3) Not available</p> <p>4) Not available</p> <p>5) Since this measure is expected to be used only exceptionally the limitation of access by other network users is negligible</p>
DE	<p>1) NCG and GASPOOL are registered as shippers in the Netherlands with Gasunie Transport Services B.V. and are trading at the Virtual Trading Point TTF. NCG and GASPOOL are using the Trading platforms of PEGAS for trading activities at the TTF. In addition NCG is using the ICE Endex for trading activities.</p> <p>2) As an alternative to trading at the TTF, quality specific title products for L gas and H gas were introduced at the trading platforms PEGAS/NGC and PEGAS/GPL on 01.10.2013 in cooperation with the MAMs. The MAMs make use of these quality specific title products and take into account transport costs when comparing prices for the quality specific L gas product at PEGAS/NGC resp. PEGAS/GPL with the title product prices at the TTF in order not to give an advantage to TTF trading.</p> <p>In the market area NCG liquidity in the quality specific title products increased considerably during the last years, which allowed a significant decrease in the use of the TTF for balancing purposes. While TTF balancing volumes made up 17,4 % of all STSP balancing volumes of NCG in the gas year 2014/2015, this ratio went down to 1,7 % in the gas year 2015/2016. Since April 2016, the TTF was not used at all by NCG for its balancing activities.</p> <p>In the market area GASPOOL in the gas year 2015/2016 the TTF-volumes for balancing purposes were around 14 % compared against all STSP balancing volumes.</p> <p>3) The MAMs act fully according to the applicable market rules in the Netherlands and in Germany in the context of the TTF balancing activities, thus all generally applicable terms and conditions are also valid for the MAMs. The MAMs are registered as market participants at PEGAS and ICE Endex (NCG only) and as shippers at Gasunie Transport Services B.V. and the relevant German Transmission System Operators. Capacity bookings occur via the booking platform PRISMA.</p> <p>4) Annual review has been reconsidered.</p> <p>5) In order not to limit the access to network capacity for network users, the MAMs book transport capacity primarily on a short-term basis, meaning day-ahead or within-day. Since the MAMs would only book capacity in case of a balancing demand it means that capacity is not in use anyway.</p>
PL	<p>1) GASPOOL (trading platform – PEGAS) – for balancing actions in H-gas and TGPS balancing area; H-gas balancing area (TGE trading platform) – for balancing actions in TGPS balancing area</p> <p>2) As alternative: locational products for IP with GASPOOL, but they are not available.</p> <p>3) The NRA's approval is valid until the date: 1 October 2017 6:00. For H-gas: TSO may trade within adjacent balancing zone only for the purpose of balancing actions as long as the locational products are not offered on trading platform functioning in the high methane gas balancing area.</p> <p>For TGPS: TSO may trade within adjacent balancing zone only for the purpose of balancing actions as long as the locational products are not offered on trading platform functioning in this gas balancing area or there is not enough liquidity at the trading platform in this balancing area.</p> <p>4) Annual review has been reconsidered.</p> <p>5) TSO may use only day ahead and intraday capacity. TSO books the capacity in the auction procedure.</p> <p>In case of balancing actions for H-gas the reservation of cross border capacity by the TSO doesn't affect cross border capacity use because in case when the capacity is booked and used by the network users the TSO doesn't need to undertake this balancing action.</p>
SK	<p>1) Austrian Market Area East, Austrian VTP (CEGH Gas Exchange)</p> <p>2) There is no trading platform present in Slovak balancing zone. Alternative solution would be trading at Czech VTP, however the CEGH Gas Exchange at Austrian VTP is much more liquid. Only as backup/alternative to existing Balancing platform.</p> <p>3) The trading in an adjacent zone is possible as a last option within the merit order list.</p> <p>4) Annual review has not been reconsidered</p> <p>5) The possible reservation of cross border capacity would not affect cross border capacity use by network users. There is enough free capacity At the interconnection point with adjacent zone (Baumgarten) and the need for adjacent zone trading is very rare (not used until now). In case there will be a reason to assume that such trading would affect network users capacity bookings, the criteria will be developed.</p>

Table 2.4: Ranking of products in the balancing merit order per country/balancing zone by 1 October 2016

COUNTRY/ BAL. ZONE	TRADING PLATFORM/ BALANCING PLATFORM, PUBLIC TENDER, OTHER PROCEDURE (ART. 8.4)	NAME OF THE TRADING PLATFORM/ (BALANCING PLATFORM)	RANKING IN THE BALANCING MERIT ORDER	CLASSIFICATION OF THE BALANCING PRODUCT	NAME OF THE BALANCING PRODUCT (PLEASE INSERT NAME.)	GAS QUALITY DISTINCTION (H-GAS/ L-GAS) WHERE ALSO L-GAS EXISTS
AT – (AUSTRIAN MARKET AREA EAST)	Trading platform	Wiener Börse/ CEGH VTP	1	WD title	CEGH SPOT REST-OF-DAY CONTRACT – CEGH (VTP)	
BE/LU – (BELUX H-GAS)	Trading platform	Powernext – Pegas	1	WD title	ZTP WD	H-gas
BE – (BELUX L-GAS)	Trading platform	Powernext – Pegas	1	WD title	ZTP L WD	L-gas
BG	Public Tender	n/a (Public tender)	1	Title transfer	–	
			2	Linepack	–	
			3	Storage	–	
			4	Balancing service (planned during 2017)	–	
CZ	Trading platform	Short Term Market (OTE)	1	DA title	Day-Ahead market (market operator)	
			2	WD title	Intra-Day market (market operator)	
	Public Tender	n/a (Public tender)	3	Balancing Services (Art. 8.3)	Contract for gas purchases and sales	
	Trading platform	Trading in adjacent zone: Pegas (NCG, GASPOOL)	4	Balancing Services (Art. 8.3)	Intra-Day market (NCG, GASPOOL)	
DE – (GASPOOL)	Trading platform	PEGAS	1	WD title/DA title	Title Market Transaction	global
	Trading platform	PEGAS	2	WD title/DA title	Title Market Transaction	H-gas or L-gas
	Trading platform	Trading in adjacent zone: PEGAS (TTF)	2	WD title/DA title ¹⁾	Title Market Transaction	L-gas
	Trading platform	PEGAS	2	WD locational/DA locational	Locational Market Transaction	H-gas or L-gas
	Balancing platform*	GASPOOL	3	WD locational*/ DA locational ^{*2)}	Locational Market Transaction	H-gas or L-gas
	Public Tender	GASPOOL	4	Balancing Services (Art. 8.3)	Long Term Options (Rest of the Day)	H-gas
	Public Tender	GASPOOL	4	Balancing Services (Art. 8.3)	Flexibility Product	L-gas
	Public Tender	GASPOOL	4	Balancing Services (Art. 8.3)	Long Term Options (Rest of the Day)	L-gas

1) Transportation costs are taken into account in the price comparison within the Merit Order Rank.

2) Optional: Product with delivery/offtake at specific network areas. Product is used in the H-gas-zones by ONTRAS, Gasunie Deutschland, Gascade; in the L-gas zones by Gasunie Deutschland, Gastransport Nord, Nowega.

* Product and/or balancing platform approved under interim measures by NRA.

** Products in UK-GB which can used during a Gas deficit Emergency.

Table 2.4: Ranking of products in the balancing merit order per country/balancing zone by 1 October 2016

COUNTRY/ BAL. ZONE	TRADING PLATFORM/ BALANCING PLATFORM, PUBLIC TENDER, OTHER PROCEDURE (ART. 8.4)	NAME OF THE TRADING PLATFORM/ (BALANCING PLATFORM)	RANKING IN THE BALANCING MERIT ORDER	CLASSIFICATION OF THE BALANCING PRODUCT	NAME OF THE BALANCING PRODUCT (PLEASE INSERT NAME.)	GAS QUALITY DISTINCTION (H-GAS/ L-GAS) WHERE ALSO L-GAS EXISTS
DE – (NCG) ³⁾	Trading platform	PEGAS	1	WD title/DA title	Title Market Transaction	global
	Trading platform	PEGAS	1	WD temporal ⁴⁾	Title Market Transaction	global
	Trading platform	PEGAS	2	WD title/DA title	Title Market Transaction	H-gas or L-gas
	Trading platform	Trading in adjacent zone: PEGAS and ICE (TTF)	2	WD title/DA title	Title Market Transaction	H-gas or L-gas
	Trading platform	PEGAS	2	WD locational/DA locational	Locational Market Transaction	H-gas or L-gas
	Trading platform	PEGAS	2	WD temporal	Title Market Transaction	L-gas
	Trading platform	PEGAS	2	WD temporal locational	Locational Market Transaction	L-gas
	Trading platform	Trading in adjacent zone: PEGAS (TTF)	2	WD temporal locational ⁵⁾	Locational Market Transaction	L-gas
	Balancing platform*	NCG	3	WD locational*/DA locational*	Locational Market Transaction	H-gas or L-gas
	Balancing platform*	NCG	3	WD temporal locational*	Locational Market Transaction (not in use anymore since 8 November 2016)	L-gas
	Public Tender	NCG	4	Balancing Services (Art. 8.3)	Flexibility service (not in use anymore since 1 May 2016)	L-gas
	Public Tender	NCG	4	Balancing Services (Art. 8.3)	Long Term Options (Rest of the Day) ⁶⁾	H-gas or L-gas
	Public Tender	NCG	4	Balancing Services (Art. 8.3)	Long Term Options (DA) ⁷⁾ (Currently not in use.)	H-gas/ L-gas
	Public Tender	NCG	4	Balancing Services (Art. 8.3)	Long Term Options (hourly) ⁸⁾	L-gas
DK	Trading platform	Gaspoint Noric	1	WD title	TSO WD yellow zone trade	
EL	Public Tender	n/a (Public tender)	1	Balancing Services (as IM: Alternative to bal. platform)*	LNG	
ES	Trading platform	MIBGAS	1	WD title	GWDES	
			2	DA title	GDAES	
			3	WD locational	–	
			4	DA locational	–	
FR – (GRTgaz NORTH)	Trading platform	PEGAS	1	WD title	PEGAS spot	
	Trading platform ⁹⁾	PEGAS	2	WD locational	Locational	

3) For market area NCG: On 24 March 2016, the trading platform operator PEGAS introduced temporal, locational and temporal locational STSPs. The temporal STSPs are realised within one hour of the gasday with a lead-time of three hours. The locational STSPs are realised on a within-day and day-ahead basis with a lead-time of three hours and delivery/offtake within a specified network zone. The temporal locational STSPs are realised within one hour of the gas day with a lead-time of 3 hours and delivery/offtake at specified network points at the Dutch/German border (IPs "Elten/Zevenaar" and "Vreden/Winterswijk"). The Dutch TSO was informed about the plans to introduce new STSPs and a meeting between NCG and the Dutch TSO was held on 23 October 2014 to discuss the parameters of the relevant STSPs.

4) WD temporal: Product with delivery/offtake period of one hour.

5) Transportation costs are taken into account in the price comparison within the Merit Order Rank.

6) Option for delivery/offtake of gas on a Rest of the Day basis within pre-defined network zones;

7) Option for delivery/offtake of gas on a Rest of the Day basis within pre-defined network zones;

8) Option for delivery/offtake of gas on an hourly basis at the network points Elten and Vreden.

9) In FR, WD locational product is implemented on the Pegas trading platform. In case of need, TSOs launches a tender by e-mail for the attention of all registered shippers which is then processed through the platform.

* Product and/or balancing platform approved under interim measures by NRA.

** Products in UK-GB which can be used during a Gas deficit Emergency.

Table 2.4: Ranking of products in the balancing merit order per country/balancing zone by 1 October 2016

COUNTRY/ BAL. ZONE	TRADING PLATFORM/ BALANCING PLATFORM, PUBLIC TENDER, OTHER PROCEDURE (ART. 8.4)	NAME OF THE TRADING PLATFORM/ (BALANCING PLATFORM)	RANKING IN THE BALANCING MERIT ORDER	CLASSIFICATION OF THE BALANCING PRODUCT	NAME OF THE BALANCING PRODUCT (PLEASE INSERT NAME.)	GAS QUALITY DISTINCTION (H-GAS/ L-GAS) WHERE ALSO L-GAS EXISTS
FR – (TRS)	Trading platform	PEGAS	1	WD title	PEGAS spot	
			1	WD title	PEGAS spot (WD TRS EoD Product)	
	Trading platform ¹⁰⁾	PEGAS	2	WD locational	Locational	
HR	Balancing platform	Gas Market Operator Platform	1	WD locational	Daily bid	
	Balancing platform	Gas Market Operator Platform	1	WD locational	Daily bid	
HU	Trading platform	Kereskedési Platform (KP)	1	WD title/DA title	MGP wd/MGP da	
			2	WD locational/DA locational	HEG wd/HEG da	
			3	WD temporal	–	
IT	Trading platform	MGAS	1	WD title	STSP title	
		MGAS	2	DA title	STSP title	
	Trading platform	PB-GAS ¹⁰⁾	3	WD locational	STSP locational	
		PB-GAS ¹¹⁾	4	DA locational	STSP locational	
IE ¹²⁾	Public Tender	n/a (Public tender)	1	Balancing Services –(as IM: Alternative to bal.platform)	1) Gas Sales Agreement for Balancing Gas Buys and 2) Gas Sales Agreement for Balancing Gas Sells	
LT	Trading platform	GET Baltic	1	WD title	GET Baltic WD	
			2	DA title	GET Baltic DA	I
	Public Tender	n/a (Public tender)	3	Balancing Services (Art. 8.3)	Gas sell-purchase agreement	
NL-GTS	Trading platform	ICE Endex Within-Day Market	1	WD title	TTF WD	global
			2	WD temporal	TTF Next Hour	global
PL- (H-GAS)	Trading platform	Towarowa Giełda Energii S.A.	1	WD title	RDBG	H-gas
			2	DA title	GAS_BASE	H-gas
	Balancing platform*	Balancing Services Market	4	IM product (Art. 45)*	off-take of gaseous fuel at an exit point (PWY)	H-gas
			5	IM product (Art. 45)*	reduction of Gaseous Fuel supply at an entry point (PWE)	H-gas
	Trading platform	Trading in adjacent zone: PEGAS (Gaspool)	6	WD title	GASPOOL WD	H-gas
			7	DA title	GASPOOL DA	H-gas
	Public Tender	n/a (Public tender)	8	Balancing Services (Art. 8.3)	Balancing service	H-gas

10) In Italy the GME platform PB-GAS was made available for IT operational purposes until 31 March 2017 according to NRA resolution n. 312/2016/R/gas, art. 2.

11) See footnote 8.

12) In Ireland it is expected that a Trading platform will go live in 2017. A tender for the provision of Trading platform services is being launched in January 2017.

* Product and/or balancing platform approved under interim measures by NRA.

** Products in UK-GB which can be used during a Gas deficit Emergency.

Table 2.4: Ranking of products in the balancing merit order per country/balancing zone by 1 October 2016

COUNTRY/ BAL. ZONE	TRADING PLATFORM/ BALANCING PLATFORM, PUBLIC TENDER, OTHER PROCEDURE (ART. 8.4)	NAME OF THE TRADING PLATFORM/ (BALANCING PLATFORM)	RANKING IN THE BALANCING MERIT ORDER	CLASSIFICATION OF THE BALANCING PRODUCT	NAME OF THE BALANCING PRODUCT (PLEASE INSERT NAME.)	GAS QUALITY DISTINCTION (H-GAS/ L-GAS) WHERE ALSO L-GAS EXISTS
PL (L-GAS)	Balancing platform*	Balancing Services Market	1	IM product (Art.45)*	delivery of gaseous fuel at a virtual exit point (WPWYOSP)	L-gas
			2	IM product (Art.45)*	off-take of gaseous fuel at a virtual entry point (WPWEOSP)	L-gas
			3	IM product (Art.45)*	delivery of gaseous fuel at the entry point (PWE)	L-gas
			4	IM product (Art.45)*	off-take of gaseous fuel at an exit point (PWY)	L-gas
			5	IM product (Art.45)*	reduction of Gaseous Fuel supply at an entry point (PWE)	L-gas
	Public Tender	n/a (Public tender)	6	Balancing Services (Art. 8.3)	Balancing service	L-gas
PL-(TGPS – GAS)	Trading platform	Towarowa Gielda Energii S.A.	1	DA title	SGT_BASE	H-gas
	Trading platform	Trading in adjacent zone: PEGAS (Gaspool)	2	WD title	GASPOOL WD	H-gas
	Trading platform	Trading in adjacent zone: Towarowa Gielda Energii S.A. (PL H-gas bal. zone)	3	WD title	RDBG	H-gas
	Trading platform	Trading in adjacent zone: PEGAS (Gaspool)	4	DA title	GASPOOL DA	H-gas
	Trading platform	Trading in adjacent zone: Towarowa Gielda Energii S.A. (PL H-gas bal. zone)	5	DA title	GAS_BASE	H-gas
	Balancing platform*	Balancing Services Market	6	IM product (Art.45)*	delivery of gaseous fuel at a virtual exit point (WPWYOSP)	H-gas
			7	IM product (Art.45)*	off-take of gaseous fuel at a virtual entry point (WPWEOSP)	H-gas
			8	IM product (Art.45)*	delivery of gaseous fuel at the entry point (PWE)	H-gas
			9	IM product (Art.45)*	off-take of gaseous fuel at an exit point (PWY)	H-gas
			10	IM product (Art.45)*	reduction of Gaseous Fuel supply at an entry point (PWE)	H-gas
RO	Public Tender	STEGN ¹³⁾	1	Balancing Services* (as IM: Alternative to bal. platform)	Natural Gas, traded on daily basis, for balancing purpose	
	Other Procedure (Art. 8.4)	n/a (Other procedure – approved by NRA)	2	Balancing Services (Art. 8.4)	Underground Storage Services	

13) In Romania the Gas Exchange platform is provided by "Romanian Commodities Exchange".

The storage of certain gas amounts (for balancing purpose) was approved by the NRA before the approval of the Interim measures.

* Product and/or balancing platform approved under interim measures by NRA.

** Products in UK-GB which can be used during a Gas deficit Emergency.

Table 2.4: Ranking of products in the balancing merit order per country/balancing zone by 1 October 2016						
COUNTRY/ BAL. ZONE	TRADING PLATFORM/ BALANCING PLATFORM, PUBLIC TENDER, OTHER PROCEDURE (ART. 8.4)	NAME OF THE TRADING PLATFORM/ (BALANCING PLATFORM)	RANKING IN THE BALANCING MERIT ORDER	CLASSIFICATION OF THE BALANCING PRODUCT	NAME OF THE BALANCING PRODUCT (PLEASE INSERT NAME.)	GAS QUALITY DISTINCTION (H-GAS/ L-GAS) WHERE ALSO L-GAS EXISTS
SE	Balancing platform*	Balancing platform	1	Interim product (Art. 45)*	Weekly trades	
			2	Interim product (Art. 45)*	Regulating trades	
SI	Trading platform	VTP-SI	1	WD title	WDTP	
			2	DA title	DATP	
	Public Tender	n/a	3	Balancing Services (Art. 8.3)	BALS	
SK	Balancing platform*	Balancing platform	1	WD/DA title*	EUS sell/buy	
	Public Tender	n/a (Public tender)	2	Balancing Services (Art. 8.3)*		
	Trading platform	Trading in adjacent zone: PEGAS CEGH Gas Exchange (AT Market Area East)	3	DA title*	CEGH DA	
UK-GB (NBP)	Trading platform	WEBICE	N/A	WD title/DA title ¹⁴⁾	OCM TITLE DAY	
			N/A	WD physical/DA physical**	OCM PHYSICAL DAY ¹⁵⁾	
			N/A	WD locational/DA locational	OCM LOCATIONAL DAY	
			N/A	Multi day locational**	OCM LOC 2 DAY/OCM LOC 3 DAY/OCM LOC 4 DAY/OCM LOC 5 DAY/OCM LOC 6 DAY/ OCM LOC 7 DAY ¹⁶⁾	
			N/A	Multi day DSR locational**	6 products: OCM DSR LOC 2 DAY/OCM DSR LOC 3 DAY/ OCM DSR LOC 4 DAY/OCM DSR LOC 5 DAY/OCM DSR LOC 6 DAY/OCM DSR LOC 7 DAY ¹⁷⁾	
UK-NI	Public Tender (Art. 8.3)	n/a (Public tender)	1	Balancing Services* (as IM: Alternative to bal. platform)	NI Balancing Gas Contracts (Buy/Sell)	

14) In Great Britain for all listed balancing products: Sales/Purchases used for weighted average prices and marginal prices if action is taken to address National Balance (code NB01/NS01). This template has been filled out regarding National Grid's role as Residual Balancer only. Assumes trading platform is available, in the event of the trading platform being unavailable contingency arrangements can be invoked which use bilateral arrangements.

15) The traded quantity is locked down and cannot be re-nominated against, meaning a physical response is more likely. A physical trade can be for gas at any point on the network, a locational trade is for a specific point (meter) on the network.

16) Multi day trades can be used when a Gas Deficit Warning has been issued and are buying gas for a number of days (up to 7 days ahead). Otherwise essentially the same as WD or DA locational trades.

17) Multi day DSR trades are similar to normal multi day trades and were bought in last October as part of measures to improve routes to market for reducing the severity/duration of a Gas Deficit Emergency. Multi day trades would only really be used in the event of a Gas Deficit Warning being issued, so rarely if ever used.

* Product and/or balancing platform approved under interim measures by NRA.

** Products in UK-GB which can be used during a Gas deficit Emergency.

Table 2.5: Incentive mechanism for TSOs to optimise their balancing actions

COUNTRY	SHORT EXPLANATION OF HOW THE MECHANISM WORKS AND INCENTIVISES THE TSO TO OPTIMISE THEIR BALANCING ACTIONS.
AT	Physical balancing of TSOs has to be done primarily by the usage of linepack. If necessary the Market Area Manager procures volumes at the VTP to the best achievable market price according to his GTC.
ES	According to the NRA's Circular implementing the Balancing Network Code, the incentives scheme is based on the performance of Enagás in its role of Technical Manager of the System. It takes into account the market options available to the transmission system operator for the selection and use of balancing actions and it is subject to periodical review by the National Authority for Markets and Competition.
IT	The incentive mechanism introduces measures aimed at the improvement of the information to the market and the efficiency of the TSO balancing actions. In particular, performance indicators have been defined by the Italian NRA according to the following three mechanisms:
UK-GB	<ol style="list-style-type: none"> 1) Network offtakes forecast (forecast vs. actual) 2) Efficient TSO balancing actions (difference between SMPbuy SMPsell vs. SAP) 3) Residual balancing (use of linepack and operation storage within a predefined range) To ensure the GB TSO does not incur excessive costs for the industry, the NRA already incentivises the GB TSO to balance and trade efficiently through 'Residual Balancing' Incentives. The TSO is incentivised in two ways: <ol style="list-style-type: none"> (1) To minimise the price spread of its balancing actions (to restrict the impact of such actions on the market price); and (2) To minimise the change in the linepack volumes between the start and end of the day. By seeking resolve any system imbalances on the relevant day the costs of such are targeted to those responsible for the imbalance.



Annex III: Balancing System (Chapter II) and Nominations (Chapter IV of BAL NC)

Table 3.1: Implementation of trade notifications by 1 October 2016

Established scheme that allows network users to transfer gas between two balancing portfolios within one balancing zone via trade notifications submitted to the TSO.	COUNTRY
Implemented without any limitations for trade notifications	AT, BE/LU, BG, CZ, DE, DK, EE*, ES, FR, HR, HU, IE, IT ¹⁾ , LT, NL, PL, SI, SK ²⁾ , UK-GB and UK-NI
Implemented with limitations for trade notifications	HR ³⁾ , PT ⁴⁾ , RO ⁵⁾ , SE ⁶⁾
Not implemented	EL ⁷⁾

- 1) In Italy no limitations unless VTP system (PSV) closure from 03.00 to 06.00. Technical closure planned for the update of the users' financial position, necessary to ensure system's security – It does not affect nomination/re-nomination cycle.
- 2) In Slovakia the volume is limited by provided financial guarantee.
- 3) TSO does not have a binding contract, but only transport capacity contract.
- 4) In Romania the delivery trade notifications' approval are subject to the corresponding entry nomination to the transmission network by the shipper in the same amount. Definition of the NU = contractual partner of the TSO, based on the contracts provided in the Network code RO (NC RO). In the Network code RO only the transmission contract is mentioned. At present the notifications in the VTP may be made only by the NU. However, as of November 2016, all the market participants (even if they are not NU) are bound by the NC RO, to notify the TSO on the transactions performed.
- 5) The notifications in the VTP may be made only within the forecasted imbalance. For each stage there is a time frame provided in the NC, in which such notifications may be performed.
- 6) In Sweden the deadline for submission is two hours before any gas transfer.
- 7) In Greece currently the network users are able to transfer gas between two balancing portfolios by submitting nominations at the Virtual Nominations Point (VNP) of the Greek NGTS. A balancing platform will operate by the mid of 2017, while trade notifications is expected to be implemented within 2018.



Image courtesy of Gascade

Table 3.2: Lead-time of submitted trade notifications across countries by 1 October 2016

	LEAD-TIME		
	≤ 30 min	≤ 2 hours	Not implemented
Countries	AT, BE/LU, CZ, DE, ES, FR, HU, IE, IT, LT, NL, PT, UK-NI (15)	BG ¹⁾ , DK ²⁾ , EE ^{*3)} , HR ⁴⁾ , PL ⁵⁾ , RO ⁶⁾ , SE, SI, SK ⁷⁾ , UK-GB ⁸⁾ (9)	EL ⁹⁾

- 1) In Bulgaria the lead-time is in accordance with the Balancing rules.
- 2) In Denmark the historic 2 hour lead time applies. No indication from market participants on demand for shorter lead times. Will be considered as a future development area.
- 3) In Estonia the lead time is needed to allow matching process the required time. No plans to minimise the time.
- 4) In Croatia the TSO has in plan to minimise the time for proceeding trade notifications, but the date is not set yet.
- 5) In Poland (For all 3 balancing zones) – 2-hour lead time is required for notification submission (the same as in case of nominations). The submitted notifications are processed and confirmed within 2 hours.
- 6) In Romania it is the time when notifications in the VTP becomes effective permits to extend the time for processing them up to two hours.
Whenever the market conditions will require it (time before trade notifications becomes effective will significantly be reduced). Transgaz is prepared to reduce the time for processing such notification (< 30 min.)
- 7) In Slovakia the trade notifications are processed together with the nominations and the same lead-time is applied.
- 8) In Great Britain the trade notifications can only be effective in the hour bar following.
- 9) In Greece trade notifications have not been set-up yet. However, currently the network users are able to transfer gas between two balancing portfolios by submitting nominations at the Virtual Nominations Point (VNP) of the Greek NGTS.

Table 3.3: Allocation rule of quantities in case of mismatches of trade notifications by 1 October 2016

	ALLOCATION RULE OF QUANTITIES IN CASE OF MISMATCHES OF TRADE NOTIFICATIONS			
	Lesser rule	Reject both trade notifications	Both	N/A
Countries	AT, BE/LU, BG, CZ, DE, DK, EE*, HU, NL, PL, PT, SK, SE, UK-GB	EL ¹⁾ , ES, HR, IE, RO, SI, UK-NI	(FR ²⁾ , IT ³⁾)	(LT ⁴⁾)

- 1) In Greece currently the nominations submitted by the network users (including VNP) have to be balanced. According to DESFA's proposal to the NRA regarding the revision of the Greek network code (pending approval), non-balanced nominations/re-nominations are acceptable and the lesser rule will apply.
- 2) In France in case of mismatch of notification quantities, the lesser rule is applied.
When the re-notifications quantities are not equal, they are rejected.
- 3) In Italy according to PSV rules, quantities mismatches are upfront excluded (foreseen joint notifications at PSV). Curtailments or rejections are however possible in case of missing financial guarantees coverage. In case of OTC trading, both trade notifications would be rejected, while in exchange gas market trading the lesser rule would be applied.
- 4) Notification is provided by seller, which is registered in NRA and trade notifications has to be agreed with buyer.

Nominations (Chapter IV of BAL NC)

Table 3.4: Application of rules for unbundled and bundled capacity		
Country	Do you apply the rules for unbundled also to bundled capacity acc. to art. 12(3) by 1 October 2016?	Have you cooperated with the adjacent TSO for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points (art. 12.3)? If yes, please explain the outcome.
AT	Yes	The Austrian TSOs cooperated with the adjacent TSO(s) for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points and basically agreed on the main parts of the process also there are still some details to finalise. GCA and TAG are ready to offer Single Sided Nominations (SSN) on all Entry/Exit Points in an automatic process. This SSN can also be used for bundled auctioned capacity.
BE/LU	Yes	Fluxys and Creos cooperated with the adjacent TSOs for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points and basically agreed on the main parts of the process.
BG	Yes	The outcome is provided in the signed Interconnection agreements.
CZ	Yes	Single nomination is established at all interconnection points
DE	Yes	The TSOs within the two German market areas Net Connect Germany and Gaspool cooperated with the adjacent TSOs for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points and basically agreed on the main parts of the process although there are still some details to finalise.
DK	No	Single nomination will be implemented later this year.
EE*	No	No
EL	No	The same nomination rules apply for bundled and unbundled capacity products; however these rules are not compatible with articles 13 to 16 of the Regulation.
ES	Yes	Enagás cooperated with the adjacent TSOs for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points and basically agreed on the main parts of the process.
FR	Yes	GRTgaz – Added in interconnection agreements; TIGF – single sided nomination implemented with Enagás.
HR	Yes	Plinacro cooperated with the adjacent TSO for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points and basically agreed on the main parts of the process although there are still some details to finalise.
HU		SSN is available at HU/CRO, HU/RO, SSN is under discussion at HU/AT.
IE	Yes	Interconnection Agreements and associated agreements are in place with all adjacent TSOs.
IT	Yes	Snam Rete Gas signed IPAs with adjacent TSOs at EU IPs.
LT	No	No
NL	Yes	BBL cooperated and agreed with National Grid and GTS on the implementation of (re)nomination rules for bundled capacity. GTS – GTS cooperated with the TSOs within the two German market areas Net Connect Germany and Gaspool for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points and basically agreed on the main parts of the process although there are still some details to finalise. GTS cooperated with Fluxys and BBL for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points and basically agreed on the main parts of the process.
PL	Yes	H-gas/TGPS: The TSOs agreed the roles (of Active and Passive TSO) in the single-sided nomination procedure at each interconnection point and offer the network users such possibility to use single-sided nomination. L-gas: There are no interconnection points in the low-methane gas balancing area.
PT	Yes	The TSO REN cooperated with the adjacent TSO Enagás for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points and basically agreed on the main parts of the process although there are still some details to finalise.
RO	Yes	Transgaz cooperated with the adjacent TSOs (FGSZ and Bulgartransgaz) for the purpose of implementing nomination and re-nomination rules for bundled capacity products at interconnection points and basically agreed on the main parts of the process although there are still some details to be finalised.
SE	No	No
SK	Yes	In line with BAL NC on respective interconnection points.
SI	Yes	Procedures are aligned in the Interconnection Agreements (IA).
UK-GB		Revised interconnection agreements to take account of new nomination arrangements.
UK-NI		Jointly developed Nom rules at IP.

Table 3.5: Agreed default nomination rule with adjacent TSO if valid nomination (before deadline) not sent by NU

AGREED DEFAULT NOMINATION RULE WITH ADJACENT TSO IF VALID NOMINATION (BEFORE DEADLINE) NOT SENT BY NU	COUNTRY
Zero and Lesser rule	(DE, EE*, EL ¹⁾ , FR, HU, NL ²⁾ , PT, SK ³⁾ , UK-GB, RO ⁴⁾) and (AT, BE/LU, DK, ES, HR, IE, LT, SE, SI, UK-NI)
Others	BG ⁵⁾ , IT ⁶⁾ , RO
no	CZ, PL ⁷⁾

- 1) In Greece in case of DESFA the processed quantity is equal to 0. In case of BULGARTRANGAZ the processed quantity is equal to the last confirmed quantity up to the maximum booked capacity for the day concerned.
- 2) If in the Netherlands, at the nomination deadline, there is no valid nomination for a network user with both NNOs, then this network user will not be part of the matching process on that particular IP. If the initiating NNO received no valid nomination, the same counts. If the initiating NNO did receive a valid nomination, and the matching NNO did not, the matching NNO will either not send a confirmation or confirm zero. The result in all cases will be that there will flow no gas on behalf of that network user.
- 3) In Slovakia the agreed default nomination rule for one IP, in progress for 2 IPs.
- 4) In Romania the nomination amount = 0 (IP Csanadpalota). The last confirmed nomination is taken into account (IP Negru Voda 1).
- 5) In Bulgaria it is the last confirmed nomination. It has been reported that the default nomination rule is agreed for all IPs of our system except the IP with Greece – Kulata/Sidirokastro.
- 6) In Italy the last available information with the following order: weekly planning, monthly planning (See Snam Rete Gas Network Code (chapter 8, paragraph 6.3) at http://www.snamretegas.it/en/services/Network_Code/Aree/Codice_di_rete.html)
- 7) PL H-gas/TGPS: The default nomination rule applicable in the absence of a valid nomination is that nomination is a zero for entire gas day. However this rule was not agreed between the adjacent TSOs. (For L-gas: n/a).

Table 3.6: Overview of IPs with coexistence of hourly and daily regimes and other points and IPs where (re-)nomination rules apply		
Country	Indication of IPs where hourly and daily nomination regimes co-exist at the two sides of one (or more) IP(s) of your balancing zone (art. 16)?	Did the NRA determine that the nomination and re-nomination procedure is required at points other than IPs according to art. 18 and do the principles apply according to art. 18.2? (Please indicate these other points e.g. storage points, LNG points, end consumer points.)
AT	IP Arnoldstein (AT)/Tarvisio (IT) IP Baumgarten (SK/AT)	Storage, production, biogas and end consumers
BE/LU ¹⁾	Alveringem (BE/FR), Blaregnies (BE)/Blaregnies Troll (FR) (Blaregnies Segeo)	–
BG	–	end-consumer point, distribution networks
CZ	Waidhaus (CZ/DE), Brandov Opal (CZ/DE), Brandov Stegal Hora sv. Kateřiny – Olbernhau (CZ/DE), Hora sv. Kateřiny (CZ/DE), Český Těšín (CZ/ PL)	virtual storage points, directly connected customers
DE	Obergailbach (FR)/Medelsheim (DE)	Storages
ES	–	The provisions relating to nomination processes apply to all connection points with the transmission network
FR	GRTgaz – Taisnières FR/BE), Obergailbach (FR/DE), Jura (FR/CH), Oltingue (FR/CH) TIGF – No	–
HR	Rogatec (HR/SI), Drávaszerdahely (HR/HU)	All entry and exit points
HU	–	–
IE	–	Storage Points and Domestic Entry and Exit Points
IT	Tarvisio (IT)/Arnoldstein (AT)	Non-EU entry/exit points (Gela, Mazara del Vallo, Passo Gries, Bizzarone, San Marino), LNG entry, storage entry/exit, indigenous production (natural gas and biomethane) entry, delivery to other transmission networks, redelivery points (distribution, final customers)
LT	–	LNG point, domestic exit point.
NL	BBL ²⁾ : Bacton (BBL)/Bacton (IUK) GTS – No	GTS – All network points except the ones to DSO-networks.
PL	PL H-gas: Cieszyn (PL)/Český Těšín (CZ)	H-gas: The nominations are required regarding storage points, LNG point, end consumers points, production facilities. L-gas: The nominations are required regarding end consumers points. TGPS: n/a
PT	–	Nominations are required for all network connection points with storage facilities, LNG Terminal facilities and CCGTs end consumers.
RO	–	The entry points in the NTS from the production fields, from the underground storages; Exit points from the NTS towards the end consumers, towards the distribution systems and towards the underground storages.
SE	–	–
SK	IP Baumgarten (SK/AT)	–
SI	IP Gorizia (IT)/Šempeter (SI) ³⁾	Aggregated end consumer points
UK-GB	Bacton (IUK)/Bacton (BBL)	–

1) In Belgium and Luxembourg the stakeholders have been consulted regarding harmonisation: Stakeholders are aware of the situation and did not raise any problem. Contracts were not adapted.

2) In the Netherlands the stakeholders have been consulted regarding harmonisation:
[https://www.bblcompany.com/about-bbl/consultations-implementation-information/\\$1125/\\$1126](https://www.bblcompany.com/about-bbl/consultations-implementation-information/$1125/$1126).

3) In Slovenia, TSO collects all nominations on hourly bases. In the matching process, TSO aggregates hourly nominations of network users to daily values in order to meet the agreed format for data exchange with adjacent TSO. Since TSO is capable to exchange data with adjacent TSO both on hourly or daily level, the interconnection point was declared as a point where hourly and daily regime for nominations co-exist.

Annex IV: Information Provision (Chapter VIII of the BAL NC)

Table 4.1: Chosen model for information provision by 1 October 2016

COUNTRY	INFORMATION PROVISION MODEL
AT*, CZ, DK, ES, FR, IE, IT, LT, PL*, UK-GB, UK-NI (11 countries)	Base case
BE/LU, BG, HU, NL, SI (6 countries)	Variant 1
DE, PT ¹⁾ (2 countries)	Variant 2
EE**, HR**, RO, SE** (4 countries)	No final decision taken by the NRA
EL, SK (2 countries)	No (no NDM off-takes)

* In Austria at TSO Level entry/exit nomination is equal to allocation, final customer data are provided mainly by the respective DSO, NDM forecasts are provided by DAM based on data from DSO's. Data provided for this table is based on chapter 2 of the Austrian "other market rules". In the Polish TGPS balancing zone no NRA decision is made as there are no non-daily metered off-takes in this balancing area and no DSO system is connected to the TSO system.

** Estonia holds derogation. In Croatia the decision process is still ongoing. Sweden reported that no NDM provisions are implemented due to minor part of the market and no receiving interest from NUs.

*** In Slovakia no NRA decision is made as there are no non-daily metered off-takes in this balancing area.

1) In Portugal the information model applied after the entering into force of the NC BAL. The outcome of the obligatory public consultation was the acceptance of the model variant 2.
<http://www.erse.pt/pt/consultaspublicas/historico/Paginas/54.aspx>

Table 4.2: Optional: Descriptions of the implemented model

COUNTRY	LINK TO DESCRIPTIONS OF THE IMPLEMENTED MODEL
AT	https://www.e-control.at/documents/20903/443907/SoMaGa_2_Ost_Kommunikation_Fristenlauf_MG-Ost_201610_en.pdf/a59c96c8-5a7d-4b34-ad54-7870c4eb36fa
BG	http://bulgartransgaz.bg/files/useruploads/files/amd/VTP_news/pravila-balansirane-gas.pdf
CZ	http://www.eru.cz/cs/-/vyhlaska-c-349-2015-sb-o-pravidlech-trhu-s-plyn-1
DE	https://www.gaspool.de/fileadmin/download/regulatorisches/kov_ix/cooperation_agreement_ix_best_practice_guidelines_market_processes_management_of_gas_balancing_groups_1.pdf (page 71 to 73) https://www.net-connect-germany.de/Portals/2/06.07.2016_LF%20BKM_englisch.PDF
ES	http://www.boe.es/boe/dias/2015/12/31/pdfs/BOE-A-2015-14345.pdf
IE	Part E (Section 1.7) of the ROI Code of Operations
IT	Snam Rete Gas Network Code, chapter 9 paragraph 1, at http://www.snamretegas.it/en/services/Network_Code/Aree/Codice_di_rete.html
NL	https://www.gasunie.nl/en/shippers/balancing-regime/sbs-and-pos
PL	H-gas: http://en.gaz-system.pl/fileadmin/pliki/irisp/en/TNCv25_EN_approved_20160203.pdf L-gas: http://en.gaz-system.pl/fileadmin/pliki/irisp/en/TNCv25_EN_approved_20160203.pdf
PT	http://www.erse.pt/eng/naturalgas/codes/Paginas/OperationofInfraCode.aspx

Table 4.3: Provided non-daily metered (NDM) forecasts to shippers in the base case and Variant 2 models on D-1 (in winter time) as of 1 October 2015

VARIANT 2 (D-1)																										
Impl. Deadline/ country:																										
2015	DE								DE _{NDM-1}																	
2016	PT								PT _{NDM-1}	(as of 1 Oct. 2016)																
UTC/GMT		5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM
CET		6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM	6 AM
BASE CASE (D-1)*																										
2015	AT								AT _{NDM-1}																	
	DK								DK _{NDM-1}																	
	FR								FR _{NDM-1}																	
	UK-GB							GB _{NDM-1}			GB _{NDM-2}			GB _{NDM-3}							GB _{NDM-4}					
2015/ IM 2019	IE			IE _{NDM-1} (8:30)																						
	LT						LT _{NDM-1}	(as of 1 Jan. 2016)																		
	PL							PL _{NDM-1}	(as of 1 Oct. 2016)																	
	UK-NI			NI _{NDM-1}																						
2016	CZ	CZ**	(as of 1 July 2016)																							
	ES								ES _{NDM-1}	(as of 1 Oct. 2016)																
	IT								IT _{NDM-1}	(as of 1 Nov. 2015)																
UTC/GMT		5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM
CET		6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM	6 AM
NDM forecast "no later than 12pm (UTC)"																										

* In Austria at TSO Level entry/exit nomination is equal to allocation, final customer data are provided mainly by the respective DSO, NDM forecasts are provided by DAM based on data from DSO's. Data provided for this table is based on chapter 2 of the Austrian "other market rules"

** In Czech Republic NDM forecast is provided 30 days before gas day D.

* In Poland NDM forecast only provided for H-gas and L-gas balancing zone. No NDM offtake point in TGPS balancing zone.

**Table 4.4: Provided updates (in winter time) on gas day D for IDM, DM, NDM off-takes for variant 1 model as of 1 October 2015
(incl. the reported off-take points in each balancing zone (BZ)/country)**

VARIANT 1*																														
Impl. Deadline/ country:		Points in BZ																												
2015	BE/ LUX	IDM, DM, NDM		BE/BU _{IDM1 + DM + NDM1} (+ hourly update)																										
	HU	IDM only							HU _{IDM1}				HU _{IDM2}																	
	NL	IDM, NDM	NL _{IDM1 + NDM1 (6:05)} (+ every 5 min. update)																											
	SI	IDM, NDM							SI _{IDM1 + SM1 + NDM1}								SI _{IDM2 + SM2 + NDM2}													
2015/ IM	BG	IDM only					BG _{IDM1 (10:30)}																							
UTC/GMT			5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM			
CET			6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM	6 AM			

* In Greece the Variant 1 has not been officially adopted yet, but one update for the IDM off takes is already provided at 1 pm to the shippers.

**Table 4.5: Provided updates (in winter time) for IDM off-takes for variant 2 model as of 1 October 2015
(incl. the reported off-take points in each balancing zone (BZ)/country*)**

VARIANT 2*																															
Impl. Deadline/ country:		Points in BZ																													
2015	DE	IDM, NDM		DE _{IDM1} (+ hourly update)**																											
2016	PT	IDM, DM, NDM								PT _{IDM1}							PT _{IDM2}	(+3rd PTIDM3)							(as of 1 Oct. 2016)						
UTC/GMT			5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM				
CET			6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM	6 AM				
			IDM 1st update "no later than 5pm (UTC)"																												

IDM 1st update "no later than 5pm (UTC)"

* In Variant 2 the TSO provides the network users with a forecast of their NDM off-takes for gas day D already on D-1 no later than 12:00 (UTC).

** In Germany according to BAL NC, the MAM/TSO shall provide network users with a minimum of two updates of their measured flows on the gas day D. This obligation has already been implemented with the determination on business processes for change of gas supplier (GeLi Gas determination, annex to decision BK7-06-067 of 20 August 2007, "Metered value transmission" process, 1.6.2., no. 4), because on this basis hourly metered values are to be sent to the network users every hour – not just updates on two occasions. On the basis of these information, the grid users are able to undertake within day trades at the virtual trading point or physical nominations and thus to balance their portfolio.

Additionally, the MAM provided in the period 1 October 2015 until 30 September 2016 once a day metered values for IDM consumers.

And by 1 October 2016 the MAM provided twice a day metered values for IDM consumers to the balancing group manager.

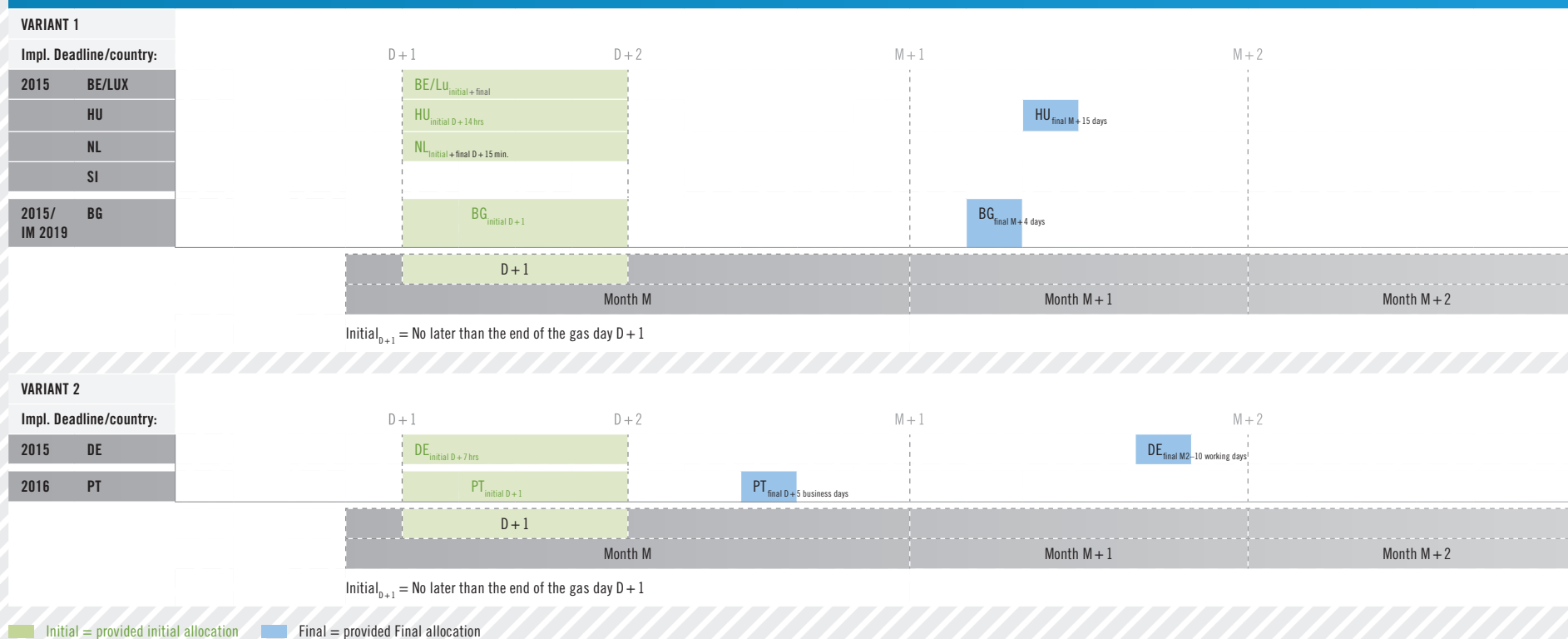
**Table 4.5: Provided updates (in winter time) for IDM and NDM off-takes for base case model as of 1 October 2015
(incl. the reported off-take points in each balancing zone (BZ) /country)**

BASE CASE*																														
Impl. Deadline/ country:		Points in BZ																												
2015	AT	IDM only	AT _{IDM1} (7:25CET) (+ hourly update)																											
	DK	IDM, NDM	DK _{IDM1 + NDM1} (1:30 UTC + 3 hrs) DK _{IDM2 + NDM2} DK _{IDM3 + NDM3} DK _{IDM4 + NDM4} DK _{IDM5 + NDM5}																											
	FR	IDM, NDM	FR _{IDM1 + NDM1} (+ hourly update)																											
	UK-GB	DM, NDM	GB _{IDM1} GB _{IDM2} GB _{IDM3} GB _{IDM4} GB _{IDM5}																											
2015/ IM 2019	IE	IDM, DM, NDM	IE _{IDM1} (6:00 UTC)** IE _{IDM1} IE _{IDM2} IE _{IDM3} IE _{IDM4} (**IDM1 + hourly update)																											
	LT	DM, NDM	LT _{IDM1} LT _{IDM2} (* as of 1 Jan. 2016)																											
	PL	IDM, DM, NDM	PL _{IDM1* + NDM1**} PL _{IDM2*} PL _{IDM2**} (* change 1 Mar.2016/** Impl. 1 Oct. 2016)																											
	UK-NI	NDM only	NI _{IDM1} NI _{IDM2} (+3rd NI _{IDM1})																											
2016	CZ	DM, NDM	CZ** (as of 1 July 2016)																											
	ES	IDM, DM, NDM	ES _{IDM1 + NDM1*} ES _{IDM1 + NDM2*} (as of 1 Oct. 2016)																											
	IT	IDM, DM, NDM	IT _{IDM1 + NDM1*} IT _{IDM2 + NDM2*} (as of 1 Nov. 2015)																											
UTC/GMT			5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM			
CET			6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	1 AM	2 PM	3 PM	4 PM	5 PM	6 AM			
			NDM 1st update “no later than 1 pm (UTC)”										IDM 1st update “no later than 5pm (UTC)”																	

* In Austria at TSO Level entry/exit nomination is equal to allocation, final customer data are provided mainly by the respective DSO,
NDM forecasts are provided by DAM based on data from DSO's. Data provided for this table is based on chapter 2 of the Austrian "other market rules".

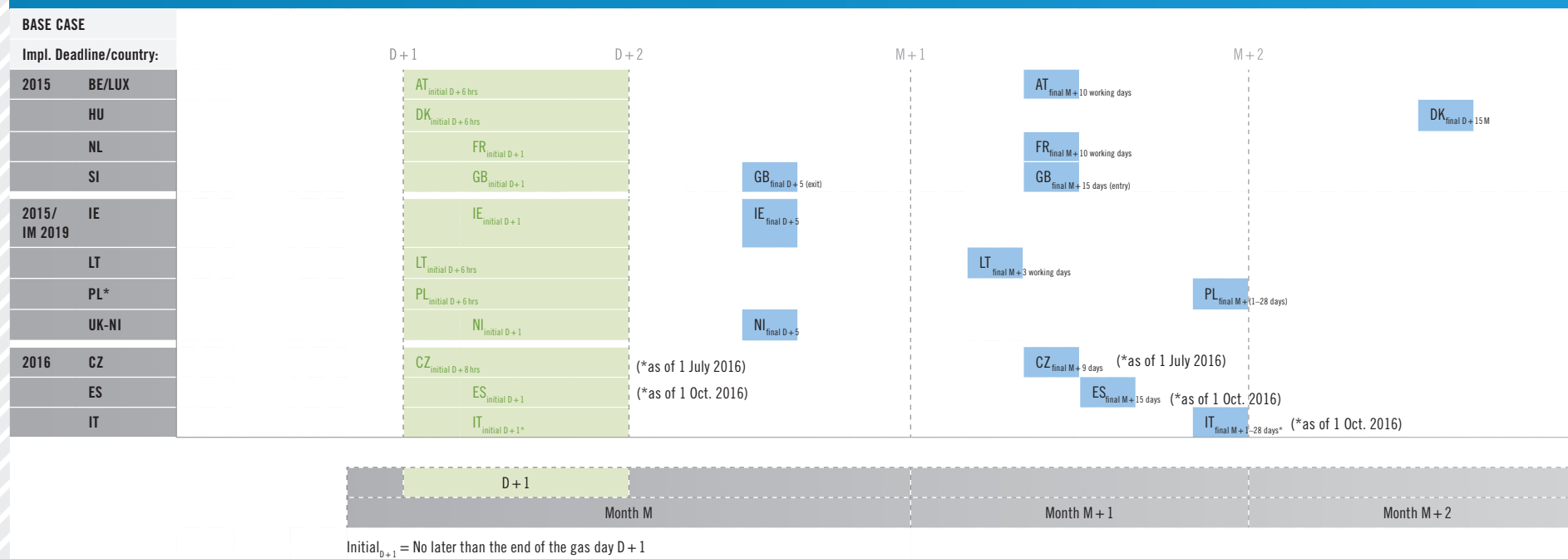
* In Poland in the TPGS balancing zone there are only intraday metered inputs and off-takes in this balancing area and the information according to Art. 37 (for NDMs) is not necessary

Table 4.6: Provided initial and final allocation for Variant 1, Variant 2, Base Case as of 1 October 2015¹⁾



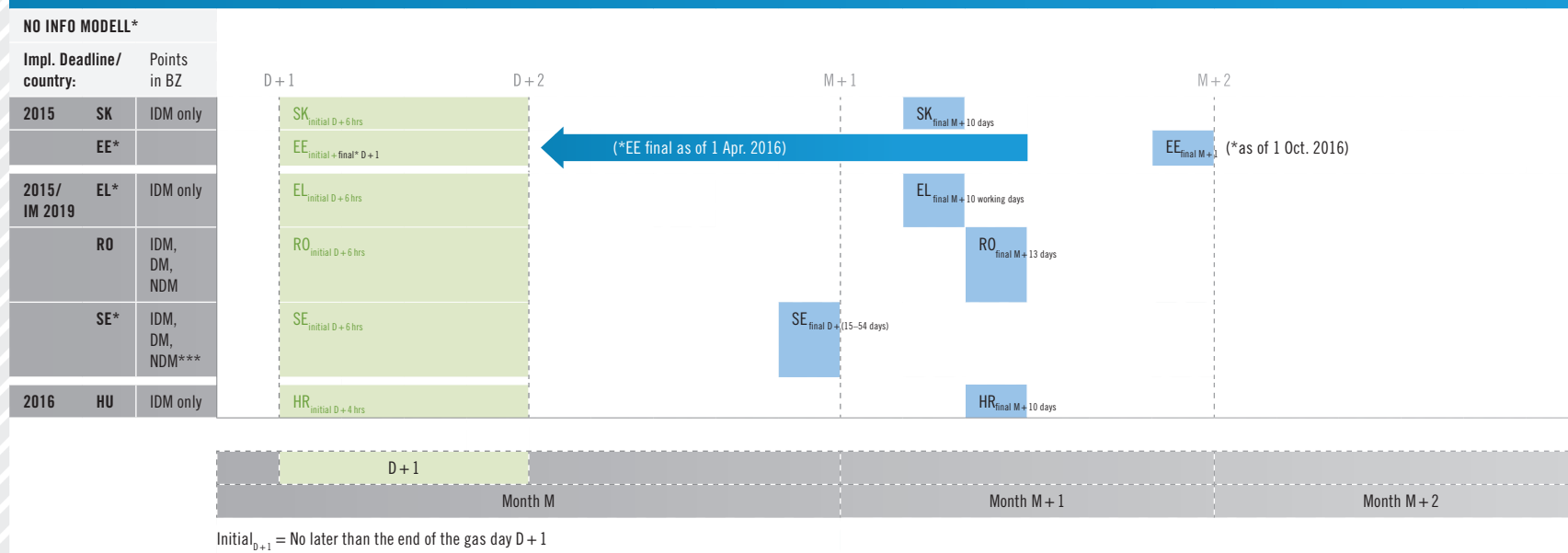
1) The initial allocation and initial imbalance quantity has to be provided by the TSO to each network user no later than the end of gas D + 1. Where an interim measure applies it can be provided under certain conditions within 3 gas days after gas day D. The TSO has to provide for each network user the final allocation for its inputs and off-takes and the final daily imbalance quantity within a period of time defined under the applicable national rules.

Table 4.6: Provided initial and final allocation for Variant 1, Variant 2, Base Case as of 1 October 2015¹⁾



Initial = provided initial allocation Final = provided Final allocation

Table 4.7: Provided initial and final allocation in countries without information model as of 1 October 2015
(incl. the reported off-take points in each balancing zone (BZ)/country)¹⁾



■ Initial = provided initial allocation ■ Final = provided Final allocation

* Slovakia, Croatia and Greece indicated having only IDM off-takes in their balancing zones. Romania reported IDM, DA and NDM off-takes in its balancing zone. Sweden reported that no NDM provisions are implemented due to minor part of the market and no receiving interest from NUs. For IDM points updates are provided to the NUs two times on gas day D. The first update is provided at 12 pm (UTC) and the second update at 3 pm (UTC). The second update is aligned in time provided by the TSO in Denmark.

1) The initial allocation and initial imbalance quantity has to be provided by the TSO to each network user no later than the end of gas D + 1. Where an interim measure applies it can be provided under certain conditions within 3 gas days after gas day D. The TSO has to provide for each network user the final allocation for its inputs and off-takes and the final daily imbalance quantity within a period of time defined under the applicable national rules.

Annex V: Daily Imbalance Charge (Chapter V of the BAL NC)

Table 5.1: Overview of Daily imbalance charge, Interim imbalance charge and Tolerance implementation

OVERVIEW OF DAILY IMBALANCE CHARGE, INTERIM IMBALANCE CHARGE AND TOLERANCE IMPLEMENTATION		
Daily imbalance charges provisions (art. 19–23) implemented by 1 October 2016.	Implemented	AT, BE/LU, CZ, DE, DK, ES, FR, IT, HU, NL, PL, PT, SI, UK-GB
	Partially implemented	EE, LT
	Under development	HR
Interim imbalance charges implemented/planned implementation (art. 49).		BG ¹⁾ , EL, IE, PL (L-gas and TGPS), RO, SE, SK, UK-NI
Tolerances implemented (art.50).		BG, EL, IE, LT, PL (H-gas), RO, UK-NI

1) Bulgaria plans to implement the interim imbalance charges during 2017.

Table 5.2: Details on reported adaption of daily imbalance quantity calculation

DETAILS ABOUT HOW THE CALCULATION OF THE DAILY IMBALANCE QUANTITY IS IMPACTED BY THE LINEPACK FLEXIBILITY SERVICE OR BY THE ARRANGEMENTS IS IN PLACE WHEREBY NETWORK USERS PROVIDE GAS TO THE SYSTEM PER COUNTRY.	
Linepack flexibility service	
CZ	Only linepack flexibility service effects the calculation of daily imbalance quantity. Daily imbalance quantity is lowered by the individual daily amount of linepack flexibility allocated to a network user.
NL	GTS offers a linepack flexibility service (and where shippers get an invoice for) in such a way that the outcome of the calculation for the daily imbalance quantity is always zero. As that is the case, the daily imbalance charge is consequently also always zero.
PT	The linepack flexibility service allows a daily deviation between inputs and off-takes to the maximum subscribed value, without imbalance charge; The gas in kind used by the TSO for the operation of the system, is supplied by each Network User in proportion of its consumptions.
SE	Inputs to and off-takes from the linepack flexibility service are parts of the calculation of daily imbalance quantity
Arrangements is in place whereby network users provide gas to the system	
EE	Any purchase or sale of balancing gas is taken into account: when TSO buys from Network User accounted as offtake, when TSO sells to Network user accounted as input.
EL	UFG is considered in the calculation of the balancing position of each NU. The system's UFG, which is small percentage of the actual offtakes (~0.15 %), is allocated to each NU proportionally to its daily offtakes.
ES	On the day after the gas day, Enagás in its role of the Technical Manager of the System calculates each user's provisional imbalance for the gas day as the difference between the user's inputs and off-takes in the network during the gas day. The calculation of the daily imbalance quantity takes into account the unaccounted gas
SK	A Network User shall be obliged to provide the TSO with gas for the operation of the transmission network, and this for every entry point to and every exit point from the transmission network.

Table 5.3: Default rule applicable in case a marginal sell price and/or a marginal buy price is not available

DEFAULT RULE APPLICABLE IN CASE A MARGINAL SELL PRICE AND/OR A MARGINAL BUY PRICE IS NOT AVAILABLE

BE/LU	It will always be possible to calculate the marginal price as there is always at least a weighted average price. If for whatever reason no weighted average price is available, the previous available weighted average price will be taken into account.
CZ	Daily Reference Price of NCG is applied
DE	If it is not possible to determine the imbalance prices on the basis of the principles described, the respective imbalance price of the previous day shall be used.
DK	Always available.
ES	In case the prices are not available, last calculated marginal sell/buy prices apply.
FR	Use of back-up price provided by PEGAS platform
HU	7.2 chapter of the Trading platform operational rules
IT	Pursuant to the TIB (Attachment to NRA Resolution 312/2016/R/gas), article 5, if, on a Gas day G, the GME communicates to SNAM Rete Gas that the offers accepted for STSP title products at the MGAS Platform with delivery on the same Gas day G are lower than 2,000 MWh overall, the weighted average price, for determining the Purchase/Sale Imbalance Prices is equivalent to the weighted average price of the previous thirty days.
PL	In case the weighted average price (the weighted average price from transactions of Intra-day Market at TGE – index TGEgasID) is not available, the last published TGEgasID index will be applied.
PT	As a default rule, daily weighted average prices at the PVB (Spanish Virtual Trading Point) are considered (cross-border tariffs are added/deducted to the before mentioned prices).
SI	National NC: avg of the last 5 weighted avg prices from the trading platform
UK-GB	<p>The Default Adjustment</p> <p>A 'default' adjustment (the 'Default System Marginal Price') is required when the GB TSO does not undertake any Market Balancing Actions within a day and accordingly a default marginal price is applied. The GB TSO publishes a default system marginal price by no later than August each year which is applicable for the forthcoming gas year (October to September).</p> <p>The default adjustment for GB currently outturns at between 1–2% of the System Average Price (£1.11) and is calculated as follows:</p> <p>Default System Marginal Price Calculation = {Annual Compressor Fuel Cost (£) x 100} + Average Forecast NTS Total System Demand (TWh) x 10 Capacity Charges (pence/kWh).</p>
UK-NI	"Daily Gas Price" shall: (i) firstly, be equal to the System Average Price (as defined in the GB Uniform Network Code) on the relevant Day; (ii) secondly, where for any Day the System Average Price is not available the Daily Gas Price for that Day shall be equal to the arithmetic mean of the System Average Price for each of the 7 preceding Days; and (iii) lastly, where for any Day for any reason the System Average Price is not available under section 4.1.1(a)(i) or calculated under section 4.1.1(a)(ii), or if it is disputed, be such alternative price as Premier Transmission may reasonably determine.

Table 5.4: Description of small adjustment

DESCRIPTION OF SMALL ADJUSTMENT	
Country	<ol style="list-style-type: none"> 1. The value of the small adjustment for determining the marginal buy/sell price (art. 22.7). 2. The way of small adjustment incentivises network users to balance their inputs and off-takes (art. 22.7). 3. The way of small adjustment design makes sure that it is applied in a non-discriminatory manner and does not deter market entry and competition (art. 22.6–7).
AT	Not applicable. The imbalance charge is the market price at the exchange.
BE/LU	<ol style="list-style-type: none"> 1. Small adjustment causer = 3 %, small adjustment helper = 0 % Causer means that the network user's imbalance is in the same direction (excess or shortfall) as the global market position. Helper means that the network user's balancing position goes in the opposite direction as the one of the global market position 2. If a network user is contributing to the imbalance, the imbalance charge will be the gas price augmented by the small adjustment → it will cost them more than balancing their portfolio. If a network user has a balancing position opposite to the global market imbalance, it is reducing the overall imbalance of the system. We incentivise this behaviour by having a small adjustment for helper that is equal to 0 % 3. The small adjustment values are not big and apply to all network users
BG	1. 10 %
	2. under review
	3. The small adjustment is applied equally to all network users
CZ	1. It is 2–5 percent depending on the value of the aggregate imbalance
	2. We are not able to evaluate it after only five months since the implementation
DE	1. +2 % –2 %
	2. The “small adjustment” is a surcharge to or deduction from the weighted average price of gas in order to provide sufficient incentives to balance the balancing groups. This is intended to prevent the balancing group manager from optimising gas purchases and gas sales using imbalance gas. Without a surcharge to or deduction from the average price of gas on days with no procurement of balancing gas there would be insufficient incentive for the balancing group manager to carry out balancing group management himself because the MAM would always cancel out the differences on the basis of the average price of gas. As the management of a balancing group involves costs, without a surcharge or deduction the incentive to supply customers from imbalance gas would actually be increased. This is also likely to have negative repercussions for the security of supply. Furthermore, current information on the cross-border price indicates that this price would be not inconsiderable and on many days above the imbalance price if merely the weighted average price of gas were to be used with no surcharge or deduction.
	3. The level of the “small adjustment” is high enough to counter the risk of false incentives but at the same time it is not too high to constitute an additional barrier to market entry for new market participants or to hamper the development of competition or to be an excessive financial burden for network users. The “small adjustment” of 2 % thus conforms to the provisions of Article 22(6) and (7) of the Network Code on Gas Balancing.
DK	1. 0,5 % in both direction (3 % in certain cases)
	2. To incentivise shippers to use the gas exchange to balance
	3. Same price applied to all. However shippers transporting gas to end-consumers gets a rebate in balancing payments (small adjustment and/or marginal price), if data provisions are not considered as sufficient
EE	Daily imbalance charge calculation methodology under development
EL	Interim imbalance charge implemented
ES	1. 2.5 %
	2. Annually, before December, Enagás in its role of the Technical Manager of the System will analyze the provisional daily imbalance charges invoiced to network users from October to September and the influence of the small adjustment in these charges as an incentive for users to be balanced. The report will be sent to the National Authority for Markets and Competition and to the Directorate General for Energy Policy and Mines. In this report a modification of the small adjustment can be proposed for approval through a resolution from the National Authority for Markets and Competition
	3. Annually, before December, Enagás in its role of the Technical Manager of the System will analyze the provisional daily imbalance charges invoiced to network users from October to September and the influence of the small adjustment in these charges as an incentive for users to be balanced. The report will be sent to the National Authority for Markets and Competition and to the Directorate General for Energy Policy and Mines. In this report a modification of the small adjustment can be proposed for approval through a resolution from the National Authority for Markets and Competition
FR	1. ±2.5 % of the Weighted Average Price
	2. Sufficient to incentivise use of PEGAS platform
	3. Approved by the market as well as the NRA
HR	Daily imbalance charge calculation methodology under development
HU	Small adjustment is zero
IE	Interim imbalance charge implemented

Table 5.4: Description of small adjustment

DESCRIPTION OF SMALL ADJUSTMENT	
Country	<ol style="list-style-type: none"> 1. The value of the small adjustment for determining the marginal buy/sell price (art. 22.7). 2. The way of small adjustment incentivises network users to balance their inputs and off-takes (art. 22.7). 3. The way of small adjustment design makes sure that it is applied in a non-discriminatory manner and does not deter market entry and competition (art. 22.6–7).
IT	<ol style="list-style-type: none"> 1. 0.108€/MWh for the marginal buy and the marginal sell price ones¹⁾. 2. Small adjustments by definition incentivise Users to balance. Evaluation of the incentive to balance will be possible after a first period of application. 3. Since the small adjustment is a fixed value valid for any User it is non-discriminatory by definition. The current levels are not foreseeing to deter market entry and competition.
LT	<ol style="list-style-type: none"> 1. 10 % 2. The small adjustment increase the total payable amount for the imbalance that network user caused and incentivises network users to keep as small imbalance as possible. 3. The same small adjustment is applied for all network users and is clearly described in Balancing Rules.
NL	Not applicable. The daily imbalance charge is always zero, because the daily imbalance volume is always zero. The imbalance quantities are absorbed by the Linepack Flexibility Service according to art. 21.2.
PL	<ol style="list-style-type: none"> 1. The value of the small adjustment for determining the marginal buy price is 10 % and the marginal sell price is –10 %. 2. The adjustment was set as such level in order to avoid the situations where the TSO is the supplier or recipient of the Shippers. The small adjustment shall be related to the potential costs of alternative actions that can and indeed should be taken by the Shipper. Such actions are transactions concluded on liquid trading platforms or activities related to short-term storage of gas in storage facilities. The rate of small adjustments should be determined at the level that would incentivise Shippers to balance their portfolios by making transactions on trading platforms rather than to settle the imbalance with the TSO. Shippers active on Polish gas market have access to 2 trading platforms: TGE and EEX. Marginal buying price should be higher than the day ahead or within day price on EEX trading platform plus transport costs to Polish high methane gas balancing area. Marginal selling price should be lower than the day ahead or within day price on EEX trading platform minus transport costs from Polish high methane balancing area to the balancing area where they can trade on EEX. The costs of gas storage were also taken into consideration. 3. Such methodology meets the conditions of Art.22BAL NC because it is market based, supports the development and short-term liquidity markets, both local and neighbouring, incentivising the Shippers to carry out balancing transactions between the Shippers on trading platforms. 4. The small adjustment at the level of 10% makes the marginal prices more predictable, because it reduces the risk that the TSO's balancing transaction will be the factor influencing the marginal prices. Reducing the financial risk is important for new Shippers making decisions about starting and developing activity in this area
PT	<ol style="list-style-type: none"> 1. +2.5 % –2.5 % 1. By increasing the applicable price when buying and reducing the applicable price when selling. 3. The magnitude of the adjustments determined by the NRA for the first year of application of the BAL NC were based on the French imbalancing rules, along with the same option taken by the Spanish NRA. Although it is still premature to evaluate any possible barriers emerging from this decision, namely to market entry, it has the advantage of keeping the same level of aggravation in both cross-border markets, preventing imbalancing strategies by NUs and also contributing for the harmonisation of rules. Additionally, this option took also in regard the need not to cause unnecessary costs to NUs in a starting period of implementation.
RO	Interim imbalance charge implemented
SE	Interim imbalance charge implemented
SI	<ol style="list-style-type: none"> 1. 10 % 1. Positively. 3. Introducing the adjustment (and implementing the market based balancing) levelled the balancing groups actions towards lower imbalances of their portfolios.
SK	Interim imbalance charge implemented
UK-GB	<ol style="list-style-type: none"> 1. http://www.gasgovernance.co.uk/sites/default/files/Default%20Cash%20Out%20Statement_July%202015_0.pdf 2. The default adjustment is a significant enough figure to drive balancing behaviour based on historical experience, but not to deter market participation. If the TSO needs to provide additional incentive to balance, it enters the market with a view to moving the default adjustment further away from SAP which is effective at incentivising shippers to balance their own portfolios. If the shipper does not balance its portfolio and is long then less money is returned, if a shipper is short the higher the cost to the shipper than would otherwise be the case. 3. Applied to all parties required to balance.
UK-NI	Interim imbalance charge implemented

1) The fixed value is less than 10 %. The weight of the small adjustment is calculated over the SAP values realised in the four months since the start of our BAL regime (1 October 2016 – 31 January 2017). As average, small adjustment represents 0.54 % of the SAP (with a maximum value of 0.77 % when SAP was at the lowest level and a minimum value of 0.34 % when SAP peaked in the considered period).

Annex VI: Neutrality

(Chapter VII of the BAL NC)

Table 6.1: General overview of Neutrality provisions implementation

GENERAL OVERVIEW OF NEUTRALITY PROVISIONS IMPLEMENTATION		
Implementation of Neutrality provisions acc. to art. 29–31	Implemented	BE/LU, DE, ES, FR, HU, IE, IT, NL ¹⁾ , PL, PT, SK, SI, UK-GB, UK-NI
	Partially implemented*	BG, CZ, EE ²⁾ , EL, LT,
	Other mechanism in place	AT, DK, SE
	Under discussion	HR ³⁾ , RO ⁴⁾

Table 6.2: Overview of countries with partially missing implementation of neutrality provisions*

OVERVIEW OF COUNTRIES WITH PARTIALLY MISSING IMPLEMENTATION OF NEUTRALITY PROVISIONS (ART 30–31 BAL NC)*	
Missing provision	Countries
Publication of the methodology	CZ, EE
Publication of monthly aggregated neutrality charges	BG, CZ, EE, EL, LT
Methodology for the calculation of the neutrality charge foresees the apportionment amongst network users and credit risk management rules (art. 30.2).	CZ, EE, LT
Neutrality charge for balancing is proportionated to the extent the network user makes use of the relevant entry or exit points concerned or the transmission network (art. 30.3).	CZ, EE, LT
Balancing neutrality charge is shown separately on invoices (art. 30.4).	BG, CZ, EE, LT
Invoices are accompanied by sufficient supporting information (art. 30.4).	BG, CZ, EE, LT
Measures taken on network users in order to mitigate their default in payment (art.31.1).	BG, CZ ⁵⁾ , EL
In case of a default attributable to a network user, TSO has the possibility to recover the loss (art. 31.3).	CZ, EL
Rules for a separate neutrality charge for balancing in respect of non-daily metered off-takes for Variant 2.	PT

* In Croatia, Greece and Romania the neutrality mechanism is still under discussion or revision by NRA. Bulgaria reported the planned implementation by 1 January 2017.

- 1) NL: As the daily imbalance charge is always zero for all network users, the outcome of the neutrality charge is also always zero. Therefore we also do not publish every month the neutrality charges as requested by Art 29.4. We do generate revenues for the end-of-day imbalance incentive through the Linepack Flexibility Service, and we have implemented a neutrality principle for that. These revenues are deducted from the Allowed revenues, so the transport tariffs decrease because of that.
- 2) EE: TSO does not gain or lose by providing balancing actions, but no separate neutrality charge.
- 3) HR: The Rules on the Organisation of the Gas Market are not harmonised with BAL NC 312/2014.
- 4) RO: The document was in a public consultation in the beginning of 2016, and was subsequently withdrawn by NRA. Subsequently, based on the proposals and comments from the market NRA requested Transgaz to update the project, therefore it was submitted again to public consultation, with the purpose to be approved by 31 December 2016. The answers to the questions below refer to the project in question.
- 5) CZ: Neutrality charge is not applied. Principle of neutrality of balancing is ensured by price regulation (correction factor in the regulatory formula).

Table 6.3: Neutrality provisions for division and apportionment

NEUTRALITY PROVISIONS FOR DIVISION AND APPORTIONMENT	
Country	<p>1) Optional: Rules for the division of the neutrality charge for balancing components provided (art. 30.6).</p> <p>2) Optional: Rules for the subsequent apportionment of the corresponding sums amongst the network users provided (art. 30.6)</p> <p>3) Mandatory for Variant 2: Description of the separate charges where the rules for a separate neutrality charge for balancing in respect of non-daily-metered off-takes are implemented (art. 30.5).</p>
DE	<p>1) and 2)</p> <p>The following shall be allocated to the neutrality charge account of the SLP exit points (SLP neutrality charge account):</p> <ul style="list-style-type: none"> – costs and revenues from SLP reconciliation, – costs and revenues from the procurement or sale of external balancing gas, insofar as these are allocable to the SLP neutrality charge account, – other costs and revenues in connection with the balancing activities undertaken by the MAM, insofar as these are allocable to the SLP neutrality charge account, – revenues from the SLP neutrality charge. <p>The following shall be allocated to the neutrality charge account of the RLM exit points (RLM neutrality charge account):</p> <ul style="list-style-type: none"> – costs and revenues from negative and/or positive imbalance gas, – until 30 September 2016, revenues from structuring charges, – as from 1 October 2016 revenues from the flexibility charge, – costs and revenues from the settlement of RLM quantity differences – costs and revenues from the procurement or sale of external balancing gas, insofar as these are allocable to the RLM neutrality charge account, – other costs and revenues in connection with the balancing activities undertaken by the MAM, insofar as these are allocable to the RLM neutrality charge account, – revenues from the RLM neutrality charge. <p>3) The MAM shall forecast the balance of the neutrality charge accounts by the end of the next contribution period without including the neutrality charge for balancing for the next contribution period, taking into account a liquidity buffer. Any deficits and surpluses in the neutrality charge account shall be taken into consideration correctively in the next forecast.</p> <p>If the forecasted costs exceed the forecasted revenues, the MAM shall impose a neutrality charge for balancing in euros per MWh offtake, on the basis of a forecast of the respective offtake quantities relevant for balancing and separately for the SLP neutrality charge account and the RLM neutrality charge account. The neutrality charge for balancing for the SLP neutrality charge account shall be borne by the balancing group managers who supply SLP exit points. The neutrality charge for balancing for the RLM neutrality charge account shall be borne by the balancing group managers who supply RLM exit points.</p>
ES	<p>1) The neutrality mechanism is different in case of title products and locational products</p> <p>2) Neutrality charges due to the use of title products are assigned to all network users while neutrality charges due to locational products are assigned to network users which use entry points</p>
IE	1) and 2) Pro-rata to throughput
UK-NI	<p>1) and 2)</p> <p>PTL shall operate the Disbursement account to collect/make payments to/from Shippers for Imbalance Charges, collect payments from Shippers for Scheduling Charges, collect payments from Shippers for Unauthorised Flow Charges, make payments for Balancing Gas, and recover the costs from Shippers, pay/receive any other costs/expenses/tax/interest associated with the administration of the account.</p> <p>Excess Revenues/Costs in the Disbursement Account will continue to be redistributed to/shared amongst Shippers on a monthly basis, such that the NI TSOs shall be financially neutral to the Disbursement Account. The basis for sharing disbursement payments/charges will be the Shipper's share of the overall system throughput. "Aggregate Throughput" shall be determined, in respect of a Month, as: Aggregate Throughput Shipper = (Aggregate NI Entry Allocations Shipper + Aggregate NI Exit Allocations Shipper); And the "Total System Aggregate Throughput" in respect of a Month shall be the sum of all Shippers' Aggregate NI Entry Allocations and all Shipper's Aggregate NI Exit Allocations for that Month For each Shipper, in respect of a Month, a "Disbursement Ratio" shall be calculated as follows: Disbursement Ratio Shipper = Aggregate Throughput Shipper/Total System Aggregate Throughput For each Shipper, in respect of each Month, a Disbursement charge/payment shall be determined as the sum of each relevant charge X Disbursement Shipper Ratio.</p>
PT	3) –

Annex VII: Within Day Obligations (Chapter VI of the BAL NC)

Table 7.1: Description of the relationship between WDO and end of the day balancing systems

DESCRIPTION OF THE RELATIONSHIP BETWEEN WDO AND END OF THE DAY BALANCING SYSTEMS.	
AT	<p>In Austria, WDOs are applied on a TSO level and network users are incentivised to keep hourly intakes and offtakes balanced by being charged with a balancing incentive mark-up for hourly imbalances.</p> <p>Therefore, the MAM has a look at the hourly BG positions. If there are hourly imbalances then the balancing incentive markup mechanism applies. This means that if the BGR doesn't balance the BG in due time and the daily imbalance is larger than 24 MWh, the MAM buys or sells the relevant amount on the virtual trading point in the name and on behalf of the BGR.</p> <p>Concerning the hourly imbalances, the MAM applies the balancing incentive markup mechanism in case of fulfilled preconditions.</p>
BE/LU	<p>System wide. During the gas day, as long as the market balancing position (aggregate of all the grid users' positions) remains within the predefined upper and lower market thresholds (within day obligation), there is no intervention by the balancing operator.</p> <p>All grid users receive on hourly basis information on the market balancing position and on their own balancing position together with forecasting data for the remaining hours of the day. In case the market balancing position goes beyond the upper (or lower) market threshold, the balancing operator instantly settles proportionally in respect of the grid user balancing position.</p> <p>The balancing operator initiates a sale (or purchase) transaction on the commodity market for the quantity of the market excess (or shortfall) and settles in cash that quantity with the grid user(s) contributing to such imbalance in proportion of their individual contribution. This transaction, once concluded, will set the reference price used at that time for refunding or charging shippers who caused the market excess or shortfall hence reflecting the market value for that residual natural gas at that time. All grid users and the market position is settled to 0 at the end of each gas day.</p>
DE	<p>Portfolio based. The methodology for forming the flexibility charge ensures that the main costs from the network users' balancing obligations relate to their position at the end of the gas day.</p> <p>In accordance with Article 26(2)(e) of the Network Code on Gas Balancing within day obligations will not result in network users being financially settled to a position of zero during the gas day. Payments made under the within day incentive mechanism do not affect settlement in daily balancing.</p>
NL	<p>System wide. The WDO's are designed to return the system to a position within the green zone.</p> <p>This is the 'safe' zone for GTS with regard to the integrity of the transport system and therefore the end of day position of the system is also ok for the TSO. Hence there is no need to physically return the shippers' positions to zero.</p> <p>To maintain the incentive for shippers to be in balance at the end of the gas day a Linepack Flexibility Service is used.</p>

Table 7.2: Descriptions of WDOs requirements

WDOs CRITERIA	AT, BE/LU, DE AND NL MEETS ALL THE WDOs CRITERIA	
Description of ensuring that the WDOs and their charges do not pose any barriers on cross-border trade and new NU entering the market (ART. 26.2A).	AT	The charges are very small and only applicable in less scenarios (only short-positions). It lies within the balance responsible party's own hands if the balancing incentive charges apply.
	BE/LU	Charges are proportional to the balancing position
	DE	https://www.bundesnetzagentur.de/DE/Service-Funktionen/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK7-GZ/2014/2014_0001bis0999/2014_001bis099/BK7-14-0020_BKV/BK7-14-020_Beschluss_englisch.pdf?__blob=publicationFile&v=3 (page 63–64)
	NL	The Dutch code process involves all stakeholders and the results are laid down in this NRA-decision: https://www.acm.nl/nl/publicaties/publicatie/12879/Implementatie-Netcode-Balancing/
Description of ensuring that adequate information is provided to NU before a potential WD charge is applied (ART. 26.2B).	AT	At least hourly information on the status of the balancing portfolio, starting with the initial nominations at 2 pm for the next gasday. Imbalances are communicated immediately (IMBNOT response) and the market participants have the possibility to balance themselves within the respective lead time.
	BE/LU	Network user receive every hour an update on their provisional (for past hours) or forecasted (for coming hours) balancing position for the whole gas day. Information for the next gas day (D + 1) is available as from 15 h on gas day D
	DE	https://www.bundesnetzagentur.de/DE/Service-Funktionen/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK7-GZ/2014/2014_0001bis0999/2014_001bis099/BK7-14-0020_BKV/BK7-14-020_Beschluss_englisch.pdf?__blob=publicationFile&v=3
	NL	The Dutch code process involves all stakeholders and the results are laid down in this NRA-decision: https://www.acm.nl/nl/publicaties/publicatie/12879/Implementatie-Netcode-Balancing/
Description of ensuring that the main costs for NUs in relation to their balancing obligations relate to their position at the end of the gas day (ART. 26.2C).	AT	Finally the sum of the balancing incentive mark-up is returned to the network users via lower tariffs in regard to the TSO.
	BE/LU	Settlement only to bring global market position to threshold value, no settlement to 0. Thresholds defined such that WDO balancing actions remain an exception while ensuring the integrity of the transmission network
	DE	https://www.bundesnetzagentur.de/DE/Service-Funktionen/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK7-GZ/2014/2014_0001bis0999/2014_001bis099/BK7-14-0020_BKV/BK7-14-020_Beschluss_englisch.pdf?__blob=publicationFile&v=3 (page 66–69)
	NL	The Dutch code process involves all stakeholders and the results are laid down in this NRA-decision: https://www.acm.nl/nl/publicaties/publicatie/12879/Implementatie-Netcode-Balancing/
Description of ensuring that WDO charges are cost reflective (ART. 26.2D).	AT	If the MAM does not need to take measures for physical balancing, the sum of the balancing incentive mark-up is returned to the network users via lower tariffs.
	BE/LU	Imbalance charge price is determined using provisions of article 22
	DE	https://www.bundesnetzagentur.de/DE/Service-Funktionen/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK7-GZ/2014/2014_0001bis0999/2014_001bis099/BK7-14-0020_BKV/BK7-14-020_Beschluss_englisch.pdf?__blob=publicationFile&v=3 (page 69–73)
	NL	The Dutch code process involves all stakeholders and the results are laid down in this NRA-decision: https://www.acm.nl/nl/publicaties/publicatie/12879/Implementatie-Netcode-Balancing/
Description of ensuring that WDO do not result in NU being financially settled to a position of zero during the gas day (ART. 26.2E).	AT	Differences from not successful Balancing Actions of MAM can result to an Carry Forward Account which will be balanced on the next possible auction.
	BE/LU	Settlement only to bring global market position to threshold value and each grid user is settled proportionally to its contribution to the imbalance.
	DE	https://www.bundesnetzagentur.de/DE/Service-Funktionen/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK7-GZ/2014/2014_0001bis0999/2014_001bis099/BK7-14-0020_BKV/BK7-14-020_Beschluss_englisch.pdf?__blob=publicationFile&v=3 (page 73)
	NL	The Dutch code process involves all stakeholders and the results are laid down in this NRA-decision: https://www.acm.nl/nl/publicaties/publicatie/12879/Implementatie-Netcode-Balancing/
The benefits of introducing WDO for TSO outweigh any potential negative impacts (of NU), incl. liquidity of trades at VTP (ART. 26.2F).	AT	If the MAM does not need to take measures for physical balancing, the sum of the balancing incentive mark-up is returned to the network users via lower tariffs. So the costs have to be carried by those BGRs, who caused the imbalances (and used the available infrastructure more than all the others).
	BE/LU	Due to the characteristics of the BeLux market (high transit), it is requested that network users follow their balancing position hour after hour. It is mandatory for network integrity.
	DE	https://www.bundesnetzagentur.de/DE/Service-Funktionen/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK7-GZ/2014/2014_0001bis0999/2014_001bis099/BK7-14-0020_BKV/BK7-14-020_Beschluss_englisch.pdf?__blob=publicationFile&v=3 (page 74)
	NL	The Dutch code process involves all stakeholders and the results are laid down in this NRA-decision: https://www.acm.nl/nl/publicaties/publicatie/12879/Implementatie-Netcode-Balancing/

Annex VIII: Interim measures (Chapter X of the BAL NC)

Table 8.1: Overview of the implementation of interim measures (general provisions)

OVERVIEW OF INTERIM MEASURES IMPLEMENTATION (GENERAL PROVISIONS)		
The reason of Interim measures implementation	Insufficient liquidity	BG, EL, IE, LT, RO, SE, SK, UK-NI
	Other	DE ¹⁾ , PL ²⁾
Mandatory first Interim Measures Report approved with termination date April 2019	Approved	BG, DE, EL, IE, LT, PL, RO, SE, SK, UK-NI
Updated Interim measures Report approved	Yes	DE, PL, SK ³⁾ , UK-NI
	No	BG ⁴⁾ , EL ⁵⁾ , IE ⁶⁾ , LT ⁷⁾ , RO ⁸⁾ , SE ⁹⁾

- 1) The MAMs operate balancing platforms solely for the procurement of specific locational commodity products which are not offered at the trading platform in order to ensure security of supply. The balancing platforms are therefore only used in case there is a specific locational balancing demand which cannot be covered with STSPs traded at the wholesale market. Based on this strict limitation, the balancing platforms have no negative effect on the liquidity at the short term wholesale market, since it is hardly used and only serves as a backup solution. Offers of balancing gas suppliers at the balancing platform are furthermore non-binding for the supplier until they are accepted by the MAMs and therefore no flexibility is withheld from the short term wholesale market.
- 2) Lack of locational products offered on the trading platform and no possibility of trading on short term markets (day ahead and intraday) for up to 22 hours, 7 days a week, which will enable liquid balancing throughout the gas day.
- 3) Link not available.
- 4) We shall update and submit the annual report to the NRA after 6 months of implementation of the new Balancing regime.
- 5) DESFA's current consideration is that submission of an updated version of the report on Interim Measures is not necessary, since: a) most of the measures included in the report (e. g. reduction of tolerance levels, revision of resale scheme, full re-nomination cycles) have already been incorporated in DESFA's proposal for the 3rd revision of the Network Code; b) the rest of the proposed measures are expected to be implemented according to schedule.
- 6) Focus of TSO, Regulator and industry has been on moving forward towards implementing an enduring balancing solution.
- 7) The report is being prepared at the moment.
- 8) TSO requested from NRA an extension until December 2017 for the preparation of the report on the application of interim measures.
- 9) An updated annual report was sent 2 Jan 2017.

Table 8.2: Way of moving from Interim measures to the full implementation of BAL NC

WAY OF MOVING FROM INTERIM MEASURES TO THE FULL IMPLEMENTATION OF BAL NC	
Country	1. The way of interim measures will increase the liquidity. 2. Steps, milestones and deadlines established in order to move away from the interim measures.
DE	<p>1. By giving the balancing platform a low rank in the merit order list and by only using it for specific locational demands that cannot be covered with STSPs via the trading platform, balancing is almost entirely performed via STSPs on the trading platform. The framework for using the balancing platform is limited to reasons for situations with locational balancing demands to ensure security of supply. Therefore the liquidity in the short term wholesale market is not influenced by the interim measures.</p> <p>2. Several steps have already been taken to reduce the scope of the balancing platform. The trading platform operator PEGAS introduced locational short-term standardised products (STSPs) within network zones that were predefined by NCG and GASPOOL. As a consequence, the share of trades via the balancing platform are <1 % in the NCG and GASPOOL market area in comparison with the share of trades via the energy exchanges. Currently the deadline of 16 April 2019 is in place.</p>
PL	<p>1. H-gas: The balancing platform will enhance the safety of transmission system balancing without any adverse impact on the liquidity of the wholesale market. The application of a balancing platform as an interim measure will enable more efficient functioning of the gas system thanks to the access to locational products available on market terms, which are indispensable in the process of physical balancing in case of a sudden shortage/surplus of gas in the transmission network. The tolerance mechanism for daily imbalance quantities will facilitate the functioning of both the current and new players on the natural gas market. It will ensure a smooth transition from the current regime prevailing in the transmission system to the target model envisaged in BAL NC. Thanks to the application of the interim measures the players that only recently entered the gas market (this applies to the majority of players currently operating on the wholesale gas market) according to the existing principles will be able to continue their operations on the market without any adverse effects. The transition period will afford those players the time required to adapt to new balancing mechanisms and to work out adequate operating procedures. The imbalance tolerance will allow gas market participants to adapt to the functioning of the target balancing system model resulting from BAL NC. The proposed interim measure in the form of imbalance tolerance will mean that balancing charges will not be collected within the limits of predefined tolerance, and the settlements with the TSO will be limited to the payments for gas sold/purchased at the average market price, which may provide an additional incentive for new players entering the market, such as end consumers that so far have had their gas delivered to a specific exit point and willing to purchase gas at the exchange. This could have a direct influence on the development of wholesale gas market as the mechanisms proposed in this Report could significantly reduce the barriers to entry to the Polish gas market. At the same time, the proposed method of establishing the tolerance level will encourage more effective use of short-term markets at the gas exchange in the balancing actions undertaken with respect to transmission contracts.</p> <p>2. H-gas: <ul style="list-style-type: none"> – Arrangements with trading platform operator (TGE) aimed at increasing the availability for the pursuit of short-term gas trading on the trading platform in a broader spectrum of time; – Arrangements with trading platform operator (TGE) in order to launch locational products at the gas exchange, ie. products transferring ownership of the gas in a specific location (entry point or exit point); </p> <p>– Preparation of the schedule of gradual withdrawal from the use of locational products available at the balancing platform, by introducing solutions based on the provisions referred to in Article 8 of BAL NC;</p> <p>– Consultation of the TNC (transmission network code) changes in terms of changing the tolerance level of imbalance;</p> <p>– Submission of the updated Report and updated TNC to NRA</p> <p>– Extend the hours of short term gas trading at trading platform (TGE);</p> <p>– Introduce locational products at the trading platforms;</p> <p>Current deadline to move away from the interim measures is 16 April 2019.</p> <p>1. L-gas and TGPS: In the absence of a functioning short-term gas market in the area of TGPS, the balancing platform should increase the safety of balancing the transmission system. Despite the introduction of day-ahead title product on the trading platform (TGE), which is a big step towards increasing the liquidity of short-term gas market, no transaction was executed on TGE within the area of TGPS. Therefore, it is necessary to continue the interim measures in the form of balancing platform as well as interim imbalance charge. The use of interim imbalance charge referred to the market prices in neighbouring balancing areas will enable to apply the mechanism of objective evaluation of the potential imbalance.</p> <p>2. L-gas and TGPS: <ul style="list-style-type: none"> – Arrangements with trading platform operator (TGE) in order to launch short-term market at trading platform, under which it will be possible to acquire low-methane gas; – Preparation of the schedule of gradual withdrawal from the use of locational products available at the balancing platform, by introducing solutions based on the provisions referred to in Article 8 of the BAL NC; – Submission of the updated Report to the NRA. </p> <p>Current deadline to move away from the interim measures is 16 April 2019.</p>
SK	<p>1. Information on development of the liquidity of the short term wholesale gas market is not available to the transmission system operator (as in art. 46.1.a.ii)). TSO has relevant information only from Balancing platform.</p> <p>2. In the case that liquidity of the short term wholesale gas market will allow the creation of Trading platform, TSO will consider steps to move away from interim measures.</p>
UK-NI	<p>1. The design of the Balancing Services tender process will aim to encourage market liquidity by encouraging participation and trade at the NI BP.</p> <p>2. This information is outlined in PTL's published Interim Measures Report.</p>

Table 8.3: Description of Interim imbalance charge

DESCRIPTION OF INTERIM IMBALANCE CHARGE		
Country		<ol style="list-style-type: none"> 1. The reason of using interim imbalance charge 2. The basis of the price derivation 3. Formula 4. The timeline to implement the Daily imbalance charge methodology
BG		1. There are no other mechanisms to determine marginal price in the terms of lack of liquidity.
		2. Administered price
		3. http://bulgartransgaz.bg/files/useruploads/files/amd/VTP_news/metodika-disbalans-gas.pdf
		4. –
EE		1. –
		2. Proxy for a market price
		3. For sales price the minimum of the merit order selling bids, for purchase price the maximum of the merit order purchase bids.
		4. –
EL		1. Due to lack of market liquidity, the balancing gas price cannot be derived by the buy or sell price of title products
		2. Administered price
		$HTAE(d) = [HTAE(d-1) \times \Delta\pi Y\Phi AE\xi(d-1) + \pi Y\Phi A(d) \times Y\Phi AE\xi(d)] / [\Delta\pi Y\Phi AE\xi(d-1) + Y\Phi AE\xi(d)]$ <p>HTAE(d): Gas Balancing Price for the Day d $\Delta\pi Y\Phi AE\xi(d)$: LNG reserves for balancing purposes at Day d $\pi Y\Phi A(d)$: LNG (for balancing purposes) buy price at Day d $Y\Phi AE\xi(d)$: LNG quantity purchased on Day d for balancing purposes.</p>
		4. Mid 2017 – balancing platform. April 2019 – trading platform
IE		1. –
		2. Proxy for a market price
		3. Part E (Section 1.7) of the ROI Code of Operations
		4. –
PL ¹⁾	L-gas	<ol style="list-style-type: none"> 1. There is no trading platform available in this balancing zone. The prices from the balancing platform are used for the calculation of the marginal prices. 2. Price derived from balancing platform trades; 3. Marginal pricing mechanism is based on a price derived from transactions concluded on the balancing platform. <p>The marginal sell price is set as the lower of the following variables:</p> <ul style="list-style-type: none"> – The lowest price from transactions concluded on the balancing platform for gas day n; – The weighted average price of gas in transactions concluded on the balancing platform for gas day n, minus 10%. <p>The marginal buy price is the higher of the following variables:</p> <ul style="list-style-type: none"> – The highest price from transactions concluded on the balancing platform for gas day n; – The weighted average price of gas in transactions concluded on the balancing platform for gas day n, plus 10%. <p>In case when no transactions are concluded on the balancing platform with respect to the gas day, the prices established for the previous gas day apply. Until the moment when the first transaction is concluded on the balancing platform the weighted average price of low-methane gas bought by the TSO for technological purposes is applied.</p>
	TGPS	<ol style="list-style-type: none"> 1. There was no transaction on a trading platform yet. The trading platform is not liquid. Therefore the prices from the adjacent balancing zones are used in order to establish a market price. 2. Proxy for a market price. 3. Marginal Purchase Price (KCK) is calculated as the multiplication of the factor 1.1 and the higher of the two following prices: <ul style="list-style-type: none"> – weighted average price from all transactions of TGE session of the Day-Ahead Market (customised product for high methane balancing area) decreased by transportation costs from the TGPS to the high methane balancing area through the connection point PWP (under the daily product on the firm basis), – weighted average price from all transactions of the EEX session of the Day-Ahead Market increased by transportation costs to the TGPS through the connection point Mallnow (under the daily product on the firm basis). <p>Marginal Selling Price (KCS) is calculated as the multiplication of the factor 0.9 and the lower of the two following prices:</p> <ul style="list-style-type: none"> – weighted average price from all transactions of TGE session of the Day-Ahead Market (customised product for high methane gas balancing area) decreased by transportation costs from the TGPS to the high methane balancing area through the connection point PWP (under the daily product on the firm basis), – weighted average price from all transactions of the EEX session of the Day-Ahead Market increased by transportation costs to the SGT through the connection point Mallnow (under the daily product on the firm basis).
		4. 16 April 2019

1) In Poland the interim imbalance charge is implemented only for L-gas and TGPS balancing zones.

Table 8.3: Description of Interim imbalance charge

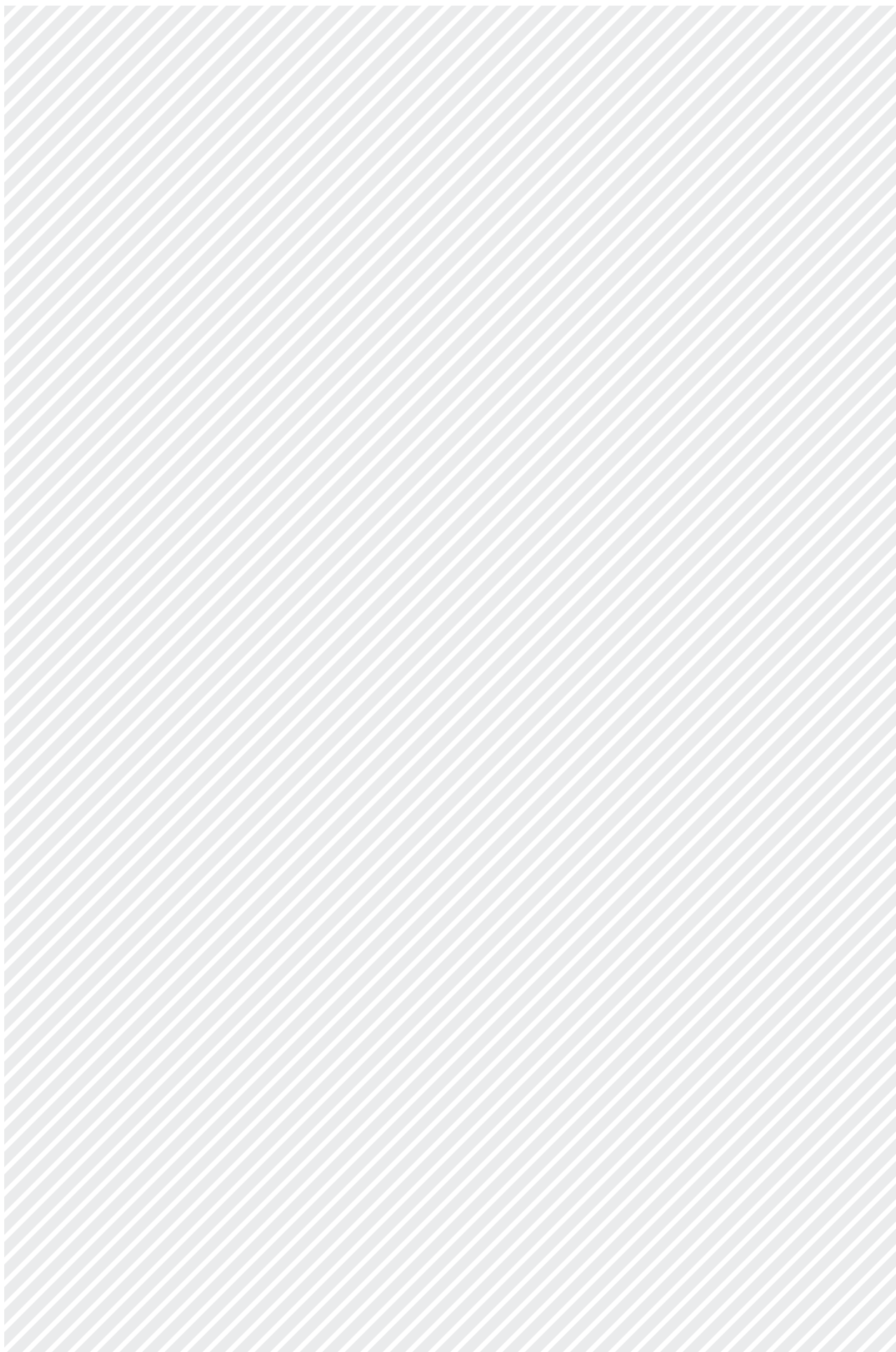
DESCRIPTION OF INTERIM IMBALANCE CHARGE	
Country	<ol style="list-style-type: none"> 1. The reason of using interim imbalance charge 2. The basis of the price derivation 3. Formula 4. The timeline to implement the Daily imbalance charge methodology
RO	1. Due to the lack of a liquid gas market. Due to the non-existence of a Trading platform in the meaning of BAL NC, art. 10.
	2. Proxy for a market price
	3. $PMC = \max(CMMPV, PMPV \times 110\%)$ marginal purchase price. $PMV = \min(CMMPV, PMPV \times 90\%)$ marginal sales price.
	4. Considering that the liquidity of the wholesale domestic short term market is insufficient to determine a weighted average price for a certain gas day, for the gas year 2015–2016 a calculation methodology was applied to determine the weighted average price related to the transmission month. The convergence to the methodology indicated by Regulation 312/2014 will be achieved only in 1Q-2017, when the STSP are introduced in the centralised markets.
SE	1. A neutral method based on possible locational trades within the applied interim measures.
	2. Price derived from balancing platform trades
	3. According to the terms to be found at: https://www.swedegas.com/Our_services/system_responsibility/balance_responsibility/conditions_and_fees
	4. If a joint balancing with Denmark is achieved the imbalance charge methodology will be implemented at that time. Otherwise probably not before 2019.
SK	1. Interim Measures – use of Balancing Platform for setting the price for Imbalance Charge calculation
	2. Price derived from balancing platform trades
	3. Price List https://tis.eustream.sk/TisWeb/#/?nav=gi.trf
	4. Daily Imbalance Charge methodology in line with Bal NC Art. 49. Timeline for the change is dependent on end of Interim Measures.
UK-NI	1. As trading platform approach not being delivered at present.
	2. Proxy for a market price
	3. Positive Imbalance, an Imbalance Charge shall be payable to it equal to the sum of:
	(a) Imbalance Tolerance Quantity (ITQ) \times Daily Gas Price; plus
	(b) MIQ (Aggregate NI Imbalance -ITQ) \times Psmps,
	where Psmps is the lower of:
	(i) the Daily Gas Price multiplied by 0.7; or
	(ii) the System Marginal Sell Price on the relevant Gas Flow Day D (as defined in the GB Uniform Network Code).
	Negative Imbalance, it shall pay an Imbalance Charge equal to the sum of:
	(a) ITQ \times Daily Gas Price; plus
	(b) MIQ (Aggregate NI Imbalance – ITQ \times Psmpb
	where Psmpb is the higher of:
	(i) the Daily Gas Price multiplied by 1.5; or
	(ii) the System Marginal Buy Price on the relevant Gas Flow Day D (as defined in the GB Uniform Network Code).
	4. Ongoing assessment

Table 8.4: Description of tolerances

DESCRIPTION OF TOLERANCES	
Country	<ol style="list-style-type: none"> 1. Tolerance level 2. The reason for using tolerance 3. The design of tolerance level 4. Expected timeline of using tolerances 5. How tolerances are related to the imbalance charges.
BG	1. Tolerance level: 5 %
	2. Reason: No access to short-term liquid gas market and to gas required to meet the short term fluctuations in gas demand and supply.
	3. Design: Reflects the NU's flexibility and the level of risk to balance inputs and off-takes
	4. Expected timeline: April 2019
	5. If the imbalance is within the tolerance, the charge is the administratively determined (regulated gas price) without included small adjustment.
EL	1. Tolerance level: Currently +/- 10 %
	2. Reason: The imbalance position of each network user is calculated as deliveries minus offtakes adjusted by a part of the allocated to the network user daily UFG. The tolerance limits that amount to +/- 10 % of the maximum entry or exit booked capacity.
	3. Design: Tolerances have been introduced/designed considering the lack of NG market's liquidity as well as system's capability to cope with daily imbalances up to a certain extent, without additional cost for the operator.
	4. Expected timeline: The tolerances will be reduced within 2017 (3 % acc. to DESFA's proposal) and eliminated until April 2019 the latest.
	5. In case the NU's imbalance (as a percentage of the maximum between NU's entry and exit capacity) is lower than +/- 10 % then the relevant credit/debit is calculated as the product of the imbalance by the gas balancing price (administered price). In case of negative imbalance the relevant charge may increase up to 50 % for the portion of imbalance exceeding the limit of -10 %. In case of positive imbalance the credit is reduced by 5 % for the portion of the imbalance exceeding the limit of +10 %.
IE	1. Tolerance level: Part E (Section 1.7) of the ROI Code of Operations
	2. Reason: See GNI Interim Measures Report (2015)
	3. Design: Part E (Section 1.7) of the ROI Code of Operations
	4. Expected timeline: TBC
	5. Part E (Section 1.7) of the ROI Code of Operations
LT	1. Tolerance level: The imbalance tolerance limit is equal to the quantity of gas corresponding to 5% of the gas quantity delivered during the balancing period by the network user in October-April and is equal to the quantity of gas corresponding to 15% of the gas quantity delivered during the balancing period by the network user in May-September.
	2. Reason: The absence of sufficient liquidity of the short term wholesale gas market.
	3. Design: The imbalance tolerance limit is equal to the quantity of gas corresponding to 5% of the gas quantity delivered during the balancing period by the network user in October-April and is equal to the quantity of gas corresponding to 15% of the gas quantity delivered during the balancing period by the network user in May-September.
	4. Expected timeline: It is expected to use tolerances until 2019.
	5. The imbalance tolerance limit is equal to the quantity of gas corresponding to 5 percent of the gas quantity delivered during the balancing period by the network user in October-April and is equal to the quantity of gas corresponding to 15 percent of the gas quantity delivered during the balancing period by the network user in May-September.

Table 8.4: Description of tolerances

DESCRIPTION OF TOLERANCES	
Country	<ol style="list-style-type: none"> 1. Tolerance level 2. The reason for using tolerance 3. The design of tolerance level 4. Expected timeline of using tolerances 5. How tolerances are related to the imbalance charges.
PL	1. Tolerance level: The applicable tolerance level is 5 %.
	2. The reason of implementation of tolerance: <ul style="list-style-type: none"> – no possibility of trading on short term markets (DAMg and IDMg) for up to 22 hours, 7 days a week, which will enable liquid balancing throughout the gas day, – market participants comments received during the public consultations.
	3. Design: The tolerance level was designed in accordance with Article 50.5. The tolerance level was consulted with network users and approved by the NRA. The following formula is used to calculate the tolerance: $DLN = 0,05 \times \text{MAX}[(R_{\text{Entry}} + R_{\text{Exit}})/2; R_{\text{Exit}}]$; where R means the quantities of gas delivered/off-taken, as appropriate, at Entry/Exit Points (excluding virtual entry/exit points – Gas Exchange, OTC, Notifying Party, Balancing Services Market).
	4. Expected timeline: The tolerance is approved by the NRA till 1 October 2017.
	5. The level of imbalance tolerance corresponds to the maximum quantity of gas that can be bought or sold by each network user at weighted average price. The imbalance outside the tolerance is settled with the marginal prices.
RO	1. Tolerance level: 5 %
	2. Reason: Based on the internal analysis performed by the TSO the applicable tolerance is of 5 %. The daily tolerances are not cumulative and are closed by trading them with the TSO. The amount of the cumulated quantity of the physical imbalance cannot exceed the guarantee of each NU for the balancing gas.
	3. Design: Subsequent to the internal analysis performed it was determined that the applied tolerance level of 5 % complies with the criteria provided in art 50.5 BAL NC.
	4. Expected timeline: 4/16/2019
	5. According to the Network code: Art. 89(1). – <ol style="list-style-type: none"> (1) In view of the reduction of the financial exposure of the NU as consideration for the final registered imbalances, the TSO considers a tolerance level of 5 %, in the conditions of par. (3). (2) The tolerance level (T) is calculated by applying the formula below: $T = (A_i - A_e) / A_i \times 100$, where: <i>A_i</i> – allocation in the entry point in which the NU booked capacity; <i>A_e</i> – allocation in the exit point in which the NU booked capacity.
UK-NI	1. Tolerance level: See point 3.
	2. Reason: With regard to the provision of information on inputs and offtakes, the TSOs are not anticipating being able to deliver the information required for compliance with those elements of the Balancing Regulation until October 2017. Therefore, the application of balancing tolerances would provide for a 'soft landing' for Shippers who will be facing significantly more complex arrangements, without the data that the Balancing Regulation prescribes as being necessary, and needing to take more actions to manage their position on a day than they do at present. Ongoing assessment.
	3. Design: For each Shipper, a single aggregate "Imbalance Tolerance Percentage" or "ITP" will be calculated as a weighted average across all the NI Exit Points which the Shipper supplies. $ITP \text{ (as \%)} = 100 \times (a + b + c + d) / TC_{vm}$ (where: $a = C_{vm} \times C_f$ for Un_1 , $b = \sum C_{vm} \times C_f$ for Un_2 , $c = \sum C_{vm} \times C_f$ for Un_3 , $d = \sum C_{vm} \times C_f$ for Un_4 , $\sum C_{vm} = \text{max quantity (in kWh/d) required to supply all the Shippers' demand in the relevant load category on a Gas Flow Day at all NI Exit Points, as set out in the Shippers' Downstream Load Statement}$, $TC_{vm} = \text{aggregate of each } \sum C_{vm}$, Un identifies the load category according to the Load Category Weighting Table, $C_f = \text{weighting factor depending on the load category as listed in the Exit Point Tolerance Table.}$) In respect of a Gas Flow Day, the NI TSOs shall determine a Shippers' "Imbalance Tolerance Quantity" or "ITQ" by applying the weighted average percentage tolerance to the sum of a Shipper's Exit Allocations (though not including Trade Sell Allocations as these are allocated whole) where: $ITQ = ITP \times (\sum \text{Final Exit Allocations D} + \sum \text{Final VRF IP Exit Allocations D})$
	4. Expected timeline: Ongoing assessment
	5. See point 3.





PART II

First ENTSOG Monitoring Report on Effect of Balancing Network Code

Image courtesy of Gascade

Executive Summary

Following Article 8(8) of Regulation (EC) No 715/2009, European Network of Transmission System Operators (ENTSOG) shall monitor the effects of the Balancing Network Code (BAL NC) in the European market. The first ENTSOG report on effect monitoring covers the implementation of the BAL NC and aims to monitor some of its effects per balancing zone across countries in the EU after the first implementation deadline as of 1 October 2015 for the period gas year (GY) 2015/2016.

Both ACER and ENTSOG are required to publish monitoring reports – on implementation as well as on effects of the network codes. ENTSOG has aimed for producing reports which can be considered supplementary to ACER's reports. Regarding the effect monitoring, ENTSOGs focus has in particular been to identify to which extent the main aims of the network codes have been achieved.

ENTSOG introduces four market-based indicators (BAL.1 to BAL.4) in order to show certain effects of the implementation of the BAL NC.

The 24 countries (AT, BG, BE/LU, CZ, DE, DK, EL, ES, FR, HR, HU, IE, IT, LT, NL, PL, PT, SE, SI, SK, RO, UK-GB and UK-NI) where the BAL NC applies are clustered into three groups related to their chosen implementation deadline as follows:

- ▲ **Cluster 2015:** AT, BE/LU, DE, DK, FR, HU, NL, SI and UK-GB (ten countries)
- ▲ **Cluster 2016:** CZ, ES, HR, IT and PT (five countries) – Only Czech Republic participated in the effect monitoring due to an earlier implementation deadline by 1 July 2016.
- ▲ **Cluster 2019¹⁾:** BG, EL, IE, LT, PL, SE, SK, RO and UK-NI (nine countries) – Only seven countries (EL, IE, LT, PL (H-gas), SE, SK and UK-NI) participated in the effect monitoring as they have already implemented balancing products according to BAL NC, while the other countries indicated their plan for implementation after the period of GY 2015/2016.

Of cluster 2015, TSOs from all 10 countries have traded short-term standardised products (STSPs) in their implemented balancing merit order. Additionally, two of the ten countries (DE and SI) have conducted balancing services where appropriate during GY 2015/2016 for balancing purposes.

The TSO in Czech Republic traded STSP on the trading platform in total one time for balancing purposes in the 3-month-period after the implementation deadline 1 July 2016, while net shipper imbalances occur on a daily basis. This can be explained by the offer of linepack flexibility service.

Seven out of nine countries (EL, IE, LT, PL, SE, SK and UK-NI) in Cluster 2019 which apply interim measures due to an absence of sufficient liquidity in the wholesale gas market, have implemented STSPs and balancing services or products under interim measures for balancing purposes by 1 October 2015. Three countries (LT, PL (H-gas) and SK) reported the implementation of STSPs and balancing services in the balancing merit order. It can be seen that Poland (H-gas) and Slovakia conducted STSPs and additional balancing services, while Lithuania only used balancing services in GY 2015/2016 for its balancing purposes.

Independently from the categorisation of countries in the cluster, it can be seen that the number of days when the TSO is performing balancing actions, as well as the range of daily total TSO balancing volumes compared to the market entry volumes, vary per balancing zone – even in countries where the same balancing regime applies. While in some countries WDOs are implemented to further incentivise shippers to

1) In Germany in addition to a trading platform, a balancing platform has been applied as an interim measure. All other provisions of the BAL NC have been reported as implemented. In order to avoid duplication, Germany is clustered only once in 2015 cluster.

balance, in other countries TSOs in their residual balancing role might be incentivised in other ways. In Germany, due to their model, TSOs also have to take into account gas quality conversion and the handling of NDM off-take volumes in addition to shipper imbalance volumes.

A correlation between daily shipper imbalances and the behavior of a TSO on days when performing balancing actions is in most of the cases visible, depending on the countries and days. Additionally, it indicates that shippers might behave differently and therefore are incentivised differently and/or able to balance their portfolios in different systems. In Slovenia the daily net shipper imbalances are constantly positive, which might explain why the TSO mainly sells gas to the market.

In all countries, except Austria and Slovakia shipper imbalances occur on a daily basis. The majority of TSOs perform balancing actions on less days compared to when shipper imbalances occur. Exceptions can be seen in three countries (BE/LU and DE) where balancing volumes are conducted on a daily basis.

The TSO balancing actions in five countries (AT, BE/LU, NL and DK) are triggered by market signals which also provide an indication to shippers before a TSO will enter the market, while in other countries TSO balancing actions are triggered by physical signals from the system. The flexibility of gas systems for handling shipper imbalances varies in different countries, TSOs in their residual balancing role have to take this into account when balancing their system. This might indicate why for some countries TSOs do not usually undertake balancing actions on a daily basis.



Image courtesy of FluxSwiss



1 Introduction and purpose

The BAL NC was published on 27 March 2014, this Network Code applies to balancing zones within the borders of the EU¹⁾. It establishes rules for natural gas balancing, including network-related rules on nomination procedures, imbalance charges, settlement processes associated with daily imbalance charges and provisions on operational balancing.

Its implementation shall also take into account the specific nature of interconnectors.²⁾ For countries like Cyprus, Estonia, Finland, Latvia, Luxembourg and Malta that hold derogation on the basis of Article 49 of Directive 2009/73/EC the application of the BAL NC is not mandatory.

Following Article 8(8) of Regulation (EC) No 715/2009, ENTSOG shall monitor the effects of the BAL NC in the European market.

ENTSOG launched the first effect monitoring survey for GY 2015/2016, as it is considered that the BAL NC effects are now visible in the market and can be measured. The annual effect monitoring process was launched in December 2016 to ensure the timely publication of its results in the 2016 ENTSOG Annual Report.



2 Information sources and data collection

ENTSOG sent a questionnaire on 2 December 2016 to the TSOs of 22 EU countries (AT, BE, BG, CZ, DE, DK, EL, ES, FR, HU, HR, IE, IT, LT, NL, PL, PT, SE, SI, SK, RO, UK³⁾) where the Network Code applies and to four countries holding derogation on the basis of Article 49 of Directive 2009/73/EC (Estonia, Finland, Latvia, Luxembourg) to collect data for the effect monitoring of the BAL NC.

Data was provided per balancing zone by 21 countries (AT, BG, BE/LU, CZ, DE, DK, EL, FR, HU, IE, LT, NL, PL, SE, SI, SK, RO, UK-GB and UK-NI) including Estonia. Czech Republic applied the transitory period option with an implementation deadline by 1 July 2016, therefore their data has been provided from this implementation date until the end of GY 2015/2016. Croatia, Spain, Italy and Portugal have also applied the transitory period option, with an im-

plementation deadline by 1 October 2016, as such these countries have not participated in the effect monitoring process 2016 as the requested data is for the period of GY 2015/2016, which is before their implementation deadline.

(Further details on countries and their balancing zones are provided in [ANNEX I, table 1.1](#))

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

2) Recital (8) of BAL NC. Due to the specific nature of interconnectors, IUK and BBL implemented the BAL network code on an “in = out” principle, whereby a network user’s delivery nominations must equal its offtake nominations. As such, network users cannot be exposed to an imbalance and there is no need to take balancing actions. Therefore, many of the requirements of NC BAL do not apply. Where BAL does apply, e.g. relevant rules on nominations, IUK and BBL have taken all reasonable steps to ensure compliance with the requirements. This approach was approved by the relevant NRAs.

3) UK is mentioned as UK-GB and UK-NI due to two different balancing regimes

3 Description of the four effect monitoring indicators

3.1 INDICATOR BAL.1: TSO BALANCING THROUGH SHORT-TERM STANDARDISED PRODUCTS AS % OF TOTAL TSO BALANCING

The BAL.1 indicator is calculated by dividing the total quantity of gas traded by the TSO via STSPs for balancing purposes through the total volume of all TSO balancing actions.

It is proposed as it provides a clear indication on the degree to which balancing by the TSO is being performed through standardised short-term products compared to all TSO balancing actions.

The criteria are chosen to identify balancing trades in order to create a common basis to compare the balancing trades done by TSOs.

The physical settlement requirement are not taken into account, as both the gas target model and article 9 of the BAL NC prioritise the use of title products where and to the extent appropriate over any other available short term standardised products. Some physical effect is of course essential, but the initial trade with the TSO as a counterpart does not need to fulfil this requirement.

This indicator gives an accurate assessment of a well-functioning short-term balancing market.

The assumption: Balancing by a TSO is conducted via balancing products following the merit order. Balancing products ranked higher in the merit order are preferred to be used instead of lower ranked balancing products.



INDICATOR BAL.1	DEFINITION
STSP volume as % of total TSO balancing volume	<p>The BAL.1 indicator is calculated per runtime by dividing the total quantity of gas traded by the TSO via STSPs for balancing purposes through the total volume of all TSO balancing volumes per balancing zone. The indicator is provided for a yearly runtime and where additionally balancing services are used in GY 2015/2016 also on a daily basis. (Different runtimes might be provided for the future.)</p> <p>If no STSP is implemented in the balancing merit order and/or no balancing actions have been undertaken by the TSO for the gas day, the BAL.1 indicator is not calculated.</p> <p>Formula: $= \text{Total traded volume of STSP by TSO (for balancing purposes)} / \text{Total TSO balancing volume [in \% / runtime]}$</p>
Unit	STSP volume of total TSO balancing volume in %
Aim	Maximisation of STSP % rate, where possible.

INPUT DATA FOR INDICATOR BAL.1	DEFINITION
Total volume of STSP for balancing purposes:	<p>The total gas volumes of all short term standardised products (STSP) [SELL+BUY] which are sold to the market [SELL] or bought from the market [BUY] by the TSO for balancing purposes on a short-term wholesale market via a trading platform (Art. 10) where trade notifications are taking into account in its balancing system or via a balancing platform (art. 47) following the merit order (art. 9).</p> <p>Formula: Total volume of STSP [in MWh/runtime/balancing zone] = $\sum \text{volumes of title STSP [SELL+BUY]} + \sum \text{volumes of locational STSP [SELL+BUY]} + \sum \text{volumes of temporal STSP [SELL+BUY]} + \sum \text{volumes of temporal locational STSP [SELL+BUY]}.$</p>
Total volume of Balancing Services:	<p>The sum of gas volumes [SELL¹⁾+BUY²⁾] of all balancing services (according to article 8) which are conducted by the TSO following the merit order (art. 9) for balancing purposes.</p> <p>Formula: Total volumes of Balancing Services [in MWh/runtime/balancing zone] = $\sum \text{volumes of balancing services}_1 \text{ [SELL+BUY]} + \sum \text{volumes of balancing services}_2 \text{ [SELL+BUY]} + \dots + \text{volumes of balancing services}_n \text{ [SELL+BUY]}.$</p>
Total volume of Interim Measures	<p>The sum of gas volumes [SELL+BUY] of all Interim Measures which are conducted by the TSO following a merit order for balancing purposes.</p> <p>Formula: Total volume of Interim Measures [in MWh/runtime/balancing zone] = $\sum \text{volumes of Interim Measure}_1 \text{ [SELL+BUY]} + \sum \text{volumes of Interim Measure}_2 \text{ [SELL+BUY]} + \dots + \text{volumes of Interim Measure}_n \text{ [SELL+BUY]}$</p>
Total TSO balancing volume	<p>The sum of gas volumes [SELL+BUY] of all balancing products which are conducted by the TSO following a merit order for balancing purposes.</p> <p>Formula: Total TSO balancing volume [in MWh/runtime/balancing zone] = $\text{Total volumes of STSP [in MWh]} + \text{total volumes of balancing services [in MWh]} + \text{Total volumes of Interim Measures [in MWh]}.$</p>
Indicator BAL.1	<p>Indicator BAL.1 (per year) = $\text{Total volume of STSP for balancing purposes} / \text{Total TSO Balancing volume [in \% per year]}.$</p> <p>Indicator BAL.1 (per gas day) = $\sum \text{Total volume of STSP for balancing purposes per gas day} / \sum \text{total TSO balancing volume per gas day [in \%]}.$</p>

DATA REQUIREMENTS	
Unit	Absolute volumes in MWh (provided per gas day)
Minimum unit	MWh (provided per gas day)
Requested runtime	1 October 2015–30 September 2016 (gas days)

1) In this case the gas is withdrawn from the network system.

2) In that case, gas is injected into the network system.

3.2 INDICATOR BAL.2: TOTAL TSO BALANCING VOLUME AS % OF MARKET VOLUME

ENTSOG is of the opinion that the establishment of a residual balancing role for the TSO while leaving the primary balancing responsibility to

the network users is one of the key principles of the BAL NC.

Indicator BAL.2:

ENTSOG proposes an indicator BAL.2 which is calculated by dividing the daily total quantity of gas conducted by the TSO for balancing purposes through the daily total gas market entry volume. This indicator gives an indication of how much gas is traded with the rest of the market by the TSO for balancing purposes compared to the market volume. The entry volumes into the balancing zone (or market area) are used as the market volume. The entry volumes mean the quantity allocated at all entry points into a balancing zone (or market area) including e.g. virtual IPs, LNG, productions and storages and excluding entries from the VTP.

As the TSO has the knowledge about its own traded gas volumes for balancing purposes as well as an overview of the gas entering and leaving the system, the data for the calculation of the indicator should be available for all TSOs.

The aim of the BAL NC is to maximise the use of STSPs, where possible. As many TSOs are using balancing services or have interim measures in place, ENTSOG proposes to combine in those cases the results of indicator BAL.2 with BAL.1 in order to distinguish better between TSO balancing volumes provided via the short-term wholesale market and those via other products.

INDICATOR BAL.2	DEFINITION
BAL.2: Total TSO balancing volume as % of market volume	<p>The BAL.2 indicator is calculated [per gas day] by dividing the total quantity of gas traded by the TSO for balancing purposes following a merit order (within a balancing zone) divided by the market volume within a balancing zone. The indicator is provided for each gas day in GY 2015/2016 when TSO balancing actions occur. (Different runtimes on a yearly, quarterly and monthly basis) might be provided for the future.)</p> <p>If no balancing actions have been undertaken by the TSO for a gas day, the BAL.2 indicator is not calculated.</p> <p>Formula:</p> <p>Indicator BAL.2 (runtime) = Total quantity of gas traded by the TSO(s) for balancing purposes within a balancing zone (per runtime)/market volume (per runtime) [in %].</p>
Unit	TSO balancing volume as % of market volume
Aim:	Decrease of % rate, minimised value

INPUT DATA FOR INDICATOR BAL.2	DEFINITION
Total TSO balancing volume¹⁾	<p>Total TSO balancing volume is calculated as the sum of gas volumes [SELL + BUY] of all balancing products which are conducted by the TSO within a gas day following a merit order for balancing purposes.</p> <p>Formula:</p> <p>Total TSO balancing volume [in MWh/runtime/balancing zone] = \sum volumes of STSPs [in MWh/runtime] + \sum volumes of balancing services [in MWh/runtime] + \sum volumes of Interim Measures [in MWh/runtime].</p>
Market Volume	Market volume means the quantity allocated at all entry points into a balancing zone (or market area) including e.g. virtual IPs, LNG, productions and storages and excluding entries from the VTP [in MWh/runtime].
Indicator BAL.2	<p>Indicator BAL.2 (per runtime) = \sum TSO balancing volumes in MWh/runtime / \sum market volume in MWh/runtime [in %]</p>

DATA REQUIREMENTS	
Unit	Absolute volumes in MWh (provided per gas day)
Minimum unit	MWh (provided per gas day)
Requested data runtime	1 October 2015–30 September 2016 (gas day)

1) See also BAL.1 input data regarding the balancing products used in the formula.

3.3 INDICATOR BAL.3: NET TSO BALANCING VOLUME AS % OF MARKET VOLUME

ENTSOG is of the opinion that establishing a residual balancing role for the TSO, while leaving the primary balancing responsibility to the network users is one of the key principles of the NC BAL.

ENTSOG proposes a second indicator related to the residual balancing role of the TSO. This indicator BAL.3 is calculated by dividing the net quantity of gas traded by the TSO for balancing purposes through the market volume per gas

day. It gives an indication if relatively more gas is bought or sold by the TSO due to balancing purposes at the end of the gas day. The entry volumes into the balancing zone (or market area) is used as the market volume. The entry volumes mean the quantity allocated at all entry points into a balancing zone (or market area)¹⁾ including e.g. virtual IPs, LNG, productions and storages and excluding entries from the VTP.

1) In France.

INDICATOR BAL.3	DEFINITION
BAL.3: Net TSO balancing volume as % of market volume	<p>The BAL.3 indicator is calculated [per runtime] by dividing the net quantity [SELL – BUY] of gas traded/conducted by the TSO following a merit order for balancing purposes (within a balancing zone) divided by the market volume per gas day. Different runtimes for the indicator might be provided for the future.</p> <p>If no balancing actions have been undertaken by the TSO for the gas day, the BAL.3 indicator is not calculated.</p> <p>Formula:</p> <p>Indicator BAL.3 (runtime) = Net quantity of gas traded by the TSO(s) for balancing purposes within a balancing zone (per runtime)/market volume (per runtime) [in %].</p>
Unit	TSO balancing volume as % of market volume
Aim	Decrease of % rate, minimised value.

INPUT DATA FOR INDICATOR BAL.3	DEFINITION
Total SELL TSO balancing volume	<p>The total SELL TSO balancing volume (long market) is calculated as the sum of gas volumes of all balancing products which are sold to the market by the TSO following a merit order for balancing purposes.</p> <p>Formula:</p> <p>Total SELL TSO balancing volume [in MWh/runtime] = \sum SELL volumes of STSP [in MWh/runtime] + \sum SELL volumes of balancing services¹⁾ [in MWh/runtime] + \sum SELL volumes of Interim Measures [in MWh/runtime] + \sum SELL volumes of other balancing products [in MWh/runtime].</p>
Total BUY TSO balancing volume	<p>The total BUY TSO balancing volume (short market) is calculated as the sum of gas volumes of all balancing products which are bought from the market by the TSO following a merit order for balancing purposes.</p> <p>Formula:</p> <p>Total BUY TSO balancing volume [in MWh/runtime] = \sum BUY volumes of STSP [in MWh/runtime] + \sum BUY volumes of balancing services²⁾ [in MWh/runtime] + \sum BUY volumes of Interim Measures [in MWh/runtime].</p>
Net TSO balancing volume	<p>Net TSO balancing volume is calculated as the difference of SELL and BUY gas volumes of all balancing products which are conducted by the TSO following a merit order for balancing purposes in a balancing zone.</p> <p>Formula:</p> <p>Net TSO balancing volume [in MWh/runtime] = Total SELL TSO balancing volume [in MWh/runtime] – Total BUY TSO balancing volume [in MWh/runtime] = \sum SELL volumes of STSP [in MWh/runtime] + \sum SELL volumes of balancing services [in MWh/runtime] + \sum SELL volumes of Interim Measures [in MWh/runtime] + \sum SELL volumes of other balancing products [in MWh/runtime] – \sum BUY volumes of STSP [in MWh/runtime] – \sum BUY volumes of balancing services [in MWh/runtime] – \sum BUY volumes of Interim Measures [in MWh/runtime].</p>
Market Volume	Market volume means the quantity allocated at all entry points into a balancing zone (or market area) including e.g. virtual IPs, LNG, productions and storages and excluding entries from the VTP [in MWh/runtime].
Indicator BAL.3	Indicator BAL.3 (per runtime) = \sum net TSO balancing volume in MWh/runtime / \sum market volume in MWh/runtime [in %]

Data requirements	
Unit	Absolute volumes in MWh (provided per gas day)
Minimum unit	MWh (provided per gas day)
Requested data runtime	1 October 2015 – 30 September 2016 (gas day)

1) In this case the gas is withdrawn from the network system.

2) In that case, gas is injected into the network system.

3.4 INDICATOR BAL.4: NET SHIPPER IMBALANCE VOLUME AS % OF MARKET VOLUME

ENTSOG proposes an indicator which is calculated by dividing the total daily net imbalance volume of shippers²⁾ through the market volume (within a balancing zone).

This indicator aims at assessing whether the overall system is in balance on a day-on-day principle and whether the network users contribute sufficiently to keeping the overall system in balance. ENTSOG suggests using aggregated portfolio data to assess whether network users contribute sufficiently to keeping the overall

system in balance. The BAL.4 indicator is used in combination with BAL.3 in order to compare relatively the net imbalance volume of shippers and the counteracting net balancing volume of the TSO.

- 2) As per Article 21 BAL NC the imbalance quantities shall be calculated by the TSO as a daily imbalance quantity for each NU's portfolio for each gas day.

INDICATOR BAL.4	DEFINITION
BAL.4: Net imbalance volume of shippers as % of market volume	<p>The BAL.4 indicator is calculated on a daily basis by dividing the total net imbalance volumes of shippers [long and short] at the end of gas day by the market volume at the end of gas day. The indicator might be provided for different runtimes in the future.</p> <p>Formula:</p> <p>Indicator BAL.4 (runtime) = $\Sigma \text{Net imbalance volumes of shippers (per runtime)} / \text{market volume (per runtime) [in \%].}$</p>
Unit	TSO balancing volume as % of market volume
Aim	Decrease of % rate, minimised value.

INPUT DATA FOR INDICATOR BAL.4	DEFINITION
Net imbalance volume of shippers	<p>The net imbalance volume of shippers is calculated as the sum of the imbalance values of all shippers that are long at the end of the gas day (positive value) and the sum of the imbalance values of all shippers that are short at the end of the gas day (negative value).</p> <p>Formula:</p> <p>Net imbalance volume of shippers [in MWh/runtime] = $\Sigma \text{Imbalance volume [LONG] of shippers [in MWh/runtime]} + \Sigma \text{Imbalance volume [SHORT] of shippers [in MWh/runtime].}$</p>
Market Volume	Market volume means the quantity allocated at all entry points into a balancing zone (or market area) ¹⁾ including e.g. virtual IPs, LNG, productions and storages and excluding entries from the VTP [in MWh/runtime].
Indicator BAL.4	Indicator BAL.4 (runtime) = $\Sigma \text{Net imbalance volume of shippers (per runtime)} / \text{market volume (per runtime) [in \%].}$

Data requirements	
Unit	Absolute volumes in MWh (provided per gas day)
Minimum unit	MWh (provided per gas day)
Requested data runtime	1 October 2015–30 September 2016 (gas day)

1) In France.

4 Conclusion

4.1 INDICATOR BAL.1 TSO BALANCING THROUGH SHORT-TERM STANDARDISED PRODUCTS AS % OF TOTAL TSO BALANCING

The aim of the BAL NC is to, where possible, maximise the usage of STSP for balancing purposes. Based on the data provided for GY 2015/2016, the BAL.1 indicator has been calculated on a yearly basis for each balancing zone in 13 countries (AT, BE/LU, CZ¹⁾, DE, DK, FR, HU, NL, SI, SK, PL and UK-GB) using STSP products on a trading and/or balancing platform during GY 2015/2016 according to their merit order for balancing. An exception regarding the usage of any STSP on the trading platform in its balancing merit order is Lithuania which performed balancing actions by using only balancing services.

The results, which can be found below, are on a yearly basis, and where balancing services have been partially conducted also on a daily basis. No indicator has been calculated for eight countries (BG, EL, IE, PL (L-gas, TGPS), RO, SE and UK-NI) including Estonia. Five countries (EL, IE, RO and UK-NI) including Estonia, conducted balancing services only via a public tender. All of those countries except Estonia indicated the application of interim measures. Table 1 provides an overview of the yearly BAL.1 indicator per country.

OVERVIEW OF THE YEARLY BAL.1 INDICATOR		
Cluster	Country/balancing zone	BAL.1 indicator (GY 2015/2016)
2015	AT	100 %
	BE/LU	100 %
	DK	100 %
	FR (GRTgaz North/TRS)	100 %
	HU	100 %
	NL	100 %
	UK-GB	100 %
	DE (Gaspool)	96.88 %
	DE (NCG)	81.58 %; (as of 1 May 2016) 100 %
	SI	85.85 %
	CZ ¹⁾	100 %
2016	PL (H-gas)	99.91 %
	SK	33.66 %
	LT	0 %
	EL, SE, IE, UK-NI	No STSP, only interim measures/balancing services in place*
	BG, PL (L-gas, TGPS), RO	–

* Estonia which holds derogation is using balancing services only, but has not provided any data.

Table 13: Overview of the yearly BAL.1 indicator per country which indicates the TSO usage of STSPs for balancing purposes

1) Czech Republic provided data due to its implementation deadline for the period 1 July 2016 until the end of GY 2015/2016.

Yearly BAL.1 indicator

The yearly BAL.1 indicator of 100 % has been calculated for nine countries (AT, BE/LU, CZ, DK, FR, HU, NL, UK-GB). The TSOs in those countries have conducted only STSP on a trading platform for their balancing purposes in GY 2015/2016. (see figure 1)

The yearly BAL.1 indicator with a value less than 100 % and >0 % has been calculated for five balancing zones in four countries (DE, SI, SK and PL) as these indicated the use of STSPs on a trading and/or balancing platform (under interim measures) as well as additional balancing services in their merit order.

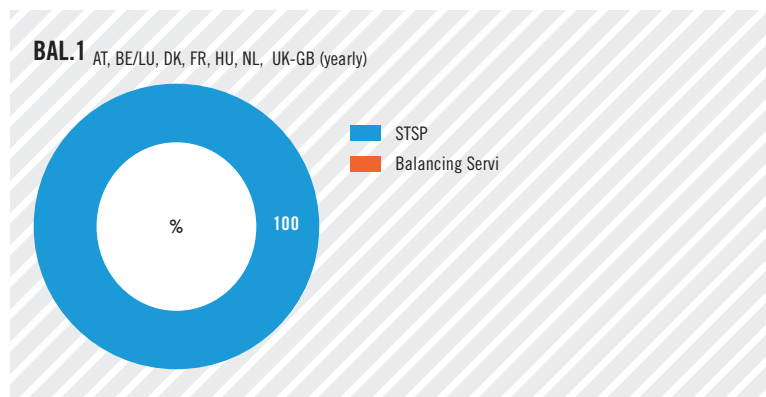


Figure 1: Yearly BAL.1 indicator

Germany (Gaspool)

The yearly BAL.1 indicator of ca. 97% indicates that the Gaspool market area has been balanced mainly via STSP with a small percentage of balancing services usage in GY 2015/2016. (see figure 2)

The average range of BAL.1 on a daily basis in GY2015/2016 is on a low level, except eight days where only balancing services have been used. On all eight days, no STPS were traded by GASPOOL, which indicates that STSP could not fulfil the needed requirements on these days. From the end of April 2016, only STSP were traded for balancing purposes, and on many days no balancing actions occurred at all.

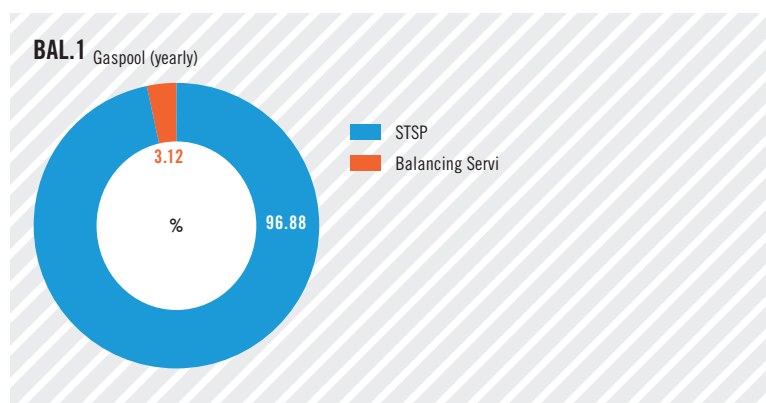


Figure 2: Yearly BAL.1 indicator, Gaspool

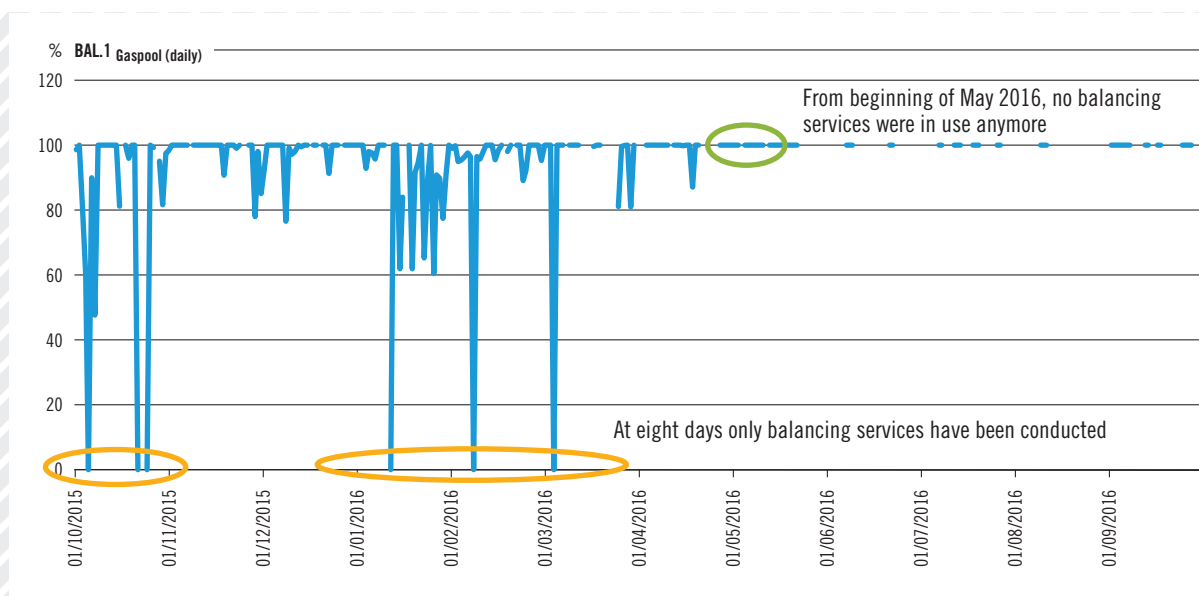


Figure 3: Daily BAL.1 Gaspool: Usage of STSPs as % of total balancing volume in GY 2015/2016

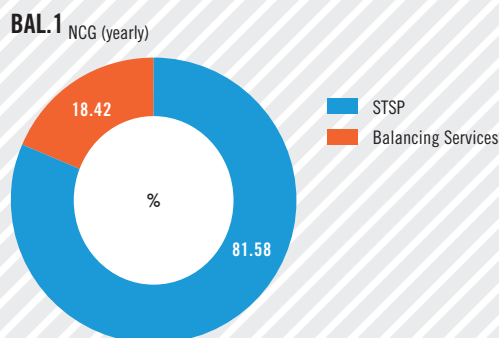


Figure 4: Yearly BAL.1 indicator, NCG

Germany (NCG)

The BAL.1 indicator of ca. 82 % on a yearly basis illustrates that overall the NCG market area has been balanced mainly via the usage of STSPs²⁾, but as well as via balancing services in GY 2015/2016. (see figure 4)

The BAL.1 indicator on a daily basis shows that the yearly BAL.1 value of 82% mainly arisen from the time period until May 2016 when balancing services have been conducted for balancing purposes in the L-gas network of the Market Area. The fluctuation of BAL.1 during this period has been quite high. On two days in GY 2015/2016 balancing was performed by NCG only via balancing services. On 1 May 2016, the trading platform operator PEGAS introduced temporal locational STSP in coordination with NCG, which allow NCG to fulfil the balancing demand in the L-gas network on the trading platform. As a consequence no balancing services were used at all anymore.

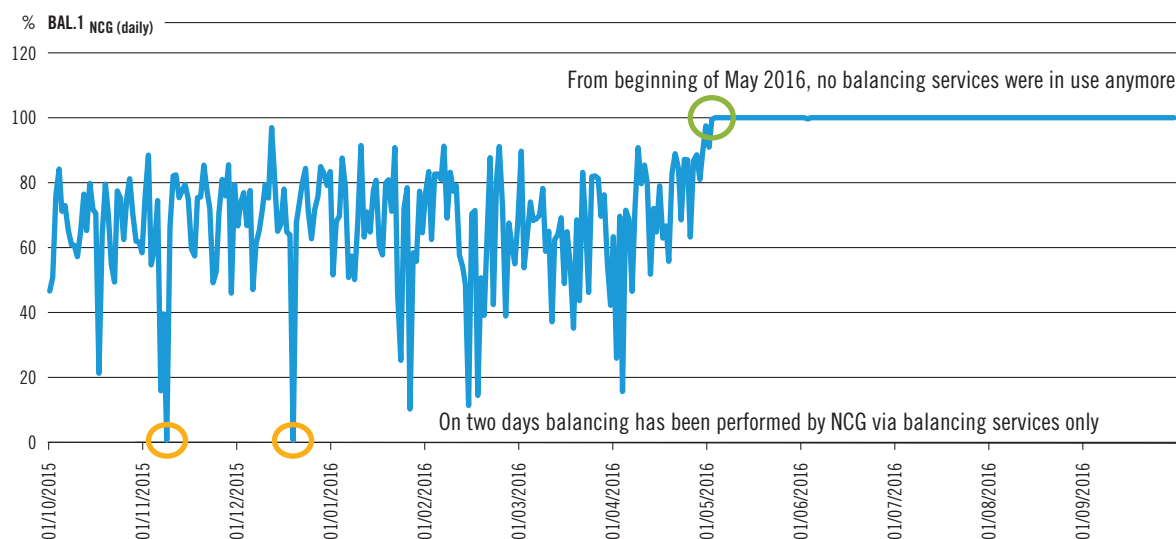


Figure 5: Daily BAL.1 NCG: Usage of STSPs as % of total balancing volume in GY 2015/2016

2) On 5 days in GY2015/2016 STSP products have been conducted on the NCG balancing platform.

Slovenia

The BAL.1 indicator of ca. 86 % on a yearly basis illustrates that the Slovenian TSO mainly used STSP products, but partially also balancing services in its implemented balancing merit order in GY2015/2016.

The BAL.1 indicator for a daily basis indicates that for Slovenia especially in the first half of October 2015 and then also on some days during GY 2015/2016 only balancing services were used. Until the end of the year 2015 the fluctuation of the BAL.1 indicator between STSP and balancing services usage was quite high.

From the beginning of January 2016 balancing actions have been mainly conducted via STSP products with some exceptional days. It seems that even the days when balancing actions by the TSO occurred were reduced as of May 2016.

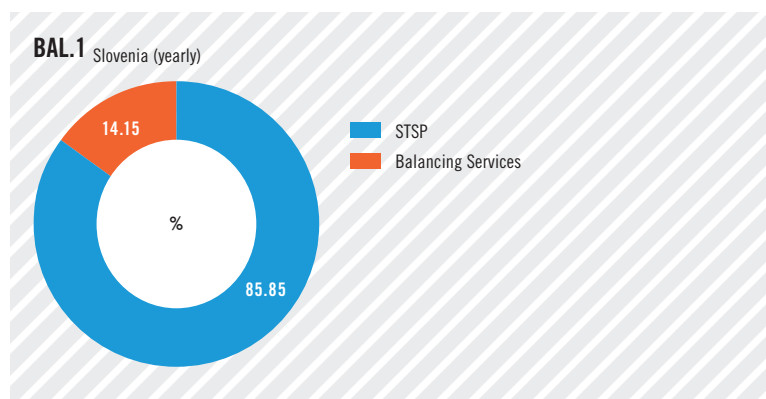


Figure 6: Yearly BAL.1 indicator, Slovenia

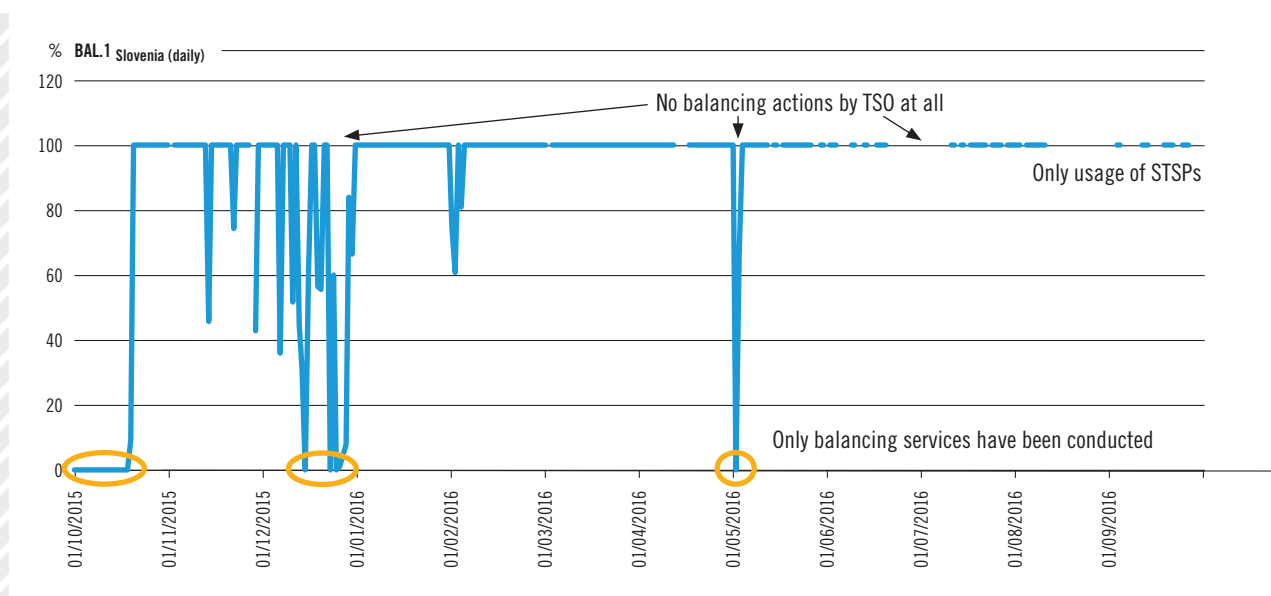


Figure 7: Daily BAL.1 Slovenia: Usage of STSPs as % of total balancing volume in GY 2015/2016

BAL.1 Slovakia (yearly)

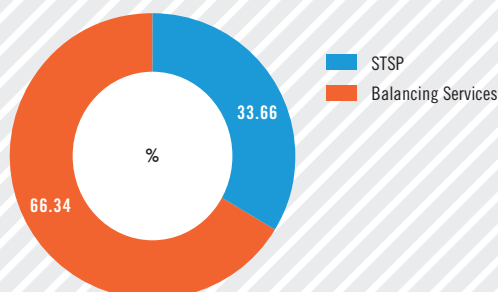


Figure 8: Yearly BAL.1 indicator, Slovakia

Slovakia

The BAL.1 indicator of ca. 34% on a yearly basis, illustrates that the Slovakian TSO is partially balancing via STSP products on its balancing platform, but mainly via balancing services in its implemented balancing merit order in GY 2015/2016.

The BAL.1 indicator on a daily basis indicates that for Slovakia the TSO only had to balance the system on six days in GY 2015/2016. The STSP product was only used on one day in February, and on three days in May 2016, but as a minor part compared to the balancing services. The balancing was conducted via balancing services only on two days in July 2016. The TSO balancing actions occur on 6 days in GY 2015/2016 as the TSO indicated it only performed balancing actions when the overall system imbalance exceeds a certain threshold. Further details are provided in Chapter 4.3.

% BAL.1 Slovakia (daily)

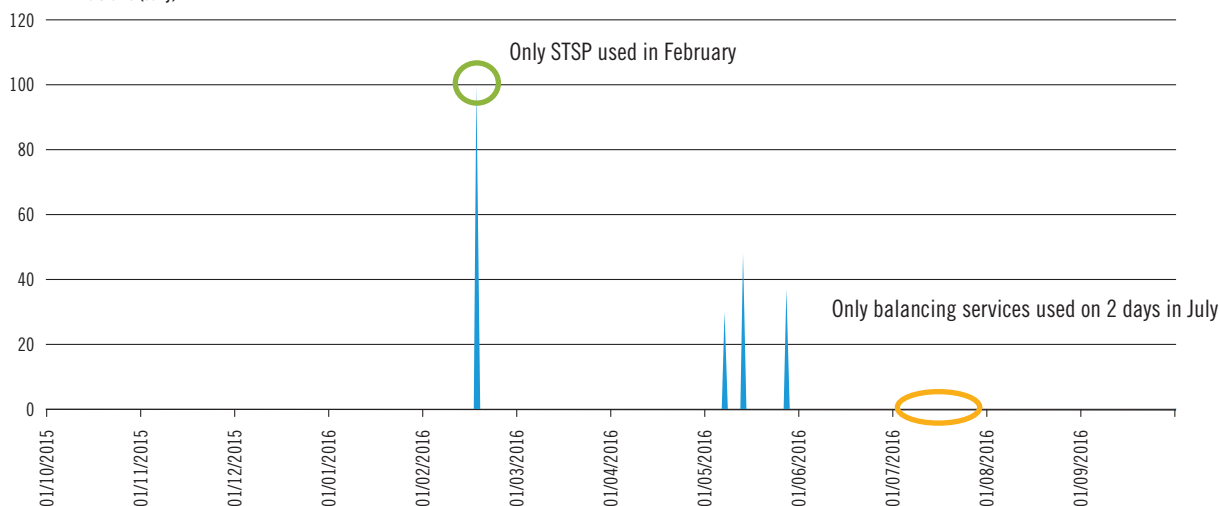


Figure 9: Daily BAL.1 Slovakia: Usage of STSPs as % of total balancing volume in GY 2015/2016

Poland – High-methane gas balancing area

The yearly BAL.1 indicator of 99.9% indicates that the balancing in the Polish High-methane gas balancing area (H-gas) has been conducted mostly via STSPs on the trading platform.

The daily BAL.1 indicator illustrates that until the end of 2015 balancing actions have only been conducted via STSPs, and on some days no actions have been done at all by the TSO. On 1 January 2016 only balancing services have been used, while in the period afterward, daily TSO balancing actions via STSP with a very small value of balancing services can be recognised. The fluctuation of the daily BAL.1 is therefore very low.

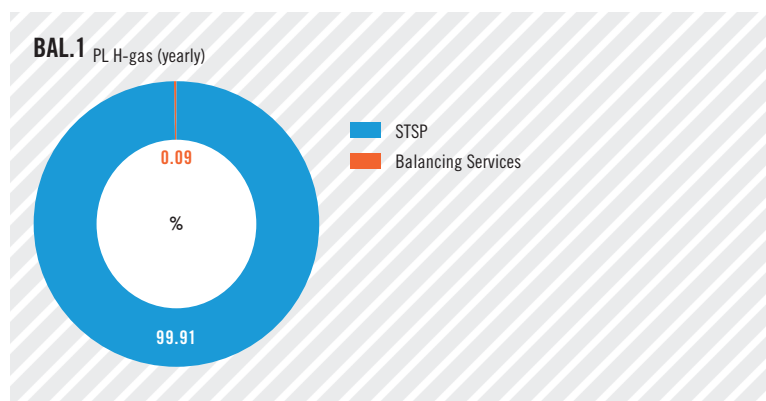


Figure 10: Yearly BAL.1 indicator, Poland H-gas

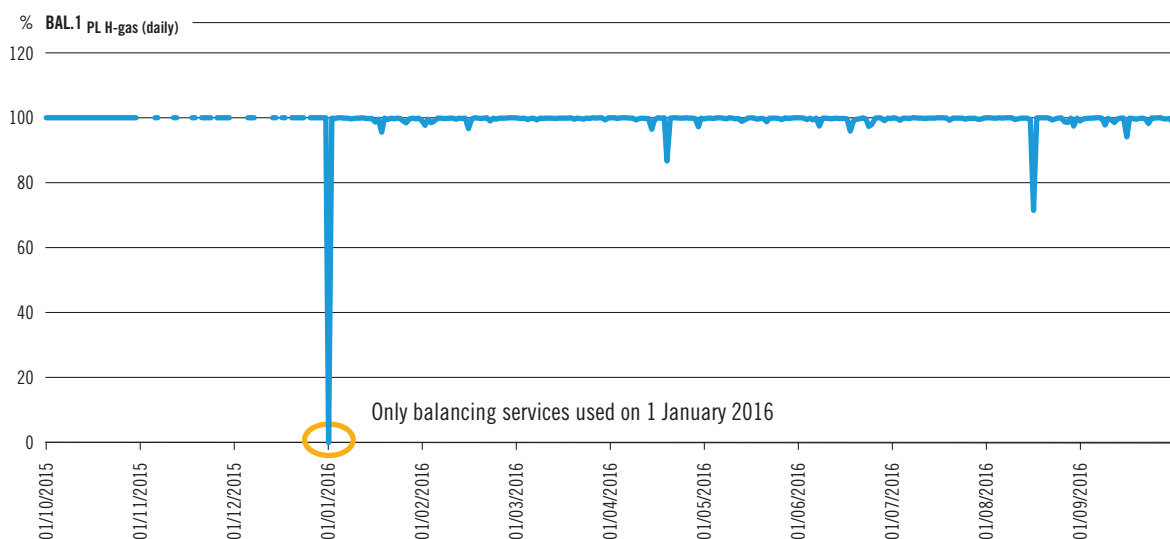


Figure 11: Daily BAL.1 – PL H-gas: Usage of STSPs as % of total balancing volume in GY 2015/2016

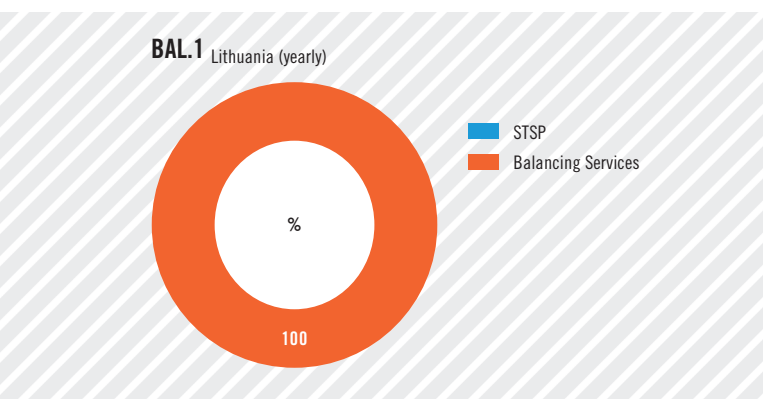


Figure 12: Yearly BAL.1 indicator, Lithuania

Lithuania

The BAL.1 indicator has a value of 0% for Lithuania. No STSPs in its balancing merit order have been performed at all, only balancing services.

Lithuania indicated that balancing services are applied taking cost efficiency into account. Also, STSPs are not providing the necessary response to keep the transmission network within its operational limits. Balancing services in most cases were a more cost efficient way to balance the transmission system.



Image courtesy of Amber Grid

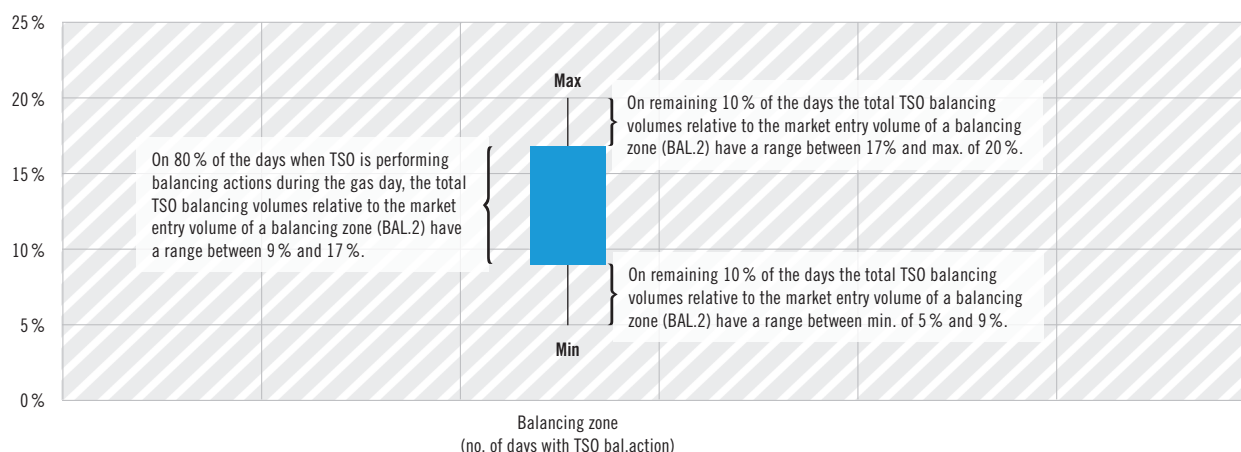
4.2 INDICATOR BAL.2: TOTAL TSO BALANCING VOLUME AS % OF MARKET VOLUME

The establishment of a residual balancing role for the TSO while leaving the primary balancing responsibility to the network users is one of the key principles of the BAL NC.

Indicator BAL.2 might give an indication of how much gas is traded with the rest of the market by the TSO for balancing purposes relatively to the market entry volume. Additionally, as the shippers are allowed to balance their portfolios on a daily basis, all selling and buying volumes of TSO balancing actions within day can be seen

with the BAL.2 indicator. The BAL.2 indicator should aim to be minimised where possible.

It is calculated for each gas day only on which balancing actions by the TSO has been performed in GY 2015/2016. The total number of those gas days is additionally indicated per balancing zone/country in order to take the residual TSO balancing role better into account. In Map 1 an example of BAL.2 in a graph with explanations is provided below.



Map 1: Example of BAL.2 indicator on days with TSO balancing actions in GY 2015/2016

The countries are clustered in the following maps regarding the applied implementation deadlines into cluster 2015 (Map 2), cluster 2016 (Map 3) and cluster 2019 (Map 4).

Map 2 illustrates the countries which applied the implementation deadline by 1 October 2015 (cluster 2015) and the fluctuation of the daily total balancing volumes conducted by the TSO relatively to the daily market volume in a balancing zone or a trading region (e.g. TRS). The maximum range of the relative total balancing volumes is limited with the minimum and maximum of the performed TSO volume. The green box indicates the range in which the TSO is performing 80 % of its balancing actions relatively to the market entry volumes of a balancing zone.

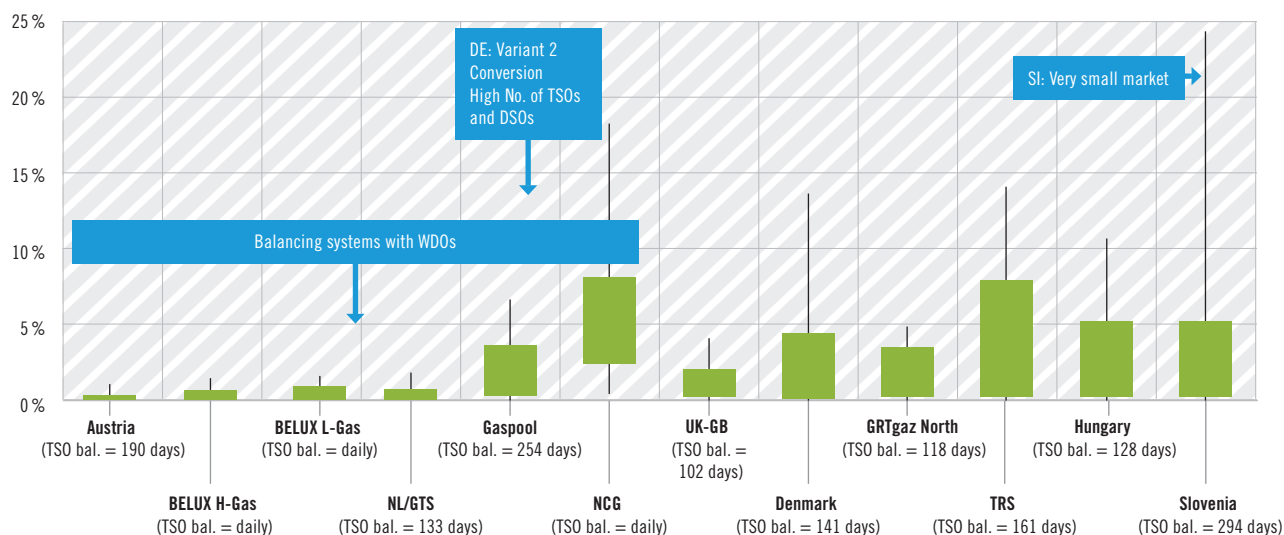
The range of the performed TSO balancing actions varies from the balancing zones in all ten countries (AT, BE/LU, DE, DK, FR, HU, NL, SI, UK-GB) which applied the implementation deadline by 1 October 2015.

The fluctuation of BAL.2 is very low in the balancing zones of four countries (AT, BE/LU and NL) which indicates relatively low balancing volumes performed by the TSOs. All indicated the implementation of Within-Day-Obligations (WDOs). In BELUX and the Netherlands the system-wide WDOs apply, while in Austria the portfolio-based WDOs is in place. End of day actions occur in the two BELUX balancing zones on a daily basis for balancing purposes, whereas they are performed on less days in the Netherlands and in Austria. The TSO in the BELUX balancing zones is mainly trading for balancing purposes at the end of the day while the volumes traded by the TSO/MAM in Austria is referred to imbalances of each shipper portfolio and occur within day depending on the single shippers behaviour. In case the shipper keeps the portfolio balanced, no balancing action as MAM is taken there. Austria has a high transit volume compared to the inland consumption volume.

Regarding the German Market Areas, the indicator shows higher values compared to most other balancing zones. One of the main reasons for this is the fact that both market areas are cross-quality market areas which allow network users to virtually convert between the gas qualities. Since technical conversion is limited, NCG and GASPOOL are required to balance this using commercial conversion via the corresponding purchase and sale of balancing gas in the respective gas qualities. Furthermore, Germany has implemented Variant 2 model for its non-daily offtake points which is a reason for additional balancing actions within day. In the Variant 2 model the forecast in D-1 is binding for the shippers in D to balance their portfolio. Any resulting differences within day have to be balanced by the Market Area Managers. Additionally, both German market areas consist of the networks of multiple TSOs and several hundred DSOs, which results in a complex network structure. For NCG in specific, large amounts of balancing volumes are needed to cover the structuring demand in the L-gas grid of the market area.

Two balancing zones (UK-GB and GRTgaz North) show also a very limited range of TSO balancing performance relative to the market volume on less than 30 % of the days in GY 2015/2016 when TSO balancing actions occurred.

The gas market in UK-GB is one of the biggest in Europe. In the UK-GB the range of total daily TSO balancing volumes compared to market entry volumes at around 4.1 % is relatively low even though no WDOs are in place. Lower and more stable market prices means that there is less volatility in the market therefore more confidence that the market is going to react to address the imbalance without the TSO having to take an action means that UK-GB are having less days when the TSO takes balancing actions. Furthermore, an incentive mechanism regarding the TSO balancing actions is in place which incentivises the TSO to balance and trade efficiently through 'Residual Balancing' incentives. The TSO is incentivised in two ways: Firstly to minimise the price spread of its balancing actions to restrict the impact of such actions on the market price and secondly to minimise the change in the line pack volumes between the start and end of the day. The costs of TSO balancing actions is smeared across shippers through Neutrality changes.

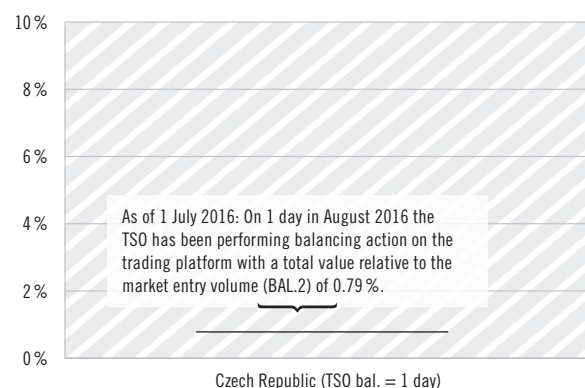


Map 2: 2015 clustered countries – Daily BAL.2 on days with TSO balancing actions

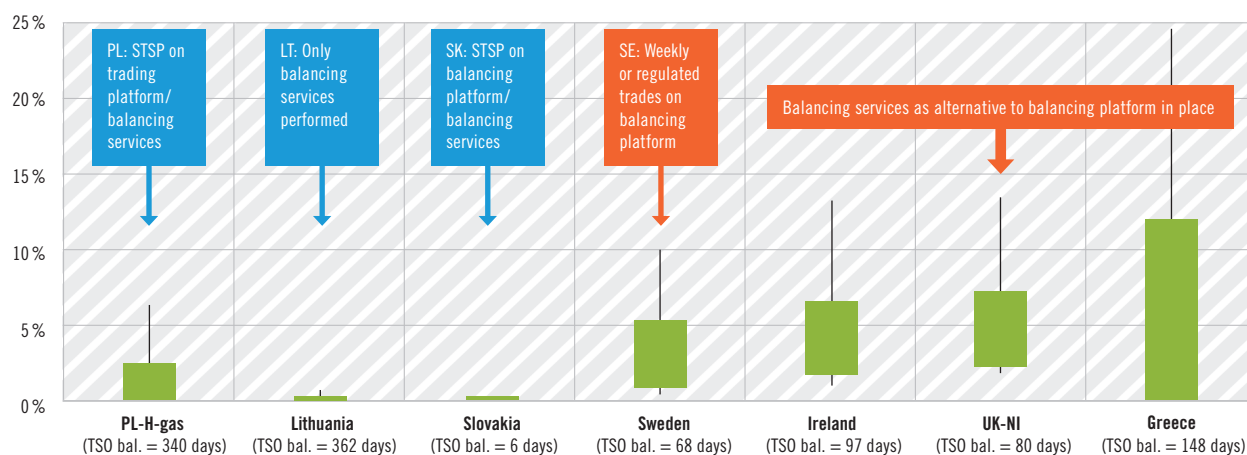
In the same French regulatory framework, differences of total TSO trading volumes as well as the days on which the TSOs have been trading those volumes can be seen for GRTgaz and TRS in Map 2 below. Compared to GRTgaz North, the peak as well as the fluctuation of daily TSO balancing volumes in the French TRS trading region is in general much higher. Both trade on less than 44 % of the days in GY 2015/2016, but the TSO in GRTgaz North is performing balancing actions on even less days (32 %).

Denmark has a high peak as well as in its range. It might be an indication for the low within-day market liquidity which has been reported as a challenge after the BAL NC implementation. Anyway the Danish TSO is acting for balancing purposes on less than 40 % of the days on the market in GY 2015/2016. Hungary is performing balancing actions on even less than 35 % of the days and a lower peak of 11 %. Slovenia is a very small gas market. The TSO there is active on around 80 % of the days due to balancing purposes, but on those days the peak can be very high with almost 25 % at some days. After May 2016 the TSO was trading only STSP when needed while additionally the days when balancing actions occurred reduced.

Map 3 illustrates the BAL.2 indicator for Czech Republic with an implementation deadline by 1 July 2016 (cluster 2016). Therefore the 3-month period from 1 July until end of GY 2015/2016 has been only taken into account. The TSO performed balancing actions only on one day in August 2016 therefore BAL.2 is not fluctuating, but is constant with a value of 0.79 %. The reason is the line pack flexibility service which is in place. Further details regarding the service mechanism can be found in Chapter 4.3.



Map 3: 2016 clustered countries – Daily BAL.2 indicator (in %) on days with TSO balancing actions



Map 4: 2019 clustered countries – Daily BAL.2 indicator (in %) on days with TSO balancing actions

Map 4 shows countries which applied interim measures (cluster 2019). Compared to most of the countries with a deadline of 1 October 2015, those countries reported much smaller market entry volumes as an indication for the market volume. An exception is Slovakia but it has high transit volumes compared to the inland consumption.

All of them except Poland reported applying interim measures due to the absence of sufficient liquidity of the wholesale gas market.

The Polish H-gas balancing zone has the biggest yearly market entry volume of the countries applying interim measures (cluster 2019), but still much smaller than most of countries in cluster 2015. TSO balancing actions occur on 340 days in GY 2015/2016. On those days the daily total TSO balancing volumes relative to the market entry volumes fluctuate in 80 % of the time around 2.3 % even though in exceptional cases up to 6.3 %. The TSO is balancing those volumes via the usage of STSP on a trading platform (with a yearly BAL.1 of 99.91 %).

Lithuania is a very small gas market. TSO balancing actions occur almost daily in very small volumes, therefore BAL.2 has a very low range below 0.7 %. On those days the total TSO balancing is conducted by the usage of balancing services only (BAL.1 is 0 %).

Slovakia has high transit volumes compared to the internal market consumption. TSO balancing actions occur on only six gas days in GY 2015/2016 on those days the total range is minimal. The TSO performs its balancing volumes partially via STSP on its balancing platform (BAL.1 of 33.34 %), but higher TSO balancing volumes are conducted by using balancing services.

Sweden is one of the smallest European gas markets. TSO balancing action is performed on only 19 % of the days in GY 2015/2016, in 80 % of the time the range is around 5 % of total TSO balancing volumes compared to the market entry volumes on a daily basis. In exceptional cases the indicator can increase up to 10 %. The TSO is performing balancing actions by trading the weekly or regulated product when needed on its balancing platform.

Ireland, Northern Ireland and Greece are very small gas markets in Europe. The TSOs indicated to perform their balancing volumes by the usage of balancing services under interim measures as an alternative to a balancing platform. In those countries the number of days when the TSO is performing balancing actions is quite low.

Ireland and Northern Ireland balancing actions occur on nearly the same number of days. But the total range of the BAL.2 indicator (of 12.3 %) as well as the fluctuation of BAL.2 on 80 % of the time (with 5.6 %) are higher than in Northern Ireland with a total range of 11.8 % and with a fluctuation value of 4.3 % on 80 % of the time.

In Greece the TSO is performing balancing actions on only ca. 40 % of days in GY 2015/2016. In those cases one TSO balancing action occurs per day. The range of balancing volumes relative to the market entry volumes is high with 25 %, even though in 80 % of the time the fluctuation is limited to around 11 %. The TSO indicated to keep LNG reserves in LNG terminal tanks when deemed to be necessary for the safe and effective operation of the transmission system. The TSO is procuring those LNG quantities as a balancing service on a daily basis in order to balance the system.

4.3 BAL.3 INDICATOR: NET TSO BALANCING VOLUME AS % OF MARKET VOLUME VS. BAL.4 INDICATOR: NET SHIPPER IMBALANCE VOLUME AS % OF MARKET VOLUME

The establishment of a residual balancing role for the TSO while leaving the primary balancing responsibility to the network users is one of the key principles of the NC BAL.

A second indicator (BAL.3) related to the residual balancing role for the TSO is proposed taking into account the net TSO balancing volume at the end of the gas day. Only those gas days are taken into account when TSO balancing actions occurred. BAL.3 gives an indication if relatively more gas is sold by the TSO to the market or bought by the TSO from the market due to balancing purposes relatively to the market (entry) volume at the end of the gas day.

In this chapter the daily BAL.3 indicator is compared to the daily BAL.4 indicator which aims at assessing whether the overall system is in balance on a day-on-day principle and whether the network users contribute sufficiently to keeping the overall system in balance. As shippers are allowed to balance their portfolios on a daily basis, aggregated shipper portfolio data is used for BAL.4 to assess whether network users contribute sufficiently to keeping the overall system in balance.

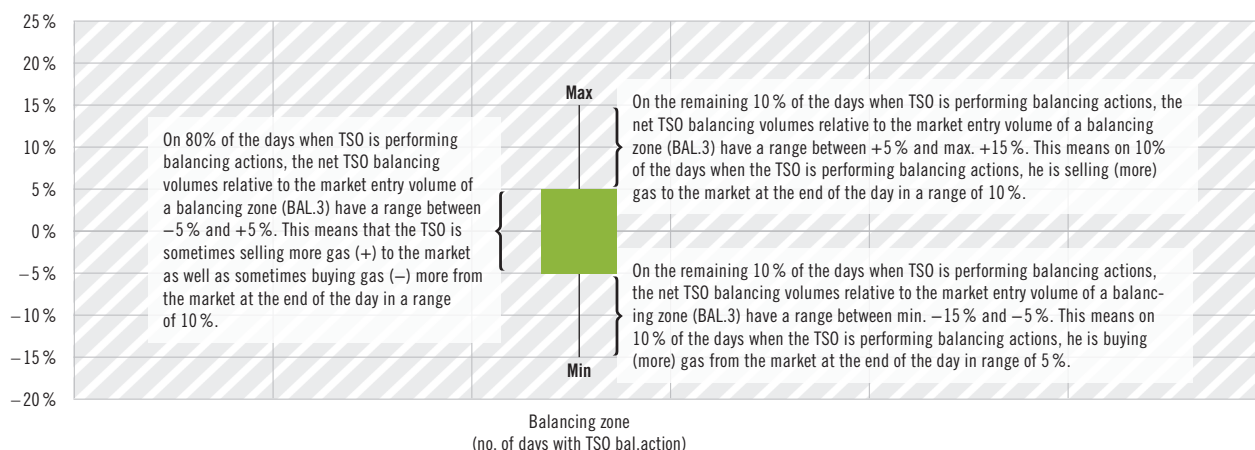
The assumption is that the TSO is balancing the system by the end of the gas day taking the net shipper imbalances at the end of the gas day into account. Both indicators should be minimised and should have a limited range. Where differences of the two indicators per balancing zone/country occur, further explanation might be needed to understand better how the system is overall balanced by the TSO on a daily basis.

An example of BAL.3 in a balancing zone with general explanations related to the graph can be found in Map 5 below.

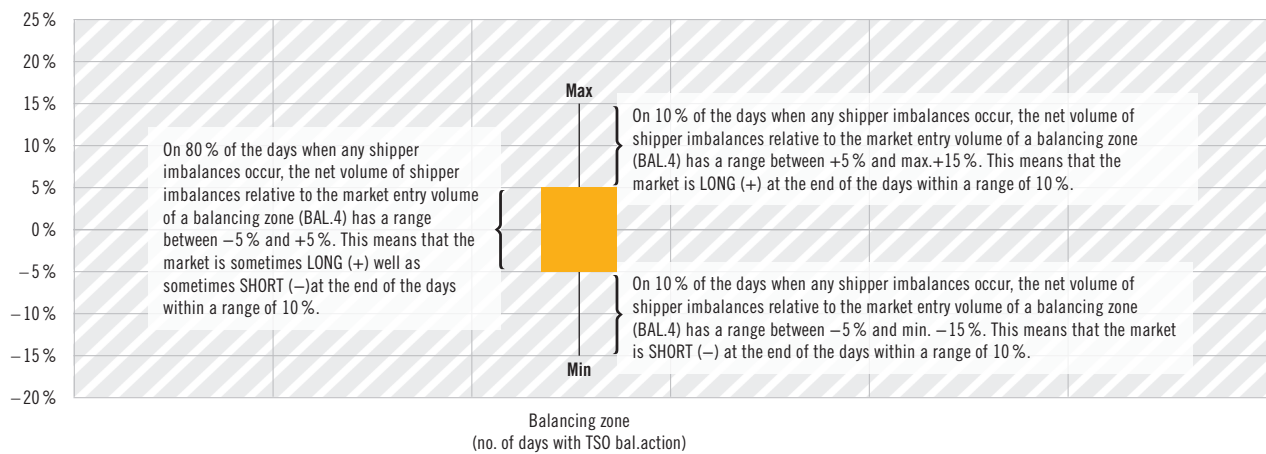
It shows the range and the fluctuation of the net TSO balancing volumes conducted by the TSO at the end of the day relatively to the daily market volume in a balancing zone or a trading region (e.g. TRS). The maximum range of the relative net TSO balancing volumes is limited with the minimum and maximum of the performed TSO volume at the end of the day. The blue box indicates the range in which the TSO is performing 80 % of its balancing volumes relatively to the market (entry) volumes of a balancing zone.

An example of the indicator BAL.4 in a balancing zone with general explanations related to the graph can be found in Map 6 on page 107.

It shows the range and the fluctuation of the net shipper imbalance volumes on a daily basis taken into account those days when shipper imbalances occur during GY 2015/2016. The maximum range of the relative net shipper imbalance volumes is limited with its minimum and maximum volumes during the aforementioned period. The orange box indicates the range of the net volume of shipper imbalances relative to the market (entry) volume of a balancing zone (BAL.4) on 80 % of the days when any shipper imbalances occur.



Map 5: Example with explanation of the daily BAL.3 indicator in % on days with TSO balancing actions in GY 2015/2016



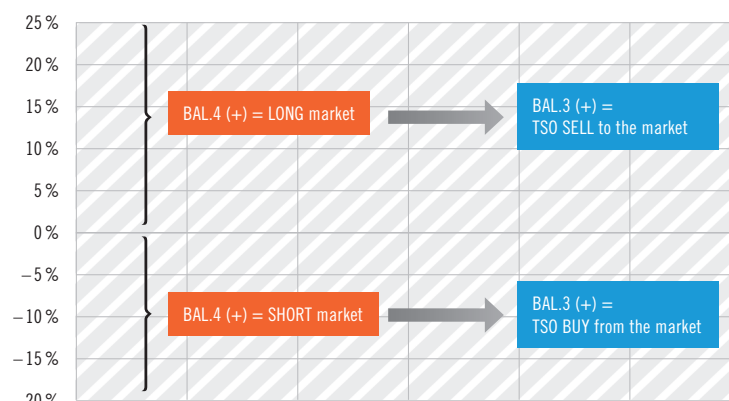
Map 6: Example with explanation of the daily BAL.4 indicator in % on days with shipper imbalance volumes in GY 2015/2016

The relationship between BAL.4 and BAL.3 is illustrated in Map 7 below. If BAL.4 is positive, it means that the market is LONG (+), so there is too much gas at the end of the day in the market. In this case the TSO needs to provide the gas by e.g. selling gas to the rest of the market in order to keep the system balanced (positive BAL.3). If BAL.4 is negative, it means that the market is SHORT (-), so there is not enough gas at the end of the days in the market. In this case the TSO needs e.g. to buy gas from the rest of the market in order to keep the system balanced (negative BAL.3).

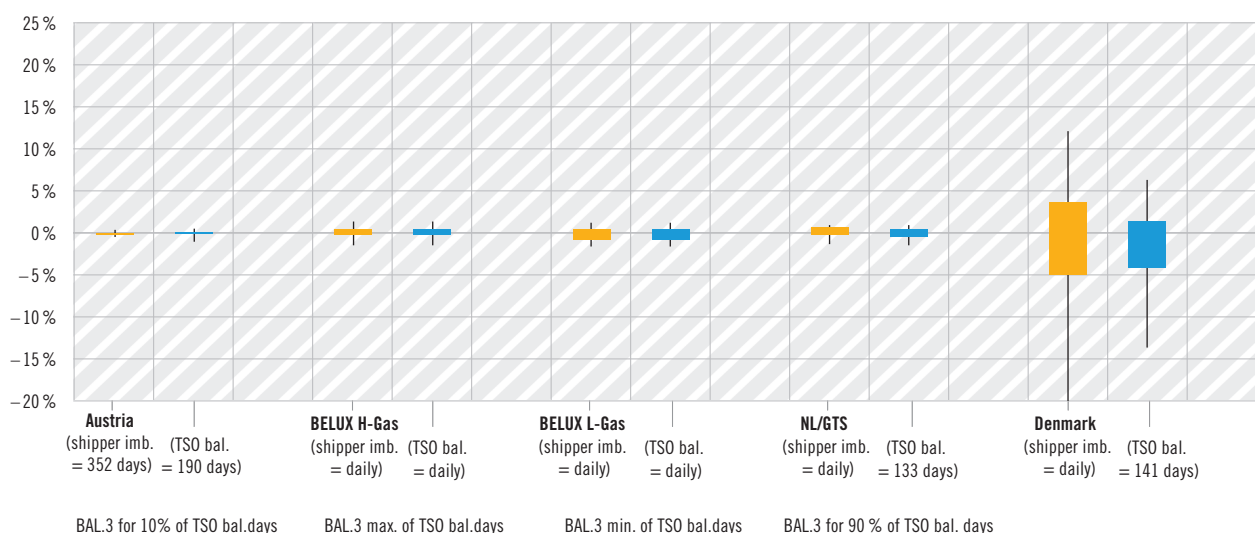
The countries are clustered in the following maps regarding the applied implementation deadlines into cluster 2015 (Map 8), cluster 2016 (Map 9) and cluster 2019 (Map 10).

Map 8 and map 9 illustrate the countries which applied the implementation deadline by 1 October 2015 (cluster 2015). They are differentiated into countries (AT, BE/LU, NL and DK) which indicate the network users with a market signal before undertaking TSO balancing actions on the short term wholesale market (map 8). In other countries (UK-GB, DE, FR, HU and SI) the TSO provides information regarding the overall status of the system, but does not indicate to the network users when undertaking concrete balancing actions on the market.

In all 10 countries except Austria, net shipper imbalances occur on a daily basis. On a few days in GY 2015/2016, no shipper imbalances seem to occur at all, the market was completely balanced at the end of the day. Except in the BELUX market areas and NCG where TSO balancing actions have been undertaken on a daily basis, they occurred on less days in the other ones. In all balancing zones the net shipper



Map 7: Relationship between daily BAL.4 vs. BAL.3 indicator



Map 8: Cluster 2015 countries: Daily BAL.4 vs. BAL.3 during GY 2015/2016– TSO balancing actions triggered by market signal

imbalances (BAL.4) on a daily basis are limited, even though their range and fluctuation of the daily volumes differ from each other.

Map 8 illustrates that the countries applying WDOs (AT, BE/LU and NL) have very limited market imbalances at the end of the gas day in GY 2015/2016. Austria has the lowest range of all countries. But the calculation of the daily net TSO balancing volumes needs additional explanation as it does not reflect the TSO behaviour in context of daily aggregated net shipper imbalances and TSO balancing actions as illustrated in Map 7.

BAL.3 gives an indication if relatively more gas is sold or bought by the TSO (in Austria the MAM) in total, but the MAM considers each portfolio of the shipper in his role of the so-called “balance group responsables (BGR)”. The MAM itself buys/sells volumes in the name and for the account of each BGR, if the preconditions are fulfilled. This means that the amount has to be higher than 24 MWh for the BGR, independently if the BGR is long or short. The MAM does not “balance the long volumes against the short volumes” or makes his activities dependent of any total amounts and does not fill the gaps. All MAM balancing actions are only triggered by shipper portfolio based imbalances which can occur within-day. The differences in days when shipper imbalances and TSO balancing actions occur can be explained by a threshold of a minimum single portfolio imbalance which needs to be exceeded in order to trigger TSO balancing actions.

In the BELUX market areas the daily net shipper imbalances and the net TSO balancing volumes at the end of the day differ on only a few days from each other. In the Netherlands the TSO balancing actions occur more frequently before May 2016, mainly buying gas from the rest of the market even though the market might be LONG. As of May 2016 TSO balancing actions hardly occur.

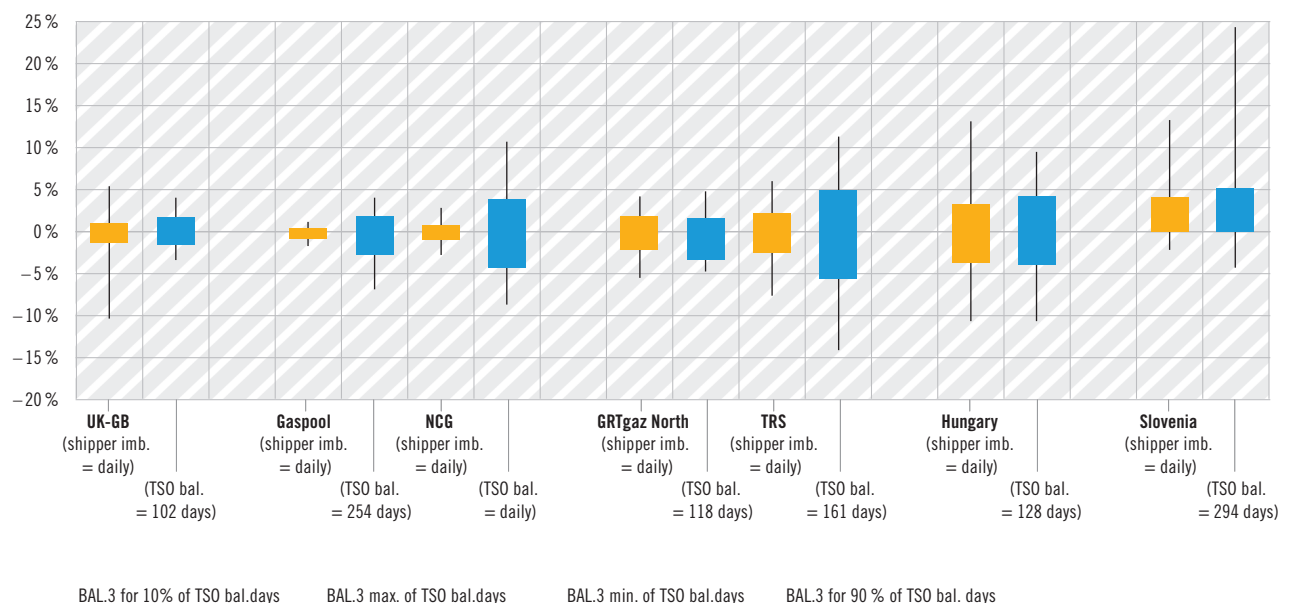
In Denmark, no WDOs are implemented, but the market gets a signal indicating that the TSO is going to enter the market for balancing purposes. The fluctuation of net shipper imbalances at the end of the day is much higher compared to the net TSO balance volumes which occurred. One reason for this is that the TSO works with an asymmetric daily tolerance level that encourages shippers to be imbalanced to help the overall system balance. At the end of September the market was very short on one day which explains the peak in the two graphs. It seems that the daily range of volumes when the market is short, is higher than if the market is long. The net TSO balancing volumes are performed on a less than 40 % of the days in GY 2015/2016 by following this trend in order to balance the system.

In Map 9 below the daily BAL.4 and BAL.3 indicators of cluster 2015 countries where TSO balancing actions are triggered mainly from the physical perspective are shown. For all balancing zones the daily net shipper imbalances relative to the market (entry) volumes are limited in different ranges. The daily net TSO balancing volumes are also limited but for almost all countries the range is higher compared to BAL.4 indicator. In all countries except in the German NCG balancing zone where TSO balancing actions occur on a daily basis, those days are less in the other countries even though shipper imbalances occur daily.

In UK-GB the range of daily net shipper imbalances at the end of the day is very limited. This is because shippers are incentivised to balance their portfolios, otherwise face a charge for being out of balance. When the TSO is required to take a balancing action this is with the aim of moving the price sufficiently to prompt shipper reaction rather than to buy the required volume of gas. BAL.3 and BAL.4 are not equal due to the TSO playing the role of “residual balancer” and the market is encouraged to be the primary balancer. Other factors, such as linepack would also play into a decision by the TSO on whether it takes a balancing action. The TSO is performing balancing actions on less than 30 % of the days in GY 2015/2016, but on those days the range of net TSO balancing volumes is a bit higher than BAL.4.

In the two German market areas the daily net Shipper imbalances (BAL.4) are very limited relatively to the market entry volumes and the fluctuation seems to be lower as of May 2016. The fluctuation of BAL.3 as well as the balancing actions in the Gaspool market area have been in total drastically reduced as of May 2016 and occur only on a few days until the end of the gas year. As of May 2017 the fluctuation of BAL.3 in the NCG market area seems to be more limited than the period before, daily TSO balancing actions can be still seen. The reason why BAL.3 und BAL.4 are not equal in the German market areas is based in the mechanism of Variant 2. Shippers do not have any portfolio imbalances for their NDM-customers, but GASPOOL and NCG may have to procure balancing energy when DSOs forecasts do not fit to the real demand. Shippers net imbalances in map 9 result only from deviations in their forecast for the IDM-customers. In the NCG market area the limited linepack in the L-gas grid requires hourly structuring and therefore TSO balancing actions occur every day.

In the two French balancing zones the range of daily net shipper imbalances relative to the market (entry) volumes are limited to around 4–5 %. In GRTgaz North the TSO balancing actions occur on around 32 % of the days in GY 2015/2016 and mainly in the period until May 2016. Afterwards the balancing actions occur on only a few days. The net TSO balancing volumes follow mainly the trend of the net shipper imbalances.



Map 9: Cluster 2015 countries: Daily BAL.4 vs. BAL.3 in % during GY 2015/2016 – TSO balancing actions triggered from physical perspective

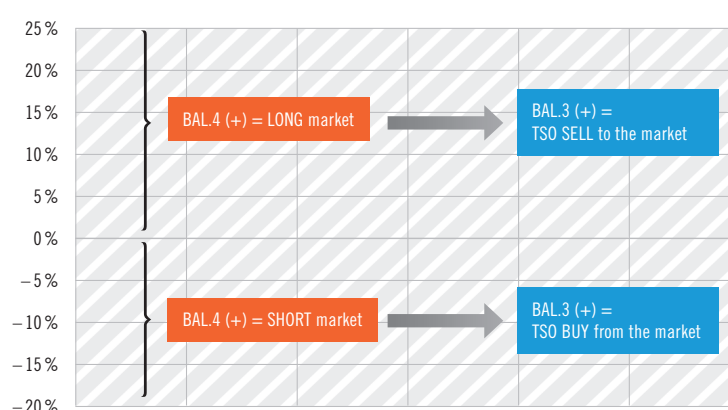
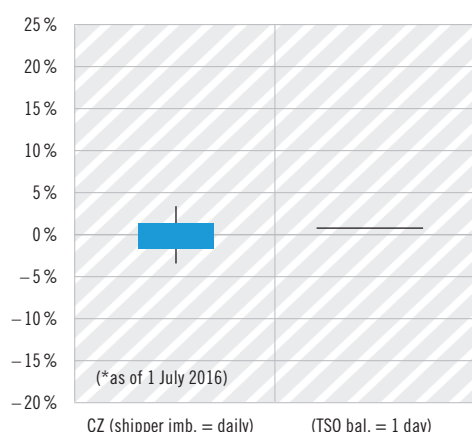
In the TRS trading zone the net TSO balancing actions occur on less than 45 % of the days during the gas year. On those days the net TSO balancing volumes follow mainly the trend of the net shipper imbalances but with a higher fluctuation and some peaks. This explains the higher range in the TRS trading zone.

In Hungary the fluctuation of the daily net shipper imbalances has been relatively high with some daily peaks in both directions until May 2016. The TSO balancing actions occurred quite frequently following mainly the trend. As of May 2016 the fluctuation of daily net shipper imbalances reduced to a more constant level in both directions between 7–6 % until the rest of the gas year. In this period the TSO balancing actions occurred on only a few days to balance the system.

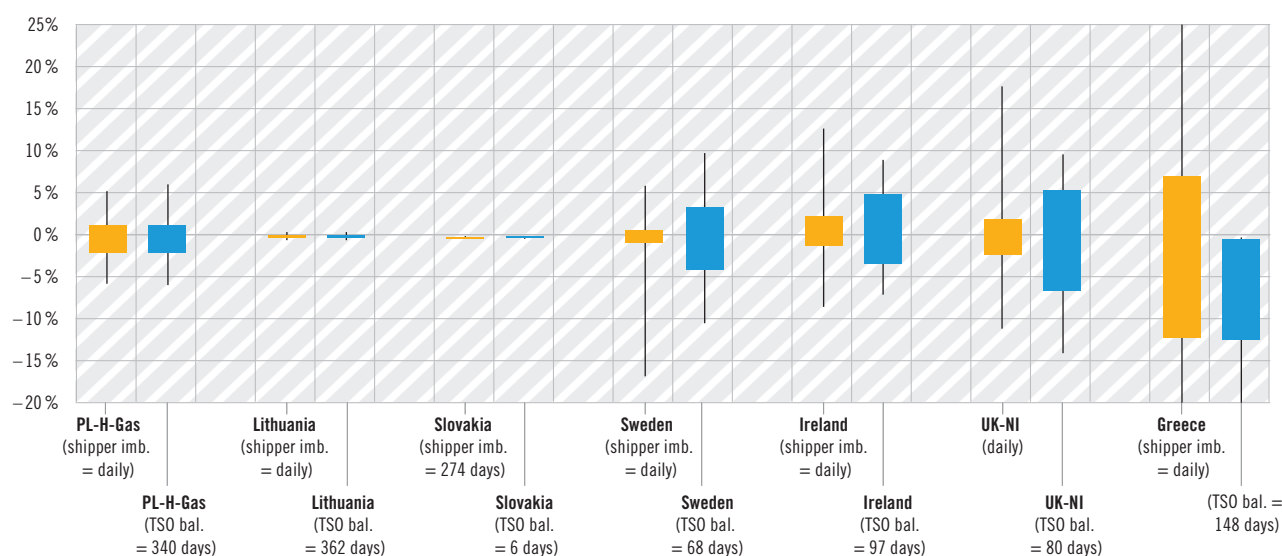
The daily net shipper imbalances relative to the market (entry) volumes in Slovenia are constantly leading to a LONG market. The net TSO balancing volumes follow the trend, but in general with a higher fluctuation. At the end of July a few high peaks in the net shipper imbalances lead during these days to the higher peak of BAL.3 due to TSO balancing actions in order to balance the system.

Map 10 below illustrates that in Czech Republic the TSO is selling a minimal amount of gas to the market relative to the market entry volumes on only 1 day in the 3-month-period as of 1 July 2016 in GY 2015/2016 even though daily shipper imbalances occur. This can be explained with the TSO offer of line pack flexibility services.

In the Czech Republic the line pack flexibility service is provided to all system users. For each system user a flexibility range is calculated by the market operator based on amount of booked capacity. If the imbalance of the individual system user stays within the given flexibility range, no imbalance charge is paid and no balancing action is supposed to happen, because the imbalances should be covered by line pack flexibility of the transmission system. If the imbalance exceeds the flexibility range, imbalance charge is paid for the part of the imbalance exceeding the flexibility range, and the corresponding amount of gas is recorded by the market operator on the “TSO Account”. Only if the amount of gas cumulated over time on the “TSO Account” exceeds specified level the TSO is expected to carry out a balancing action.



Map 10: Cluster 2016 countries: Daily BAL.4 vs. BAL.3 in % as of 1 July 2016 for a 3-month-period



Map 11: Cluster 2019 countries: BAL.3 -Net TSO balancing volume vs. BAL.4 -Net Shipper imbalance volume as % of market volume in GY 2015/2016

Map 11 shows the countries which applied the implementation deadline by April 2019 (cluster 2019) and the fluctuation of the daily net balancing volumes conducted by the TSO at the end of the day relatively to the daily market volume in a balancing zone.

In the Polish H-gas balancing zone the range of the net TSO balancing volumes is limited and can be mostly explained by the net shipper imbalance volumes which have a very similar range.

Lithuania is a very small gas market with a minimal range of BAL.3 which equals BAL.4 on 362 days in GY 2015/2016. The net TSO balancing volumes at the end of the day are the same as the net shipper imbalance volumes on each day when TSO balancing actions have been performed.

Slovakia as a transit country has big market entry volumes compared to the very small inland consumption volumes. The Slovak gas system consists of one TSO and one main DSO, as the main distribution system. The DSO is responsible for its own balancing and the balancing of shippers in its distribution system. Additionally, no end-customers are connected to the TSO system. Therefore imbalances in the balancing zone can only occur by shipper imbalances on TSO level or by small daily imbalances on the exit point with small DSOs where no OBA regime exists. The daily net shipper imbalances are minimal and have on most of the 274 days a very limited fluctuation. Compared to this the TSO balancing actions occur on only 6 days in GY 2015/2016 as the TSO indicated to perform balancing actions only when the overall system imbalance exceeds a certain threshold. In those

cases the net TSO balancing volumes are still very small, but higher than BAL.4.

In Sweden, Ireland and Northern Ireland shipper imbalances occur on a daily basis. In Sweden on 80 % of the days the net shipper imbalances have a very limited fluctuation range of 0.2 %, but on few days some high peaks which seem to have a correlation to the net TSO balancing volumes which follow often some days afterwards due to a weekly trade by the TSO.

The daily total fluctuations of net shipper imbalances in Ireland with ca. 20.9 % is lower than in Northern Ireland with a range of 28.5 % but still quite high compared to the market entry volume. The TSO balancing action in Ireland occur on only 97 days of the year and have a more limited total range compared to BAL.4. The Irish TSO indicated that in the case of small aggregate shipper imbalances the TSO will usually not take balancing actions. The Sub-Sea Interconnectors allow an operational buffer that can cope with smaller imbalances. Where nominated volumes at the IP are small and significant shipper imbalances occur on a day the TSO will take a within day action under the balancing services contracts which are currently tied to the Moffat IP.



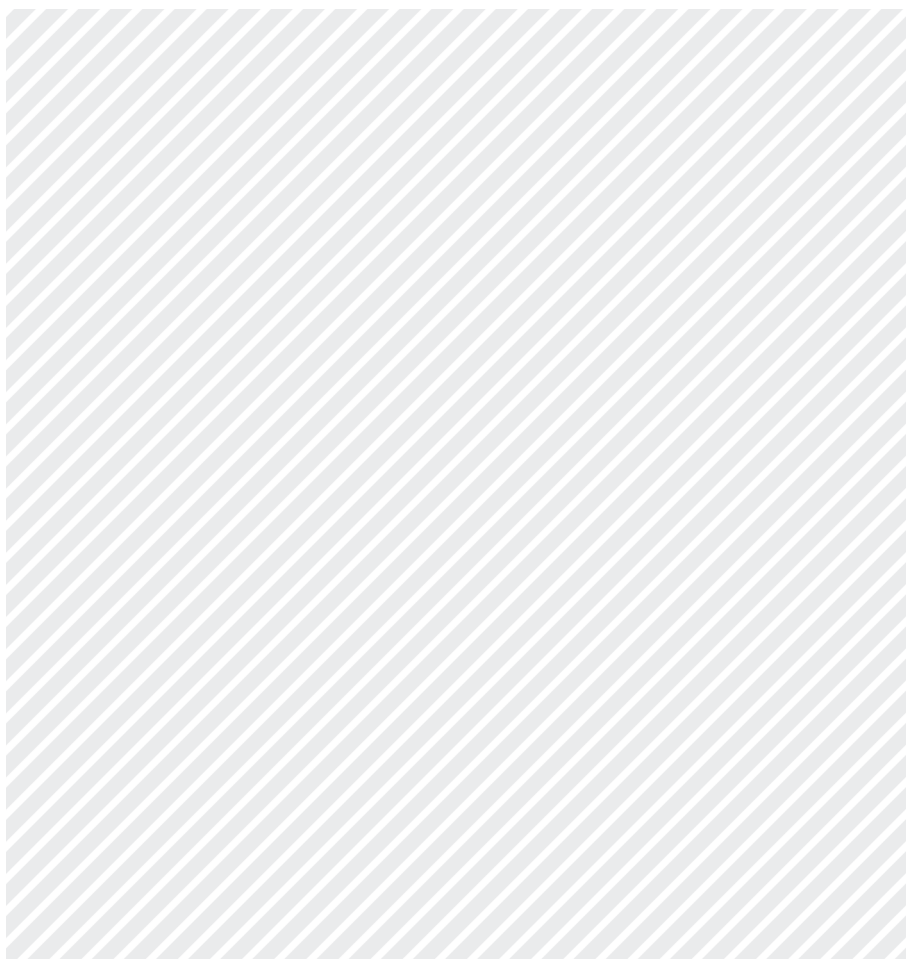
Image courtesy of Fluxys

The TSO indicated that it has at times had to take Balancing Buy actions to maintain system pressures early in a gas day due to an emerging trend, which has developed since the introduction of the BAL NC, of shippers' waiting until mid-night or later to bring their respective portfolios into balance, often with large re-nomination increases at the Moffat IP, at which point the TSO may be required to take a Balancing Sell action to bring the aggregate system into balance.

In Northern Ireland the total range of the net TSO balancing volumes with 23.33 % on 80 days when TSO balancing actions occur is lower than BAL.3. The TSO balancing actions seem to follow the net shipper imbalances, only the peaks when buying gas from the market cannot be explained by the net shipper imbalance volumes.

In Greece the range of daily net shipper imbalance volumes is the highest compared to all other countries, causes the market being long and short on a daily basis. This might be related to the fact that the shippers are limited in their possibilities to balance intraday their portfolios as the nomination and re-nomination cycle according to the BAL NC is planned for 2017. The TSO is undertaking balancing actions on only 148 days in GY 2015/2016 which correlates to days on which the market at the end of the day has been short. In this case the TSO is performing balancing volumes via its balancing services under interim measures, meaning by injecting the re-gasified LNG once per day into the transmission system which have been stored in LNG tanks.

For three countries (BG, RO, PL (L-gas, TGPS) no comparison between the BAL.4 and BAL.3 indicators has been possible as no STSPs, balancing services or products under interim measures have been used for balancing purposes by the TSOs in GY 2015/2016.



4.3 OVERALL CONCLUSIONS BASED ON BAL INDICATORS FOR EFFECT MONITORING

The first ENTSG effect monitoring report of the implementation of the Balancing Network Code (Report) aims to monitor some of its effects per balancing zone across countries in the EU after the first implementation deadline as of 1 October 2015 for the period GY 2015/2016.

The 24 countries (AT, BG, BE/LU, CZ, DE, DK, EL, ES, FR, HR, HU, IE, IT, LT, NL, PL, PT, SE, SI, SK, RO, UK-GB and UK-NI) where the BAL NC applies are clustered into three groups related to their chosen implementation deadline as follows:

- ▲ **Cluster 2015:** AT, BE/LU, DE, DK, FR, HU, NL, SI and UK-GB (ten countries)
- ▲ **Cluster 2016:** CZ, ES, HR, IT and PT (five countries) – Only Czech Republic participated in the effect monitoring due to an earlier implementation deadline by 1 July 2016.
- ▲ **Cluster 2019¹⁾:** BG, EL, IE, LT, PL, SE, SK, RO and UK-NI (nine countries) – Only seven countries (EL, IE, LT, PL (H-gas), SE, SK and UK-NI) participated in the effect monitoring as they have already implemented balancing products according to BAL NC, while the other countries indicated their plan for implementation after the period of GY 2015/2016.

The TSOs in all 10 countries of Cluster 2015 have used STSPs from their implemented balancing merit order. Additionally, two of the ten countries (DE and SI) have conducted, where appropriate, balancing services during GY 2015/2016 for balancing purposes.

The TSO in Czech Republic, traded STSP on the trading platform in total one time for balancing purposes in a 3-month-period after the implementation deadline 1 July 2016, while net shipper imbalances occurred on a daily basis. This can be explained by the offer of linepack flexibility service.

Seven out of nine countries (EL, IE, LT, PL, SE, SK and UK-NI) in cluster 2019 which apply interim measures due to an absence of sufficient liquidity in the wholesale gas market, have implemented STSPs and balancing services or products under interim measures for balancing purposes by 1 October 2015. Three countries (LT, PL (H-gas) and SK) reported the implementation of STSP and balancing services in the

balancing merit order. It can be seen that Poland (H-gas) and Slovakia conducted STSPs and in addition balancing services, while Lithuania only used balancing services in GY 2015/2016 for its balancing purposes.

Independently from the categorisation of countries in the clusters, it can be seen that the number of days when the TSO is performing balancing actions as well as range of the daily total TSO balancing volumes compared to the market entry volumes vary per balancing zone – even in countries where the same balancing regime applies. While in some countries WDOs are implemented to further incentivise shippers to balance, in other countries TSOs might instead be incentivised in other ways in their residual TSO balancing role. Due to the model, in Germany the TSOs have to take into account gas quality conversion and the handling of NDM off-take volumes in addition to the shipper imbalance volumes

A correlation between daily shipper imbalances and the behavior of the TSO on days when performing balancing actions is in most cases visible, depending on the countries and days. Additionally, it indicates that shippers might have different behaviors and are therefore incentivised differently and/or able to balance their portfolios in different systems. In Slovenia the daily net shipper imbalances are constantly positive which might explain why the TSO mainly sells gas to the market.

In all countries except Austria and Slovakia shipper imbalances occur on a daily basis. The majority of the TSOs perform balancing actions on less days than shipper imbalances occur. Exceptions can be seen in three countries (BE/LU and DE) where balancing volumes are conducted on a daily basis.

The TSO balancing actions in five countries (AT, BE/LU, NL and DK) are triggered by market signals, which also provide an indication to shippers before a TSO will enter the market, while in other countries TSO balancing actions are triggered by physical signals from the system. The flexibility of gas systems for handling shipper imbalances varies in different countries, TSOs in their residual balancing role have to take this into account when balancing their system. This might indicate why for some countries TSOs do not usually undertake balancing actions on a daily basis.

1) In Germany an addition to a trading platform also a balancing platform applies as an interim measure. All other provisions of the BAL NC have been reported as implemented. In order to avoid duplication, Germany is clustered only once in 2015 cluster.

Annex I: List of Abbreviations and Countries with Codes and Balancing Zones

Abbreviations

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

Table 1.1: Overview of countries with their balancing zones ¹⁾		
ACRONYM	COUNTRY	BALANCING ZONE
AT	Austria	Austria – Market Area East ²⁾ *
BE	Belgium ³⁾	BELUX H-gas (with LU)*
		BELUX L-gas*
BG	Bulgaria	National balancing zone (NGTN)
		Transit balancing zone (GTNTT)
CZ	Czech Republic	Czech Republic*
DE	Germany	Gaspool Germany Market Area*
		Net Connect Germany (NCG) Market Area*
DK	Denmark	Denmark
EE	Estonia ⁵⁾	–
EL	Greece	Greece
ES	Spain	Spain
FI	Finland	Finland
FR	France	PEG Nord
		TRS
HR	Croatia	Croatia
HU	Hungary	Hungary*
IE	Ireland	Ireland*
IT	Italy	Italy
LT	Lithuania	Lithuania*
LU	Luxembourg	BELUX H-gas (with BE)*
LV	Latvia	Latvia
NL	The Netherlands	The Netherlands (GTS)*
PL	Poland	High-methane gas balancing area (H-gas)*
		Low methane balancing area (L-gas)*
		TGPS gas balancing area (TGPS) ⁴⁾
PT	Portugal	Portugal
RO	Romania	Romania
SE	Sweden	Sweden*
SI	Slovenia	Slovenia*
SK	Slovakia	Slovakia
UK-GB	Great Britain	Great Britain (NBP)

* Balancing zone included distribution system or parts of them (reported by 12 countries).

- 1) For NL the NC BAL is legally applicable on both TSOs GTS and BBL Company in the Dutch balancing zone. But BBL Company, is allowed by the NRAs ACM and Ofgem to continue the in = out regime, by definition no imbalances can occur on the pipeline. Therefore, only articles not dealing with actual balancing of the grid have a practical meaning for BBL Company. (BBL has received derogation from ACM and Ofgem for the majority of the NC Balancing (all Articles except for Articles 12 – 18 on nominations and relevant aspects of Articles 32 – 42 on Information Provision).
- 2) For the UK two replies were submitted. This reflects the fact that in the UK there are two balancing zones, one covering Great Britain and one covering Northern Ireland. These balancing zones are in different transmission networks and are regulated by different NRAs. In this report Great Britain will be referred to as UK-GB and Northern Ireland as UK-NI.
- 3) In Austria 3 market areas exist in total, but transmission systems with an entry-exit-system are only available in the market area east balancing zone (with two TSOs) – therefore two replies have been submitted. The entry-exit-points in the distribution system are included in the entry-exit-system and therefore part of the balancing zone. The final customers, biogas and the distribution system operators underlie a different balancing regime.
- 4) Belgium and Luxembourg established the first cross-border balancing zone BELUX (H-gas). In Belgium an additional L-gas balancing zone BELUX (L-gas) exists.
- 5) There are no DSOs connected to the Polish TGPS balancing area.
- 6) In Estonia no entry-exit system has been established yet.

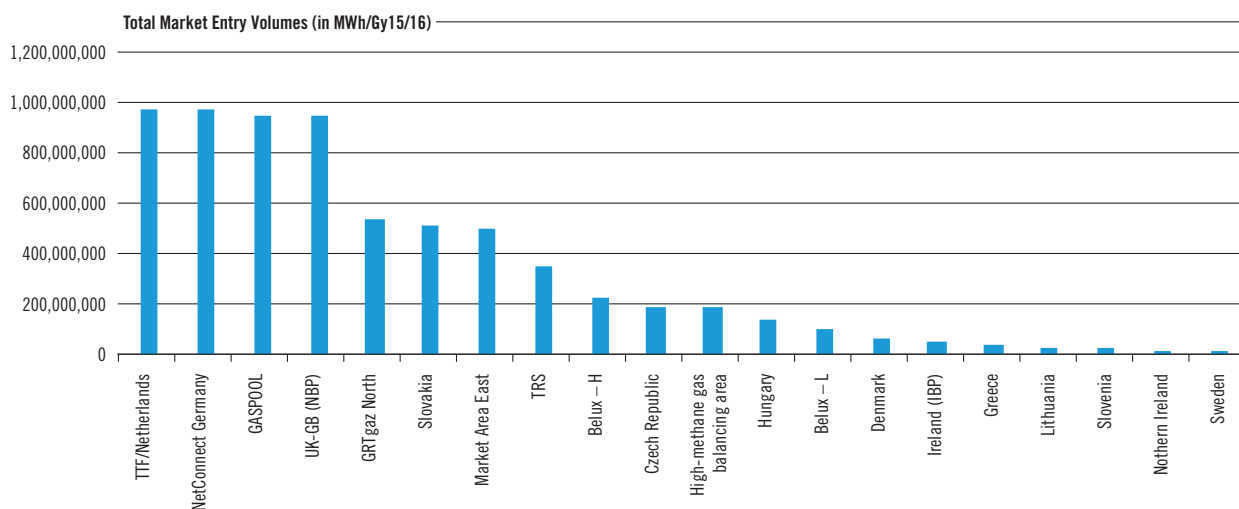
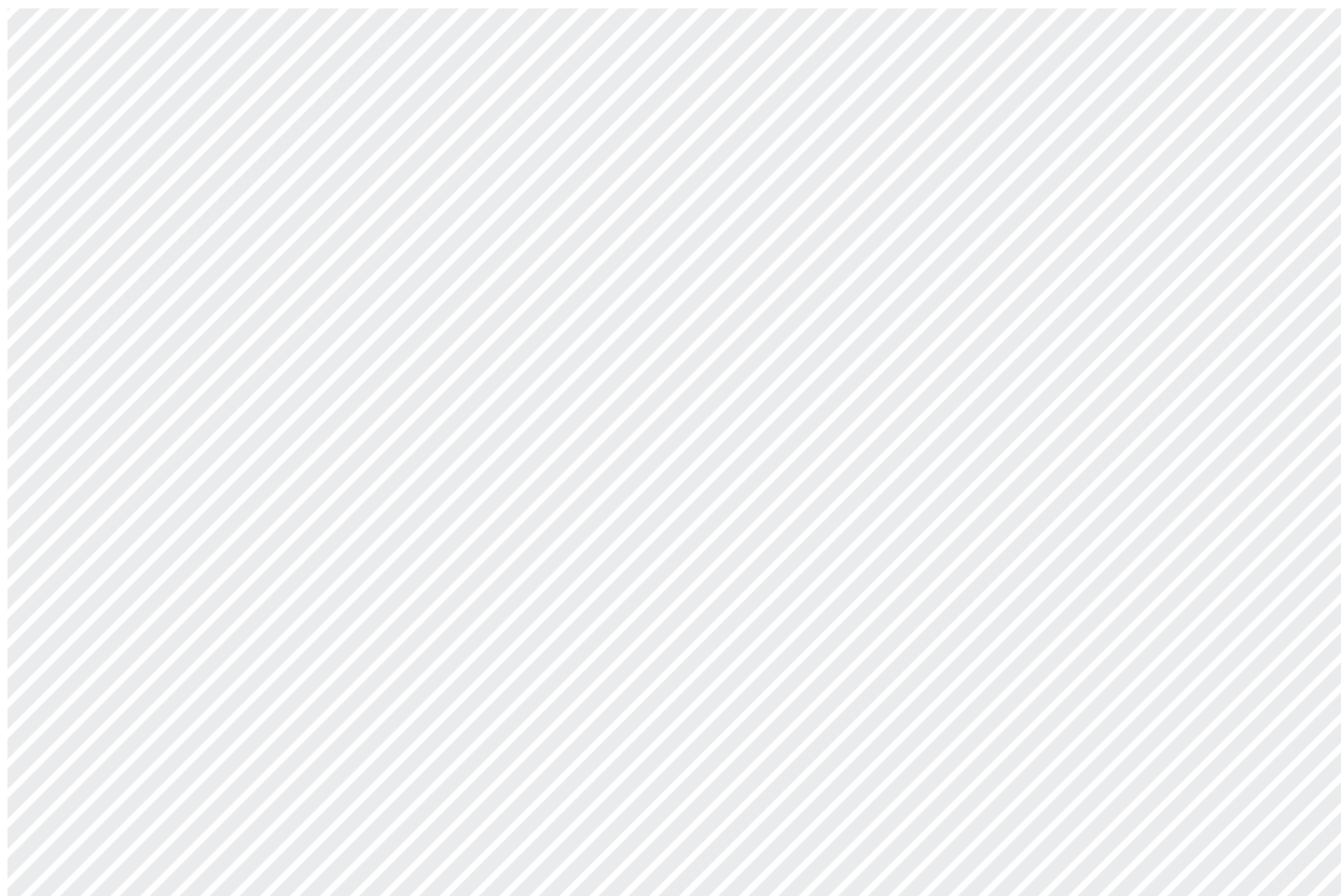


Figure 1: Reported total market (entry) volumes in MWh/GY 2015/2016





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