



CAPACITY ALLOCATION MECHANISMS NETWORK CODE

2021

IMPLEMENTATION AND EFFECT MONITORING REPORT

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1 EXECUTIVE SUMMARY

ENTSOG is required to monitor and analyse the implementation of the network codes and their effect on the harmonisation of applicable rules based on the provisions of Article 8(8) of Regulation (EC) no. 715/2009. Since the capacity allocation mechanisms network code (CAM NC) is applied, this is the fifth time ENTSOG monitors its implementation across the EU and the fourth time that it analyses its effect.

This report reflects the status of the CAM NC implementation at the end of the calendar year 2020 while it shows the effect of the CAM NC for the Gas Years (GY) 2018/2019 and 2019/2020. In order to perform the monitoring process, information was collected by ENTSOG from European gas TSOs through questionnaires. The received information is analysed in this report and conclusions are drawn. The results of the CAM NC Monitoring report will also be published in the ENTSOG Annual Report 2020. In addition, ENTSOG's focus is to identify to what extent the main aims of the CAM NC have been achieved.

The **implementation monitoring** part of this report covers all the provisions of the CAM NC with special focus on the implementation status of those Articles which were identified in the last report as not being fully implemented as at the end of calendar year 2018. Nevertheless, Chapter V of the CAM NC on the Incremental Capacity Process is not monitored in this report and instead, a separate report covering the incremental capacity process initiated in 2019 is expected to be published during the second half of 2021.

By analysing the responses TSOs provided through the implementation monitoring questionnaire, it can be concluded that progress has been made towards the full implementation of CAM NC provisions in comparison to the previous monitoring report. The main improvement is related to the implementation of Virtual Interconnection Points (VIPs) since ten VIPs, out of eleven, which were not implemented in 2018 have been implemented in the calendar years 2019 and 2020. Moreover, Art. 32 (6–7) has been implemented by all TSOs, except for those for which this Article is not applicable, while by the end of 2018 five TSOs were in the process of implementation. However, further improvement is still needed by a small number of TSOs to fully implement the CAM NC.

The **effect monitoring** part of this report analyses the impact of the CAM NC on the European gas market by means of three indicators which were already used in previous editions of the report and one new sub indicator. These indicators have been calculated for the GYs 2018/2019 and 2019/2020 and compared with historical data, when available.

By the analysis of the indicator CAM.1, it has been observed that the allocation of quarterly, monthly and daily bundled firm capacity products related to the total firm capacity allocated for the GY 2018/2019 is 20 %, 9 % and 19 % percentage points higher, respectively, than for the previous gas year. Nevertheless, for the GY 2019/2020 the ratios for the quarterly and monthly standard capacity products are significantly lower than for the GY 2018/2019. When excluding unbundled firm capacity and therefore considering only the total bundled firm capacity, it is observed that more bundled firm capacity has been allocated in the last two GYs compared to the GY 2017/2018.

Indicators CAM.2 and CAM.2.1 show that the share of bundled capacity relative to total firm capacity reallocated by secondary market trades is marginal and it is also negligible compared to the capacity allocated through auctions.

The third indicator CAM.3 indicates that the number of market participants increases year after year. However, the number of active participants for the GY 18/19 and 19/20 is lower than for the GY 17/18.

2 INTRODUCTION

On 16 March 2017 the European Commission published the Commission Regulation (EU) 2017/459 establishing a network code on capacity allocation mechanisms (CAM NC) in gas transmission systems and repealing the Regulation (EU) No 984/2013.

This Regulation was adopted with the aim to achieve greater harmonisation of natural gas capacity allocation across the European Union (EU) by setting up a transparent and standard framework for capacity allocation in gas transmission systems for existing and incremental capacity. In addition, the CAM NC also determines how adjacent transmission system operators (TSOs) cooperate for facilitating capacity sales.

According to Article 8(8) of the Regulation (EC) 715/2009 (“Gas Regulation”), ENTSOG shall “*monitor and analyse the implementation of the network codes and the guidelines adopted by the Commis-*

sion in accordance with Article 6(11), and their effect on the harmonisation of applicable rules aimed at facilitating market integration. The ENTSO for Gas shall report its findings to the Agency and shall include the results of the analysis in the annual report referred to in point (e) of paragraph 3 of this Article”.

In order to be compliant with the Gas Regulation, ENTSOG will show in this report the implementation status of the CAM NC by the European TSOs and the results of the analysis performed for determining its effect. Moreover, ENTSOG will include the findings shown in this report into ENTSOG Annual Report 2020.



Picture courtesy of GAZ-SYSTEM

3 IMPLEMENTATION MONITORING OF THE CAM NC

This is the fifth time ENTSOG monitors the implementation of the CAM NC across the EU. The report covers the status of implementation at the end of calendar year 2020. In addition, this report puts a special focus on the implementation status of provisions which were identified in the previous report¹ as not fully implemented at the end of calendar year 2018.

Chapter V of the CAM NC on the Incremental Capacity Process is not monitored in this report. A separated report² covering the first incremental capacity process initiated in 2017 was produced by

ENTSOG in 2019 and published in January 2020, while a second report covering the incremental capacity process initiated in 2019 is expected to be published during the second half of 2021.

3.1 PARTICIPATING TSOs

In order to produce this report, ENTSOG members were requested to complete a questionnaire covering the mandatory requirements provided by each Article of the CAM NC. Associated partners and TSOs that are non-ENTSOG members were asked to participate on a voluntary basis.

The following sections reflect the data collected from 43 TSOs (corresponding to 39 ENTSOG members out of 44³, 2 associated partners⁴ and 2 non-ENTSOG members) and shows the implementation status of TSOs at the end of 2020.

According to Art. 2(3) of the CAM NC, this Regulation shall not apply to Interconnection Points (IPs) between Member States where one of these Member States holds a derogation on the basis of Article 49 of Directive 2009/73/EC. Estonia, Latvia and Finland are included within Art. 49(1)⁵ of this Directive while Art. 49(6)⁶ refers to Luxembourg. However, Elering AS, Conexus Baltic Grid and Gas-

grid Finland OY have been included in this report since they are in the process of implementing all Gas Network Codes and Guidelines. Creos Luxembourg has been excluded from this analysis as it not only holds derogation but also only has a non CAM-relevant IP.

In addition, Art. 2(5) of the CAM NC stipulates that where the implicit capacity allocation method is applied, national regulatory authorities (NRAs) may decide not to apply Articles 8 to 37 of the CAM NC. Elering AS, Conexus Baltic Grid, Amber Grid and Gasgrid Finland OY apply the implicit capacity allocation method. Additional information on this method is provided in Annex 4.

A full list of the TSOs participating in this monitoring exercise is shown in Annex 1 while an overview table with the implementation status of the CAM NC by the EU TSOs has been included in Annex 2.

1 Capacity Allocation Mechanisms Network Code – Implementation and Effect Monitoring Report 2018: https://www.ENTSOG.eu/sites/default/files/2019-06/MC0047-19_ENTSOG_CAM_NC_Implementation and Effect Monitoring 2018_Rev_0_.pdf

2 First Incremental Capacity Process Report 2017: https://www.entsog.eu/sites/default/files/2020-01/entsog_incremental_capacity_report_2017_lux_version.pdf

3 In the period covered, ENTSOG had 44 members. Four ENTSOG members (Infrastrutture Trasporto Gas SpA, Società Gasdotti Italia S.p.A., Swedegas AB and Regasificadora del Noroeste S.A.) have been excluded from the scope of the CAM implementation monitoring because they have no interconnection points in their network. A fifth TSO (Creos Luxembourg S.A.) has not been considered since it holds derogation and additionally only has a non CAM-relevant IP.

4 In the period covered by this report, Conexus Baltic Grid and Elering AS were associated partners. Conexus subsequently became an ENTSOG member on 1 January 2021.

5 Article 49(1) of Directive 2009/73/EC states that “Articles 4, 9, 37 and/or 38 shall not apply to Estonia, Latvia and/or Finland until any of those Member States is directly connected to the interconnected system of any Member State other than Estonia, Latvia, Lithuania and Finland”.

6 According to Article 49(6) Directive 2009/73/EC “Article 9 shall not apply to Cyprus, Luxembourg and/or Malta”.

3.2 EVALUATION OF TSOs' RESPONSES

3.2.1 CHAPTER II PRINCIPLES OF COOPERATION

Chapter II of the CAM NC covers Articles 4 to 7 and includes the principles of cooperation. As mentioned at the beginning of this section, this report will mainly focus on those Articles that were identified as not fully implemented by all the TSOs in the previous monitoring report. However, even if an Article was fully implemented in the past, it might still be necessary to continue monitoring it since changes may occur from one monitoring exercise to another. This is the case, for example, for Art. 6 in which TSOs are required to establish and apply a

joint method that maximises the offer of bundled capacity through the optimisation of the technical capacity. Changes to the joint method for capacity calculation could be made over time, and therefore it has been monitored whether TSOs have made any changes since the last report. In those cases, TSOs were asked to provide information on the changes made.

The table below provides specific information for Articles 4–7 regarding the implementation status by the TSOs:

Article of Chapter II CAM NC	Implementation status
<p>Art. 4: Coordination of maintenance TSOs shall fully cooperate with their adjacent TSOs regarding their respective maintenance plans</p>	Fully implemented by all the TSOs as shown in the previous implementation monitoring report.
<p>Art. 5: Standardisation of communication TSOs shall coordinate the implementation of standard communication procedures, coordinated information systems and compatible electronic on-line communications</p>	This Article is assessed in the Interoperability and Data Exchanges Rules Network Code (INT NC) Implementation Monitoring Report 2019 ⁷ .
<p>Art. 6: Capacity calculation and maximisation TSOs shall offer the maximum technical capacity, considering system integrity, safety and efficient network operation</p>	<p>Fully implemented by 42 TSOs. Nevertheless, four of these TSOs have made changes in their joint method for capacity calculation:</p> <ul style="list-style-type: none"> ▲ In April 2019 DESFA and Bulgartransgaz signed the 1st amendment of the joint method, for the IP "Kulata-Sidirokastro", in which the capacity from Greece towards Bulgaria increased. The capacity was further increased in December 2019. In April 2020, a new amendment of the joint method was signed. ▲ In 2019 Elering and Gasgrid signed a new interconnection agreement including an annex for joint technical capacity calculation. <p>Only one TSO has reported that its current joint method for capacity calculation does not allow for maximum technical capacity to be offered due to irregularity of maintenance works, which are currently considered when calculating capacity.</p>
<p>Art. 7: Exchange of information between adjacent transmission system operators Adjacent TSOs shall exchange on a regular basis information on the nomination and matching process as well as on the maintenance of their transmission network</p>	Same as Art. 5, this Article is assessed in the INT NC Implementation Monitoring Report.

Table 1: Implementation status of Chapter II CAM NC

⁷ Interoperability and Data Exchanges Rules Network Code – Implementation Monitoring Report 2019: [https://www.entsog.eu/sites/default/files/2020-08/ENTSOG Interoperability and Data Exchange Rules NC Implementation Monitoring Report 2019_0.pdf](https://www.entsog.eu/sites/default/files/2020-08/ENTSOG%20Interoperability%20and%20Data%20Exchange%20Rules%20NC%20Implementation%20Monitoring%20Report%202019_0.pdf)



3.2.2 CHAPTER III ALLOCATION OF FIRM CAPACITY PRODUCTS

Chapter III of the CAM NC covers the allocation of firm capacity products. All TSOs are required to offer standard capacity products which are subsequently allocated via auctions at the IPs, except

where the alternative allocation methodology is applied according to Art. 30. Table 3.2 summarises the implementation status of Articles 8 to 18:

Article of Chapter III CAM NC	Implementation status
Art. 8: Allocation methodology Capacity shall be allocated at IPs through auctions unless an alternative allocation methodology is applied	Fully implemented by all the TSOs. Four TSOs have not allocated capacity through auctions since they use the implicit allocation method.
Art. 9: Standard capacity products TSOs shall offer yearly, quarterly, monthly, daily and within-day standard capacity products	Fully implemented by 37 TSOs. For four TSOs, this article is not applicable since they apply the implicit capacity allocation method. The remaining two TSOs did not fully implement Art. 9 because of the following: <ul style="list-style-type: none"> ▲ One TSO offered firm partly regulated capacity⁸. ▲ One TSO reported a different starting date for yearly standard capacity products (1st of January).
Art. 10: Applied capacity unit Capacity shall be offered in kWh/h or kWh/d	Fully implemented by all the TSOs as shown in the previous implementation monitoring report.
Art. 11–15: Annual yearly, annual quarterly, rolling monthly, rolling day-ahead and within-day capacity auctions TSOs shall follow the auction dates specified in the auction calendar published by ENTSOG and offer the standard capacity products during the respective capacity auctions in accordance with the respective formulas set out in Articles 11–15 of CAM NC.	Fully implemented by 38 TSOs. For four TSOs, the implementation of Art. 11–15 is not applicable since they apply the implicit allocation method. Only one TSO did not fully follow these Articles because it did not offer within-day standard capacity products although it followed the auction calendar. However, the TSO estimates that after the national regulatory framework is completed/amended, such products will be offered in the first half of 2021 and using the respective calculation formula.

Table 2: Implementation status of Chapter III CAM NC

⁸ OPAL Gastransport GmbH & Co. KG offers firm partly regulated capacity based on the OPAL exemption decision, which cannot be marketed at the respective VIP but are marketed still at the IP. The marketing of firm partly regulated capacity by OPAL Gastransport GmbH & Co. KG was suspended by a decision from Bundesnetzagentur dated 13 September 2019, which refers to a decision by the General Court of the European Union dated 10 September 2019 with regards to the OPAL exemption and its Settlement Agreement.

3.2.3 CHAPTER IV BUNDLING OF CAPACITY AT INTERCONNECTION POINTS

Chapter IV addresses the bundling of capacity at IPs and covers Articles 19 to 21, which were not fully implemented by all the TSOs in the previous CAM implementation monitoring report. Table 3.3 provides information of the current implementation status of these Articles by the TSOs:

Article of Chapter IV CAM NC	Implementation status
<p>Art. 19: Bundled capacity products</p> <p>Art. 19(1) specifies that TSOs shall jointly offer all firm capacity as bundled on both sides of an IP in so far as there is available firm or incremental capacity. In case there is more available firm capacity on one side of the IP than on the other side, the TSO with the most available firm capacity may offer such extra capacity as an unbundled product according to Art. 19(5).</p> <p>Moreover, Art. 19(7) requires adjacent TSOs to establish a joint nomination procedure for bundled capacity and consequently provide to network users the possibility to nominate bundled capacity via a single nomination procedure.</p> <p>In addition, Art. 19(9) states that where two or more IPs connect the same two adjacent entry-exit systems, the adjacent TSOs affected shall offer the available capacities at one VIP.</p>	<p>A total amount of 30 TSOs offered all their available firm capacity as bundled capacity at each IP in accordance with Article 19.1. For the remaining thirteen TSOs, Art. 19(1) was not applicable due to the fact that the CAM NC is not applicable for particular IPs or the capacity was already fully booked before the CAM NC entered into force. Below it is explained in more detail the reasons why it was not possible for these TSOs to bundle all their available capacity:</p> <ul style="list-style-type: none"> ▲ Two of the TSOs who apply implicit capacity allocation, offer part of their capacity through the first come first served principle as an unbundled product. ▲ For five TSOs the capacity was higher at one side of the entry-exit border and therefore capacity may be offered in accordance with Art. 19(5). For one of these TSOs also the situation explained below applies. ▲ Six TSOs were not able to offer all their available firm capacity as bundled capacity at each of their IPs because the other side of one of their IPs is not subject to the CAM NC since the adjacent TSO has no obligation to bundle capacity as the country is a non-EU Member State or has been granted derogation. ▲ One TSO offered unbundled capacity at its side of the VIP because part of the technical capacity was already booked as long-term capacity at the other side of the VIP. One of the contracts of unbundled long-term capacity ended in December 2020 and the other will expire in February 2022. <p>Art. 19(5) is fully implemented by all the TSOs. A total of 27 TSOs have experienced a situation where more firm capacity was available on their side of an IP and therefore, they offered this extra capacity as an unbundled product in accordance with Article 19.5.</p> <p>Moreover, a total of 37 TSOs have fully implemented Art. 19(7) while for four TSOs this was not applicable since they apply the implicit capacity allocation method.</p> <p>Two TSOs did not fully implement Art. 19(7) for one of their IPs. The upgrade of one TSOs' IT systems is in progress and therefore it is expected that a single nomination procedure will be established by 31/12/2021.</p> <p>All TSOs except two have fully implemented Art. 19(9) since they have implemented VIPs, when necessary. The VIP which has not been implemented yet has an estimated implementation date of 01.10.2021.</p> <p>It is important to emphasize that other VIPs may be created in the future.</p> <p>Additional information on the implemented VIPs is provided in Annex 3.</p> <p>Significant progress has been made since the number of TSOs not fully implementing Art. 19(9) has decreased from 8 in the previous report to 2 in the current monitoring exercise.</p>
<p>Art. 20: Alignment of main terms and conditions for bundled capacity products</p> <p>ENTSOG shall publish a template for the main terms and conditions for the offer of bundled capacity products</p>	<p>As required by this Article, ENTSOG has published this template. However, the use of this template⁹, in the case of newly contracted bundled capacity products, is not mandatory for the TSOs and it is subject to the approval of the respective NRA.</p>
<p>Art. 21: Bundling in case of existing transport contracts</p> <p>All capacity shall be bundled at the earliest opportunity and TSOs shall offer to network users a free-of-charge capacity conversion service</p>	<p>Fully implemented by 42 TSOs, out of which 27 TSOs reported to have an existing mismatched unbundled capacity contract at least at one of their IPs. Only one TSO did not fully implement this Article because it did not offer a free-of-charge capacity conversion service to network users holding mismatched unbundled capacity at one side of an IP since this is not regulated in its national secondary legislation.</p>

Table 3: Implementation status of Chapter IV CAM NC

9 ENTSOG Template - Contract of Main terms and conditions for the offer of bundled capacity products: https://entsog.eu/sites/default/files/files-old-website/publications/CAP0817-18 CAM Main terms and Conditions Template_post PC.pdf

3.2.4 CHAPTER VI INTERRUPTIBLE CAPACITY

Chapter VI of the CAM NC on interruptible capacity includes Articles 32 to 36 covering the allocation of interruptible services and different aspects of the interruption process. Not all the provisions for this

Chapter were fully implemented by all the TSOs in the previous report. Table 3.4 analyses these Articles and provides information on the current implementation status:

Article of Chapter VI CAM NC	Implementation status
<p>Art. 32: Allocation of interruptible services</p> <p>TSOs may only offer standard capacity products for interruptible capacity of a duration longer than one day if the corresponding monthly, quarterly or yearly standard capacity product for firm capacity was sold at an auction premium, was sold out, or was not offered. For daily capacity TSOs shall offer this product in both directions of an IP when the corresponding standard capacity product for firm capacity was sold out day-ahead or was not offered</p>	<p>All TSOs fully implemented this Article. A total of 37 TSOs have offered interruptible capacity in accordance with Article 32 except for one of them that apply the implicit capacity allocation. The remaining 5 TSOs did not offer interruptible capacity.</p> <p>It can be observed a significant progress regarding the implementation of Art. 32(6–7) as in the previous report it was reported that 5 TSOs were in progress with the implementation of this Article.</p>
<p>Art. 33: Minimum interruption lead times</p> <p>TSOs shall jointly decide with their adjacent TSOs minimum interruption lead times for interruptible capacities. Otherwise, a default minimum interruption lead time for a given gas hour of 45 minutes after the start of the re-nomination cycle is applied</p>	<p>Although eight TSOs (out of 10 reported in the previous report) have not jointly decided with their adjacent TSOs the minimum interruption lead time (for five of them this is not explicitly jointly decided but it is covered in their national regulation), all TSOs have fully implemented Art. 33(2) as shown in the previous report. TSOs have reported in the current monitoring exercise that no changes have been made in the default minimum interruption lead time.</p>
<p>Art. 34: Coordination of interruption process</p> <p>TSOs shall coordinate with their adjacent TSOs the initiation of an interruption and inform the concerned parties</p>	<p>Fully implemented by all the TSOs.</p>
<p>Art. 35: Defined sequence of interruptions</p> <p>Art. 35 defines order in which interruptions shall be performed</p>	<p>Fully implemented by all the TSOs as shown in the previous report. None of the TSOs has changed the defined sequence of interruptions according to Article 35 compared to what was reported in the previous monitoring exercise.</p>
<p>Art. 36: Reasons for interruptions</p> <p>TSOs shall include reasons for interruptions directly in the interruptible transport contracts or in the general terms and conditions for those contracts</p>	<p>Fully implemented by 38 TSOs. Five TSOs have not explicitly included reasons for interruptions in the general terms and conditions due to the following:</p> <ul style="list-style-type: none"> ▲ One TSO reported that interruptible capacity is a marginal component in the market and therefore is almost not used by market participants. ▲ Two TSOs do not offer interruptible capacity at one IP. However, in case of interruption, the principles of informing the market participants who have booked the firm capacity are described in the Transmission Rules. ▲ One TSO reported that since there are many reasons for an interruption, they commit in the GT&Cs to communicate the reasons in the event of an interruption. ▲ One TSO has not defined the reasons for interruption.

Table 4: Implementation status of Chapter VI CAM NC

3.3 CONCLUSIONS

The main aim of the CAM NC is to achieve the harmonisation of capacity allocation at all interconnection points across the European Union and to guarantee a non-discriminatory third-party access to the gas networks as well as to promote the cooperation between adjacent transmission operators. To make that possible, it is essential that EU TSOs fully comply with the CAM NC through the implementation of all the provisions under this regulation.

In relation to this, within this report it has been demonstrated that a majority of TSOs fully implemented all the provisions of the CAM NC. It can also be highlighted that there has been further progress in the implementation of the CAM NC since the previous monitoring report.

The main improvement shown in this monitoring exercise compared to the previous exercise is related to the progress made for Art. 19(9) on the implementation of VIPs. In the previous report it was observed that eleven VIPs were not established before the stipulated date of 1 November 2018, as requested by the CAM NC, due to ambiguity in Article 19(9) leading to different interpretations of Article 19(9) as well as uncertainty about the implications¹⁰. At the end of 2020 there is only one required VIP which

is yet to be established, although this should be completed by 1 October 2021.

Moreover, compared to the previous report, this time it has been shown an improvement in TSOs' application of Art. 32 (6–7) on allocation of interruptible services. In the previous report, it was reported that 5 TSOs were in progress with the implementation of this Article while in the current monitoring exercise it is shown that it has been implemented by all the TSOs, with the exception of those TSOs for which this Article is not applicable as they apply the implicit allocation method, do not have IPs or hold a derogation.

In conclusion, this Implementation Monitoring Report shows that progress has been made towards the full implementation of CAM NC provisions in comparison to the previous monitoring report, implying that TSOs are moving in the good direction. It has been observed that almost all the TSOs have fully implemented all the Articles of the CAM NC. However, further improvement is still needed by a small number of TSOs in order to fully implement the CAM NC and contribute to a more harmonized energy system.

¹⁰ This issue was posted in the FUNC platform: <https://www.gasncfunc.eu/gas-func/issues/04/2018/view> IPs which are CAM-relevant on one side of the IP due to NRA's decision were included in the scope of the report covering the GY 2015/2016.



4 EFFECT MONITORING OF THE CAM NC

This section of the report shows the results of the fourth effect monitoring of the CAM NC across the EU and it is focused on evaluating whether the main aims of the CAM NC have been achieved. The periods covered are the gas years (GY) 2018/2019 and 2019/2020 and only IPs which are CAM-relevant on both sides of an IP have been considered. Following the previous two monitoring reports, IPs which are CAM-relevant only on one side of the IP (due to NRA's decision) have been excluded from the scope of this report¹¹.

4.1 PARTICIPATING TSOs

A total of 38 TSOs participated in this monitoring exercise for assessing the effect of the CAM NC. Therefore, this report reflects the data collected for the GY 2018/2019 and 2019/2020 from 36 ENTSOG members and 2¹² TSOs that are non-ENTSOG members who participated in this monitoring exercise and provided data on a voluntary basis. 8 ENTSOG members¹³ and 2 associated partners¹⁴ were excluded from this analysis since they have either been granted derogation under

Art. 39 of the Gas Directive, use the implicit allocation method, have no interconnection points or the interconnection point is not CAM-relevant on both sides of the IP.

The data used in this section was provided by the TSOs with the support of the Booking Platforms. This data already considers the capacity converted from unbundled to bundled according to Article 21(3) on the mismatched unbundled capacity conversion service.

11 IPs which are CAM-relevant on one side of the IP due to NRA's decision were included in the scope of the report covering the GY 2015/2016.

12 One of these TSOs did not provide data for indicators CAM.1 and CAM.2 for the GY 2019/2020.

13 ENTSOG members excluded from the scope of the CAM effect monitoring are: Infrastrutture Trasporto Gas SpA, Società Gasdotti Italia S.p.A., Swedegas AB, Regasificadora del Noroeste S.A., Gasgrid Finland OY, NEL Gastransport GmbH, Creos Luxembourg S.A and AB Amber Grid.

14 Associated partners excluded from the scope of the CAM effect monitoring are Conexus Baltic Grid and Elering AS.

4.2 EFFECT MONITORING INDICATORS

As explained in the previous effect monitoring report, ENTSOG's aim is to build historical data by collecting information that allows the calculation of the same indicators in order to show the evolution of the market development. Due to this reason, ENT-

SOG has maintained the same indicators used since the first report in 2016. However, a new sub indicator (CAM.2.1) has been incorporated to improve the quality of this report and provide a greater insight into the effect of the CAM NC.

4.2.1 CAM.1: RATIO OF BUNDLED FIRM CAPACITY ALLOCATED OVER THE TOTAL FIRM CAPACITY ALLOCATED

Description of indicator CAM.1

One of the main achievements of the CAM NC has been the harmonisation of capacity products by bundling capacity contracts to enable the Network Users to book standard capacity products which consist of corresponding entry and exit capacity at both sides of every IP. The bundling principles aimed to eliminate flange trading and improve the alignment of contractual terms and conditions of respective transmission system operators for the offer of bundled capacity. Therefore, indicator CAM.1 has been used to determine whether the

aims of the CAM NC have been achieved and observe if an increase in the bundled firm capacity has been produced.

This indicator shows the ratio of allocated bundled capacity over the total firm capacity allocated (bundled and unbundled firm capacity) per capacity product type (yearly, quarterly, monthly and daily firm capacity products). In order to determine this, the indicator is calculated per standard capacity product type of all TSOs according to the formula below:

$$\text{CAM.1} = \frac{\text{BCA}}{\text{TCA}} \times 100\%$$

Where:

CAM.1: Returns a ratio of firm bundled capacity allocated over total firm capacity allocated

BCA: Bundled firm capacity allocated

TCA: Total capacity (bundled and unbundled) allocated.

Units: MWh/h/y

Results of indicator CAM.1

According to the formula described above, the ratios of bundled capacity allocated over the total capacity allocated have been calculated for the GYs 2018/2019 and 2019/2020 and compared with the data from previous years.

This data is shown in Table 5, which also includes the values of the total bundled firm capacity allocated for each GY and type of product as well as the total firm capacity allocated.

CAM.1: Ratio of bundled firm capacity allocated relative to the total firm capacity allocated				
Product	Yearly	Quarterly	Monthly	Daily
Year 2015/2016				
Bundled firm capacity	25,369.20	1,054.10	6,408.70	9,056
Total firm capacity	80,892.40	12,937.90	22,999.90	28,425
Ratio	31.36 %	8.15 %	27.86 %	31.86 %
Year 2016/2017¹⁵				
Bundled firm capacity	2,535,733	13,766	16,866	6,182
Total firm capacity	3,358,315	17,944	30,855	36,751
Ratio	75.51 %	76.72 %	54.66 %	20.24 %
Year 2017/2018				
Bundled firm capacity	121,026	24,611	56,076	13,868
Total firm capacity	194,987	40,467	88,162	44,125
Ratio	62.07 %	60.82 %	63.61 %	31.43 %
Year 2018/2019				
Bundled firm capacity	146,100	61,280	25,363	20,148
Total firm capacity	241,222	75,777	34,956	37,908
Ratio	61 %	81 %	73 %	53 %
Year 2019/2020				
Bundled firm capacity	192,521	18,843	17,630	19,330
Total firm capacity	281,001	65,777	42,272	36,424
Ratio	68.51 %	28.65 %	41.71 %	53.07 %

Table 5: CAM.1: Ratio of bundled firm capacity allocated over the total firm capacity allocated

¹⁵ Exceptional booking behaviour for this gas year due to exceptional long-term bookings in Germany, Czechia and Slovakia.

The information contained in the table can be interpreted as follows:

- ▲ Yearly standard capacity products: the ratio of bundled firm capacity to total firm capacity allocated has increased in the last GY compared to previous years but is lower than for the GY 2016/2017 which was characterized for having exceptional long-term bookings in Germany, Czechia and Slovakia.

More concretely, indicator CAM.1 shows an increase of 7.5 percentage points from GY 2018/2019 to GY 2019/2020.
- ▲ Quarterly standard capacity products: the ratio of the indicator CAM.1 has significantly increased from GY 2017/2018 to GY 2018/2019, going from 60.8 % in the former GY to 81 %. Nevertheless, a considerable decrease can be observed for this indicator in the GY 2019/2020 where its value was 28.65 %, 52.35 percentage points lower than the previous year.
- ▲ Monthly standard capacity products: an increasing trend of the value of the indicator CAM.1 for monthly standard capacity products can be observed until GY 2018/2019, since the ratio of bundled capacity to total capacity allocated has considerably decreased from this GY to the GY 2019/2020. This decrease on the ratio corresponds to 31.3 percentage points.
- ▲ Daily standard capacity products: an increase of the bundled capacity share can be observed in the last two years, positioning the indicator CAM.1 over the 50 %. The increase from GY 2017/2018 to GY 2018/2019 is of 21.57 percentage points while a slight decrease of 2.2 percentage points has been produced compared to the next GY.

If the focus is only over bundled firm capacity and therefore unbundled firm capacity is not considered, Figure 1 indicates that the overall quantity of bundled firm capacity allocated has increased in the last two GYs compared to the GY 2017/2018. It also shows that the reduction in the allocation of quarterly standard products is matched by a corresponding increase in the allocation of yearly standard capacity products over the period considered.

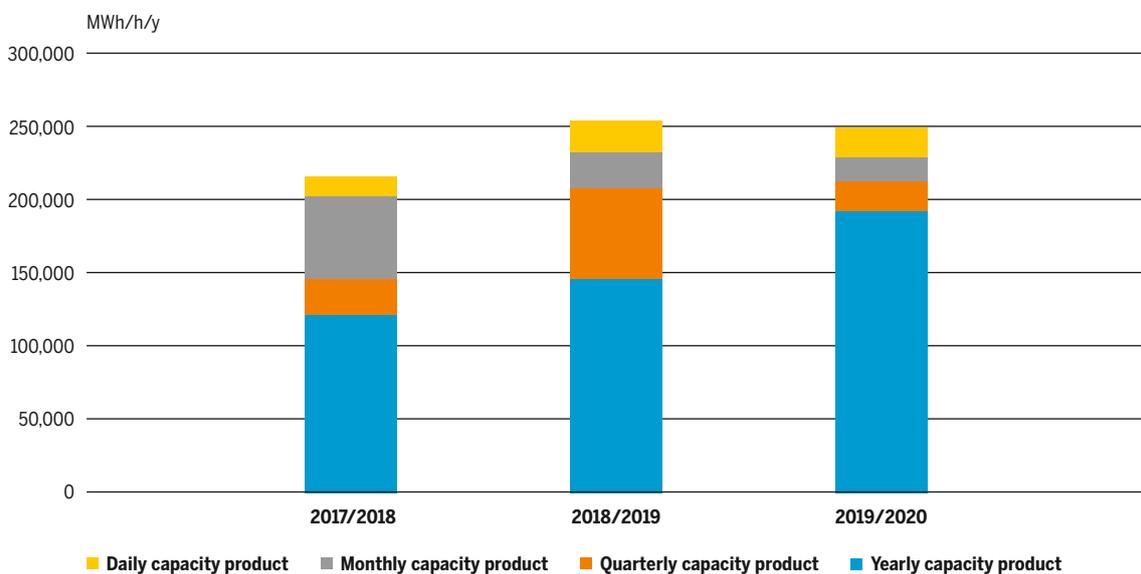


Figure 1: Bundled firm capacity allocated

4.2.2 CAM.2: SHARE OF SECONDARY MARKET-TRADED BUNDLED CAPACITY TO SECONDARY MARKET TRADED TOTAL FIRM CAPACITY

Description of indicator CAM.2

Indicator CAM.2 is used to measure the desired effect of the CAM NC to enhance secondary trading of (bundled) capacity and optimise the usage of the EU network.

This indicator shows the share of bundled firm capacity traded on the secondary market in relation to the total amount of firm capacity (bundled and unbundled) traded on the secondary market. Indicator CAM.2 is calculated as follows:

$$\text{CAM.2} = \frac{\text{BCTSM}}{\text{TCTSM}} \times 100\%$$

Where:

CAM.2: a ratio of total bundled firm capacity traded on secondary market to total firm capacity traded at secondary market

BCTSM: bundled firm capacity traded at the secondary market

TCTSM: total firm capacity (bundled and unbundled) traded at the secondary market

Results of indicator CAM.2

Table 6 shows that the share of bundled capacity reallocated by secondary market trades is marginal: 5.82 % and 2.65 % for the GYs 2018/2019 and 2019/2020 respectively. Nevertheless, the values of the ratios for CAM.2 have increased for the last

two GYs compared to the past, indicating that more capacity has been traded as bundled on the secondary market in relation to the unbundled capacity traded.

CAM.2: Share of secondary market-traded bundled capacity to secondary market traded total capacity in MWh/h/y					
Gas year	2015/2016	2016/2017 ¹⁶	2017/2018	2018/2019	2019/2020
Bundled firm capacity traded	511.40	13,369.00	1,835.00	10,339.54	9,520.33
Unbundled firm capacity traded	134,817.70	2,117,264.00	461,692.00	167,389.68	349,919.86
Total firm capacity traded	135,329.10	2,130,633.00	463,527.00	177,729.22	359,440.19
Ratio	0,38 %	0,63 %	0,40 %	5,82 %	2,65 %

Table 6: CAM.2: Secondary market trades

Figure 2 shows the capacity traded in the secondary market, both bundled and unbundled, while figure 3 focuses only on the bundled firm capacity traded. From these figures, it can be seen that the firm capacity traded in the secondary market as unbundled is much higher than the firm capacity trad-

ed as bundled. In line with the increase of the ratios observed in table 6, these graphs additionally show that less unbundled firm capacity was traded in the last two GYs compared to the GY 2017/2018 while there was an increase of the bundled firm capacity compared to this GY.

¹⁶ Exceptional booking behaviour for this gas year due to exceptional long-term bookings in Germany, Czechia and Slovakia.

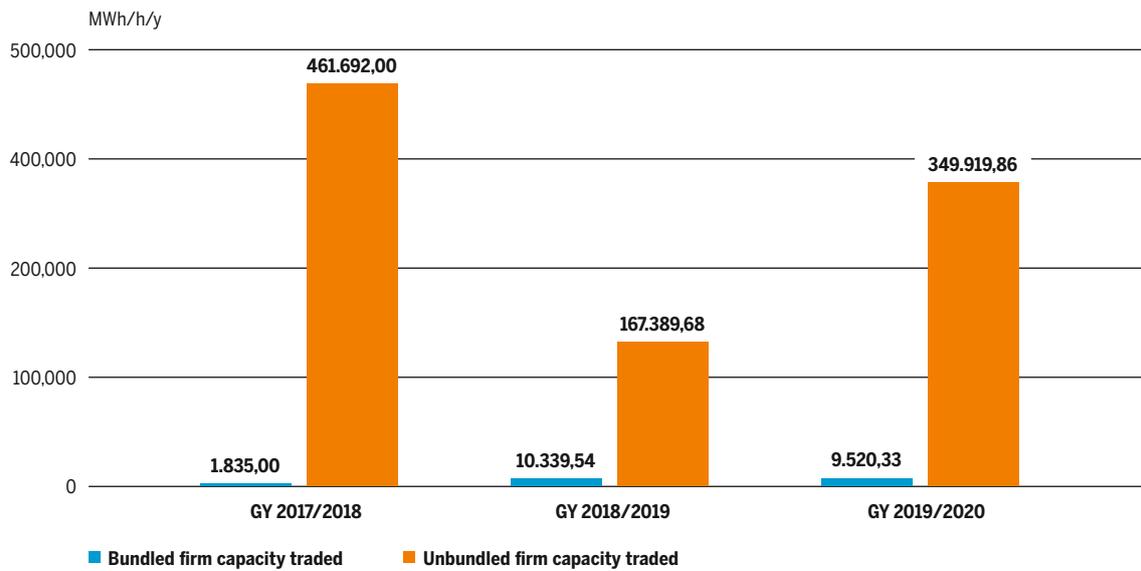


Figure 2: Bundled firm capacity traded on the secondary market related to unbundled firm capacity

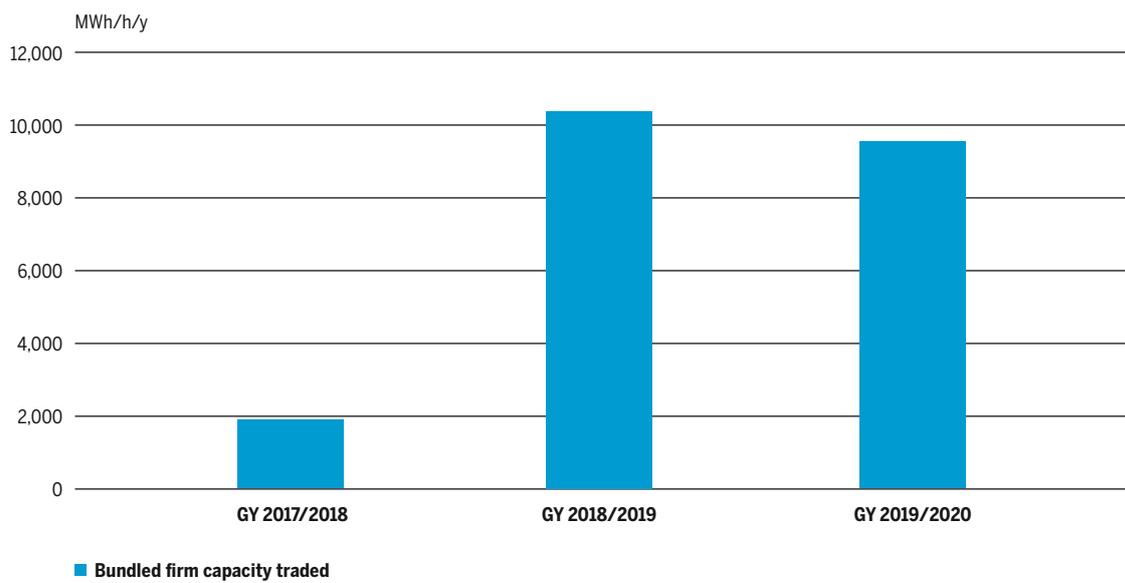


Figure 3: Bundled firm capacity traded on the secondary market

4.2.3 CAM.2.1: RATIO OF BUNDLED CAPACITY ALLOCATED IN THE SECONDARY MARKET RELATIVE TO THE CAPACITY ALLOCATED THROUGH AUCTIONS

Description of sub indicator CAM.2.1

While the CAM NC aims that EU's gas pipelines are efficiently used, indicator CAM.2.1 is used to assess the total capacity that is allocated through the secondary market and auctions.

Therefore, indicator CAM.2 compares the bundled firm capacity allocated on the secondary market in relation to the bundled firm capacity that is allocated in the primary market through auctions. To calculate this indicator the following formula has been used:

$$\text{CAM.2.1} = \frac{\text{BCTSM}}{\text{BCA}} \times 100\%$$

Where:

CAM.2.1: is a ratio of total bundled firm capacity allocated on the secondary market relative to the capacity allocated through auctions

BCTSM: bundled firm capacity traded at the secondary market

BCA: bundled firm capacity allocated through auctions

Results of sub indicator CAM.2.1

Table 7 shows very low ratios for CAM.2.1 indicating that the total bundled firm capacity that is allocated on the secondary market is minimal compared to the bundled firm capacity allocated through auc-

tions. Nevertheless, it is observed that this ratio has increased in the last two GYs compared to previous years.

Ratio bundled firm capacity allocated at the secondary market relative to bundled capacity allocated through auctions in MWh/h/y					
Gas Year	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Bundled firm capacity allocated through auctions	41,888.00	2,572,547.00	215,581.00	252,891.91	248,323.45
Bundled firm capacity allocated on the secondary market	511.40	13,369.00	1,835.00	10,339.54	9,520.33
Ratio	1.22 %	0.52 %	0.85 %	4.09 %	3.83 %

Table 7: CAM.2.1: Total bundled firm capacity allocated on the secondary market relative to bundled firm capacity allocated through auctions

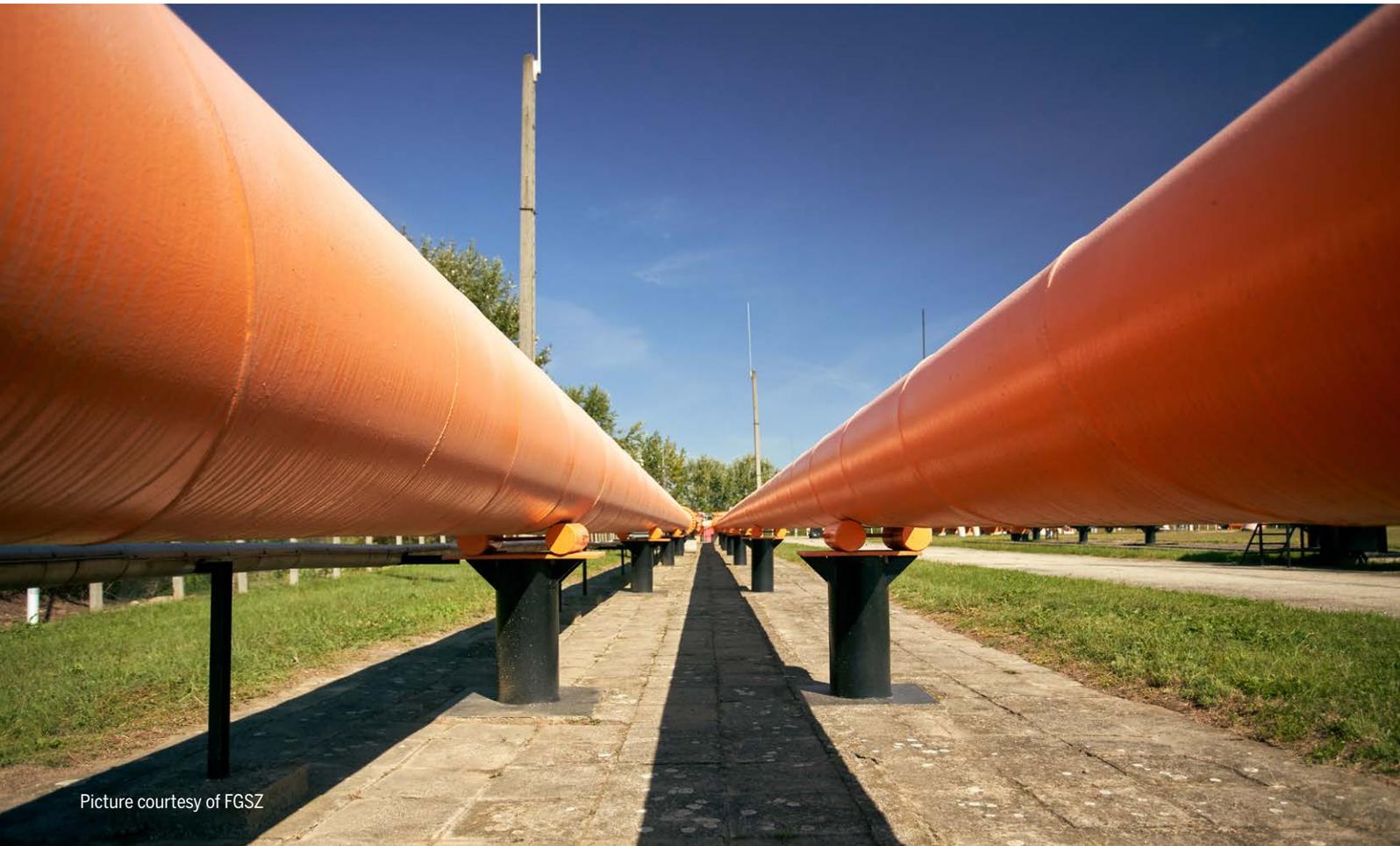
4.2.4 CAM.3: INCREASE OF MARKET PARTICIPANTS IN A SYSTEM

Description of indicator CAM.3

The aim of this indicator is to see whether the CAM NC simplifies the access to the European market, by offering capacity via joint booking platforms based on harmonised capacity allocation rules.

ENTSOG uses the number of participants who are registered and active on the booking platforms to show the evolution of participants on the market

throughout the years. The parameter “active participants” is defined as network users who bid on any of the capacity auctions during a particular GY, while “all participants” include the “active participants” and those who registered but did not bid on any auction.



Picture courtesy of FGSZ

Results of indicator CAM.3

Based on the information collected, the total number of active participants and the total participants registered in a system are shown in table 8 and figure 4:

CAM.3 Number of market participants in a system						
Gas year	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Active market participants	494	714	894	1,428	1,096	1,042
All market participants	1,892	2,233	2,546	3,139	3,648	3,665

Table 8: CAM.2.1: Total bundled firm capacity allocated on the secondary market relative to bundled firm capacity allocated through auctions

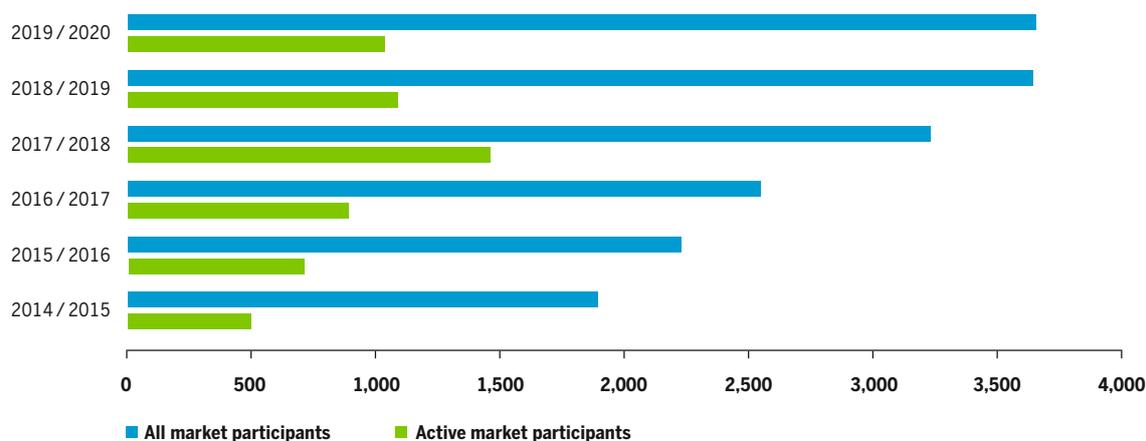


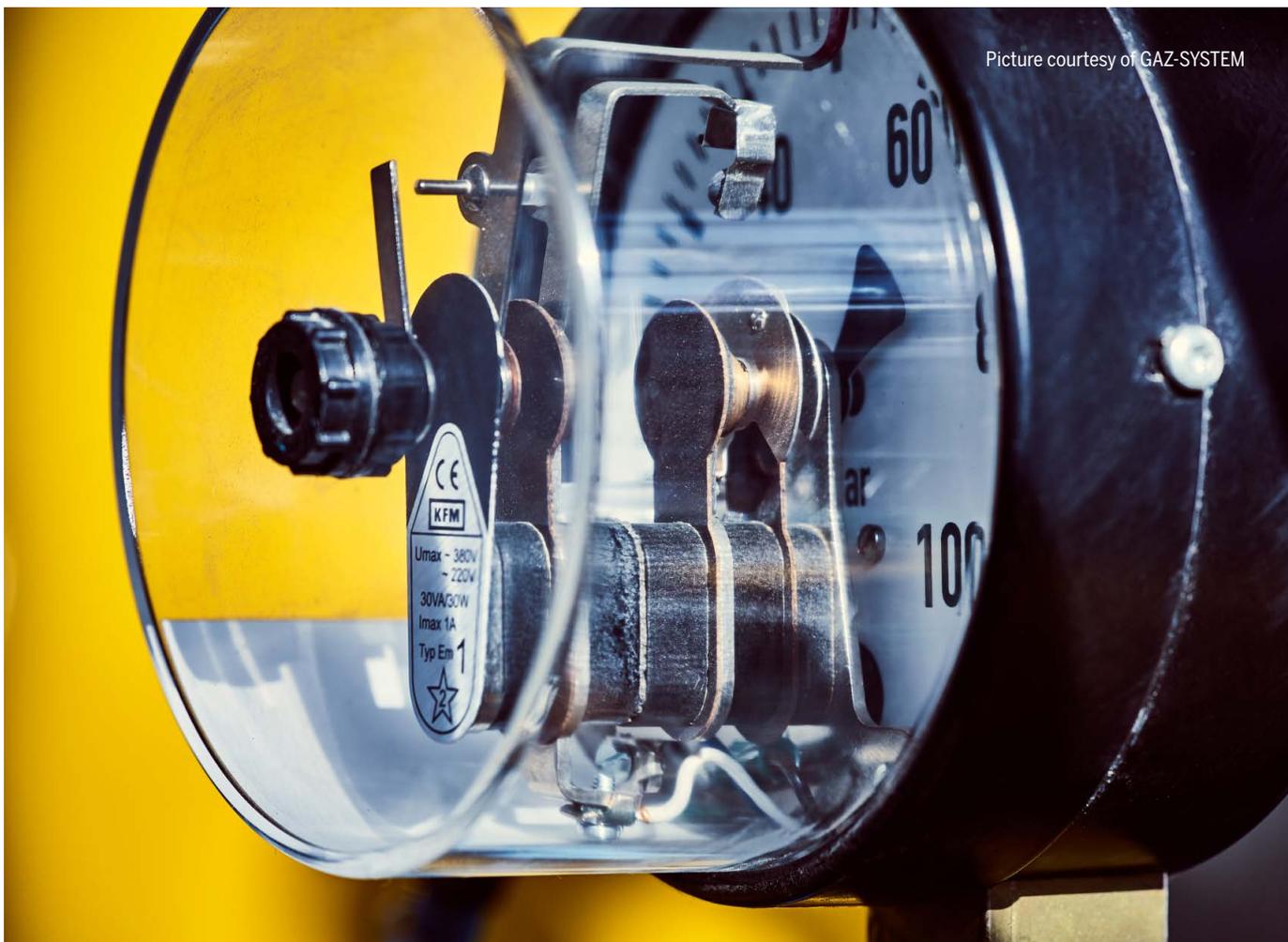
Figure 4: Market participants in a system

- ▲ Number of all participants: an increase of this indicator for the gas years under the scope of this report (GY 2018/19 and GY 2019/20) can be observed in comparison to the previous gas years. There were 413 new market participants registered at the booking platforms for the GY 2018/2019 in comparison to the GY 2017/2018, which indicates an increase of 12.77 % in one year. From GY 2018/2019 to 2019/2020 a slight increase of 17 market participants can be observed.
- ▲ Number of active participants: this indicator has continuously increased from year to year until the GY 2017/2018. However, the number of active market participants for the GYs assessed in this report is lower than the number for the GY 2017/2018, although it is higher than for the years prior to GY 2017/2018. There was a reduction of 368 active participants for the GY 2018/2019 compared to the GY 2017/2018, equating to a decrease of 25.14 %. There are a few factors that could possibly explain a higher number of active market participants in GY 2017/2018 compared to GYs 2018/2019 and 2019/2020:
 - February and March 2018 experienced unusual conditions since extreme cold winter temperatures occurred. Storage levels were at record lows after a tight winter and prices reached € 80/MWh, creating short-term arbitrage opportunities that are likely to have attracted market participants. Furthermore, during the summer it was necessary to refill the empty storages and prices kept at relatively high levels for a warm period, potentially opening more market opportunities.
 - Possibility of market consolidations or consolidations with holders in the last two GYs leading to a decrease in the number of market participants.

4.3 CONCLUSIONS

Based on the results obtained for the different indicators used in this report, the following conclusions can be drawn:

- ▲ Bookings for quarterly, monthly and daily bundled firm capacity products for the GY 2018/2019, related to bookings for unbundled firm capacity, are higher than for the previous years, which can be mainly explained by the expiration of unbundled contracts. For the GY 2019/2020 the percentages for the quarterly and monthly standard capacity products are significantly lower than for the GY 2018/2019. Nevertheless, there was an increase of yearly bundled firm capacity allocated.
- ▲ The overall quantity of bundled firm capacity allocated through auctions has increased in the last two GYs compared to the GY 2017/2018. The share of bundled capacity reallocated by secondary market trades is marginal compared to the total amount of firm capacity traded on the secondary market. In addition, the new sub indicator CAM.2.1 shows that the bundled firm capacity allocated in the secondary market is marginal compared to the capacity allocated through auctions.
- ▲ There is an increasing trend over the years regarding the number of market participants which suggests that the harmonisation of capacity allocation rules is providing more clarity and facilitating access for network users to different European markets. Nevertheless, it can be observed that the number of active participants has decreased from the GY 2017/2018 until the last year considered in this report.



Picture courtesy of GAZ-SYSTEM

5 ANNEX

5.1 ANNEX 1: LIST OF PARTICIPATING EUROPEAN TSOs

Country	CAM IM (TSOs)	CAM EM (TSOs)
ENTSOG Members		
Austria	Trans Austria Gasleitung GmbH Gas Connect Austria GmbH	Trans Austria Gasleitung GmbH Gas Connect Austria GmbH
Belgium	Fluxys Belgium S.A.	Fluxys Belgium S.A.
Bulgaria	Bulgartransgaz EAD	Bulgartransgaz EAD
Croatia	Plinacro d.o.o.	Plinacro d.o.o.
Czech Republic	NET4GAS s.r.o.	NET4GAS s.r.o.
Denmark	Energinet.dk	Energinet.dk
Finland	Gasgrid Finland OY	–
France	GRTgaz S.A. Teréga S.A.	GRTgaz S.A. Teréga S.A.
Germany	bayernets GmbH Fluxys TENP GmbH GASCADE Gastransport GmbH Gasunie Deutschland Transport Services GmbH GRTgaz Deutschland GmbH Gastransport Nord GmbH NEL Gastransport GmbH Nowega GmbH ONTRAS Gastransport GmbH Open Grid Europe GmbH terranets bw GmbH Thyssengas GmbH	bayernets GmbH Fluxys TENP GmbH GASCADE Gastransport GmbH Gasunie Deutschland Transport Services GmbH GRTgaz Deutschland GmbH Gastransport Nord GmbH – Nowega GmbH ONTRAS Gastransport GmbH Open Grid Europe GmbH terranets bw GmbH Thyssengas GmbH
Greece	DESFA S.A.	DESFA S.A.



Country	CAM IM (TSOs)	CAM EM (TSOs)
ENTSOG Members		
Hungary	FGSZ Zrt.	FGSZ Zrt.
Ireland	Gas Networks Ireland Ltd.	Gas Networks Ireland Ltd.
Italy	Snam Rete Gas S.p.A.	Snam Rete Gas S.p.A.
Lithuania	AB Amber Grid	AB Amber Grid
Netherlands	BBL Company V.O.F. Gasunie Transport Services B.V.	BBL Company V.O.F. Gasunie Transport Services B.V.
Poland	GAZ-SYSTEM S.A	GAZ-SYSTEM S.A.
Portugal	REN – Gasodutos S.A.	REN – Gasodutos S.A.
Romania	Transgaz S.A.	Transgaz S.A.
Slovakia	eustream a.s.	eustream a.s.
Slovenia	Plinovodi d.o.o.	Plinovodi d.o.o.
Spain	Enagás Transporte S.A.U	Enagás Transporte S.A.U
United Kingdom¹⁷	Interconnector (UK) Ltd. National Grid Gas plc Premier Transmission Ltd. GNI (UK) Ltd.	Interconnector (UK) Ltd. National Grid Gas plc Premier Transmission Ltd. GNI (UK) Ltd.
Associated Partners		
Estonia	Elering AS	–
Latvia	Conexus Baltic Grid	–
Non-ENTSOG Members		
Germany	OPAL	OPAL
	Fluxys Deutschland GmbH	Fluxys Deutschland GmbH

17 At the time of reference for this report the United Kingdom was still part of the European Union and has therefore been included in the report.

5.2 ANNEX 2: OVERVIEW OF THE IMPLEMENTATION STATUS OF THE CAM NC BY THE EU TSOs

CAM NC Article	Fully Implemented Number of TSOs	Not implemented Number of TSOs	Not Applicable Number of TSOs	Comments	
Chapter II: Principles of cooperation					
Art. 4	43	0	0		
Art. 5	–	–	–	This Article is assessed in the Interoperability and Data Exchanges Rules Network Code (INT NC) Implementation Monitoring Report 2019	
Art. 6	42	1	0	1 TSO reported irregularities on maintenance works 4 TSOs have made changes in their joint method for capacity calculation	
Art. 7	–	–	–	This Article is assessed in the Interoperability and Data Exchanges Rules Network Code (INT NC) Implementation Monitoring Report 2019	
Chapter III: Allocation of firm capacity products					
Art. 8	39	0	4	4 TSOs apply the implicit allocation method	
Art. 9	37	2	4	1 TSO offered firm partly regulated capacity 1 TSO reported a different starting date for yearly standard capacity products (1 st of January)	
Art. 10	43	0	0		
Art. 11–15	38	1	4	1 TSO did not offer within-day standard capacity products although it followed the auction calendar	
Art. 16–18	Art. 17	39	0	4	4 TSOs apply the implicit allocation method
	Art. 18	40	0	3	3 TSOs apply the implicit allocation method

CAM NC Article	Fully Implemented Number of TSOs	Not implemented Number of TSOs	Not Applicable Number of TSOs	Comments	
Chapter IV: Bundling of capacity at interconnection points					
Art. 19	Art. 19(1)	30	0	13	<p>2 TSOs apply implicit capacity allocation but offer part of their capacity through FCFS as an unbundled product</p> <p>For 5 TSOs the capacity was offered in accordance with Art. 19(5). For 1 of these TSOs also the situation explained below applies</p> <p>6 TSOs have adjacent TSOs that are non-EU Member State or have been granted derogation</p> <p>For 1 TSO part of the technical capacity was already booked as long-term capacity at the other side of the VIP</p>
	Art. 19(5)	43	0	0	27 TSOs have experienced a situation where more firm capacity was available on their side of an IP
	Art. 19(7)	37	2	4	<p>4 TSOs apply the implicit allocation method</p> <p>1 TSO is in the process of updating its IT system. The adjacent TSO is also affected</p>
	Art. 19(9)	41	2	0	1 VIP is expected to be implemented by 01.10.2021
Art. 20		–	–	–	ENTSOG has published the template for the main terms and conditions for the offer of bundled capacity products. The use of this template, in the case of newly contracted bundled capacity products, is not mandatory for the TSOs
Art. 21		42	1	0	1 TSO did not offer a free-of-charge capacity conversion service. This is not regulated in its national secondary legislation
Chapter V: Incremental capacity process					
Art. 22–31					Will be assessed in a separate report
Chapter VI: Interruptible capacity					
Art. 32		42	0	1	1 TSO applies the implicit allocation method
Art. 33	Art. 33(1)	36	8	0	8 TSOs have not explicitly jointly decided with their adjacent TSOs the minimum interruption lead time
	Art. 33(2)	43	0	0	
Art. 34		43	0	0	
Art. 35		43	0	0	
Art. 36		38	5	0	<p>2 TSOs have the principles of informing the market participants who have booked the firm capacity described in the Transmission Rules</p> <p>1 TSO commit in the GT&Cs to communicate the reasons in the event of an interruption</p>

5.3 ANNEX 3: LIST OF IMPLEMENTED AND NON-IMPLEMENTED VIPs

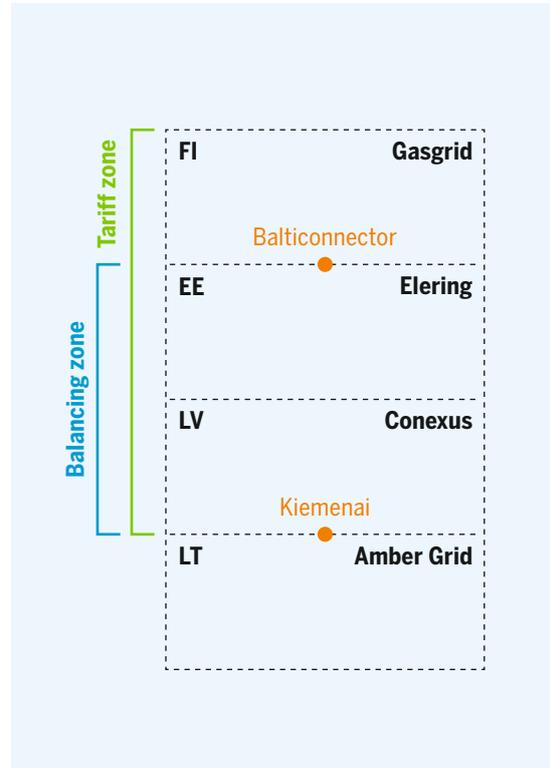
VIP	IPs connected	Participating TSOs	Implementation date
VIP Pirineos	Irún, Larrau	Enagás	01/10/2014
	Biriatou	Teréga	
VIP Ibérico	Tuy, Badajoz	Enagás	01/10/2012
	Campo Maior IP, Valença do Minho IP	REN	
VIP Virtualys	Alveringem, Blaregnies Segeo, Blaregnies Troll	Fluxys Belgium	01/12/2017
	Alveringem, Taisnières H	GRTgaz	
VIP GCP GAZ-SYSTEM/ ONTRAS	Kamminke, Gubin, Lasow	GAZ-SYSTEM, ONTRAS	01/4/2016
VIP Brandov/GASPOOL	Brandov-STEGAL, Olbernhau II	Gascade	01/11/2018
	Hora Svaté Kateřiny	NET4GAS	
	Brandov-OPAL	NET4GAS	
	Deutschneudorf EUGAL Brandov	ONTRAS, GUD, Gascade, Fluxys Deutschland	
	Brandov-OPAL	OPAL	
VIP NCG – GASPOOL L	Zone OGE L	GUD	01/11/2018
	Ahlten, Steinbrink	Nowega, OGE	
VIP NCG Oberkappel	Oberkappel	OGE, GRTgaz D	01/03/2019
VIP TTF – GASPOOL H	Oude Statenzijl H	GUD	01/04/2020
	Bunde	GASCADE	
	Oude Statenzijl	GTS, GTG Nord	
VIP TTF-GASPOOL-L	Oude Statenzijl	GTG Nord, GTS	01/04/2020
	Oude Statenzijl L	GUD	
VIP TTF – NCG L	Elten, Vreden, Tegelen	OGE	01/04/2020
	Haanrade, Zevenaar	Thyssengas	
	Winterswijk	GTS	
VIP TTF – NCG H	Oude Statenzijl	OGE	01/04/2020
	Bocholtz	Fluxys TENP, OGE	
	Bocholtz TENP	GTS	
	Bocholtz Vetschau	Thyssengas	
VIP BENE	s'Gravenvoeren, Zelzate 2	GTS	01/04/2020
	Zelzate 1, Zandvliet H	Fluxys Belgium	
VIP Germany – CH	Wallbach	Fluxys TENP, OGE	01/07/2019
VIP Waidhaus – NCG	Waidhaus	GRTgaz D, NET4GAS, OGE	01/03/2019
VIP France – Germany	Medelsheim	OGE, GRTgaz D	01/03/2019
VIP Eynatten 2 / Belgium – NCG	Eynatten-Raeren	OGE	01/07/2019
	Lichtenbusch	Thyssengas	
	Eynatten 2	Fluxys Belgium	
	Eynatten	Fluxys TENP	
VIP Negru Vodă	Ruse-Giurgiu, Negru Voda 1/Kardam	Transgaz, Bulgartransgaz	01.10.2021 (estimated date for implementation)

5.4 ANNEX 4: IMPLICIT CAPACITY ALLOCATION AT THE BALTIC-FINNISH MARKET AREA

5.4.1 CONTEXT

In order to increase liquidity, promote cross-border trade and achieve a more competitive regional market, the Baltic-Finnish TSOs have developed measures for closer integration of the national gas markets for Finland, Estonia, Latvia and Lithuania. Consequently, an implicit allocation method in accordance with Article 2(5) of the CAM NC has been implemented by Elering AS and Gasgrid Finland OY on the Balticconnector IP between Estonia and Finland since January 2020 and by Conexus Baltic Grid and Amber Grid AB on the Kiemenai IP between Latvia and Lithuania since July 2017.

In accordance with the integration approach followed by these countries, Latvia and Estonia merged into a single balancing zone on 1 January 2020. At the same time, Finnish, Estonian and Latvian TSOs established a common entry tariff zone. Although the Finnish gas market is part of the common entry tariff zone, it has its own balancing zone. Another point to highlight is that since Estonia and Latvia are part of a common balancing zone, there is no capacity booking on the border between these two countries.



5.4.2 REGULATORY ELEMENTS

Art. 3(6) of the CAM NC defines the implicit allocation method as “a capacity allocation method where, possibly by means of an auction, both transmission capacity and a corresponding quantity of gas are allocated at the same time”. This method does not limit TSOs’ rights to offer part of the capacity via other methods such as explicit auctions.

Additionally, when this method is applied, national regulatory authorities may decide not to apply Articles 8 to 37 of the CAM NC as stated in Art. 2(5).

On 8 October 2018, the TSOs from Finland, Estonia and Latvia signed the Memorandum of understanding which included the goals, values and TSO’s principles for harmonisation of capacity management as well as the establishment of a regional gas market model and principles of the inter transmission

system operators’ compensation (ITC) mechanism. The ITC agreement was concluded on 14 February 2019.

Moreover, on 1 November 2019, common regulations for the use of natural gas transmission system¹⁸ prepared by Elering AS and Conexus Baltic Grid and approved by the respective NRAs entered into force but with full application as of January 2020. The regulations have been amended on 23 April 2020¹⁹.

On 30 November 2020, the Finnish NRA approved the applicable terms and conditions of Balticconnector capacity allocation principles²⁰.

18 Common regulations for the use of natural gas transmission system: https://capacity.conexus.lv/uploads/filedir/Common_network_rules_EE-LV_1.pdf

19 Amended regulation: <https://likumi.lv/ta/id/314277-par-vienoto-dabasgazes-parvades-sistemas-lietosanas-noteikumu-saskanosanu>

20 Finnish NRA approval of the applicable terms and conditions of Balticconnector capacity allocation principles:

<https://gasgrid.fi/wp-content/uploads/Balticconnectorin-kapasiteetinjakomekanismia-koskeva-vahvistuspaatos.pdf>

5.4.3 DESCRIPTION OF THE IMPLICIT ALLOCATION METHOD

The implicit capacity allocation method used by the above mentioned TSOs is described in this section.

Balticconnector IP

The Estonian and Finnish TSOs, with the consent of their respective NRAs, have implemented the implicit capacity allocation method for short-term cross-border capacity with no tariff for capacity. Furthermore, day-ahead and within-day capacity products are also offered at the Balticconnector IP. All capacity products are firm and are allocated based on:

- ▲ Network users' confirmed nominations by TSO
- ▲ Cross-border trades on gas exchange(s) in part of day-ahead and within-day products

The process of capacity allocation consists of a double-sided nomination procedure which is initiated with the submission, by network users, of nominations of the quantities of gas to be delivered on a gas day through the Balticconnector IP.

Network users can submit renominations. The latest nomination or renomination submitted before the deadline is considered as an effective nomination or renomination and therefore is processed in the matching process.

In the matching process, matched renomination quantities enter into force for the remaining hours of the gas day. In those cases where the latest nomination or renomination of the network user is not equivalent to the latest nomination or renomination made by its counterparty, the nomination is reduced to the lower of the values nominated or renominated according to the lesser rule.

As a next step, the TSO shall compare the matched nominations with Balticconnector's technical capacity and renominations with the Balticconnector's available capacity. Once nominations are confirmed, capacity is allocated to the network user.



Kiemenai IP

At the Kiemenai IP between Latvia and Lithuania day-ahead and within-day capacity products are allocated by an implicit allocation method while yearly, quarterly and monthly capacity products are allocated through the First Come First Served principle. When the implicit allocation method is used, capacity is allocated to network users based on confirmed natural gas trade quantities on exchange, which have gone through the TSO's process of nominations and matching. The implicit capacity allocation is embedded in gas exchange trading algorithm so that the bids and offers from one market zone, topped with IP capacity price, are competing in real time with bids and offers in other market zone by the extent of IP capacity available for the implicit allocation. This method is applicable to at least daily standard capacity product although TSOs shall offer other capacity products under network user's request to provide such capacity.

The nomination process consists of the submission of nomination by the network user to the TSO which may be corrected by submitting a re-nomination. The renomination may be submitted at any renomination period starting immediately after the end of the nomination confirmation deadline and shall end three hours before the end of gas day D. In those cases where the network user has not submitted a nomination for the gas day D, its nomination is considered as equal to zero. The last nomination or renomination is considered in the matching process in which the TSO shall verify with the adjacent TSO that gas volumes planned are equivalent at both sides of the IP. Once the nomination is confirmed, capacity is allocated to the network user. Capacity allocated corresponds to the last confirmed quantity for that gas day after matching the gas quantity with the adjacent TSO.

5.4.4 BALTIC-FINNISH TSOs' EXPERIENCE USING AN IMPLICIT ALLOCATION METHOD

For gas markets with limited liquidity, like the Baltic-Finnish market, the implicit allocation method presents some benefits in its aim to increase liquidity. For example, it is easy to implement, enables virtual reverse capacity products and improves the optimisation of capacity bookings and gas flows.

The concerned TSOs have identified the following reasons for which the implementation of an implicit allocation method is beneficial for their integrated market:

- ▲ More straight-forward and simpler capacity allocation method;
- ▲ No dedicated capacity booking platform is necessary;
- ▲ Increased liquidity and gas price transparency in gas trading since the liquidity in the connected markets becomes much more visible and accessible compared to only auctioning the capacity;
- ▲ Cross-border trading can happen without any additional efforts from the traders;
- ▲ Trading of capacity and commodity takes place at the same time implying that market players always end up with matched quantities of commodity and transmission capacity;
- ▲ Optimised flows and capacity usage on cross-border connections. The transported gas always equals booked capacities. Trades in opposite directions allows to net the flows;
- ▲ Increases trading possibilities for market players as they can choose whether do trade OTC and book capacity with TSO or trade on gas exchange and get the capacity implicitly with the trade.

5.4.5 CONCLUSIONS

It can be concluded that the use of the implicit allocation method in developing markets, as the Finnish-Baltic market, fosters the cooperation between TSOs. It also highlights that the coordination of allo-

cation of cross-border capacity through non-discriminatory market-based solutions are relevant for achieving a better market integration.



6 ABBREVIATIONS

CAM NC	Capacity Allocation Mechanisms Network Code
ENTSOG	European Network of Transmission System Operators for Gas
EU	European Union
GY	Gas Year
INT NC	Interoperability and Data Exchanges Rules Network Code
TSO	Transmission System Operator
VIP	Virtual Interconnection Point

7 LEGAL DISCLAIMER

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