entsog

european network
of transmission system operators
for gas

CAPACITY ALLOCATION MECHANISMS NETWORK CODE

2023

IMPLEMENTATION AND EFFECT MONITORING REPORT

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1 EXECUTIVE SUMMARY

This report reflects the status of the CAM NC implementation on the 1st of November 2022 while it shows the effect of the CAM NC for the Gas Years (GY) 2020/2021 and 2021/2022. Information included in these reports was collected by ENTSOG from European gas TSOs. The results will also be published in the ENTSOG Annual Report 2022.

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 2020. Chapter V of the CAM NC on the Incremental Capacity Process is monitored in a separate report.

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. For the first time, monitoring report provides detailed information on the types of interruptible products that are offered by TSOs.

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. These indicators have been calculated for the GYs 2020/2021 and 2021/2022 and compared with historical data, when available.

By the analysis of the indicator CAM.1, a significant growth in the share of bundled capacity allocated in relation to the total capacity allocated on the primary market has been noticed.

Indicator CAM.2 shows that the share of bundled capacity relative to total firm capacity reallocated by secondary market trades has also increased – reaching around 50 %.

Indicator CAM.2.1 shows that the amount of bundled capacity allocated on the secondary market is negligible compared to the capacity allocated through auctions.

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 Commission 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 2022.

Since the capacity allocation mechanisms network code (CAM NC) is applied, this is the sixth time ENTSOG monitors its implementation across the EU and the fifth time that it analyses its effect.


Picture courtesy of GASCADE

3 IMPLEMENTATION MONITORING OF THE CAM NC

This is the sixth time ENTSOG monitors the implementation of the CAM NC across the EU. The report covers the status of implementation on the 1st of November 2022. In addition, this report puts a special focus on the implementation status of provisions which were identified in the previous report[1] as not fully implemented at the end of calendar year 2020.

Chapter V of the CAM NC on the Incremental Capacity Process is not included in this report as it is monitored in **a separate process[2]**.

3.1 PARTICIPATING TSOs

In order to produce this report, ENTSOG members were requested to complete a questionnaire to follow up on any changes and developments that could have taken place in their systems since the last report. For that purpose, they were asked to provide answers and updates on the implementation status of the following CAM NC articles: art 6 (joint method for capacity calculation), art 19.9 (virtual interconnection points), art 32 (interruptible capacity). TSOs were also asked to specify which type of interruptible capacity products were offered, if any.

As for the remaining CAM NC provisions, most of the TSOs have been found fully compliant in the previous report. For those that were not, individualised questionnaires were distributed to assess their improvement in the CAM NC implementation.

The table presented in Annex 2, gives an overview of the implementation of each CAM NC article.

The following sections reflect the data collected from 37 TSOs (out of 44 ENTSOG members) and shows the implementation status of TSOs at the end of 2022.

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. Art. 49(6)[3] refers to Luxembourg. Creos Luxembourg has been excluded from this analysis as it not only holds a derogation but also has a non CAM-relevant point only. Infrastrutture Trasporto Gas, Società Gasdotti Italia, Swedegas AB, Reganosa, and Nowega were excluded as not having CAM-relevant Point. ICGB AD was excluded as it has entered into operation on the 1st of October 2022.

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. Gasgrid Finland OY was also excluded from this analysis. Additional information on this method was provided in Annex 4 of the previous report.

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%20and%20Effect%20Monitoring%202018_Rev_0_.pdf

2 More in Incremental Capacity Process Report available at ENTSOG website.

3 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 GENERAL QUESTIONNAIRE

Since the implementation of the CAM NC has been proven to be completed by the majority of TSOs in the previous reports, the monitoring this time was focused on collection of updates related to the CAM NC Articles that might have been subject to change. Below the implementation status of Articles 6, 19.9 and 32 by the TSOs is presented:

Article of CAM NC	Description of the Article	Implementation status
Art. 6 Capacity calculation and maximisation	TSOs shall offer the maximum technical capacity, considering system integrity, safety and efficient network operation	Fully implemented by 35 TSOs. No changes have been made to the method since the last monitoring report. Only one TSO has reported that its current joint method for capacity calculation does not allow for maximum technical capacity to be offered.
Art. 19.9 Creation of VIPs	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.	As a next step of the merger of Gaspool and NCG – following VIPs were created: ◢ **VIP DK-THE** 01-07-2021 – Ellund (GUD), Ellund (OGE)- – VIP TSO is GUD ◢ **VIP TTF-THE-L** 1-10-2021, Oude Statenzijl (GTG), Bunde-West (GTG), Oude Statenzijl-L (GUD), Elten (OGE), Tegelen (OGE), Vreden (OGE); Haarnrade (TG), Zevenaar (TG) (merger between VIP-TTF-NCG-L and VIP-TTF-GASPOOL-L) – VIP TSO is Thyssengas ◢ **VIP TTF-THE-H** – 01.04.2022 – Oude Statenzijl H (GUD), Bunde (GASCADE), Bocholtz (Fluxys TENP), Bocholtz (OGE), Oude Statenzijl (OGE), Bocholtz-Vetschau (TG) (former VIPs: VIP TTF-GASPOOL-H, VIP TTF-NCG H) → VIP TSO is GUD ◢ **VIP THE-ZTP** – 01.04.2022 - Eynatten-Raeren (OGE), Eynatten (Fluxys TENP), Lichtenbusch (TG), Eynatten (GASCADE) (former VIP: VIP Belgium – NCG) → VIP TSO is OGE Bulgartransgaz is in process of establishing an agreement with Transgas for VIP of Negru voda 1,2 which will enter into force by 01 Feb,2023.
Art 32 Allocation of interruptible services	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	Out of 37 TSOs: Yearly standardised capacity product has been offered by 19; ◢ Quarterly standardised capacity product has been offered by 20; ◢ Monthly standardised capacity product has been offered by 22; ◢ Daily standardised capacity product has been offered by 26; ◢ Within-day standardised capacity product has been offered by 21; ◢ 17 TSOs have implemented all standardised capacity products;

Table 1: Implementation status of Articles 6, 19.9 and 32

3.2.2 INDIVIDUAL QUESTIONNAIRES

14 TSOs were asked to answer the individual questionnaires to clarify any possible inconsistence or lacking in the CAM NC implementation that was flagged in the previous report. The questions were related to the following articles of CAM NC (each TSO received relevant questions for itself):

- **Art. 9:** Did you offer any non-standard capacity products?
- **Art. 11–15:** Did you follow the dates stipulated in the auction calendar published by ENTSOG? Please select those products for which the capacity was offered during the respective capacity auctions in accordance with the respective formulas set out in articles 11–15 of NC CAM?
- **Art. 16–18:** Did you use an ascending clock auction algorithm with multiple binding rounds for annual yearly, annual quarterly and rolling monthly capacity auction following Article 17? Did you use a uniform-price auction algorithm with a single bidding round for rolling day-ahead capacity auctions and within-day capacity auctions in accordance with Article 18?
- **Art. 19.1:** Are you offering all your available firm capacity as bundled capacity at each IP in accordance with Article 19.1? If not, what are the reasons/issues that prevent you from offering all available capacity as bundled capacity?
- **Art. 21.3:** Do you have any existing mismatched unbundled capacity contracts at any of your IPs? If yes, do you offer a free-of-charge capacity conversion service to network users holding mismatched unbundled capacity at one side of an interconnection point? If not, what are the issues/barriers you are facing in relation to offering the capacity conversion service?
- **Art. 33:** Have you changed the default minimum interruption lead time since the last monitoring exercise?
- **Art. 36:** Have you included reasons for interruptions directly in the interruptible transport contracts or in the general terms and conditions for those contracts?

Most of the Articles taken into scrutiny are already implemented with the following comments:

- **Art 19.1:** two TSOs do not offer all available firm capacity as bundled capacity at each IP. In one case it is due to the fact that there is a discrepancy in technical capacities on both sides of this IP. In the second case it refers to the IP with the non-EU TSO that does not see the necessity for offering bundled products.
- **Art 21.3:** one TSO has existing mismatched unbundled capacity contracts. The capacity conversion service is not offered to the market as there is no legal base for it in the national legislation. Until now, there has been no request to provide such a service.

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 current report shows that CAM NC has been almost fully implemented with only few shortages – art 19.1 and art 21.3. Regarding art 19.1 – the shortages are rather of a technical nature and as reported by the TSO not implementing art 21.3 – the lack of its implementation has not been raised as an issue by the market.

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 right direction. It has been observed that almost all the TSOs have fully implemented all the Articles of the CAM NC.

Picture courtesy of Reganosa

4 EFFECT MONITORING OF THE CAM NC

This section of the report shows the results of the fifth 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) 2020/2021 and 2021/2022 and only IPs which are CAM-relevant on both sides of an IP have been considered. Following the previous three 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 report[4].

4.1 PARTICIPATING TSOs

A total of 35 TSOs participated in this monitoring exercise for assessing the effect of the CAM NC. Therefore, this report reflects the data collected for the GY 2020/2021 and 2021/2022 from 37 ENTSOG members. 9 ENTSOG members[5] 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 point or has come into operation after the time scope covered by this report.

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.

4.2 EFFECT MONITORING INDICATORS

As explained in the previous effect monitoring reports, ENTSOG's aim is to build historical data by collecting information that allows the calculation of the same indicators to show the evolution of the market development. Except from a new sub indicator (CAM.2.1) that has been introduced in the last report, ENTSOG has maintained the same indicators used since the first report in 2016.

4 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.

5 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, Elering AS, Nowega GmbH, Creos Luxembourg S.A, ICGB AD.

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:

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

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 2020/2021 and 2021/2022 and compared with the data from previous years.

This data is shown in Table 2, 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 capacity allocated relative to the total 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 2016/2017				
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 %**
Year 2020/2021				
Bundled firm capacity	157,003	34,494	72,396	256,712
Total firm capacity	233,495	61,853	84,233	272,316
Ratio	**67.24 %**	**55.77 %**	**85.95 %**	**94.27 %**
Year 2021/2022				
Bundled firm capacity	451,501	148,204	118,408	835,987
Total firm capacity	491,895	169,378	137,524	860,159
Ratio	**91.79 %**	**87.50 %**	**86.10 %**	**97.19 %**

Table 2: Ratio of bundled capacity allocated relative to the total capacity allocated

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, kept stable in 2020/2021 but has increased significantly for the GY 2021/2022.
- Quarterly, monthly and daily standard capacity products: the ratio has increased significantly.
- 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 2019/2020.

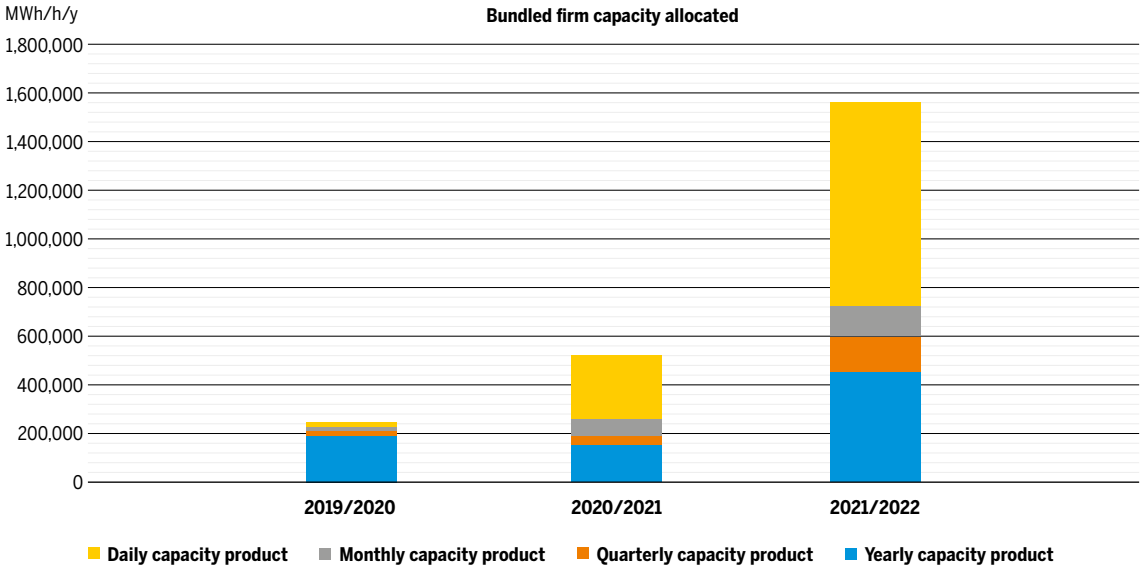

Figure 1: Bundled firm capacity allocated

The increase in allocation of the firm bundled capacity might be caused by change of the gas flows and expiration of unbundled long-term contracts.

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:

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

Where:

CAM.2: a ratio of total bundled firm capacity traded on the secondary market to total firm capacity traded at the 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 3 shows that the share of bundled capacity reallocated by the secondary market increased significantly for the GYs 2020/2021 and 2021/2022 respectively.

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**	**2017/2018**	**2018/2019**	**2019/2020**	**2020/2021**	**2021/2022**
Bundled firm capacity traded	511	13,369	1,835	10,340	9,520	321,720	96,980
Total firm capacity traded	135,329	2,130,633	463,527	177,729	359,440	583,537	194,082
Ratio	**0.38 %**	**0.63 %**	**0.40 %**	**5.82 %**	**2.65 %**	**55.13 %**	**49.97 %**

Table 3: Secondary market trades

Figure 2 shows the capacity traded in the secondary market, both bundled and unbundled. From these figures, it can be seen that similar volumes of bundled and unbundled capacity have been traded on the secondary market in 2020/2021 and 2021/2022 which is a sharp improvement compared to previous years where unbundled products were very predominant.

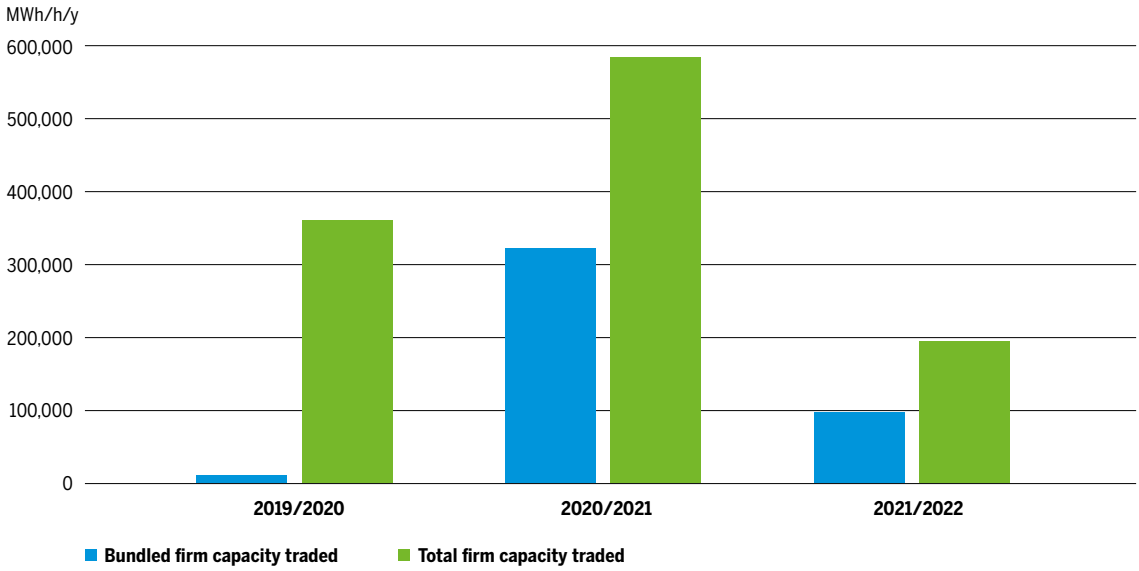

Figure 2: Bundled firm capacity traded on the secondary market related to total firm capacity traded on the secondary market

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 4 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 auctions.

Ratio bundled firm capacity allocated at the secondary market relative to bundled capacity allocated through auctions							
Gas year	**2015/2016**	**2016/2017**	**2017/2018**	**2018/2019**	**2019/2020**	**2020/2021**	**2021/2022**
Bundled firm capacity allocated through auctions	41,888.00	2,572,547.00	215,581.00	252,891.91	248,323.45	520,605.05	1,551,044.57
Bundled firm capacity allocated on the secondary market	511.40	13,369.00	1,835.00	10,339.54	9,520.33	321,719.88	96,979.58
Ratio	**1.22 %**	**0.52 %**	**0.85 %**	**4.09 %**	**3.83 %**	**61.80 %**	**6.25 %**

Table 4: Total bundled firm capacity allocated on the secondary market relative to bundled firm capacity allocated through auctions

4.3 CONCLUSIONS

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

- Bookings for most of the standardised bundled firm capacity products for the GY 2020/2021 and GY 2021/2022, 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 and partly by change in the gas flows caused by the energy crisis and war in Ukraine from February 2022. However, the full impact of the above mentioned will be visible in the results of the next CAM NC effect monitoring report.
- The overall quantity of bundled firm capacity allocated through auctions has increased in the last two GYs compared to the GY 2019/2020. The share of bundled capacity reallocated by secondary market trades has reached a level of around half of the total amount of firm capacity traded on the secondary market. However, indicator CAM.2.1 shows that the bundled firm capacity allocated using the secondary market is marginal compared to the capacity allocated through auctions.

Picture courtesy of FGSZ

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. Interconnector Ltd.	Fluxys Belgium S.A. Interconnector Ltd.
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
Estonia	Elering AS	
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 Gastransport Nord GmbH Gasunie Deutschland Transport Services GmbH GRTgaz Deutschland GmbH NEL Gastransport GmbH ONTRAS Gastransport GmbH Open Grid Europe GmbH terranets bw GmbH Thyssengas GmbH	bayernets GmbH Fluxys TENP GmbH GASCADE Gastransport GmbH Gastransport Nord GmbH Gasunie Deutschland Transport Services GmbH GRTgaz Deutschland GmbH NEL Gastransport GmbH ONTRAS Gastransport GmbH Open Grid Europe GmbH terranets bw GmbH Thyssengas GmbH

Country	CAM IM (TSOs)	CAM EM (TSOs)
ENTSOG Members		
Greece	DESFA S.A.	DESFA S.A.
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.
Latvia	Conexus Baltic Grid	Conexus Baltic Grid
Lithuania	AB Amber Grid	AB Amber Grid
Luxembourg	Creos Luxembourg	
Netherlands	Gasunie Transport Services B.V. BBL Company V.O.F.	Gasunie Transport Services B.V. BBL Company V.O.F.
Poland	GAZ-SYSTEM S.A	GAZ-SYSTEM S.A. GAZ-SYSTEM ISO
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

Table 5: List of participating European TSOs

Picture courtesy of FGSZ

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		35	0	0	
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	0	4	
Art. 10		43	0	0	
Art. 11–15		38	0	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	2	13	In one case it is due to the fact that there is a discrepancy in technical capacities on both sides of this IP. In second case it refers to the IP with the non-EU TSO that does not see the necessity for offering bundled products.
	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	0	4	
	Art. 19(9)	41	2	0	1 VIP is expected to be implemented by 01.02.2023
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	0	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	2 TSOs have the principles of informing the market participants who have booked the firm capacity described in the Transmission Rules 1 TSO commit in the GT&Cs to communicate the reasons in the event of an interruption

Table 6: Overview of the implementation status of the CAM NC by the EU TSOs

5.3 ANNEX 3: LIST OF VIPs

VIP	IPs connected	Participating TSOs	Implementation date
VIP Ibérico	Tuy, Badajoz Campo Maior IP, Valença do Minho IP	Enagás REN	01/10/2012
VIP Pirineos	Irún, Larrau Biriatou	Enagás Teréga	01/10/2014
VIP GCP GAZ-SYSTEM/ ONTRAS	Kamminke, Gubin, Lasow	GAZ-SYSTEM, ONTRAS	01/04/2016
VIP Virtualys	Alveringem, Blaregnies Segeo, Blaregnies Troll Alveringem, Taisnières H	Fluxys Belgium GRTgaz	01/12/2017
VIP Brandov	Brandov-STEGAL, Olbernhau II Hora Svaté Kateřiny Brandov-OPAL Deutschneudorf EUGAL Brandov Brandov–OPAL Deutschneudorf	Gascade NET4GAS NET4GAS ONTRAS, GUD, Gascade, Fluxys Deutschland OPAL ONTRAS	01/11/2018
VIP Oberkappel	Oberkappel	OGE, GRTgaz D, Gas Connect Austria	01/03/2019
VIP Waidhaus – NCG	Waidhaus	GRTgaz D, NET4GAS, OGE	01/03/2019
VIP France – Germany	Medelsheim "Obergailbach"	OGE, GRTgaz D, GRTgaz	01/03/2019
VIP Germany – CH	Wallbach	Fluxys TENP, OGE, FluxSwiss	01/07/2019
VIP BENE	s'Gravenvoeren, Zelzate 2 Zelzate 1, Zandvliet H	GTS Fluxys Belgium	01/04/2020
VIP DK–THE	Ellund (GUD) , Ellund (OGE)	GUD, OGE, Energinet.dk	01/10/2021
VIP TTF–THE–L	Oude Statenzijl (GTG) Bunde-West (GTG) Oude Statenzijl-L (GUD) Elten (OGE) Tegelen (OGE) Vreden (OGE) Haarnrade (TG) Zevenaar (TG) merger between VIP TTF–NCG–L and VIP–TTF–GASPOOL–L	Thyssengas, GTG, GUD, OGE, GTS	01/10/2021
VIP TTF–THE–H	Oude Statenzijl H (GUD), Bunde (GASCADE), Bocholtz (Fluxys TENP), Bocholtz (OGE), Oude Statenzijl (OGE), Bocholtz Vetschau (TG) (former VIPs: VIP TTF, GASPOOL-H, VIP TTF, NCG H)	GUD, Fluxys TENP, GASCADE, Thyssengas, OGE, GTS	01/04/2022
VIP THE–ZTP	Eynatten-Raeren (OGE), Eynatten (Fluxys TENP), Lichtenbusch (TG), Eynatten (GASCADE) (former VIP: VIP Belgium–NCG)	OGE, Fluxys TENP, Thyssengas, GASCADE, Fluxys	01/04/2022
VIP Negru Vodă	Ruse-Giurgiu, Negru Voda 1/Kardam	Transgaz, Bulgartransgaz	01.02.2023 (estimated date for implementation)

Table 7: List of VIPs

COUNTRY CODES (ISO)

AT	Austria	**IT**	Italy
BE	Belgium	**LT**	Lithuania
BG	Bulgaria	**LU**	Luxembourg
CH	Switzerland	**LV**	Latvia
CY	Cyprus	**MT**	Malta
CZ	Czechia	**NL**	Netherlands, the
DE	Germany	**NO**	Norway
DK	Denmark	**PL**	Poland
EE	Estonia	**PT**	Portugal
ES	Spain	**RO**	Romania
FI	Finland	**RU**	Russia
FR	France	**SE**	Sweden
GR	Greece	**SI**	Slovenia
HR	Croatia	**SK**	Slovakia
HU	Hungary	**UK**	United Kingdom
IE	Ireland		

ABBREVIATIONS

CAM NC	Capacity Allocation Mechanisms Network Code, Commission Regulation (EU) 2017/459
ENTSOG	European Network of Transmission System Operators for Gas as in Article 4 of Regulation (EC) No 715/2009
EU	European Union
GY	Gas Year
INT NC	Interoperability and Data Exchanges Rules Network Code, Commission Regulation (EU) 2015/703
TSO	Transmission System Operator as in Article 2, (4) of Directive 2009/73/EC
VIP	Virtual Interconnection Point as in Article 3, point 23. of Commission Regulation (EU) 2017/459

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