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for gas

Capacity Allocation Mechanism Network Code Implementation and Effect Monitoring Report

2017

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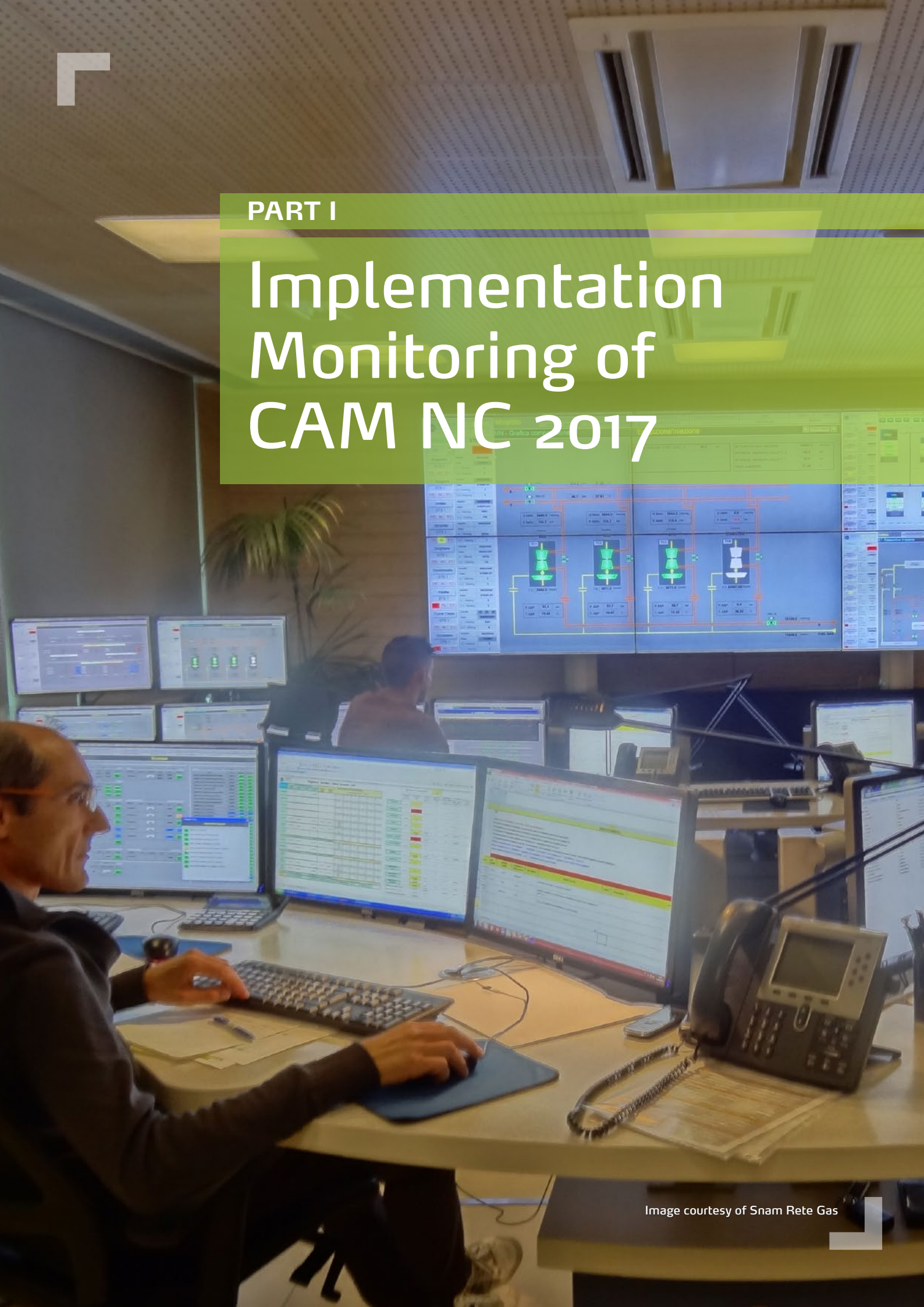
PART I

Implementation Monitoring of CAM NC 2017



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Introduction

The Network Code for Capacity Allocation Mechanisms (CAM NC) was developed by ENTSOG (European Network of Transmission System Operators for Gas) based on the Framework Guideline on Capacity Allocation Mechanisms by ACER (Agency for the Cooperation of Energy Regulators) during 2011 and 2012.

The Network Code was approved by the EU Gas Committee on 14 October 2013 as Commission Regulation (EU) No 984/2013 and amended by a Commission Regulation (EC) 459/2017.

The implementation date was 1 November 2015 with the exception of Article 6, which had to be implemented by 4 February 2015. Nonetheless, many TSOs were able to implement the majority of CAM NC Articles long before the deadline. The amendment to the Network Code set new tasks for the TSOs and ENTSOG to implement.

Pursuant to Article 8(8) of Regulation (EC) No 715/2009, ENTSOG monitors implementation of the Network Code. Both ACER and ENTSOG are required to publish monitoring reports – on implementation as well as on effects of the network codes.

ENTSOG launched this monitoring exercise in December 2017 to ensure the timely publication of its results in the 2017 Annual Report.

Almost the same questionnaire was used as in the previous year so that it could be possible to monitor which TSOs had implemented which specific Articles in the years between 2015, 2016 and 2017. The only differences were the inclusion of questions on new Articles in (EC) 2017/459, which have been added to the monitoring and therefore answered for the first time by the TSOs.

ENTSOG collected data for CAM NC implementation monitoring purposes independently and the report has been developed on data provided by the TSOs.

This process of collecting and evaluating data is also applied during the implementation of monitoring and monitoring of effects on the harmonisation of applicable rules aimed at facilitating market integration for the COMMISSION DECISION (2012/490/EU), known as “Guidelines for Congestion Management Procedures”. These findings are presented in two further reports published by ENTSOG and will be presented in the 2017 Annual Report along with the results of this CAM NC Implementation monitoring report.

The report on the implementation monitoring of the CAM NC reflects the statuses of the 43 European Transmission System Operators (TSOs).

The questionnaire used for the data collection requested information on how each TSO has applied the CAM NC requirements.

In this report ENTSOG was not collecting data on the CAM NC requirements at each side of an Interconnection Point (IP), because ENTSOG is of an opinion, based on the last years analysis, that the requirements are widely implemented and IP analysis would not provide added value to the report.

Thus, this report on implementation monitoring of the CAM NC provides a detailed view on the level of implementation for each Article of the CAM NC per TSO in the European Union. Annex I contains detailed information on a question-by-question basis.

Overview of Implementation Status Survey

This chapter provides an overview of the implementation status of each Article of the CAM NC at TSO level.

Questions were only asked that focussed on the mandatory provisions for TSOs stipulated in each Article. Thus, Articles containing no direct obligations or only optional requirements for TSOs were not taken into consideration in the questionnaire.

The presented data was collected from 46 TSOs (41 ENTSOG members, 2 associated partners and 3 TSO that are not ENTSOG members). This report reflects the responses from 43 of these TSOs. Three TSOs are under derogation, therefore they were excluded from the scope of this monitoring exercise.

Table 1 shows the implementation status of the mandatory CAM NC Articles by TSOs. It indicates the number of TSOs that share an implementation status of each given Article:

- Fully Implemented (FI): TSO has fully implemented the Article;
- Not Implemented (NI): TSO has not fully implemented the Article;
- Not Applicable (NA), meaning:

a) CAM NC is not applicable for particular IPs

b) Capacity was already fully booked before the CAM NC entered into force

Image courtesy of GRTgaz

SURVEY OF IMPLEMENTATION STATUS BY TSOs

		Fully Implemented (FI) Number of TSOs	Not Implemented (NI) Number of TSOs	Not Applicable (NA) Number of TSOs	Comments
Article 4	Coordination of maintenance	43	0	0	
Article 6(1)	Capacity calculation and maximisation	43	0	0	
Article 8(6)	Allocation methodology	40	0	3	2 TSOs applied implicit allocation 1 TSO capacity fully booked
Article 9	Standard capacity products	40	0	3	1 TSO offered one-off non-standard nine-month product from 1 Jan 2017; 1 TSO auctioned Q2 2017 in March 2017; 1 TSO offered interruptible capacity with reduced interruptibility
Article 10	Applied capacity unit	43	0	0	
Article 11(3)	Annual yearly capacity auctions	43	0	0	
Article 12(1)	Quarterly products offered in four auctions	41	0	2	2 TSOs applied implicit allocation
Article 19(1)	Bundled Capacity products	37	0	6	3 TSOs applied implicit allocation 3 TSOs IPS to third country
Article 19(5)	Bundled Capacity products	40	0	3	3 TSOs applied implicit allocation
Article 19(7)	Bundled Capacity products	37	3	3	3 TSOs applied implicit allocation 3 TSOs expected to establish in 2018
Article 21(3)	Conversion service	39	1	3	1 TSO has waited for NRA approval 3 TSOs applied implicit allocation
Article 26(3)	DAR publication	42		1	1 TSO no congestion
Article 27(3)	Joint public consultation on INC project	17	0	26	26 TSOs NA ICP not initiated
Article 32(1)	Int. cap. after firm cap. sold out	36	3	4	4 TSOs NA offered only daily int. cap.
Article 32(2)	Daily int. cap offered	36	2	5	4 TSOs NA unidirectional point 1 NA capacity fully booked
Article 32(2)	Daily int. cap offered at unidirectional IP	29	4	10	10 TSOs NA no unidirectional point
Article 32(3)	Allocation of interruptible services	43	0	0	
Article 32(5)	Allocation of interruptible services	40	0	3	3 TSOs applied implicit allocation
Article 32(6) & 32(7)	Allocation of interruptible services	38	5	0	
Article 32(8)	Allocation of interruptible services	39	2	2	
Article 33(2)	Minimum interruption lead times	43	0	0	
Article 34	Coordination of interruption process	43	0	0	
Article 35(1)	Defined sequence of interruptions	43	0	0	
Article 35(2)	Defined sequence of interruptions	43	0	0	
Article 35(3)	Defined sequence of interruptions	40	0	3	3 TSOs applied implicit allocation
Article 36	Reasons for interruptions	42	0	1	

Table 1: Survey of Implementation Status by TSOs

Summary and Conclusions

The implementation of the CAM NC is an important step in the harmonisation and development of an integrated energy market within the European Union.

Network users can join and operate within the integrated market more easily than in a multitude of separate national markets with different rules and regulations for network access and capacity trading. In the European Union, standard procedures for capacity booking are provided within the integrated market, like unified capacity auction dates for capacity products offered on no more than one common booking platform (BP, or via implicit allocation) at any single interconnection point instead of individual TSO websites for the booking procedures. Moreover, capacity products are harmonised and operational steps are facilitated by booking the entry and exit capacity at an IP in one single step by bundling the respective products. The CAM NC (EC) 2017/459 gave even further flexibility to network user to book capacity during the year and these Articles have been also implemented by the TSOs. The newly defined Incremental process is being followed. The clear majority of TSOs have implemented all the mandatory requirements from the CAM NC, thus providing strong support for the integrated EU gas market. To fully achieve the desired results, certain measures that have not yet been implemented by some TSOs need to be completed as soon as possible. The implementation monitoring report shows further developments regarding the implementation of provisions in comparison with the monitoring report for the year 2016.

The survey conducted by ENTSOG regarding the TSOs' implementation of the CAM NC shows that of the 43 TSOs required to apply the CAM NC, 37 have already developed and applied all or at least all mandatory CAM NC measures. This means that they fully comply with the obligations defined in the CAM NC.

Only Six TSOs (previous year: 9 TSOs) claimed to have partially implemented the CAM NC requirements.

Three TSOs (Baltic states) applied the implicit capacity allocation method. Where the implicit capacity allocation method is applied, national regulatory authorities may decide not to apply Articles 8 to 37 of the CAM NC, according to Article 2(5).

Some TSOs have applied interim measures from the Commission Regulation (EU) No 312/2014, also known as Network Code on Gas Balancing of Transmission Networks. In these cases, certain provisions laid out in the CAM NC are not applicable, e.g. the introduction of an over-nomination procedure or the offer of within-day interruptible capacity.

However, such restrictions in applying the CAM NC provisions, especially in the last case, do not necessarily mean a delayed implementation. Despite the non-application of certain rules, TSOs may still have implemented the required measures.

Annex I

Image courtesy of DESFA

1 Survey Participants

The following European TSOs participated in the survey:

AUSTRIA	Gas Connect Austria GmbH
	Trans Austria Gasleitung GmbH
BELGIUM	Fluxys Belgium S.A.
BULGARIA	Bulgartransgaz EAD
CROATIA	Plinacro d.o.o.
CZECH REPUBLIC	NET4GAS s.r.o.
DENMARK	Energinet.dk
ESTONIA	Elering AS
FINLAND	Gasum Oy (derogation)
FRANCE	GRTgaz SA
	TIGF SA
GERMANY	bayernets GmbH
	Fluxys TENP GmbH
	GASCADE Gastransport GmbH
	Gasunie Deutschland Transport Services GmbH
	GRTgaz Deutschland GmbH
	Gastransport Nord GmbH
	JordgasTransport GmbH
	NEL Gastransport GmbH
	Nowega GmbH
	ONTRAS Gastransport GmbH
	Open Grid Europe GmbH
	terranets bw GmbH
	Thyssengas GmbH
	OPAL Gastransport GmbH (no ENTSOG member) (exemption)
	Lubmin-Brandov Gastransport GmbH (no ENTSOG member) (exemption)
GREECE	DESFA S.A.
HUNGARY	FGSZ Zrt.
IRELAND	Gas Networks Ireland Ltd.
ITALY	Snam Rete Gas S.p.A.
LATVIA	JSC Conexus Baltic
LITHUANIA	AB Amber Grid
LUXEMBOURG	Creos Luxembourg S.A. (derogation)
NETHERLANDS	BBL Company V.O.F.
	Gasunie Transport Services B.V.
POLAND	GAZ-SYSTEM S.A.
PORTUGAL	REN – Gasodutos S.A.
ROMANIA	Transgaz S.A.
SLOVAKIA	eustream a.s.
SLOVENIA	Plinovodi d.o.o.
SPAIN	Enagas S.A.
SWEDEN	Swedegas AB (derogation)
UNITED KINGDOM	Interconnector Ltd.
	National Grid Gas plc
	Premier Transmission Ltd.
	GNI (UK) Ltd.

Table 2: Survey Participants

2 Analysis of CAM NC Implementation

2.1 TSO SURVEY QUESTION-BY-QUESTION ANALYSIS

The presented data has been collected from 46 TSOs (41 ENTSOG members, two associated partners and three TSOs that are not ENTSOG members). The following analysis reflects the responses from 43 of these TSOs. Three TSOs are not included because they had been granted derogation.

In the following evaluation only, those Articles containing mandatory requirements are taken into consideration regarding the implementation status of the CAM NC, including the new CAM NC (EC) 459/2017 in force from 6 April 2017. The remaining Articles are either not directly applicable for TSOs and/or can be implemented on a voluntary basis by TSOs.

2.1.1 Coordination of Maintenance

Article 4

All TSOs have established communication channels with adjacent TSOs for exchanging maintenance plans affecting both available and booked firm capacities. Some TSOs have hold annual meetings with their adjacent TSOs to agree on how to cooperate during maintenance and how to minimise the impact on affected network users. A number of TSOs even have organised meetings more often according to their needs. In addition to planned meetings, TSOs also have communicated with each other whenever it is deemed necessary. TSOs have exchanged information on the estimated duration and extent of planned works/maintenance in order to minimise the impact on network users.

2.1.2 Capacity Calculation and Maximisation

Article 6(1)

According to the survey, 43 TSOs have applied Article 6(1). While taking a closer look on the data we see that, jointly with their adjacent TSOs, 16 TSOs have analysed their technical capacities and discrepancies at all relevant IPs on a regular basis. This is done at least once a year prior to publishing the capacity products for the yearly auctions for the next gas year and, if possible, also during the following gas years. This analysis takes into account assumptions made in the EU-wide Ten-Year Network Development Plan (TYNDP) pursuant to Article 8 of Commission Regulation (EC) No 715/2009, national investment plans, relevant obligations under the applicable national laws and any relevant contractual obligations.

All of the necessary data for the relevant IPs has been exchanged as the basis for this analysis. This analysis also includes an evaluation of the need and potential for capacity maximisation prior to upcoming yearly auctions.

After having jointly analysed the general circumstances and restriction at relevant IPs, TSOs assess the actual results of all auctions for capacity products with durations of one month or longer.

In the case of five TSOs, the situation has been unclear regarding the status of the joint assessment, as they have not answered the question.

It can be positively mentioned that 18 TSOs have received future plans on bookings from network users and have taken this information into account when re-calculating their technical capacity. One TSO has mentioned that it also uses the information to model their national development plan as well as for the TYNDP.

Network users have not reported projected nominations or future IPs capacity bookings to 22 TSOs in 2017.

2.1.3 Allocation Methodology

Article 8(6)

It can be positively highlighted that 40 TSOs have implemented Article 8(7) of CAM NC for allocating capacity. 39 of them have set aside at least 20 % of capacity, while two TSOs with less than 20 % available capacity have set aside all of their available capacity to be offered in short-term auctions according to Article 8(7).

For three TSOs Article 8(7) have not been applicable. Two TSOs have applied the implicit capacity allocation method and for one TSO, the Article's rules have currently not been relevant as all technical capacity is fully booked on a long-term basis. The third TSO which also has applied the implicit capacity allocation method has implemented Article 8(6). That's why it has been stated as fully implemented in this report.

2.1.4 Standard Capacity Products

Article 9

All TSOs required to apply the CAM NC offer standard capacity products, which according to Article 9, include the following:

- Yearly
- Quarterly
- Monthly
- Daily
- Within-day capacity products

As an exception, one TSO has offered a nine-month capacity product starting on 1 January 2017. Another TSO has offered interruptible capacity with reduced interruption and one TSO has auctioned the second quarterly capacity product in March 2017, therefore it is recorded as not applicable in this Report.

2.1.5 Applied Capacity Unit

Article 10

All TSOs have used energy units per unit of time when publishing their capacity data. 28 TSOs have used "kWh/h" (kilowatt-hour per hour), 13 TSOs have used "kWh/d" (kilowatt-hour per day) and two TSOs have used both units: "kWh/h" and "kWh/d".

2.1.6 Annual Yearly Capacity Auctions

Article 11(3)

All TSOs have been compliant with the rule described in Article 11(3). No TSO have offered standard yearly capacity products beyond the next 15 gas years.

Furthermore, 41 TSOs have calculated the capacity offered during the respective capacity auctions in accordance with the following formula for capacity offered in the annual yearly capacity auction:

A - B - C + D

Where:

- **A** is the TSO's technical capacity for each standard capacity product
- **B** is for annual yearly auctions offering capacity for the next five years, and represents the amount of technical capacity (A) set aside in accordance with Article 8(7)(b); for annual yearly auctions for capacity beyond the first five years, it is the amount of technical capacity (A) set aside in accordance with Article 8(7)
- **C** is the previously sold technical capacity, adjusted by the capacity re-offered in accordance with applicable congestion management procedures
- **D** is additional capacity, for such year, if any

In addition to the requirements for the yearly capacity products, almost all of the above-mentioned 41 TSOs have stated that they also applied the rules for calculating the other standard capacity products.

Thus, the capacity offered in the annual quarterly capacity auction is equal to:

A - C + D

Where:

- **A** is the TSO's technical capacity for each standard capacity product
- **C** is the previously sold technical capacity, adjusted by the capacity re-offered in accordance with applicable congestion management procedures
- **D** is additional capacity, for such quarter, if any

The capacity offered in the rolling monthly capacity auction is, each month, equal to:

A - C + D

Where:

- **A** is the TSO's technical capacity for each standard capacity product
- **C** is the previously sold technical capacity, adjusted by the capacity re-offered in accordance with applicable congestion management procedures
- **D** is additional capacity, for such month, if any

The capacity offered in the rolling day-ahead capacity auction is, each day, equal to:

A - C + D

Where:

- **A** is the TSO's technical capacity for each standard capacity product
- **C** is the previously sold technical capacity, adjusted by the capacity re-offered in accordance with applicable congestion management procedures
- **D** is additional capacity, for such day, if any

The capacity offered in the within-day capacity auction is, each hour, equal to:

A - C + D

Where:

- **A** is the TSO's technical capacity for each standard capacity product
- **C** is the previously sold technical capacity, adjusted by the capacity re-offered in accordance with applicable congestion management procedures
- **D** is additional capacity, if any

Two TSOs have currently not offered within-day capacity products. One of these TSOs has mentioned that they have been on public consultation with their NRA. The other TSO has not provided the alternatively applied formulas for their capacity product calculations and also have not specified when the alternative formulas will be applied.

Only three TSOs did not offer the standard capacity products in capacity auctions, as they have applied an implicit allocation mechanism. Two of these three TSOs have allocated capacities on the 'first committed, first served' basis. To calculate the capacity products, the TSOs have used an alternative formula:

A - C + D

Where:

- **A** is the TSO's technical capacity
- **C** is the previously sold technical capacity, adjusted by the capacity re-offered in accordance with applicable congestion management procedures
- **D** is additional capacity, if any

2.1.7 Quarterly capacity auctions

Article 12.1

According to the survey, 41 TSOs have applied Article 12(1). However, one TSO has mentioned that for the annual quarterly capacity auctions no capacity is available. For three TSOs Article 12(1) have not been applicable as implicit capacity allocation is applied. Nonetheless, one of these three TSOs has implemented Article 12(1). Therefore, it is stated as fully implemented in this Report.


Image courtesy of Swedegas

2.1.8 Bundled Capacity Products

Article 19(1)

37 TSOs have offered the maximum possible available capacity as bundled capacity at each of their IPs. Six TSOs have not bundled all of their available capacity beyond the exemption given in Article 19(5) of CAM NC.

Three of these six TSOs have mentioned that the adjacent TSO has no obligation to bundle capacity as the country is a non-EU-Member State or has been granted derogation.

For three TSOs Article 19(1) have not been applicable as implicit capacity allocation is applied.

Article 19(5)

40 TSOs have auctioned all of their unbundled capacity according to the auction calendar, which means that the capacity is offered in auctions on the following dates:

- Yearly capacity:
  - Firm – first Monday of March
  - Interruptible – first Monday of April
- 1st Quarterly capacity:
  - Firm – first Monday of August
  - Interruptible – first Monday of September
- 2nd Quarterly capacity:
  - Firm – first Monday of November
  - Interruptible – first Monday of December
- 3rd Quarterly capacity:
  - Firm – first Monday of February
  - Interruptible – first Monday of March
- 4th Quarterly capacity:
  - Firm – first Monday of May
  - Interruptible – first Monday of June
- Monthly capacity:
  - Firm – third Monday of month-1
  - Interruptible – fourth Monday of month-1
- Daily capacity:
  - Firm – default timing
  - Interruptible – one hour after firm daily capacity auction
- Within-day capacity:
  - Firm – one hour after the last day-ahead auction

Three TSOs have applied the implicit capacity allocation, therefore it is recorded as not applicable in this Report.

Article 19(7)

37 TSOs have reported that they provide network users with the possibility to nominate bundled capacity via a single nomination procedure. Six TSOs have not provided such a possibility yet.

For three of these six TSOs the implicit capacity allocation has been applied. Three other TSOs have expected to implement the requirements stemming from Article 19(7) during 2018.

Article 19(9)

Even though the implementation of Virtual Interconnection Points (VIPs) is not obligatory until 1 November 2018, ten TSOs have already implemented VIPs. These already created VIPs are:

- VIP PIRINEOS: IPs Irún-Biriatou and Larrau;
- VIP IBÉRICO: IPs Valença do Minho-Tuy and Badajoz-Campo Maior;
- VIP GCP GAZ-SYSTEM/ONTRAS: IPs Lasów, Lasów Rewers, Gubin and Kamminke.
- VIP Virtualys: IPs Alveringem, Blaregnies Troll and Blaregnies Segeo
- Zone OGE/GASCADE

However, the Zone OGE/GASCADE is only a VIP between the two TSOs and not between two adjacent entry-exit systems.

But 14 other TSOs have also already started the analysis and seven of them are in discussions with adjacent TSOs for creating VIPs. Seven TSOs have mentioned that establishing VIPs is not applicable due to their grid conditions (just one IP between countries or only IPs with non-EU-countries). Four TSOs have mentioned that after analysing the situation it considers that there is no need for a VIP creation. Three TSOs have applied the implicit allocation mechanism. For these TSOs Art. 19(9) is not applicable. Only one TSO has mentioned that the implementation of a VIP had not been discussed yet.

The remaining four TSOs did not provide any information on their plans to analyse the potential establishment of VIPs.

Article 21(3)

As of 1 January 2018, 36 TSOs have started to offer network users holding mismatched unbundled capacity at one side of the interconnection point a free-of-charge capacity conversion service.

Two of the 36 TSOs did not offer bundled products and for one TSO the problem did not occur as no mismatched unbundled capacity exists. Three TSO have already been offering a CAM compliant Capacity Conversion service before the implementation deadline.

For three TSOs Article 21(3) has not been applicable as implicit capacity allocation is applied.

One TSO was still waiting for the NRA's approval regarding the capacity conversion service.

2.1.9 Incremental capacity

Article 26(3)

It can be positively highlighted that 42 TSOs have published the market demand assessment report according to Article 26(3) of CAM NC. Only for one TSO Article 26(3) has not been applicable. This TSO has applied the implicit allocation mechanism.

Article 27(3)

According to the survey, 17 TSOs have started a joint public consultation as stated in Article 27(3). For 26 TSO a joint public consultation has not been applicable as the demand assessment report identifies no demand for incremental capacity projects.

2.1.10 Allocation of Interruptible Services

Article 32(2)

36 TSOs have offered a daily capacity product for interruptible capacity in both directions at interconnection points where the respective standard capacity product for firm capacity has been sold out day-ahead or has not been offered. Four TSOs had unidirectional interconnection points. Two TSOs did not offer interruptible products and for one TSO Article 32(2) has not been applicable as the capacity is fully booked.

29 TSOs have offered at unidirectional interconnection points where firm capacity is offered only in one direction at least a daily product for interruptible capacity in the other direction. Other ten TSOs have reported that all their IPs are bidirectional.

Article 32(3)

None of the TSOs, for which the CAM NC requirements are mandatory, has limited the offer of firm capacity at any IP side in order to offer interruptible capacity.

Article 32(5)

The TSOs apply the same mechanism for allocating interruptible capacity products. 40 TSOs have applied an allocation mechanism in line with the provisions laid out in Article 32(9) and 32(10) of the CAM NC. Thus, the interruptible capacity has been offered in auctions that are held on the booking platforms.

The three TSOs that are recorded as not applicable in this Report have applied the implicit capacity allocation.

Article 32(6) & 32(7)

38 TSOs have allocated within-day interruptible capacity via an over-nomination procedure and only once firm capacity is sold out.

Just five TSOs did not follow this procedure.

According to the survey two TSOs did not offer any within-day capacity.

One TSO has allocated the within-day interruptible capacities via auctions at the booking platform. The nomination IT system of this TSO did not allow any over-nominations. Any required modifications of the platform would imply additional costs to the network users.

Another reason for not offering within-day interruptible capacity is that interim measures of the Balancing Network Code apply in some countries. Therefore, two affected TSOs have been still involved in the decision-making process regarding the implementation of nomination rules.

One TSO did not allocate within-day interruptible capacity via an over-nomination procedure as the congestion management measure “Oversubscription and Buy-Back” on a day-ahead basis has been implemented in case of congestion. The available oversubscription capacity that was not sold on day-ahead basis will automatically be made available as firm within-day capacity.

Article 32(8)

39 TSOs have already published the amount of interruptible capacity products (with a duration longer than within-day) on offer before the respective auction starts.

Only four TSOs did not follow this procedure. One TSO did not offer any interruptible capacity products. Another TSO has only offered interruptible capacity for within-day products due to arrangements on the VIP. For three TSOs Article 32(8) has not been applicable as implicit capacity allocation has been applied. Nonetheless, one of these three TSOs has implemented Article 32(8). Therefore, it is stated as fully implemented in this Report.

2.1.11 Minimum Interruption Lead Times

Article 33(1)

32 TSOs have jointly decided with their adjacent TSOs on a minimum interruption lead time.

9 other TSOs have decided to set individual lead times. In this case, there is a decrease of five TSOs in comparison to the previous year regarding the application of an individual approach.

For three TSOs Article 33(1) has not been applicable as implicit capacity allocation is applied. Nonetheless, one of these three TSOs has implemented Article 33(1). Therefore, it is stated as fully implemented in this Report.

Article 33(2)

The lengths of the minimum interruption lead times for network users has varied between TSOs. Currently the following lead times have been applied:

- 1 TSO: 1 hour
- 29 TSOs: 1 hour and 15 minutes (operate on minimum interruption lead time for a given gas hour)
- 1 TSO: 1 hour and 45 minutes (if possible 3 hours before start of the gas hour).
- 4 TSOs: 2 hours
- 2 TSOs: 3 hours
- 1 TSO: 1 day

None of the TSOs have shortened the minimum interruption lead time jointly with adjacent TSOs in the year 2017, since previous agreements stipulating the lead times were already in place.

For three TSOs this Article has not been applicable as the implicit allocation has been applied.

Two further TSOs did not provide an answer to this question in the survey.

2.1.12 Coordination of Interruption Process

Article 34

In case of interruptions, a high number of TSOs (40 TSOs) have notified their adjacent TSO(s) of the respective action. Only three TSOs did not notify their adjacent TSO(s) directly; however, two of them have used matching messages, which already contain the reduced quantities for informing the neighbouring TSOs. One TSO has published the interruption information on its website.

36 TSOs have reported that they were notified by adjacent TSOs as soon as possible when the neighbouring TSOs initiated an interruption.

Seven TSOs have reported that the information on curtailing nominations was not provided by the adjacent TSOs. However, three of those seven TSOs did not need this additional message since the applied matching process accounts for any nomination curtailments and all relevant information about the scheduled quantities is provided.

Four TSOs have considered this information exchange to be 'Not Applicable' since this situation had not occurred yet. However, the commercial agreements in place with adjacent TSOs include a notification obligation.

41 TSOs have notified their respective network users as soon as possible, if they have been informed by an adjacent TSO initiating an interruption.

One TSO has not considered this information exchange with network users as being necessary since, according to its view, network users are responsible for exchanging all relevant information with network users from adjacent TSOs and thus every network user in their network shall be informed about any nomination curtailments.

One TSO has considered this provision as not yet applicable yet since it has been still in process of implementing the CAM NC requirements.


Image courtesy of Fluxys

2.1.13 Defined Sequence of Interruptions

Article 35(1)

All TSOs have applied the timestamp approach for determining the interruption sequence as defined in Article 35(1).

Article 35(2)

All TSOs have already applied a pro-rata reduction in specific interruption cases as stipulated in Article 35(2).

Article 35(3)

To accommodate the differences between the various interruptible capacity services across the Member States, 40 TSOs have implemented and coordinated the joint procedures mentioned above on an IP-by-IP basis. The three TSOs that are recorded as Not Applicable in Article 35(3) have applied the implicit capacity allocation.

2.1.14 Reasons for Interruptions

Article 36

37 TSOs have included the reasons for interruptions in their general terms and conditions and/or in separate interruptible contracts.

Four TSOs did not include the reasons in the above-mentioned contracts. However, one TSO out of the four TSOs has included the reasons in the framework contract, one TSO has included the reasons in the Appendix of the contract and another TSO has included the curtailment reasons in a Memorandum approved by its NRA.

Another TSO has not included the reasons in any contract, as the capacity can be disrupted for any reason.

One TSO has reported that the reasons for interruptions are stated in its Access Agreement Summary document. One TSO also has reported that the Article is not applicable, since its capacities have been booked out in the long term.

3 Additional Information on Capacity Booking Platforms

The implementation of the NC CAM provisions involves the auctioning of bundled capacity products at all IPs within the European Union, except where implicit allocation applies (Baltic states). To be CAM NC-compliant, all auctions should follow the rules specified in the Network Code. Auctions are run on booking platforms, which enable network users to book capacity for IPs connecting market areas, based on the choice of the respective TSOs about which platform to use.

In the European Union, three different booking platforms (BPs) have been established: PRISMA, GAZ-SYSTEM Auction Platform (GSA) and the Regional Booking Platform (RBP).

As of January 2018, all relevant TSOs are connected to a booking platform.

There are only two IPs for which no agreement on a booking platform has been reached so far. They are at the German-Polish border.

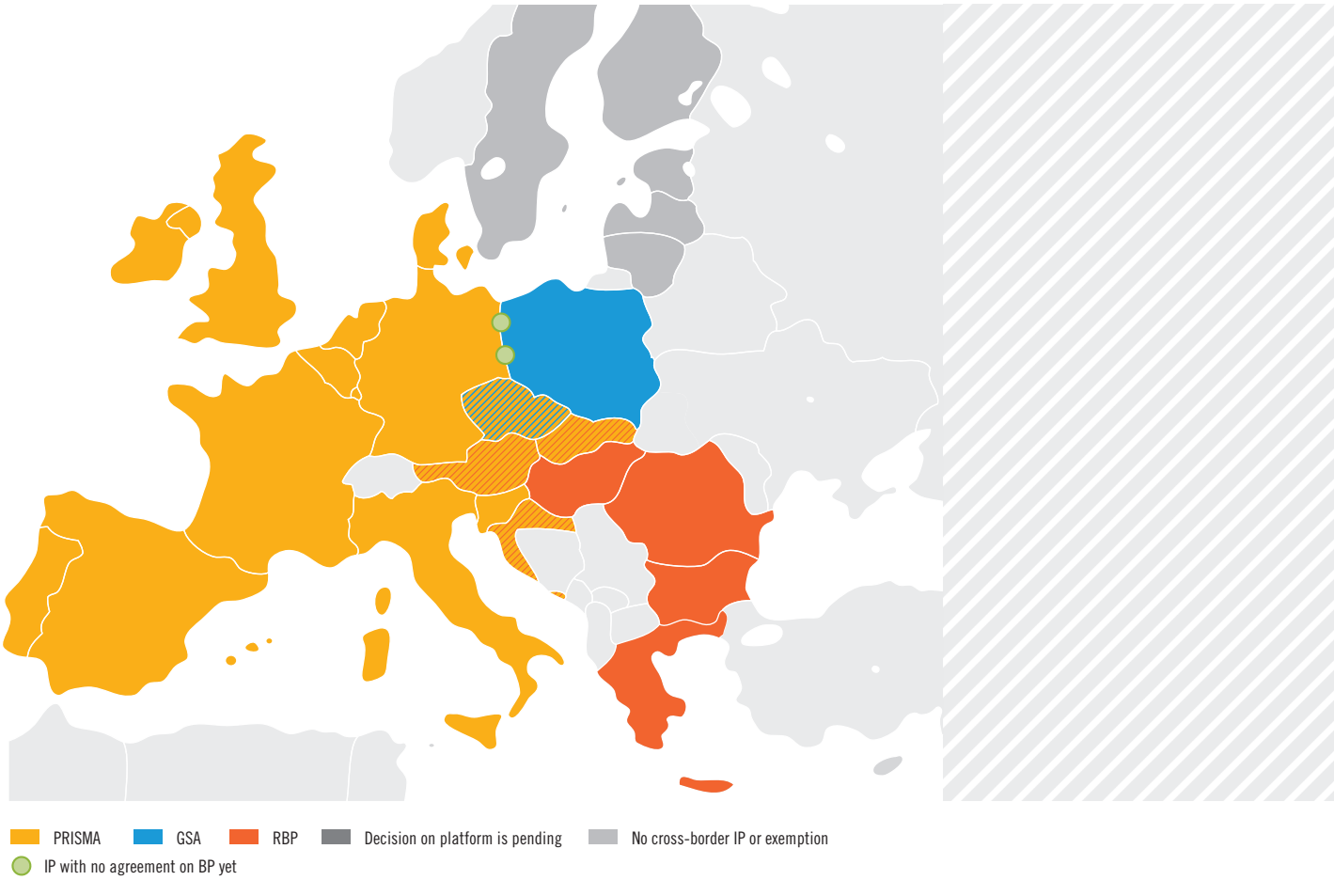
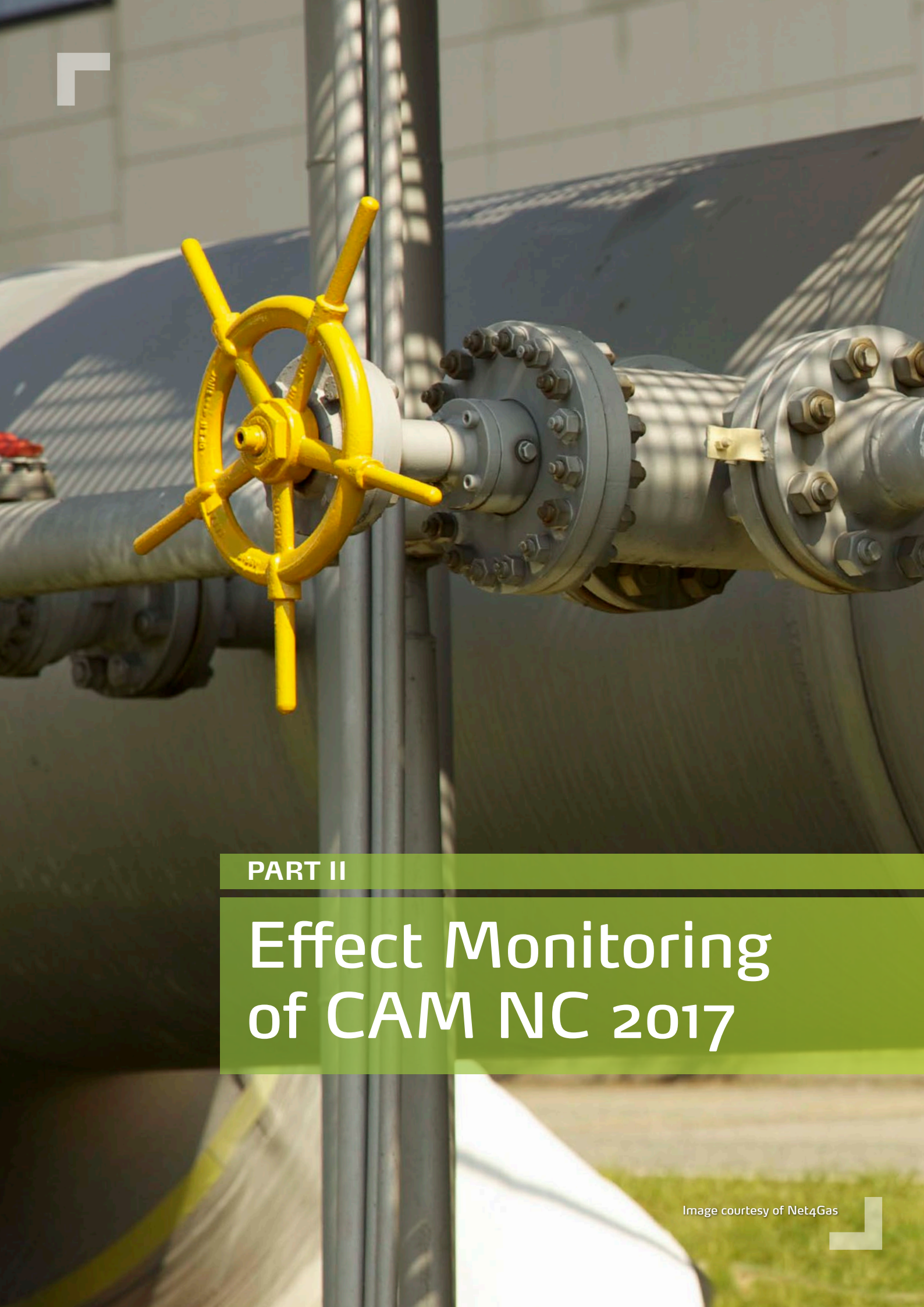


Figure 1: Current use of capacity booking platforms within EU



PART II

Effect Monitoring of CAM NC 2017

Image courtesy of Net4Gas

Introduction

The Network Code for Capacity Allocation Mechanisms (CAM NC) was developed by ENTSOG (European Network of Transmission System Operators for Gas) based on the Framework Guideline on Capacity Allocation Mechanisms by ACER (Agency for the Cooperation of Energy Regulators) during 2011 and 2012.

The Network Code was approved by the EU Gas Committee on 14 October 2013 as Commission Regulation (EU) No 984/2013 and amended as Commission Regulation (EC) 2017/459 valid from 6 April 2017.

Both ACER and ENTSOG are required to publish monitoring reports – on implementation as well as on effects of the network codes.

This is the second Effect Monitoring performed by ENTSOG covering the gas year 2016/2017. The first Effect Monitoring survey for the CAM NC was done for the gas year 2015/2016 (1 October 2015 at 06:00 to 1 October 2016 at 06:00). ENTSOG has aimed for producing reports which can be considered supplementary to ACER's reports. Regarding the effect monitoring, ENTSOG's focus has been to identify to which extent the main aims of the network codes have been achieved.

ENTSOG launched the annual effect monitoring process in December 2017 to ensure the timely publication of results in the 2017 Annual Report.

To measure the effects of the CAM NC on the European market, ENTSOG introduced three indicators that show the impact of the mechanisms. ENTSOG wishes to build historical data using these indicators to show market development in the future.

To monitor the effects of the CAM NC, the data was requested from all TSOs using any of the booking platform for capacity allocation during the gas year 2016/2017. If a TSO was using more than one booking platforms, data from all used booking platforms has been added to the report.

Effect Monitoring Indicators

CAM INDICATORS

The booking platforms (BPs) have been requested to provide data for TSOs using their tools for capacity auctions. The BPs generated the data sets and sent them to the TSOs for verification. After TSO confirmation or eventual amendment, BPs sent the data to ENTSOG.

ENTSOG has decided to further develop the following indicators.

CAM.1: Share of capacity sold as part of a bundled product in total sold capacity

Period monitored is the gas year from 1 October 2016 until 30 September 2017.

Each of the indicators shows the ratio of allocated firm capacity as part of a bundled product in total allocated firm capacity as an average volume of all the participating TSOs. One indicator is calculated per one standard capacity product (yearly, quarterly, monthly and daily firm capacity products).

Calculation formula:

$$CAM.1 = \frac{TCSB}{TCS} \times 100$$

Where:

CAM.1: returns a ratio of total firm bundled capacity sold in total firm capacity

TCSB: bundled firm capacity allocated

TCS: firm capacity allocated

Interpretation:

CAM.1 = 100: means all firm capacity allocated is bundled

CAM.1 < 100: This shows the share of firm bundled capacity among the total firm capacity allocated.

The outcome (number itself) is hard to interpret but the trend (more years in a row) might give a better picture of the development in the future.

CAM.2: Share of secondary market-traded bundled capacity to secondary market traded unbundled capacity

Period monitored is the gas year 1 October 2016–30 September 2017.

This indicator CAM.2 might be used to measure the desired effect of the CAM NC to enhance secondary trading of (bundled) capacity. For clarification, ENTSOG's understanding is that the total basis for the calculation of the % of bundled capacity sold is the total volume of unbundled and bundled (firm) capacity sold on the secondary market.

Calculation formula:

$$CAM.2 = \frac{TCSSMB}{TCSSM} \times 100$$

Where:

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

TCSSMB: bundled capacity traded at the secondary market

TCSSM: capacity traded at the secondary market

Interpretation:

CAM.2 = 100: all capacity exchanged on the secondary market is bundled.

CAM.2 < 100: This shows share of bundled capacity exchanged on the secondary market among all capacity exchanged on the secondary market.

Exchange of unbundled capacity will be a clear indication that network users are trying to bundle their LT contracts. The indicator should tend to 100 in the long run.

CAM.3: Increase of market participants in a system

ENTSOG uses an integer number of active participants and starts building historical data. Continuous increases in market participants do not always reflect the increase of competition on the market. There might be a situation where a stable but low number of participants is natural and the most efficient for the market. This should be carefully evaluated and explained in the report and in future reports. Therefore, this is an auxiliary indicator.

Survey Participants

The TSOs included in the report are those who confirmed the correctness of the data provided by the booking platforms.

The TSOs with implicit allocation mechanism and those under derogation were excluded from the scope of this monitoring.

AUSTRIA	Gas Connect Austria GmbH
	TAG GmbH
BELGIUM	Fluxys Belgium S.A.
BULGARIA	Bulgartransgaz EAD
CROATIA	Plinacro d.o.o.
CZECH REPUBLIC	NET4GAS s.r.o.
DENMARK	Energinet.dk
FRANCE	GRTgaz SA
	TIGF SA
GERMANY	bayernets GmbH
	Fluxys Deutschland GmbH
	Fluxys TENP GmbH
	GASCADE Gastransport GmbH
	Gasunie Deutschland Transport Services GmbH
	GRTgaz Deutschland GmbH
	Gastransport Nord GmbH
	JordgasTransport GmbH
	NEL Gastransport GmbH
	Nowega GmbH
	ONTRAS Gastransport GmbH
	Open Grid Europe GmbH
	terranets bw GmbH
	Thyssengas GmbH
	OPAL Gastransport GmbH (no ENTSOG member)(exemption)
GREECE	DESFA S.A.
HUNGARY	FGSZ Zrt.
IRELAND	Gas Networks Ireland Ltd.
ITALY	Snam Rete Gas S.p.A.
NETHERLANDS	BBL Company V.O.F.
	Gasunie Transport Services B.V.
POLAND	GAZ-SYSTEM S.A.
	GAZ-SYSTEM ISO
PORTUGAL	REN - Gasodutos S.A.
ROMANIA	Transgaz S.A.
SLOVAKIA	eustream a.s.
SPAIN	Enagas S.A.
UNITED KINGDOM	Interconnector Ltd.
	National Grid Gas plc
	Premier Transmission Ltd.
	GNI (UK) Ltd.

Table 1: List of TSOs participating in the survey

Results of Effect Monitoring Exercise

CAM.1: Share of bundled capacity to sold capacity

CAM.1	SHARE OF BUNDLED CAPACITY MWH/H/Y			
PRODUCT	Yearly	Quarterly	Monthly	Daily
		YEAR 2015/2016		
BUNDLED CAP.	25,369.2	1,054.1	6,408.7	9,056
FIRM TOTAL CAP.	80,892.4	12,937.9	22,999.9	28.425
RATIO	**31.36%**	**8.15%**	**27.86%**	**31.86%**
		YEAR 2016/2017		
BUNDLED CAP.	2,535,733	13,766	16,866	6,182
FIRM TOTAL CAP.	3,358,315	17,944	30,855	36,751
RATIO	**75,51%**	**76.72%**	**54.66%**	**20.24%**

Table 2: Share of bundled capacity to sold capacity

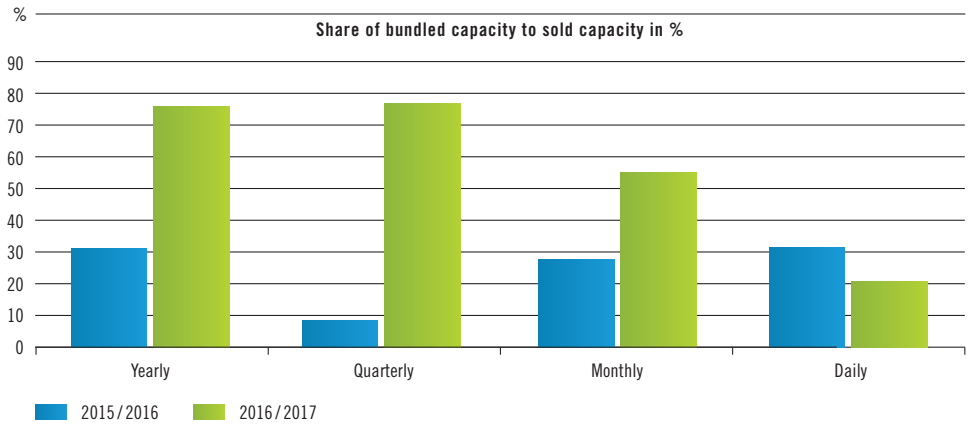


Figure 1: Share of bundled capacity to sold capacity in %

At a first glance we can see an increase of the bundled capacity share over the entire capacity sales, except the daily products. At the beginning it is important to state that, for this year's monitoring report we have excluded all IPs, which are CAM NC relevant (due to NRA decision) only on one side of the IP, it means that only IPs CAM relevant on both sides had been included in the exercise. Also, IPs connected to DSO networks on other side have been excluded. This is a big change in comparison to the previous year monitoring, where also this IPs (CAM relevant only on one side, connection to DSO) auction results had been included into the calculations.

One of the reasons for raise in the bundled capacity share was caused by the exceptional long-term bookings in the annual yearly auction March 2017 of capacity in Germany, Czech Republic, Slovakia.

As shown in the table and depicted in the graphs, about three-quarters of the total firm capacity booked at European IPs in the gas year 2016/2017 was booked as part of a bundled product. The ratio of bundled capacity to firm capacity booked for quarterly products was the highest at 76.72 % of overall sold quarterly capacity and the second highest was 75.51 % for yearly capacity. We can see big increase in case of the quarterly products. We assume, that four different times, as set by Regulation (EC) 2017/459 for the quarterly auctions increased the usage of this capacity product. Next significant increase of the bundled share is in case of monthly products, where half of the capacity has been sold as bundled. The share of bundled capacity in case of daily products has decreased from one third to twenty percent.

The lower bookings of daily capacity could be attributed to:

1. Difference between shares of booked technical capacity due to existing unbundled contracts between adjacent TSOs. There are still a significant number of existing unbundled contracts booked on a long-term basis, which are being matched at the moment by booking unbundled capacity at the other side. This situation will disappear when existing contracts expire.

2. Differences in technical capacity volumes on the IP sides. The differences in technical capacity make it possible for one TSO to offer more capacity than the other one. This extra capacity can only be offered and booked in an unbundled way. The only solution to reduce the offer of this capacity is aligning the technical capacity in the IP by either reducing the side with the largest amount on offer to the level of the other side of the IP, or by increasing the capacity via investment or optimisation on the side with the lower capacity. Of course, the mechanism of reducing or increasing the capacity shall be market-based. This means that this situation can last forever if there is no need for new investments and TSOs are obliged to maximise their offer of capacity. This difference in technical capacity is sometimes combined with old unbundled bookings, which leads to the problem of capacity mismatch.

3. This might be caused by a "substitution effect", where longer term bundled products become progressively available have been used partially offsetting the daily bundled capacity products.

4. Minor cause of the unbundled bookings might be different booking platforms on both sides of the IP. This was the case only at one border line. This was tackled in the amendment of the CAM NC (Article 37), therefore we assume it will not be present in the next monitoring.

5. Network users matching unbundled capacity in one side of the IP with interruptible capacity at the other side of the IP. Sometimes, the offer of capacity at one side of the IP is only interruptible (no firm capacity offer).

Due to these reasons, TSOs are obliged to offer capacity in an unbundled manner (obligation from the CAM NC to maximise the offer of capacity).

From those reasons, the most common one was "existing unbundled bookings on one side of the IP", which, as explained previously, would be solved when the concerned contracts end.

Therefore, year after year, we will see that the unbundled capacity offer and bookings are decreasing as far as the existing contracts will be ending as a long-term trend valid for all capacity products.

CAM.2: Share of secondary market-traded bundled capacity to secondary market traded unbundled capacity

CAM.2	SECONDARY MARKET MWH/H/Y	
GAS YEAR	2015/2016	2016/2017
BUNDLED CAP.	511.4	13,369
FIRM CAP.	135,329.1	2,130,633
RATIO	**0.38%**	**0.63%**

Table 3: Share of secondary market-traded bundled capacity to secondary market traded unbundled capacity

From the table above, it is obvious that the share of bundled capacity reallocated due to secondary market trades is marginal at only 0.63%. Even though, it is a very small step comparing to the previous year, it still is an improvement. This is caused by the historical dominance of unbundled capacity.

Before the CAM NC entered into force, all contracts were unbundled and the predominance of unbundled capacity is still very clear over bundled capacity. At the same time, the offer of capacity in the secondary market normally comes from old contracts, and the CAM NC only entered into force in 2015. Nonetheless we can see a rising share of the bundled capacity products being traded on the secondary markets.

In the past few years, there has also been a tendency of network users to book capacity on a short-term basis rather than on a long-term basis. Thus, long-term bookings are becoming less common than before the CAM NC came into effect and hence, before the existence of bundled capacity.

However, it is important to see that the bundled capacity traded is increasing on the secondary market. The expectation for the following years is that this ratio will increase exponentially since old unbundled contracts will end and potentially become replaced by bundled capacity.

CAM.3: Increase of market participants in a system

CAM.3	NUMBER OF MARKET PARTICIPANTS		
GAS YEAR	2014/2015	2015/2016	2016/2017
ACTIVE	494	714	894
ALL	1,892	2,233	2,546

Table 4: Increase of market participants in a system

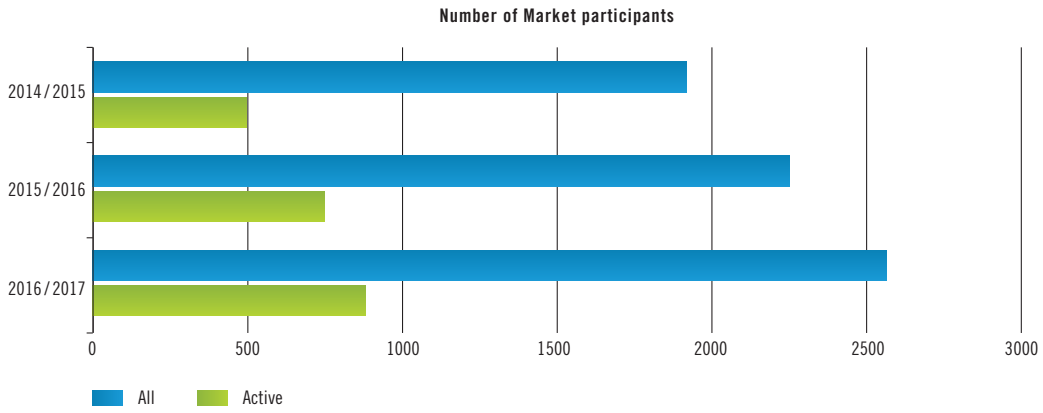


Figure 2: Number of market participants

The importance of this indicator is directly related to the facilitation that the CAM NC is trying to provide to network users to access different European markets (due to the harmonisation of capacity allocation rules).

The indicator CAM.3 shows an important increase of both, "all participants" and "active participants" in the European market.

- Number of all participants: this indicator has continuously increased from the gas year 2014/2015 to the gas year 2016/2017. There are 313 new network users registered at European systems in comparison to the previous year. This means an increase of 14 % in one year.

  Nevertheless, even if it is interesting to check this value, this indicator only shows new participants that can act in the market, but in a significant number of occasions, new participants will not participate in the market, and only register themselves for potential future opportunities.

- Number of active participants: the increase of this indicator is even clearer, since the number of active participants in European markets has increased by 25 % compared to the previous year. In other words, there were 180 new network users active on the European market.

- Since one of the goals of the CAM NC is to facilitate the access for new network users so that they can actually become active on the European gas market, this indicator is more appropriate than the number of all participants.

Conclusions

The following conclusions can be drawn from the completed analysis:

- Bookings of bundled capacity have increased and are going to increase in upcoming years, especially once the existing unbundled contracts expire but also as TSOs complete agreements on which platform to use for offering capacity.
- Influenced by long term bookings, the booking behaviour of the network users leads to a decrease of the daily bundled capacity product in 2017.
- Increased share in favour of yearly capacity products has been influenced by exceptional yearly capacity booking in March 2017.
- Even if the ratio of the utilised secondary market to traded bundled capacity is marginal, it is important to see that there was increasing volume of bundled capacity traded on the secondary market. The expectations for the upcoming years are that there will be a clear increase in this ratio, as older unbundled contracts expire.
- The increase of market participants (both active and non-active) shows that the harmonisation of capacity allocation rules is providing more clarity and facilitating access for network users to different European markets.

Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
BP	Booking Platform
CAM NC	Network Code for Capacity Allocation Mechanisms
ENTSOG	European Network of Transmission System Operators for Gas
EU	European Union
GSA	Gas-System Auction platform
IP	Interconnection Point
LT	Long-Term
NRA	National Regulatory Authority
RBP	Regional Booking Platform
TSO	Transmission System Operator

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