ENTSOG Web Survey on Capacity Products
and Allocation Methods
Analysis Report
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ENTSOG Web Survey on Capacity Products and Allocation Methods

Analysis Report

Executive Summary

This report analyses the responses that were submitted to ENTSOG during the Web Survey on Capacity Products and Methods conducted in December 2009. In the frame of the preparatory works on Pilot Network Code development process on CAM, ENTSOG indeed proposed stakeholders to submit their view on those two cornerstone aspect of capacity allocation. With this web-based consultation, ENTSOG received 27 answers mainly covering the North-West region of Europe as well as the various sectors of the gas industry in this region; these are further analysed in this report in an aggregated way.

On the aspects relating to Capacity Products, a wide majority of respondents supports the introduction of a limited set of Standardized Capacity Products: a package composed of Daily, Monthly, Quarterly and GasYear would satisfyingly be introduced if completed with the ability to book (or bid) for several consecutive products at the same time. Regarding Quotas, they could be applied e.g. in the range between 10% and 30%, on Longer Term services in order to sustain Shorter Term capacity. This should however be agreed at cross-border level and would further depend on the exact definition of Short and Long Term, regarding product duration and lead time.

ENTSOG further concludes that a wide majority of respondents supports the introduction of a coherent and structured capacity allocation strategy. Although some Users favour a differentiated approach depending on the congestion level of an IP, ENTSOG believes this is not necessary if the allocation method is properly designed. Regarding the use of a differentiated approach depending on the product/duration to be allocated, as there is no clear view from the survey in either direction, ENTSOG believes this should be further discussed with market parties during NC development. However the introduction of a systematic allocation methodology to be applied under all circumstances would advantageously reduce the complexity of managing several mechanisms in highly interconnected systems.

These views, together with bilateral talks that are currently taking place in the light of a continuous dialogue between ENTSOG and Stakeholders organisations will be the basis of the recommendations that will be proposed by ENTSOG in its foreseen launch document, as a first step in the formal process of developing NC. ENTSOG expects to be formally invited by EC to provide a pilot NC on CAM by the summer of 2011.

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1   Introduction

Under GTE the so called "Capacity Product Coordination" project was launched in 2007 with the aim to improve compatibility of cross-border shipping services as well as their related characteristics and procedures. In 2008 GTE+ – the organisation established as a transition to ENTSOG – published a Consultation document on Capacity Coordination measures. A Workshop was held which provided all market participants the opportunity to contribute to the development of suggested solutions. The measures presented were developed to enhance customer friendliness and deliver market benefits by simplifying the access to the EU gas network.

During 2009, GTE+ has been actively engaged in the debate regarding Capacity Allocation Methods (CAM) & Congestion Management Principles (CMP). In addition to the discussions with key Users and bilateral discussions with ERGEG, detailed written elaborations were developed; providing detailed comments on various suggested measures contained within the ERGEG Principles document. In the Madrid Forum XVI on 28th and 29th May 2009, GTE+ had agreed to be prepared to start work on the development of a Pilot Network Code on Capacity as soon as ERGEG has delivered a Pilot Framework Guideline for European Capacity arrangements. In September 2009 the European Commission invited ERGEG to deliver the Framework Guideline on CAM within six months.

As it was decided by ERGEG and the European Commission to separate CAM from CMP GTE+ focussed on the preparation of developing a Network Code for CAM during 2010 and developed an Online Survey to gain fundamental knowledge of what Standard Capacity Products should be commonly applied and how capacity should be allocated. This Online Survey was published on 26th October 2009 inviting all interested market parties to provide their views. The answers provided to this Online Survey are supposed to assist ENTSOG to better understand market needs; with the aim to develop a consistent system across Europe and may lead to an improvement at congested situations at Interconnection Points (IPs) between market areas.

This report analyses the responses received and outlines conclusions to consider further steps to develop a European Pilot Network Code for Capacity Allocation.

2 Online Survey

In the subsequent chapter all responses received from System Users are detailed and analysed. Observations on each of the questions are made in order to help developing recommendations to determine adequate Standard Capacity Products and Allocation Methods to be used within the Pilot Network Code.

As illustrated below, 27 answers were received mainly covering the North-West region of Europe (Tabel 2 and Figure 2) and representing various sectors of the gas industry in this region (Table 1 and Figure 1). Several network operators also replied to the web survey but have been excluded from the remainder of this analysis in order to focus on the opinion expressed by System Users only. Besides for one end consumer organisation, no other consolidated industry representative views were received from traders' or producers' organisations for instance. NRAs also didn't participate to the web survey.

Main Business Area	Total
End Consumer	3
Producer	2
Shipper	13
Supplier	4
Trader	5
Total	**27**

Table 1 - Respondents listed per Main Business Area
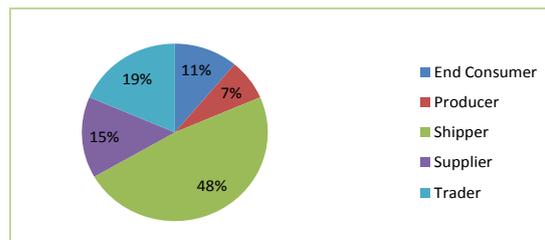
Figure 1 - Distribution of respondents per Main Business Area

Registered Country	Total
Austria	1
France	3
Germany	5
Ireland	8
Italy	2
Northern Ireland	1
Norway	1
Spain	1
Switzerland	1
United Kingdom	4
Total	**27**

Table 2 - Respondents listed per Registered Country
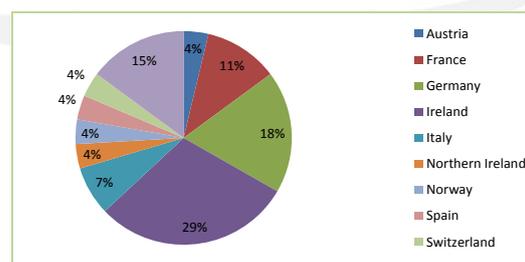
Figure 2 – Distribution of respondents per Registered Country

As 18 of the 27 respondents requested to publish the answers in aggregated form only, this report will therefore analyse data in aggregated form without direct reference to any particular respondent.

2.1 Standardisation of Capacity Products

In this chapter the reactions on what Standard Capacity Products should be applied in Europe are analysed.

2.1.1 Products

Question to Users: "Which of the Standard Capacity Products listed below do you think are most suitable in order to cover the markets needs and what is your priority ranking regarding these products?"

The table below illustrates the number of responses received per product (rows) and priority (columns) that each of them had for the respondents. The blue cells indicate for each product, which priority received the highest ranking. By calculating an average rating[1] the four most preferred products were identified: Daily, Monthly, Quarterly and Gas Year. Both indicators clearly highlight the preference expressed for those four products above the other options presented.

Priority	1	2	3	4	5	6	7	8	9	10	Not Relevant	Average Rating	Rank
Daily	7	6	7	4	0	0	0	0	0	1	2	2,64	2
Weekly	0	1	1	1	5	2	3	1	0	0	13	5,36	5
WDNW+WE	0	2	1	0	3	2	0	1	1	1	16	5,55	6
Monthly	3	10	11	0	0	0	0	0	0	0	3	2,33	1
Quarterly	3	0	1	4	1	4	4	0	1	0	9	4,89	4
Half-Year	2	1	1	1	3	1	2	0	2	3	11	5,88	8
Gas Year (Oct.)	10	2	0	3	1	1	0	1	2	0	7	3,15	3
Calendar Year	0	1	1	2	1	3	0	5	0	0	14	5,85	7

Table 3- Priority distribution per Standard Product

In the comment and "other" fields provided, Users expressed in a wide majority that most for the proposed durations should be made available to them in order to support their various business models. However, such concern can be addressed not only by offering additional Standard Products: combining consecutive products of similar duration (for instance 7 consecutive days to shape the equivalent to a weekly product) could be as helpful, keeping complexity of capacity calculation and allocation to a manageable level. Users have also expressed that they require Long Term transportation contracts through multi-annual services: allowing them to book (or bid, depending on the allocation methodology) for several consecutive GasYear would answer such concern. Finally it must be noted that users often indicated that although priorities were required to be field, it is difficult to identify whether a product is more important than another one, when they are used to build a coherent and comprehensive set supporting their shipping activities or business opportunities.

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[1] This is obtained by computing the sum of responses weighted by the priorities and dividing that sum by the total number of responses (27) reduced with the number of responses considering the product not relevant.

2.1.2 Quotas (capacity reservation)

Users were invited to express their views regarding the principle of applying quotas reservation on standard products. When quotas are applied, the TSOs reserve a certain percentage of the available Longer Term capacity during the allocation and release the remaining capacity later for capacity of a Shorter Term. This principle is already applied in several networks in order to ensure that Short Term capacity is always available, at least in limited (and preserved through quotas) quantities.

Quotas application	Total
Unsure	1
No, quotas should not be applied	3
Yes, quotas should be applied	23
Total	**27**

Table 4 - Application of quotas reservation principle
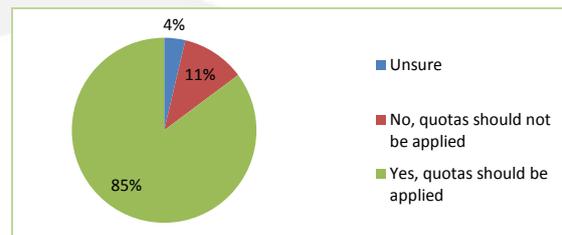
Figure 3 - Distribution of answer relating to quotas reservation principle

The answers provided (see Table 4 and Figure 3 above) clearly illustrate that the quota principle is widely supported by the Users. From the comments we can derive that quotas are mostly supported for Short Term services (ie transportation starting with a short lead time, but for duration/products ranging from one day to one year), in order to support portfolio adjustment or coping with ineffective congestion management procedures. In that respect users envisage that a maximum of 65 to 90% of the available capacity should be marketed on a Long Term basis, and the remaining part (plus any unsold capacity) should be solely marketed on a short term basis. The Users who rejected quotas mostly considered that introducing such a measure might lead to market distortion. Although supporting them, several users identified that quotas should only be applied until a fully functioning market has been established.

2.1.3 Conclusion for Standardisation of Capacity Products

The wide majority of respondents supports the introduction of Standardized Capacity Products. In order to manage the complexity of offering a given period through several possible products/durations, a limited set of products should be defined upon which all possible shipping activities can be built. A package composed of Daily, Monthly, Quarterly and GasYear could be introduced. When allocating available capacity at a given time, bookings (or bids) will be accepted for several consecutive products (of similar duration), in order allow efficient portfolio management. In that regard, a multi-yearly capacity service (e.g. a 5 year capacity service) could be arranged by allocating the capacity for a period of 5 years in one step on the basis of five individual combined Standard Gas Years. The same would apply for monthly capacity; in a possible combination of 1 month up to a year (12 underlying Standard months) or for daily in a combination possibly up to one month. Finally, quotas, e.g. in the range between 10% and 30%, could be applied on Longer Term services in order to sustain Shorter Term capacity, as a combination of Long Term and Short Term capacity offerings in the primary market would enhance competition. This should be agreed at cross-border level, taking the risk of stranded assets in case of remaining unsold capacity into account in

the tariff design. The level of quotas to be applied will further depend on the exact definition of Long and Short Term capacity as well as lead times (periods between allocation and start of transportation) that might be detailed in the Network Code in cooperation with market participants.

2.2 Capacity Allocation Methods

In this chapter the Users' views on Capacity Allocation Methods are analysed.

2.2.1 Single allocation method or composition of allocation methods

Question to Users: "With regards to a future European Network Code, should only one commonly applied Capacity Allocation Method be defined for Long, Medium and Short Term services, or should a composition be applied?"

As illustrated in Table 5 and Figure 4 there is no wide majority for a single allocation methodology or a possible combination of different allocation methods (depending on the service duration - product and lead time).

Single/Composition	Total
Composition	13
Open Subscription Period/Pro-rata	4
Auction	8
FCFS	2
Total	**27**

Table 5 - Number of answers per type of method
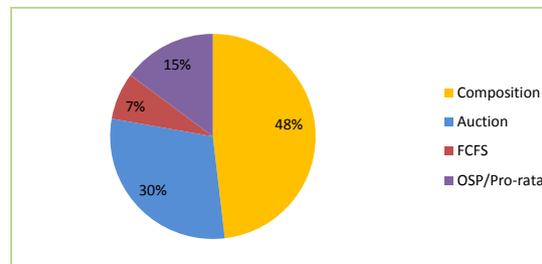
Figure 4 - Distribution of responses per type of methods

Where preference was expressed towards a single allocation method to be applied indistinctly from the product/duration, Auctions seem to be favoured.

However, as the majority of Users indicated an interest in a composition of allocation methods; the next section details which possible alternative(s) is preferred.

2.2.2 Preferred composition

Question to Users: "Where a composition is desired, which composition do you think would achieve the best allocation results?"

As illustrated in the previous section, 13 respondents favour a composition of several allocation methods, depending on the term of the product to be allocated. Although some respondents did mention that the terminology Long, Medium and Short Term is not yet clearly defined, all provided an answer per term. The answers are illustrated in the tables and figures below. For Short Term Services – mostly specified by Users as a period from 1 day to one year – with a short lead time between allocation and transportation, Auctions and First Committed First Served are of equal pertinence as illustrated on Table 8 and Figure 7. In both cases, Short Term is considered as a portfolio adjustment or arbitrage tool, which is placed on top of a portfolio base load built upon Medium to Long Term contracts. In this regard, respondents later in the Online Survey expressed a clear majority in favour of a the Pro-rata mechanism as outlined in Table 6, Table 7, Figure 5 and

Figure 6. Arguments for respondents to favour such method are a fair and equal treatment of all market participants, without the risk of facing skyrocketing prices that would jeopardize the possibility of securing an adequate level of capacity to build their portfolio. Furthermore, Users highlight that Long and Medium Term allocation should provide investment signals which are best captured with an OSP/ Pro-rata method than with Auctions where price competition would affect Auction results, not helping the TSO distinguish the actual demand from the demand arising from price bidding strategy.

LTS	Total
Auction	1
FCFS	1
OSP/Pro-rata	11
Total	**13**

Table 6 - Answers for Long Term Services

MTS	Total
Auction	1
FCFS	2
OSP/Pro-rata	10
Total	**13**

Table 7 - Answers for Medium Term Services

STS	Total
Auction	7
FCFS	6
OSP/Pro-rata	0
Total	**13**

Table 8 - Answers for Short Term Services
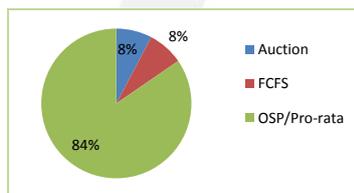
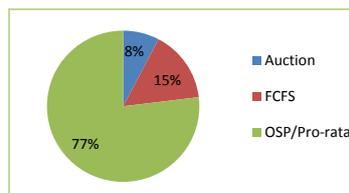**Figure 5 - Distribution of responses for Long Term Services**

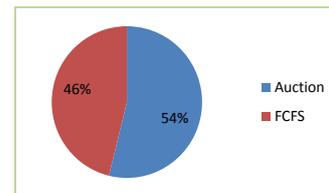**Figure 6 - Distribution of responses for Mid Term Services**

Figure 7 - Distribution of responses for Short Term Services

2.2.3   Congested vs. not congested

Question to Users: "Is it appropriate to apply the same Capacity Allocation Method to contractually congested and to non-congested IPs?"

Independently of the considered product, this question aims at capturing the views of the Users regarding the application of a different allocation strategy depending on the contractual or physical level of congestion at a given IP.

CAM in congested IP	Total
No, a different one	9
Other	2
Yes, the same	16
Total	**27**

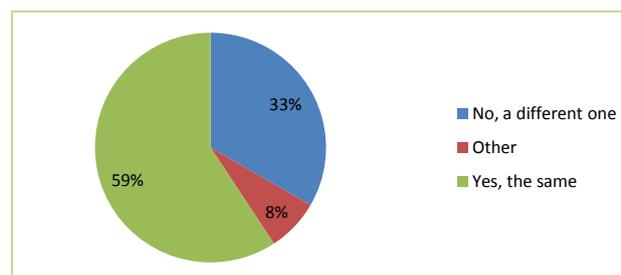**Table 9 - Responses per strategy in case of contractual congestion**

Figure 8 - Distribution of responses in function of the proposed strategy for congested IPs

As shown in Table 9 and Figure 8, 16 respondents considered that the level of congestion should not be used as a criteria to decide upon the implementation of a specific allocation methodology as the majority is in favour of applying the same allocation strategy whether the IP is congested or not. The strategy to be applied fro those 16 respondents is depicted on Table 10 and Figure 9.

Unique Allocation Strategy		Total
Auctions		8
OSP/Pro-rata		4
Composition	OSP-OSP-AUC	2
	OSP-FCFS-FCFS	1
	FCFS-OSP-AUC	1
Total		**16**

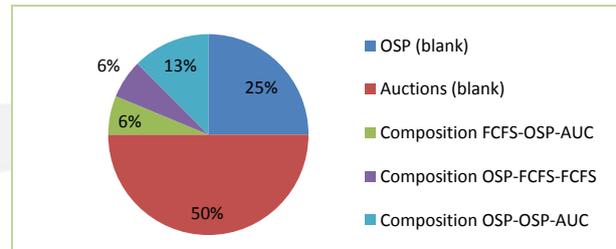**Table 10 - Responses per possible unique allocation strategy**

Figure 9 - Distribution of responses in case of unique strategy

When independently for the level of congestion only one allocation method should be applied Auctions are favoured by 8 respondents. It must be noted that those eight respondents favouring Auctions indifferently from the contract duration as well: Auctions were recommended continuously to be used under every possible circumstance. On the other hand, OSP/Pro-rata or compositions where OSP/Pro-rata plays an important role are also widely supported.

As illustrated in Table 9 and Figure 8, 2 respondents were unsure about the need to apply a different strategy for allocating the capacity, depending on the congestion level of the IP. However, 9 Users clearly indicated their preference for a differentiated approach. In Table 11, the strategies under the two possible conditions of an IP are illustrated. One can notice that as long as congestion is not established several possible allocation strategy are identified; while when congestion is present all Users propose to switch to either Auctions either OSP/Pro-rata. The same arguments are presented as in section 2.2.1 to favour one or the other, being that Auctions present a market-based approach where capacity can be valued and allocated in function of the actual requirement of market participants, while OSP/Pro-rata offers a fair an equal treatment of all market participants, disregarding their relative position to overbid capacity.

Non-congested Situation		→	In Case of Congestion	Total
Composition	OSP-FCFS-FCFS		Auctions	1
	OSP-OSP-AUC		Auctions	1
	OSP-OSP-AUC	->	OSP	2
	OSP-OSP-FCFS		OSP	2
	AUC-OSP-FCFS		OSP	1
FCFS			OSP	2
Total				**9**

Table 11 - Possible transition scenarios when congestion occurs

2.2.4 Conclusion for Capacity Allocation Methods

From this part of the Online Survey, ENTSOG concluded that a wide majority of Users supports the introduction of a coherent and structured capacity allocation strategy. Regarding the use of a differentiated approach depending on the product/duration to be allocated there is no clear view indicated in either direction. Therefore, it will be required to further discuss this subject with the market parties during the Network Code development.

Although some Users favour the above mentioned differentiated treatment of the allocation, depending on the congestion level of the IP, in the view of ENTSOG it might be worth debating if a single allocation method (rather than a composition) could be more suitable for the market independently if an IP is congested or not. First of all, a definition of the level of congestion triggering the change of strategy would not be needed. If such level would be determined at 100% it would result in no capacity being allocated on the basis of the second allocation method. Any other level would encompass the risk of having a continuous switch between allocation processes. Secondly, as highlighted by some Users as well, in case the IP would not be congested, any allocation strategy would anyway lead to the same result: the requested capacity gets fully allocated at regulated price (for as long as the reserve price used in Auctions would be such regulated tariff for all possible durations).

ENTSOG would like to avoid that a procedure (composition/differentiated approach) would be implemented whereas a less complex one - if properly designed - can lead to similarly sufficient results. Even more, applying only one single method disregarding the level of congestion at an IP would facilitate harmonisation across Europe and limit the complexity for systems where IPs are close to congested.

3   Conclusions and way forward

ENTSOG's Online Survey was widely welcomed by the respondents, both in content and form. The appropriate use of web technologies as a mean to quickly poll users for their opinion on some precise and definite topics was warmly welcomed. Although the format of the question could be improved to avoid misleading the respondents, the fact that questions were short and focused was well perceived, as long as they were accompanied by some background information and the possibility for respondents to enter their specific views through comment fields.

This Online Survey helped ENTSOG to understand the views of the market regarding practical key elements of the NC to be developed in the frame of the Pilot Framework Guideline published and consulted on by ERGEG during the first quarter of 2010. These views, together with bilateral talks that are currently taking place in the light of a continuous dialogue between ENTSOG and Stakeholders organisations will be the basis of the recommendations that will be proposed by ENTSOG in its foreseen Launch Documentation, as a first step in the formal process of developing the Pilot Network Code on Capacity Allocation. ENTSOG expects to be formally invited by EC to start providing the Code by the summer of 2011.

4   Annex: Description of products and allocation methods

4.1   Standard Capacity Products

To generate an overview of which Standard Capacity Products are currently offered in Europe an analysis has been conducted and reflected on gas commodity products traded at major gas Hubs. From that analysis, we concluded that various commodity products are available at Hubs, with a wide range of durations; while Capacity Products requested are generally more limited in number; but nevertheless may seem to suit the needs of system Users.

The standardisation of Capacity Products has the following features:

- Clear and equally applied start and end times

- Reasonable number of products (e.g. 3 or 4) to provide sufficient flexibility.

Such Standard Capacity Products have to cover any Users needs ranging from short term arbitrage to a long term strategy. Through the combination of Standard Capacity Products Users can access capacity for a range of durations in order to cope with diverse needs.

4.2   Quotas

Being closely linked to the definition of a set of appropriate Standard Capacity Products is the possible use of quotas. Quotas can be applied in networks to reserve a certain percentage of the available capacity (usually determined on a Long Term basis) for the sales of Shorter Term services. This ensures that not all capacity is sold out for Long Term periods, hence allowing arbitrage options to be developed or access to capacity to new market entrants. Question number two on the following page is focussing on this subject.

4.3   Capacity Allocation Methods

Auctions: Inherent within Auction processes in general is the capability to make capacity quantities available to those that value them the most by deriving market based prices for Standard Capacity Products. Users are offered the chance to bid for capacity which allows them to book capacity as their supply portfolio increases whereas the price for capacity is settled according to the demand by the Users. The bidding on offered standardised products is organised during fixed bidding windows provided by the TSO.

Open Subscription Period/Pro-rata: Users can submit capacity requests during a fixed booking window for each offered Standard Capacity Product. The capacity is allocated to the Users if the demand is less than the offered capacity. If less capacity is available than requested by Users then a fraction of their demand; is allocated proportionally to each User by the application of a pro-rata rule on their request in relation to the total requests and the available capacity.

First Come First Served: Where the First Come/Committed First Served (FCFS) principle is applied Users at the time of their requests know how much capacity can immediately be booked. The capacity is allocated instantly to the requesting party independently from pending requests from

other parties. Furthermore a requesting User receives a direct response on whether the request was successful or not. The requesting User is able to book at any time every (available) type of capacity over a customised period of time.

4.4   Composition

Apart from the pure single allocation methodologies, TSOs could subsequently apply different mechanisms depending on specific service durations and lead times. The achievement could be to combine the different advantages of each method. For instance, TSOs may offer Allocation Method A when booking Long to Medium Term capacity if that implied certain advantages and for shorter durations Allocation Method B if that is more suitable. A theoretical example of how a combination might be organised through "Composition" is illustrated in the following picture.