Capacity Allocation Methodology (CAM) Network Code

– Launch Documentation –

1. Executive Summary

This Capacity Allocation Methodology (CAM) network code launch documentation has been developed as a basis for the drafting of the draft CAM code. It comprises a conclusion of the project planning consultation conducted during the first phase of the project, describes the interactions with other interlinked topics and explains the underlying assumptions that ENTSOG will use in drafting the CAM network code.

However, the main purpose of the launch documentation is to provide the basis for the discussions that will be held during the subsequent interactive CAM network code development period and it therefore contains several concepts for further debate with market participants.

In this regard, ENTSOG is looking forward to engaging with stakeholders during the CAM network code development process, especially during the Stakeholder Joint Working Sessions (SJWS), which are sessions that will be dedicated to the discussion of specific topics of relevance to the draft code. The results of such debates will feed into the drafting of the CAM network code which ENTSOG will be carrying out in parallel with the SJWS.

In particular, ENTSOG will be seeking stakeholders' views on the following proposed concepts:

- Auction design;

- Interruptible capacity services and interruption procedures;

- Within-day capacity; and

- Bundled services and booking platform.

The work completed by ENTSOG to date has been carried out on the basis of ERGEG's CAM framework guideline as published on the 7th of December 2010 which sets the basis for defining rules and network access conditions for existing capacities. Therefore, the treatment of incremental capacity is not subject to this network code and has to be treated in a future process.

Of significance to the success of ENTSOG's CAM network code drafting process will be the impact of other guidelines that are currently in development, for example, the Agency for the Cooperation of Energy Regulators' (ACER) CAM framework guideline and/or the Congestion Management Procedures (CMP) comitology guideline as proposed by the European Commission. Both of these aforementioned guidelines could potentially impact on and make substantial changes to ENTSOG's code development process, requiring amendments to the planning and content of ENTSOG's work.

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2. Background

Regulation (EC) No 715/2009[1] defines several tasks for ENTSOG. Amongst these is the development of European-wide harmonised network codes to be applied by all Transmission System Operators (TSOs) for Gas.

The process for delivering a network code is started by an invitation from the European Commission to ACER (or its predecessor ERGEG, in the case of the CAM framework guideline) requesting it to produce a framework guideline within six months. The framework guidelines then provide the basis for ENTSOG to define the provisions of the network codes. Once ACER has delivered a framework guideline, the European Commission reviews the work and then invites ENTSOG to produce the relevant network code within twelve months.

With regards to capacity allocation, ERGEG (acting as the predecessor to ACER) published the revised final CAM framework guideline[2] on the 7th of December 2010. This framework guideline was reviewed by the European Commission and approved as the basis for ENTSOG's CAM network code.

ENTSOG commenced work on the CAM network code following receipt of an invitation letter[3] from the European Commission on the 27th of January 2011. ENTSOG's project plan provides for the following five phases in the development of the pilot CAM network code:

1. Project Planning[4] (completed);

2. Launch Documentation Publication;

3. Interactive Draft Network Code Development (with SJWS);

4. Consultation on the Draft Network Code;

5. Network Code Finalisation.

Phase 2 is characterised by the production and publication of this "launch documentation" which sets out the concepts to be discussed with the market during phase 3, the interactive network code development period, when the draft code will be developed. This process will be supported by SJWS which will feed into the ENTSOG code development process.

This launch documentation details ENTSOG's initial views on the CAM network code, together with examples of proposed content for the draft code. The launch documentation covers CAM network code relevant concepts (explanation of the main areas to be discussed during the SJWS and an explanation of how and why the CAM network code deals with certain topics) as well as specific assumptions underlying the network code concepts (identification of assumptions under which ENTSOG has developed the CAM network code provisions in order to facilitate implementation by TSOs).

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[1] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0036:0054:EN:PDF
[2] http://www.gie.eu.com/adminmod/show.asp?wat=E10-GWG-71-03_FG-CAM_7-Dec-2010.pdf
[3] http://www.gie.eu.com/adminmod/show.asp?wat=110127 EC Invitation Letter.pdf.pdf
[4] http://www.gie.eu.com/adminmod/show.asp?wat=110316 CAP0115-11 General CAM NC PP Consultation Final clean.pdf

Stakeholders are invited to provide their view on the concepts described in this document during the SJWS.

3.   CAM network code planning

3.1.   Network code relevant material

All material related to the development of the CAM network code, as well as meeting invitations, agendas, notes and other documents, will be published and remain permanently available on the ENTSOG webpage www.entsog.eu in the section "Publications & Events" (subsection "Capacity").

3.2.   Project plan consultation, responses and consequences for the final project plan

As foreseen by Article 28 of the Rules of Procedures[5], ENTSOG consulted the market on its proposed CAM network code project plan[6]. The consultation was open to every interested stakeholder from the 9th of February until the 23rd of February 2011. The period was publically announced and was introduced at a kick-off meeting held in Brussels on the 9th of February 2011. Given the importance of this plan to the achievability of the whole network code development process, and according to the ENTSOG Guidelines on the Stakeholder Engagement Process[7], late responses were also taken into account. In total, 34 contributions were received by ENTSOG. Since none of them were marked as confidential, a document comprising all responses[8] has been published on the ENTSOG website.

The feedback provided by stakeholders on the proposed approach to managing the tasks and timing of the code development was positive. Emphasis was put on stakeholders' involvement and the proposed interactive design phase and formal consultation phase were well received, while the importance of maintaining a balance between both forms of interactions was also appreciated. Some respondents underlined the importance of making provision for extensive meetings with ENTSOG during the code development process. This is already foreseen by the project plan (through planned meetings, formal SJWS, or informal bilateral meetings when requested by stakeholders) and is very much welcomed by ENTSOG. Indeed, several of these meetings have already been held with market participants. However, it is important to recognise the challenges ahead and to take the limited time allowed for network code development into account. The later any comments are made in relation to the content of the draft code, the more difficult it will be to integrate such comments into the final network code; whilst at the same time providing for the fair treatment to all stakeholders concerned.

Most of the responses correctly pointed out that there should be clear, efficient and comprehensive communication with stakeholders, particularly in relation to the use of ENTSOG's website as a communication tool to make documents available and to indicate when meetings etc. will take place. Although such communications are already fully provided for on the ENTSOG website, in order to address these comments in a constructive manner the project plan has been amended to include a

[5] http://www.gie.eu.com/adminmod/show.asp?wat=ENTSOG_Rules of Procedure_February 16th 2011.pdf
[6] http://www.gie.eu.com/adminmod/show.asp?wat=110207 CAP0090-11 General CAM NC PP final.pdf
[7] http://www.gie.eu.com/adminmod/show.asp?wat=110203_DOC007-11_Guildelines_on_Stakeholder_Process_clean.pdf
[8] http://www.gie.eu/adminmod/show.asp?wat=110308 Response analysis.pdf

new section detailing the practical use of the dedicated CAM section of ENTSOG website for the different phases and deliverables envisaged during the whole code development process.

Comments were also made on the possible impact of ACER's consultation on the CAM framework guideline and the possibility that this may lead to a change in the content of the network code. ENTSOG has developed its project plan based on the European Commission's invitation letter which requests ENTSOG to start the code drafting process on the basis of ERGEG's work (rather than the subsequent ACER's version). On this basis, the project plan assumes that the ACER framework guideline consultation process does not introduce any changes that will negatively impact the network code development process. However, should this assumption not be correct, the process (including content, planning and delivery date) will have to be revised accordingly. ENTSOG has addressed this matter to the European Commission but is currently advised that it must deliver the CAM network code within twelve months of the date of receipt of the European Commission's invitation letter, irrespective of the ACER CAM framework guideline consultation process that is currently underway.

Two respondents stated that it is necessary to ensure equal and fair treatment of all stakeholders during the process by taking all comments into account regardless of the status of the respondent and by also providing comprehensive feedback on the comments raised. ENTSOG will treat all parties equally during the process and will ensure a fair treatment of all opinions raised. One of the deliverables of the consultation process will be a consultation response report; in which comments raised will be analysed in order to identify any potential amendments to the draft code. However, to ensure that this part of the network code development process remains manageable given the time available to ENTSOG, it is in the interest of all parties that comments are provided as early as possible during the interactive phase of the project, whereby if possible, contradictory opinions can be multilaterally addressed during the SJWS.

During the CAM network code project plan consultation, ENTSOG invited all market participants to become engaged in the code development process by demonstrating their level of commitment on one of four levels[9] of involvement (see project plan material on the ENTSOG website). The respective commitments for Prime movers and the Active SJWS participants are listed in the following two sections.

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[9] Prime movers; Active SJWS participant; Consultation respondent and Inactive

3.3. Prime movers

The following stakeholders have signalled their interest to ENTSOG to be engaged in the network code development process as Prime movers:

Participant	Name	Company
1	Friedrich von Burchard	E.ON Ruhrgas
2	Claude Mangin	GDF SUEZ
3	Alex Barnes	Gazprom Marketing and Trading
4	Helen Stack	Centrica
5	Kees Bouwens	ExxonMobil

3.4. Active Stakeholder Joint Working Session participants

The company representatives who have registered as Active SJWS participants are listed below:

Participant	Name	Company
1	Ralf Presse	RWE Supply &Trading
2	Mathieu Lanéelle	Total
3	Peter J. Zehetner	Tauerngasleitung
4	Valentin Höhn	VIK / IFIEC
5	Steinar Solheim	Yara / IFIEC
6	A.J. Algra	Gasterra
7	Francesca Zanella	Eni S.p.A
8	Andrew Pearce	BP
9	Mark Dalton	BG Group
10	Dirk-Christof Stüdemann	EnBW
11	Bernardo RANGONI, Giuseppe Lorubio	Eurelectric
12	Margot Loudon	Eurogas
13	Martina Beitke	CEFIC
14	Lieven Stalmans	Borealis
15	Christian Thole, Carmen Gimeno	Geode
16	Gunnar Steck	E.ON Energy Trading
17	Christiane Sykes	Statoil
18	Manuel Coxe	EuroPEX

3.5. Interactive CAM network code development (Stakeholder Joint Working Sessions)

As detailed in the CAM network code project plan, ENTSOG plans to have several SJWS in which the concepts outlined in this launch documentation are discussed in detail with the market. The following table provides a list of the SJWS planned for the interactive project phase:

#	Date	Remarks	Place
1	6th April 2011	SJWS 1	Brussels
2	21st April 2011	SJWS 2	Brussels
3	4th May 2011	SJWS 3	Brussels
4	19th May 2011	SJWS 4	Brussels
5	21st June 2011	Draft network code presentation	Brussels

Unless otherwise publically announced, all meetings will be held in Brussels. ENTSOG will inform the participants of the exact venue and will publish meeting material in due time prior to these meetings.

3.6. Formal code consultation

It is planned that the draft CAM network code will be open for a formal written consultation period beginning on the 21st of June and continuing until the 3rd of August 2011. However, ENTSOG would appreciate stakeholders responding at the earliest opportunity.

4. CAM network code development

4.1. CAM network code target

The final CAM framework guideline which was developed by ERGEG and approved by the European Commission provides the basis for the draft network code. According to the CAM framework guideline, which is applicable to Interconnection Points (IPs) within the European Union[10], the key aim for the CAM network code is to:

- Define a standardised auction procedure including the standard capacity products to be offered on both sides of these relevant IPs;

- Describe how capacities on both sides of an IP will be allocated in a bundled manner.

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[10] According to the ERGEG CAM framework guideline, article 1.1 - Scope

4.2. Interactions with other areas

Inevitably there will be interactions between the CAM network code and the other code areas as defined in Regulation (EC) No 715/2009, in particular the following areas:

- Balancing;

- Tariffs;

- Interoperability;

- Congestion Management Procedures;

- Transparency.

The wider details of the first three abovementioned areas are expected to be defined in their respective framework guidelines/network codes. The details for the latter two areas are to be/have been addressed in comitology.

Therefore, these five areas are considered to be out of scope as regards the CAM network code. However, the CAM network code touches upon elements of those areas, or refers to them. This complicates the requirement that ENTSOG is to provide harmonised rules in the CAM network code that are both complete and capable of timely implementation. Indeed, interaction between the various network codes and areas is unavoidable since the CAM framework guideline requests that the CAM network code rules on specific interlinkages between these areas. The ENTSOG team will work to ensure that the necessary interlinking elements are identified and included within the CAM network code scoping process and that due consideration is given to developing appropriate proposals in this regard within the code development process.

Given the detailed process involved in network code development, ENTSOG has been obliged to start its code drafting work based on the CAM scoping that has been carried out, and cannot wait for the outcome of the other areas (i.e. in terms of framework guidelines/network codes). However, the CAM network code will not be developed in isolation from these other areas. To this end, ENTSOG has made certain assumptions on the content and outcome of the abovementioned interlnkages between network codes and areas (as described in the following chapter).

This launch documentation and the planning for the subsequent CAM network code are based on the framework guideline prepared by ERGEG on the 7th of December 2010 and approved by the European Commission. The framework guideline is only applicable to existing capacity; therefore incremental capacity (or open seasons) is not covered within this launch documentation. However it may be necessary to address this subject at a later stage in the network code development process.

4.3. General assumptions to define network code concepts

4.3.1. Process

In this part of the launch documentation, ENTSOG explicitly states assumptions under which the concepts and network code proposals are presented, these assumptions being functional and supported by ENTSOG. Whenever possible, assumptions that have been made and which are linked to other areas have been based on exchanges with and inputs from the participants in the ENTSOG

team that are managing the area in question.

It is furthermore assumed that the ACER CAM framework guideline consultation process will not, either from content or from a process perspective, impact on the work ENTSOG is currently conducting on the network code. If there are changes arising from the ACER CAM framework guideline consultation or from unexpected interactions from the other areas, the twelve month period allowed for to delivery of the CAM network code will not be guaranteed. In such circumstances, both the planning and preparations for the code will have to be reviewed and amended accordingly. Such amendments may also be required if the work on the proposed CMP guideline has further progressed and results in details are not in line with ENTSOG's suggested concepts for the CAM network code.

4.3.2. Appropriate pricing of products

Proposing straightforward network code provisions requires confidence in the regulatory stability of conditions that allow revenue recovery both in the short and long-term. Therefore, for example, the tariff design is assumed to be set up in a way that minimises cross-subsidies and limits the exposure to users of an over and under-recovery mechanism. It should provide incentives to system users to book capacity at appropriate times. The products should be priced so that investments made can be underwritten and the revenue appropriately recovered:

- Long-term commitments should fairly enable the apportionment of risks and costs;

- Long-term commitments should not be undermined by tariff arrangements for shorter term products that go beyond what is necessary for competition as well as liquidity;

- At the same time, rules should enable business opportunities for suppliers, the wholesale market, traders, importers, etc.

Hence, the tariff arrangements must be balanced to allow TSOs to generate their revenues also in the long run, without creating inappropriate distortions reserve prices for short duration products should be set in such a way that they still allow system users to signal investment needs by long term commitments.

4.3.3. TSO cost recovery

It should be understood that costs associated with CAM measures are fully recoverable via the respective National Regulatory Authorities (NRAs). As such, TSOs would seek ACER's agreement that costs efficiently incurred would be allowed for, including but not limited to in any way the following:

- Current and additional human resources;

- Costs associated with the development of required IT;

- Additional costs to run the processes and procedures.

4.4. Implementation

Before rules can be made binding via a comitology procedure for the CAM network code, a very detailed cost benefit analysis would be required. Such analysis should investigate the positive (or negative) implications of the regime on the market, including the end consumer. This should include the envisaged changes and respective costs; as well as the effort incurred to introduce the new arrangements. ENTSOG is willing to provide any support if requested on this matter and to input to any such analysis.

ERGEG's CAM framework guideline requires TSOs to transpose the rules defined in the final network code into TSOs' access conditions/national codes within six months after the network code is legally binding.

As clauses in TSOs' capacity contracts and/or in general terms and conditions relating to allocation of capacity at relevant IPs shall be amended in accordance with the CAM network code, an additional implementation period (beyond the six months) is likely to be required to take into account various considerations, including but not limited to the following:

- Approval of TSOs; general terms and conditions/national network codes by the NRA;
- New products via bundled auctions;
- Allocation;
- Information provision;
- Development of TSOs' IT systems to cater for the new arrangements.

Actual time to implement these rules will also be looked at during the code development process.

5. CAM network code concepts

5.1. Design for standardised firm capacity auctions

5.1.1. Introduction of the concept

This section describes an auction design for capacity and it covers a number of elements including standard products for both long and short-term firm services, auction calendar, bidding window timing and organisation to support transparent information provision.

5.1.2. Specific assumptions

Defining the auction design for firm capacity allocation implies the need to first define the set of products[11] for which the auction must be envisaged in order to ensure a coherent set of processes for those different products. Indeed, it is crucial to avoid auctioning competing products in parallel in order to allow for smooth and coherent price formation. In an auction process, the products on which the users can bid follow a logical order by which products covering longer durations are first offered; subsequently the next shorter duration is marketed etc. Auctions do not allow overlapping allocation of different but competing durations as the bidder must know the availability of capacity to value it accordingly.

The auction sequence illustrated below uses the example of the standard products as subsequently considered in this document.
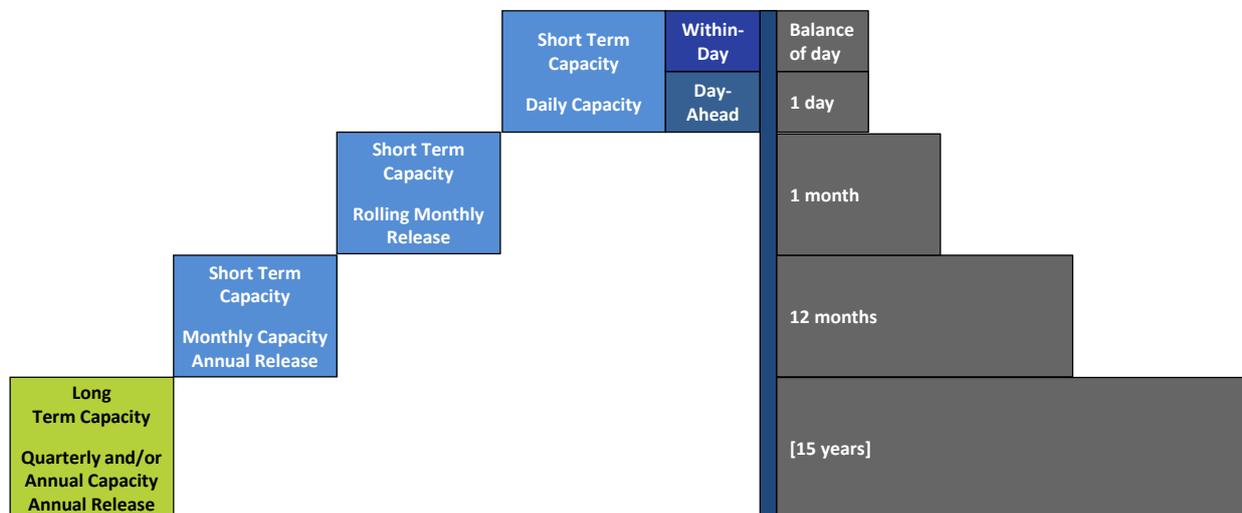
Diagram 1: Auction sequence

Standard products need to be defined in order to use auctions as a preferred allocation mechanism. For each, the timing of the auction needs to be defined, taking the non-overlapping principle into account in order to create a coherent calendar. Also, it is necessary to organise the auction algorithm to use and the bidding window for each product.

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[11] The term product is understood to mean a capacity at a flat rate over a certain duration (e.g. one month)
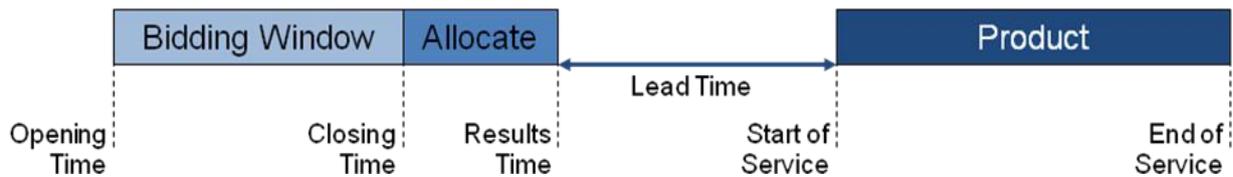
Diagram 2: General auction process

Some assumptions have to be made in order to be able to publish the available quantity at the bidding window opening time and not alter such quantity during the bidding window. According to ERGEG's CAM framework guideline, the capacity to be allocated is the sum of the calculated available capacity for the envisaged product, the previously unallocated capacity, reserved quotas (if applicable), surrendered capacity (for short- term rolling monthly capacity/auction) and re-released capacity resulting from the application of the CMPs. This implies that all these elements have to be completed or evaluated by the time the bidding window is organised.

5.1.3. *Standard auction packages considered*

Standard products

Developing a visible auction process for all relevant durations (long and short-term) requires the use of standard capacity products as a starting point. Otherwise, it would only be possible to describe a theoretical process.

According to the ERGEG's CAM framework guidelines (article 2.1) the consultation must include yearly, quarterly, monthly, daily and intra-day products. With a product of a given duration, users obtain a firm right to flow a maximum quantity of gas expressed in energy per unit of time in the relevant period, at a uniform flow rate:

- Within-day product: service of at least one hour within the Gas Day until the end of a Gas Day (balance of day)[12];

- Daily product: service of a duration of 1 Gas Day (05.00am to 05.00am of D+1, UTC time, taking summer/winter daylight saving into account);

- Monthly product: service of a duration of 1 month (understood as starting the first Gas Day of such month);

- Quarterly product: service of a duration of 1 quarter (3 connected gas months) starting on 1st January, 1st April, 1st July or 1st October;

- Yearly product: service of a duration of 1 year (4 connected gas quarters) starting alternatively on 1st January or 1st October.

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[12] Such a definition allows expressing a within-day-product in a compatible manner with daily or hourly capacity regimes.

Long-term versus short-term capacity

Although not strictly influencing the auction design itself, the adoption of a consistent application of long term and short term definition will be necessary when specifying the availability of capacity for each auction (according to the CAM framework guideline, capacity reservations should be applied to long term capacity, while surrendered capacity should be taken into account when calculating short term capacity).

Regulation (EC) No 715/2009 Art. 2 defines:

- Long term as a service with a duration longer or equal to 1 year;

- Short term as a service with a duration of (strictly) less than 1 year.

However, this definition is difficult to apply when using standard products that can be combined at booking time to shape any possible duration (subject to the limit of the available products at a given point in time). As a starting point for auction design that will require further elaboration, it is proposed to assume that any combination of products with a total duration of up to 12 months will be considered as short-term. Any combination of products at booking time leading to a possible total duration of more than 1 year will be considered as long-term.

Duration of services

The auction processes developed provide windows to offer transmission capacity for the upcoming [15] years, split into various long and short term service durations.

Standard Auction Package

The following table illustrates the starting point for building the auction detailed design.

	Type of Auction		Possible Maximum "Service Duration"	Standard Capacity Product	Share of total calculated capacity
Long Term	Alt 1	Annual Quarterly Auctions	From 1 Quarter up to [60] consecutive Quarters	Quarterly	Maximum 90% of calculated available long-term firm capacity
	Alt 2	Annual Yearly Auctions	From 1 Year up to [15] consecutive Years	Yearly	Maximum 90% of calculated available long-term firm capacity
	Alt 3	Annual Quarterly & Yearly Auctions	From 1 Quarter up to [15] consecutive Years	Quarterly + Yearly	Maximum 90% of calculated available long-term firm capacity
Short Term	Annual Monthly Auctions		From 1 Month up to 12 consecutive Months	Monthly	Total calculated available short term firm[13] capacity minus allocated quantities from previous firm auctions
	Rolling Monthly (Month-Ahead) Auctions		One month	Monthly	Total calculated available short term firm capacity minus allocated quantities from previous firm auctions plus any surrendered capacity
	Rolling Daily Day-Ahead Auctions		One day	Daily	Total calculated available short term capacity minus allocated quantities from previous firm auctions
	Within-day[14]		Remainder of the day	Daily (or balance of day)	Any remaining available capacity

5.1.4. Auction algorithm

Capacity allocation via an auction requires a multiple unit auction. In this process, several units of the same item (the item being in this case a fragment of capacity) are sold during one auction. The units can be sold at the same price (cleared-price auction) or at different prices (pay-as-bid auction).

Cleared-price auction

Each bidder in the auction bids a price and a quantity. All bids are ranked according to the bid-price first and the bid-quantity next. Following such ranking, bids are "successful" (i.e. allocated) until the cumulated quantity of successful bids reach the available quantity. Successful bidders pay a uniform

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[13] According to ERGEG's CAM framework guideline article 1.1, this calculation integrates long term availability together with capacity being made available via enhanced capacity calculation or oversubscription.
[14] According to ERGEG's CAM framework guideline articles 3.1.1 and 3.1.5 within-day capacity (firm and interruptible) can alternatively be allocated using auctions or on a First Come First Served (FCFS) basis.

unit price, called the clearing price, equal to the lowest winning bid price, regardless of their actual bid price.
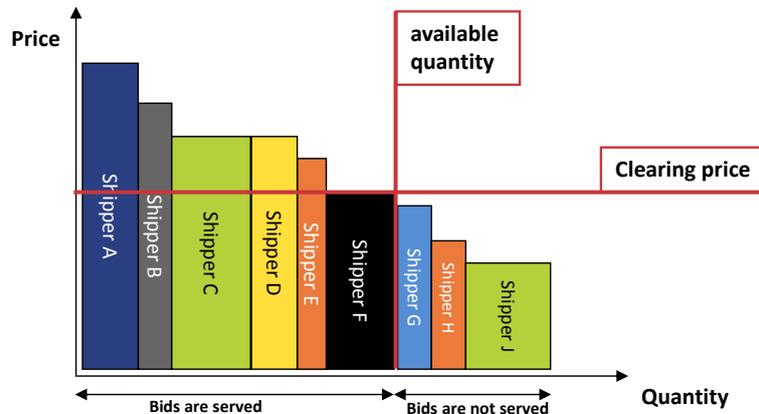
Diagram 3: Cleared-price auction

Pay-as-bid auction

Each bidder in the auction bids a price and a quantity. All bids are ranked according to the bid-price first and the bid-quantity next. Following such ranking, bids are "successful" (i.e. allocated) until the cumulated quantity of successful bids reach the available quantity. All successful bidders pay the price which they actually bid in the auction.
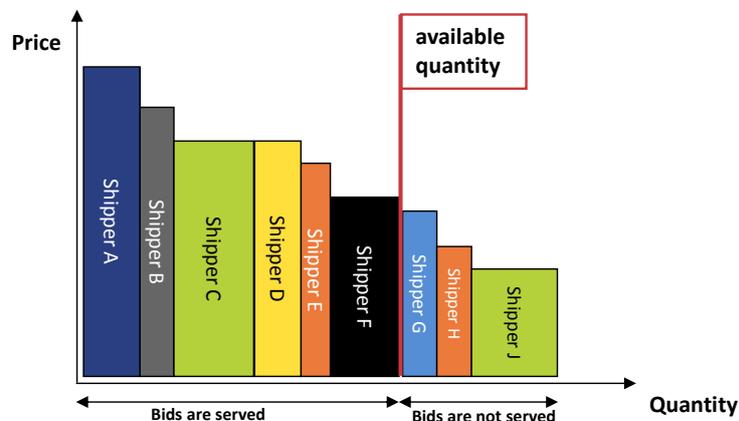
Diagram 4: Pay-as-bid auction

Detailed aspects

During the bidding window shippers may submit 1 or several bids[15]. All bids are ranked according to bid price (the highest price ranking first). Bids are allocated in function of their price ranking according to the respective algorithm. Cleared-price pricing is applied for long term products and pay-as-bid pricing is applied for short term products. Bids of similar rank are pro-rated.

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[15] If several bids are submitted they are all considered as being binding (e.g. 300Units at 5€/Units and 200Units at 6€/Unit).

One bid is composed of a maximum requested quantity, a minimum requested quantity and a unit price (which must be equal or above the reserve price). Available capacity is allocated to each bid according to its price ranking. Bids of equivalent rank are allocated pro-rata for the remaining available capacity, for as long as this results into an allocated quantity above the indicated minimum for each of the bids. In case the allocation results in a quantity lower than indicated minimum, the bid is removed from the bid list and next bid is allocated (or a new pro-rata round is held).

Reserve price

According to the CAM framework guideline, the regulated tariff[16] shall serve as the reserve price in auctions for all capacity services.

5.1.5. Auction calendar

The following table gives an overview of the auction sequence, including discussion for possible lead times. The alternative long term products are auctioned with a lead time of 6 months for firm capacity. Annual monthly capacity auctions take place 4 months in advance for firm capacity. Rolling monthly capacity products are allocated month-ahead and daily capacity products are allocated day ahead. The time-lag between the subsequent auctions should allow for the completion of all necessary processes, taking allocation of unbundled products[17] and interruptible services into account.

Diagram 5: Auction calendar

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[16] The link between the regulated tariff concept and auction revenues, including ways to deal with over and under recovery will be addressed later in the process.
[17] Likely to be applicable during the transition period.

Service	Start of Bidding Window[18]	Duration of Bidding Window	Allocation
Long-term	1st Monday of March	[10] business days	[5] business days after closing bidding window
Annual Monthly	1st Monday of June	[10] business days	[5] business days after closing bidding window
Rolling Monthly	2nd Monday of proceeding month	[3] business days	[2] business days after closing bidding window
Rolling Daily Day-Ahead	Everyday	6-12h	13h
Within-day	Every hour	[day-ahead/] 6-2h	Every hour within-day or directly before the day[19]

5.1.6.   Bidding window structure

For bidding windows lasting more than one business day, aggregate interim results without allocations will be published at the end of each day. This will allow a transparent information mechanism at set times during the bidding period. For day-ahead products, results are published during the same day.[20] For within-day products, if allocated, the results are published every hour.

Bids can be submitted at any time and revised continuously throughout the bidding-window. In order to encourage a transparent and early price formation mechanism, constraints could be developed on upwards or downwards revision of bid-price and/or bid-quantity. Furthermore, the bidding window could be shortened, if the bid price displayed stability over a certain period of time. Alternatively, "tranches" could be offered subsequently allowing for an incremental price formation[21].

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[18] The actual calendar will be published each year and coordinated between adjacent TSOs taking bank holidays and previous allocations into account.
[19] In case the auction accepts bids before the start of a relevant gas day (see chapter 5.3.3 Within-day allocation via auctions).
[20] The auctions could either be designed as opened or closed (sealed) bid auctions.
[21] For instance, the first 25% of the available quantity could be auctioned in a 2 day bidding window, with allocation and publication of results – price and requested quantity – before auctioning the remaining 75% subsequently per lots of 25%.
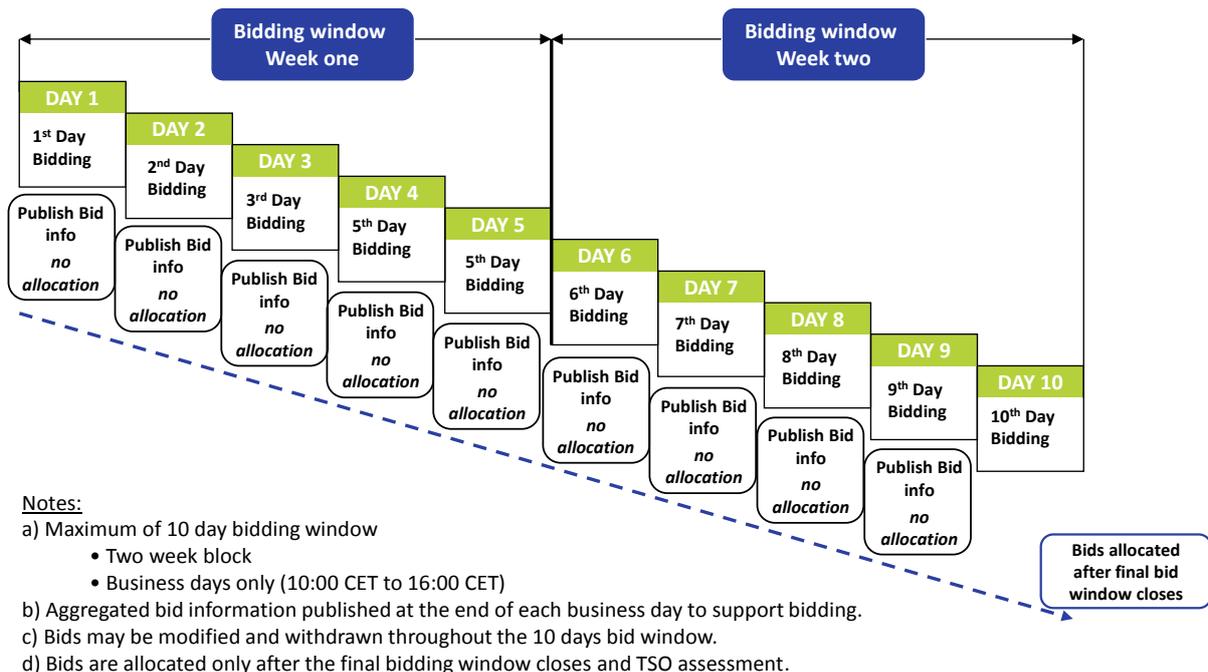
Notes:
a) Maximum of 10 day bidding window
   • Two week block
   • Business days only (10:00 CET to 16:00 CET)
b) Aggregated bid information published at the end of each business day to support bidding.
c) Bids may be modified and withdrawn throughout the 10 days bid window.
d) Bids are allocated only after the final bidding window closes and TSO assessment.

Diagram 6: Bidding window structure

5.2. Interruptible capacity concept

5.2.1. Introduction of the concept

This section outlines the elements dealing with interruptible services and procedures as described in the ERGEG CAM framework guideline. ENTSOG shares the direction of ERGEG's CAM framework guideline that full harmonisation of interruptible capacity services (ICS) throughout the European Union will require more time and effort than is possible to provide for within the twelve month timeframe allocation for the CAM network code development process[22].

Acknowledging the emphasis on firm capacity contained in the CAM framework guideline, the European Commission and ERGEG have requested that interruptible capacity services are "aligned" and that interruption procedures are harmonised, and this is to be reflected in the CAM network code.

According to the CAM framework guideline, interruptible capacity services can be offered by TSOs at any IP in both directions with any standardised duration. At unidirectional points, backhaul capacity shall be offered at least on an interruptible basis. If offered, interruptible capacity services shall have the same durations as firm capacity services.

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[22] Pilot Framework Guideline on Capacity Allocation Mechanisms Public Consultation Evaluation of Comments E10-GWG-67-03 29 June 2010

5.2.2. Specific assumptions

In light of the CMP comitology proposal published by ERGEG on the 15th of January 2010 and the subsequent CMP comitology guideline proposed by the European Commission on the 9th of September 2010, the overall characteristics of how capacity is treated will change in the course of the next few years. If the rules are to be introduced as proposed by ERGEG and the European Commission, the role of interruptible capacity is expected to reduce as unused capacity will be re-allocated to users who demand it on a firm basis.

5.2.3. Alignment of interruptible services (allocation)

The CAM framework guideline prescribes that the network code shall set out how TSOs "align" interruptible capacity services. Since the offering of interruptible capacity must not be detrimental to the offer of firm capacity, the minimum obligation on TSOs shall be to offer a day-ahead interruptible service at IPs where firm capacity is sold out. TSOs shall publish at least the amounts on offer before the start of the allocation process. Adjacent TSOs shall co-ordinate the process of offering capacity sold on an interruptible basis. Such capacity has to be allocated via an auction process[23].

Interruptible capacity services can be allocated via a separate auction which can be held after firm capacity has been allocated. If offered, such auctions should be conducted according to the same design principles as apply to firm capacity[24]. To allow such a procedure, the reserve price for interruptible capacity shall be the relevant regulated tariff.

5.2.4. Standardised interruption procedures

According to the CAM framework guideline, standardised interruption procedures are to be defined to ensure that interruptions take place in a coordinated and standardised manner.

Therefore, the following aspects have to be defined:

1. Standardised interruption lead times and coordinated interruption processes; and

2. Defined sequence of how interruptions take place.

Standardised interruption lead times and coordinated interruption processes

Interruptible capacities shall have standardised interruption lead times jointly decided by interconnected TSOs. The default standardised interruption lead time will be two hours, unless the adjacent TSOs have agreed on a different time. The interrupting TSO notifies its interrupted shipper and the relevant TSO. This process should be automated in order to maximise the time available to interrupted network users to redefine their programmes and rebalance their positions.

Defined sequence of how interruptions take place

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[23] Subject to the possible exemption for within-day capacity
[24] Ideally, auctions for interruptible capacity will be conducted between the firm auction timeline windows, after the auction for firm capacity of equivalent duration but before the auction of firm capacity with a shorter duration.

To define such an interruption sequence as required by the CAM framework guideline, if the total of nominations exceeds the quantity of gas that can flow at a certain IP, an order of interruptions shall be determined. This order could be based on the following parameters:

a) The contract of the longest duration prevails (in case of FCFS or auctions);

b) The contract with the oldest timestamp prevails (in case of FCFS or auctions):

c) The contracts for which the highest prices were bid or paid prevail (in case of auctions).

If there still are, after applying these parameters, more nominations on which the TSO will interrupt than is necessary; the TSO will apply a pro-rata reduction.

In order to accommodate the differences between the various interruptible capacity services within Europe, the adjacent TSOs must implement and coordinate these joint procedures on an IP by IP basis.

5.3.   Within-day product/allocation

5.3.1.   Introduction of the concept

This chapter describes examples how within-day capacity products could be structured. The ERGEG CAM framework guideline requests that TSOs shall offer within-day products at least on an interruptible basis, either through FCFS or via an auction process.

5.3.2.   Specific assumptions

At uncongested interconnection points, there is a risk of a gradual shift from long-term bookings to short-term; if short-term capacity charges fail to provide any incentives to contract on a long-term basis. This unintended effect would cause a significant cross-subsidy to flexibility users at the expense of base-load users. To counter this unwanted effect, the tariff design needs to determine a methodology to mitigate against such a risk.

5.3.3.   Within-day allocation concepts

Within-day capacity allocations shall be introduced at every IP.

Such services could be applied by either:

1. Within-day allocation via FCFS (firm and interruptible); or

2. Within-day allocation via auctions (firm).

Both the auction and FCFS mechanisms cannot coexist at both sides of the same IP and therefore adjacent TSOs will have to apply the same mechanism at an IP.

Within-day allocation via FCFS

At any time during the day, but restricted by the nomination lead time as agreed upon by the adjacent TSOs, a shipper can book the within-day product by sending in a nomination higher than the capacity already booked. The part of the nomination above the amount of capacity already booked by the network user is counted as the within-day booking. When there is firm capacity available, the booking via this procedure will be allocated on a firm basis. The TSO will then send the network user a confirmation of booking and nomination. In case firm capacity is already sold out, the allocation will be on an interruptible basis. The TSO will, in that case, send the network user a confirmation of booking and either an interruption notice or a confirmation. For specifying the interruption sequence, the nomination time-stamp will be used as a reference to identify the contractual time-stamp.

Within-day allocation via auctions

A number of options could be considered to provide a mechanism for the sale of within-day firm capacity via a pay-as-bid auction with one bidding round every hour[25],[26] with shippers able to place multiple bids per round.

Shippers can place "fixed" or "reducing" bids which, in effect, allows the possibility to obtain capacity[27] within-day at every hour for the remaining hours until the end of the Gas Day. The approach described is for end of day values[28].
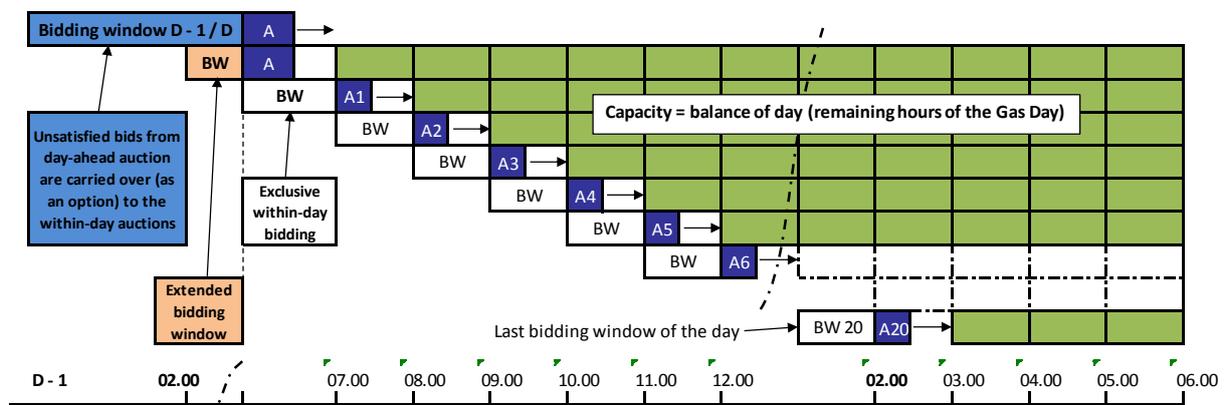

Diagram 7: Within-day auction proposal (with different bidding options)

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[25] Taking into account initial bid window start and effective start time (e.g. h+2)

[26] Applicable for within-day only - for day-ahead this will be at set times and will provide for an effective start time of 05.00am UTC on D.

[27] Where the TSO accepts the bids and makes the capacity available.

[28] Subject to the discussion and outcome of the developments in the area of balancing (framework guideline or network code).

Within-day auction: exclusive within-day bidding

Shippers place bids on D (within-day) from [05:00am[29]] until [01:00am] (window open 20 hours) with no ability to place bids prior to the Gas Day starting). The TSO assesses the bids after [05:00] and each hour bar within-day.

- Unsold capacity and where possible additional capacity may be offered to the market where demand (and price) is generated via the auction

- The capacity is allocated in line with the valid bids received at or above the reserve price.

- Allocation window within [15] minutes of hour bar (if bids are accepted and the TSO runs the allocation process).

Rolling within-day auction: extended bidding window to day-ahead

In addition to the above shippers could place bids day-ahead (D-1) from, e.g. [01:00am] until [01:00am] on D, with no rollover of unallocated bids from the day-ahead auction. The TSO assesses the bids after [01:00am] on D-1 & each hour bar within-day.

Rolling within-day auction: extended bidding window to day-ahead auction (rollover)

As an additional feature the bidding window opens ahead of D, e.g. on the day-ahead where shippers can submit bids during D-1 for D. Shippers have the option when bidding to carry over any unallocated bids for day-ahead capacity for consideration in the within-day auction. The TSO assesses the bids after [01:00am] on D-1 and each hour bar within-day.

5.4. Bundled services and booking platform

5.4.1. Introduction of the concept

In accordance with ERGEG's CAM framework guidelines, this section provides that firm capacity at IPs between adjacent entry-exit systems is to be sold as bundled capacity products via common platforms.

There are five framework guideline provisions which will be addressed in this section:

- ENTSOG concept for bundling capacity at IPs;

- Flow nominations for bundled capacity;

- Planning the bundling of capacity in the transitional period;

- Virtual Interconnection Points (VIPs);

- Booking Platforms.

This launch documentation does not address the issue of existing contracts, in relation to which all capacity must be bundled after 5 years[30] as additionally stated in the "Position Paper on Existing Capacity"[31], ENTSOG is of the opinion that existing contracts should not be challenged.

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[29] UTC time, taking summer/winter daylight saving into account
[30] ERGEG CAM framework guideline article 2.4.3 Virtual interconnection point

5.4.2. Specific assumptions

The concepts for bundling and platforms suggested in this launch documentation are based on the following assumptions:

- Only firm capacity is subject to this bundling concept

- The bundling concept is subject to all capacity durations

- Only the lowest of the two firm available capacities at a specific IP is bundled

- TSOs must be allowed, under confidentiality agreements, to share with the TSOs with whom they are co-operating all shippers' commercially sensitive information for the purpose of offering bundled services.

5.4.3. Bundled service concept

A bundled service is a combined firm entry and exit capacity at a specific IP sold as one bundled product. This means that at a given IP, the shipper books a single firm capacity product (e.g. via an auction) and is allocated a bundled entry/exit capacity product. The shipper receives a separate capacity contract with each TSO. On this basis, the shipper avoids two separate allocations on each side of the country/market area border, removing the risk of being allocated different capacities.

As a consequence no gas will be delivered/received at IPs but shippers are to deliver/receive all gas at hubs and/or exchanges. This also means that a shipper will need to be registered in both countries/market areas to be able to book bundled capacities across an IP. Adjacent TSOs should both approve (license, credit worthiness, general agreements etc.) the specific shipper to be able to buy the bundled service. A simple illustration of the concept is shown in diagram 8:
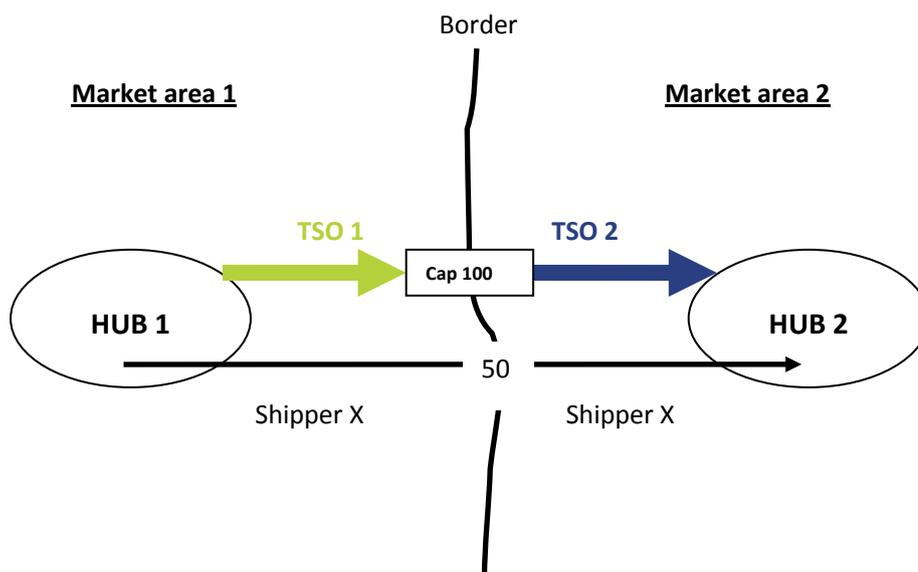

Diagram 8: Illustration of bundling background

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[31] www.gie.eu.com/adminmod/show.asp?wat=100810_CAP0053-10_Existing_Contracts_public.pdf

The diagram above shows a total capacity offer of 100 units of bundled capacity at a given IP between two entry-exit systems. TSO1 is TSO in market area 1, and TSO 2 is TSO in market area 2. On a given gas day, Shipper X is the holder of 50 units of bundled capacity at this IP.

Defining the bundled service concept

The bundled service concept suggested here by ENTSOG is based on 3 key drivers:

i. To lower the risk of shippers having stranded firm capacity and to simplify booking at IPs;

ii. ERGEG's framework guideline requires that gas must be traded at hubs and not at IPs;

iii. To construct a concept for TSOs based on a cost/benefit analysis.

The basis of the concept is that the capacity bundled at an IP is offered via a common interface but is handled as two or more separate capacity contracts by the TSOs. This principle is explained with the following example:

Referring to diagram 9, there is a total capacity of 100 units for sale as a bundled service between the two market areas with a TSO on each side. In this simple example different product durations are not taken into account but it is assumed that all capacity is sold on the same duration. Additionally, firm capacity is only available in one direction. The bundled capacity is managed on each TSO's booking system in accordance with the booking platform solution in section 5.4.5 and is allocated through a joint allocation mechanism.

In advance of the allocation, the adjacent TSOs should coordinate their capacity sales based on the technical firm capacity the TSOs are able to sell, given the system possibilities, each TSO's definition of firm and so forth. The capacity is then made available from each TSO to the back-end system, as illustrated in diagram 9:
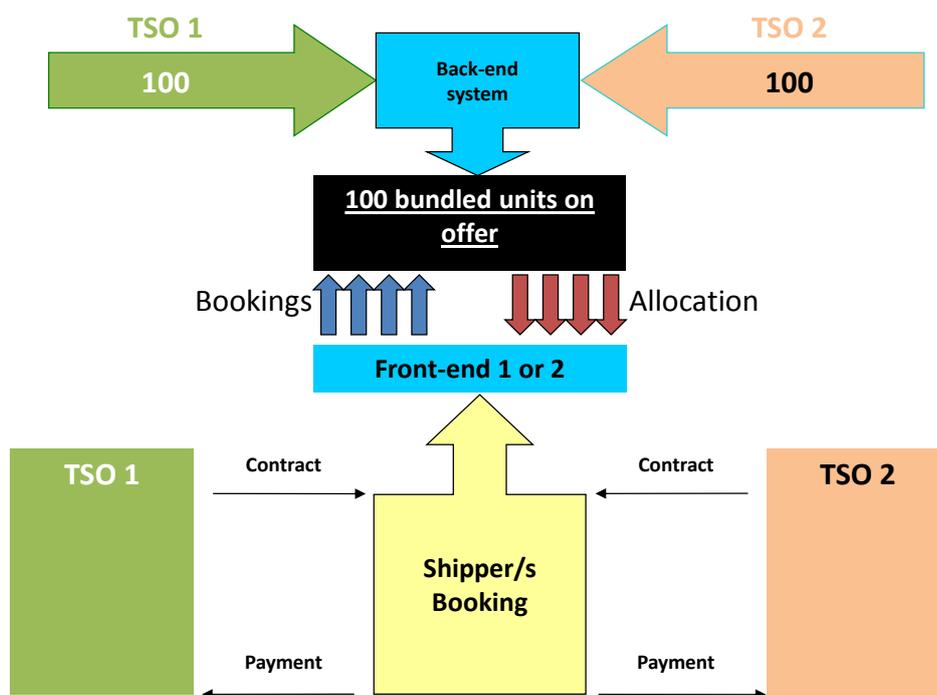

Diagram 9: Bundled service concept

Shippers are able to log on to the front-end part of either TSO 1 or TSO 2, which connects both with the back-end system to book the capacity, given the timeframes and allocation mechanisms defined in the CAM network code. In this way the shippers can participate in the joint allocation, by logging on to either TSO 1 or TSO2's online platform.

The shippers receive a capacity contract from each TSO, and have separate payment obligations towards the TSOs, as also illustrated in diagram 9.

This concept provides the market with a number of advantages:

   i.   Shippers are able to book a single bundled entry/exit capacity value during a joint auction, removing the need to buy two separate capacities, or only being allocated firm/different capacity values on one side of an IP;

   ii.   Only one capacity request is necessary for bundled IP capacity;

   iii. This concept allows for separate pricing and contract obligations per TSO;

   iv.   It is a relatively easy concept to implement both for shippers and TSOs (compared to other options), and is also possible for Virtual Interconnection Points.

There are some consequences to implementing this concept:

   i.   Shippers will receive two capacity contracts for one bundled service;

   ii.   The same shipper entity will have to be registered on both sides of an IP;

   iii. Using this bundled service, it will not be possible to trade gas at IPs;

   iv.   Bundled capacity must also be sold as bundled capacity on the secondary market (no possibility to split up capacity).

Flow nomination towards bundled capacity

The flow nomination for bundled capacity should be via a single nomination. A single nomination is defined by ENTSOG as a nomination uniformly submitted to both involved TSOs. Adjacent TSOs must make sure that a check is performed in the matching procedure to confirm that it is the same shipper sending the nomination to both TSOs.

It should also be possible for adjacent TSOs to only require shippers to nominate towards the matching responsible TSO, if both adjacent TSOs agree to this arrangement.

As both TSOs involved at the IP receive a flow nomination, TSOs are able maintain existing, well-established IT-solutions and processes without the need for significant IT development costs, whilst still maintaining the intention of the CAM framework guideline.

Bundling of capacity in the transitional period

Capacity becoming available on one side of an IP exceeding the available capacity on the other side of the IP shall be allocated for a duration not exceeding the expiration date of the corresponding capacity on the other side of the border. This process should be coordinated by the adjacent TSOs at each IP.

5.4.4. Virtual interconnection points

Virtual Interconnection Points (VIPs) are points collecting capacity from two or more pipes connecting two adjacent TSO systems. A simple view of the physical and commercial setup is shown in diagram 10:
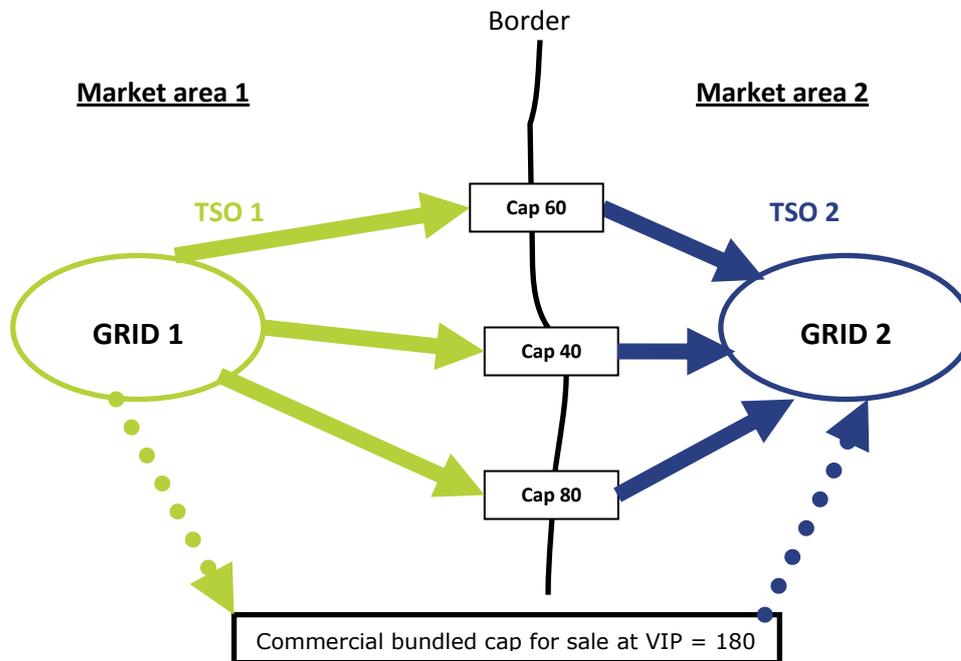

Diagram 10: Illustration of a Virtual Interconnection Point

The example shows three separate physical capacities between two TSO grids. These 3 physical capacities are collected together into one VIP where 40+60+80 = 180 units of bundled firm capacity are on offer to the market. When capacity has been allocated, the shipper only has to nominate once towards the VIP.

In ENTSOG's view, that there are both advantages and challenges with VIPs.

Advantages:

   i.   Shippers only have to book firm capacity at one bundled virtual point;

   ii.   Shippers only have to nominate at one bundled virtual point.

Challenges:

   i.   High degree of planning needed between TSOs;

   ii.   The physical network characteristics can make VIPs very challenging or even impossible to establish;

   iii. Virtual interconnection points will increase the role of the TSO in balancing and at the same time limit the possibilities for network users to offer flexible gas to the TSO for balancing purposes, resulting in a reduced the scope for market based balancing;

   iv. Users are faced with no transparency on congestions when the physical IPs are removed and merged to one VIP;

v.   VIPs may result in differences in the allocation of operational costs between adjacent TSOs

vi.   For tariff cost-reflectivity, the location of an IP is important. The KEMA study on tariffs and balancing, for example, identified the lack of locational pricing as an impediment to efficient cross-border trade. Appropriate locational pricing is believed to enhance tariff cost-reflectivity. By definition, with a VIP such locational pricing is relinquished.

ENTSOG suggests that VIPs could be established where two adjacent TSOs' calculation shows that the total amount of firm technical capacity will be equal to or higher than having the respective IPs when separated. This can be done at any point in time irrespective of the percentage of capacity that is bundled. However, TSOs are entitled to calculate the possible capacity for a VIP in time to implement same five years after the entry into force of the CAM network code. Also VIPs should only be established where it is technically and economically feasible.

5.4.5.   Booking Platforms

The overall purpose of booking platforms is to make the booking and allocation of bundled products possible and to make it easier for shippers to book capacity. ENTSOG believes that an optimal booking platform solution depends largely on market needs.

Below a number of possible booking platform solutions are listed, ranging from a platform for each TSO/country/IP to one single EU platform.

i.   Platform for each TSO/country/IP (see diagram 11 below):

a.   No common platform envisaged for European Union;

b.   Market gains little benefit/value from multi IP platforms;

c.   Bundling must be performed on all capacities becoming free when old contracts expire;
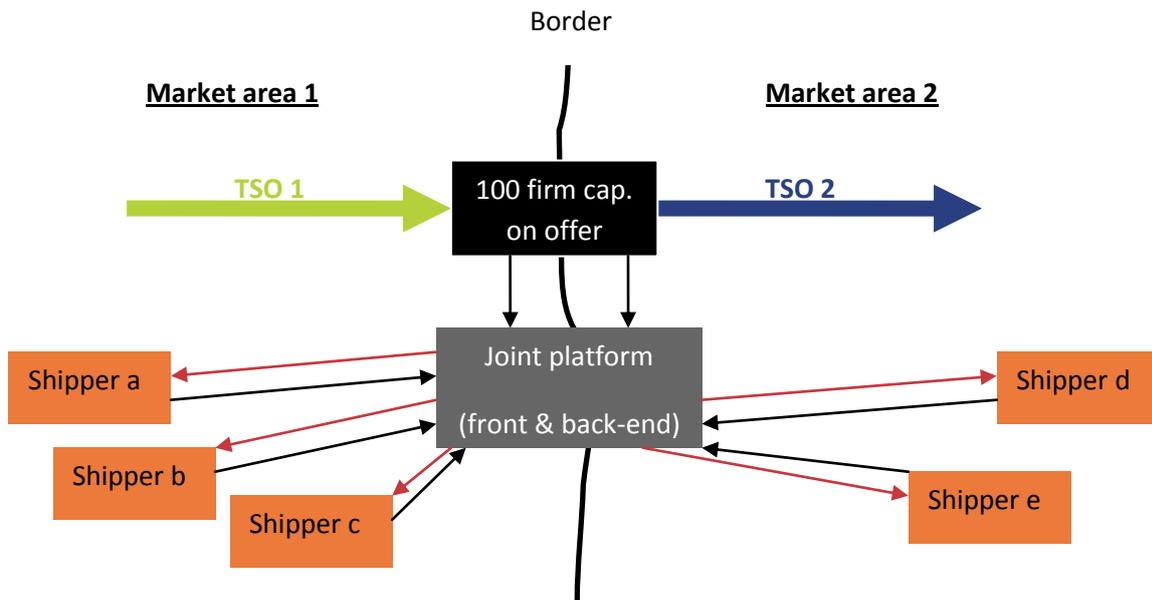
d.   Diverse allocation methods.

Diagram 11: Booking platform with a "joint platform"

The diagram above shows an example with an offer of 100 units of bundled firm capacity. There are five shippers interested in booking the capacity on the joint platform (as indicated by the black arrows). All the five bookings are managed by the joint system, where the bookings are processed and the allocation of bundled capacity is communicated back to the shippers (as indicated by the red arrows).

    ii.   Common EU booking platform, based on initial solution illustrated in diagram 12 below:

        a.   The market values a common European platform;

        b.   Joint back-end modules can be developed with common communication procedures which could make an EU booking platform as a secondary step possible;

        c.   Significant bundled capacity to be booked;
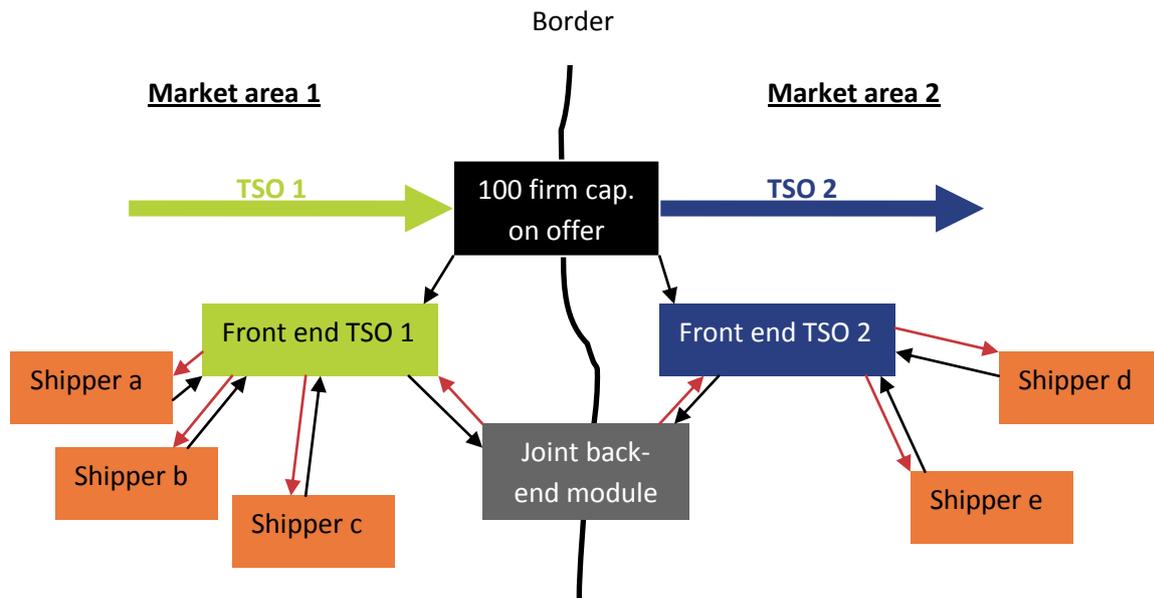
        d.   Common allocation method.

Diagram 12: Booking platform with a joint back-end system

There are no joint front-end platforms included in this scenario at the individual border points because the final goal is to reach a common European platform in the end. Therefore, adjacent TSOs only establish joint back-end modules, not requiring joint front-end platforms that must be removed later on.

The diagram above also uses the example of offering 100 units of bundled firm capacity. There are five shippers booking the capacity, three via the TSO 1 booking system and two via the TSO 2 system (as indicated by the black arrows) or by a joint front end platform. All five bookings are collected in the joint back-end system where the bookings are processed and the allocation of bundled capacity is sent back via the booking system to the shippers (as indicated by the red arrows).

When a number of back-end modules have been developed, a common European platform should be developed connecting with all the individual back-end modules, as illustrated in diagram 13 below. In the diagram we see four joint back-end modules developed by a total of eight TSOs which are connected to the European platform. Shippers book on the European platform but still have payment and contractual obligations towards the single TSOs.
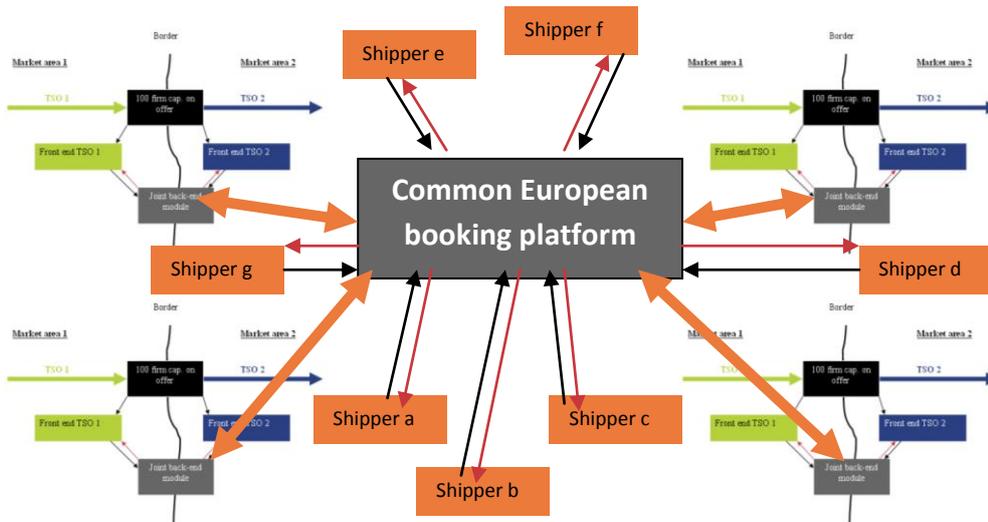
Diagram 13: Common platform connecting adjacent TSOs back-end modules

iii.   Common EU booking platform (both front-end and back-end):

   a.   The market values a common European platform highly;

   b.   Time to develop the concept for one platform;

   c.   Considered more cost efficient than ii. and i. solutions.
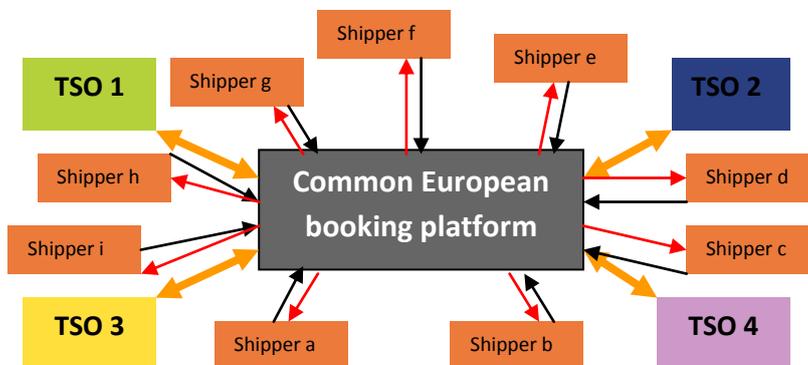

Diagram 14: Common platform with both common front and back-end system

In this scenario, a common European platform is built where each TSO uploads its own capacity directly on the common platform. All shippers go directly to the European platform to book capacity and following same will conclude individual agreements with the TSOs involved.

The difference from scenario ii is that TSOs are given a wide timeframe but should then work out a solution for a European platform without any steps in between.