



Roadmap for the early implementation of the Capacity Allocation Mechanisms Network Code

Update of October 2014

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1. Executive Summary

The XXI Madrid Forum of 22-23 March 2012 called upon *“TSOs, with the full involvement of relevant NRAs and Member States, to work towards setting up a number of regional pilot projects and regional pilot platforms”* for the early implementation of the Network Code on Capacity Allocation Mechanisms (hereafter the CAM NC). A draft Roadmap was presented at the XXII Madrid Forum of 2-3 October 2012. Participants invited ACER and ENTSOG *“to promote the convergence of the ongoing projects to avoid duplication of costs, as well as to report on progress of implementation at its next sessions”*.

The CAM Roadmap was published on 1 March 2013 on ACER and ENTSOG websites¹ and presented at the XXIII Madrid Forum of April 2013. The Forum welcomed the CAM Roadmap and encouraged ACER and ENTSOG to *“continue the work in close cooperation with the relevant stakeholders by e.g. collecting and documenting common problems and best practices to enable efficient solutions.”*

The first CAM Roadmap report was updated in October 2013, including the state of play of pilot projects for the early implementation of the CAM NC and including the implementation of key provisions of the CAM NC at interconnection points. The updated Roadmap version of October 2013 also contained information on the valuable experience gained from the solutions adopted and the open questions shared by the participants in the pilot projects during the first quarters of 2013.

The CAM Roadmap version of October 2013 was presented to the Madrid Forum in its XXIV meeting on 16 October 2013. The Forum welcomed NRAs’ and TSOs’ efforts in enabling the early implementation of the CAM Network Code and encouraged further work.

The present new version of the CAM Roadmap shows an updated picture of how early implementation of the CAM Network Code is taking place by TSOs and across IPs in EU Member States. As already stated in previous versions of the Roadmap, the early implementation of the CAM NC provisions is fostering the overall aim of the internal energy market by 2014 and promotes opportunities to share knowledge about the experience gained from voluntary early implementation through pilot projects before the CAM NC provisions become binding on 1 November 2015. It also describes the progress achieved in certain CAM NC provisions and the current state of play in the existing pilot projects.

¹ http://www.acer.europa.eu/Gas/Regional_%20Initiatives/CAM_roadmap/Pages/default.aspx
[http://www.entsog.eu/public/uploads/files/publications/CAM%20Network%20Code/2013/a\)%20CAM%20Roadmap%20-%20Final%20version%20010313%20-%20v2.pdf](http://www.entsog.eu/public/uploads/files/publications/CAM%20Network%20Code/2013/a)%20CAM%20Roadmap%20-%20Final%20version%20010313%20-%20v2.pdf)

The CAM Roadmap is structured in two main parts. Its first part (sections 2-3) focuses on the governance of the process, i.e., how all parties involved relate and communicate in order to monitor and facilitate the pilot projects, while the second part (section 4 and Annex I) provides details on the implementation of the pilot projects. An accompanying file, Annex II, shows when selected CAM NC obligations will be early-implemented at the level of interconnection points (IPs).

The following diagram (Figure 1) gives an overview of the key project milestones in 2014 and upcoming developments in 2015, as part of the early implementation of the CAM NC within the EU.

Figure 1 – Key project milestones in 2014 and upcoming developments in 2015

- CAM Roadmap:
 - Joint meeting of CAM Coordination Group and EU Stakeholders Group in September 2014
 - Publication of an updated Roadmap to reflect recent developments in October 2014
 - ENTSOG consultation to identify market needs (Art. 27 (3) CAM NC) conducted spring 2014. Publication of report on joint booking platforms by November 2014
- PRISMA:
 - January 2014: launch of secondary market functionality
 - June 2014: establishment of an ad-hoc cooperation with shippers on usability of the platform
 - 31 TSOs connected to the platform (2 in pilot projects), with a total of 378 registered companies and approx. 1200 users as of July 2014
 - Number of auctions conducted through August 2014: approx. 68.000
 - Regular consultation with stakeholders on General Terms and Conditions (GT&Cs)
 - Foreseen for 2015: implementation of new cost allocation key, within-day, multi currency, integration of UK and Ireland
- Bundled Product Hungary/ Romania and Regional Booking Platform:
 - Capacity auctions for Hungarian unbundled capacity products
 - Bundled capacity auctions on HU-RO interconnector by end-2014
- GSA:
 - Establishment of multi-operator platform in July 2014
 - Auctions for unbundled and bundled capacity products (yearly, quarterly, monthly) in Poland and with Czech Republic
 - Foreseen for 2015: pilot project with NET4GAS, within-day and day-ahead product auctions, secondary market, multi currency and other features
- South CAM Roadmap:
 - Firm and interruptible yearly, quarterly and monthly bundled and unbundled products simultaneously auctioned at both the VIP IBERICO (Portugal and Spain) and the VIP PIRINEOS (France and Spain)
 - Monthly auctions in accordance with CAM NC auction algorithms
- Other upcoming developments in 2015:
 - Joint methods for capacity maximisation through dynamic capacity calculation by TSOs (February 2015)
 - ACER's report on capacity bundling (November 2015)

2. Background

The CAM Roadmap has the goal of fostering the early implementation of the provisions from the Network Code on capacity allocation mechanisms (CAM NC), before it becomes applicable on 1 November 2015. For that purpose, the CAM Roadmap identifies and monitors sequential implementation steps through pilot projects at cross-border interconnection points in EU Member States, which are testing the NC provisions, hence paving the way towards the timely implementation of the CAM NC across Europe. The early implementation until 1 November 2015 remains a voluntary process and relies on the commitment of TSOs and NRAs involved in the pilot projects, as well as on the support of ACER, ENTSOG, the European Commission and stakeholders.

The early implementation of the CAM NC is offering the opportunity to draw lessons from the experience gained during pilot projects' implementation in order to support and encourage further work and therefore promote significant progress towards the creation of the gas internal market. To achieve this goal, the CAM Roadmap intends to: (i) provide an overview of projects currently under development, (ii) share information, in particular on best practices, and identify issues and solutions adopted throughout the development of the voluntary projects, (iii) set targets for future work within the scope of the CAM Roadmap, (iv) describe roles and responsibilities for all the parties involved in the development of the pilot projects and (v) promote, to the extent possible, transparency in the process towards stakeholders and convergence of the pilot projects towards a coherent implementation of the CAM NC provisions with the same understanding across the different projects throughout Europe.

3. Purpose of the CAM Roadmap and organisational structures

3.1. Purpose of the CAM Roadmap

The CAM Roadmap is a tool to facilitate the early implementation of CAM NC by:

- Promoting experience sharing and exchange of lessons learned between existing and future pilot projects voluntarily launched by TSOs and NRAs;
- Ensuring that problems related to the implementation of the CAM NC are correctly identified, solutions adopted by the pilot projects are shared and lessons drawn from the implementation of pilot projects are carefully considered;
- Informing adequately all interested stakeholders about the ongoing process;
- Enabling ACER and ENTSOG to monitor the whole process, as requested by the Madrid Forum, ensuring the coherence of solutions adopted by the different projects, avoiding duplication of costs and aiming to facilitate and enable the early implementation of the CAM NC.

3.2. Organisational structures, roles and responsibilities

The main pillars of the CAM Roadmap are represented by pilot projects. Parties involved in each pilot project are the best placed to decide on the organisational structure that suits them best (i.e., using the current regional groups – Regional Coordination Committee (RCC), Stakeholders Group (SG), Implementation Group (IG)² – if they wish, or setting up new groups). For the sake of simplicity, the groups managing each pilot project are identified in this CAM Roadmap document as “Core Groups”.

Each **Core Group** is comprised of the TSOs implementing a certain pilot project and their responsible NRAs. They may also collaborate with relevant stakeholders through periodic consultations, information sessions, regular meetings or any other way deemed appropriate to exchange views on the project features. The Core Group oversees pilot project implementation, and it mainly deals with the identification of national requirements and the resolution of technical and legal questions related to the project.

To facilitate coordination at cross-regional level, each Core Group is invited to appoint two (or more) representatives (at least one from the NRAs and one from the TSOs) which have the task

² See ACER Status Review reports on the Regional Initiatives for further information about the composition and tasks of these groups.

to regularly report to ACER and ENTSOG on progress made, obstacles faced, solutions adopted and issues of general interest resulting also from the interaction with stakeholders. The latter encompass, in particular, issues that need to be discussed at EU-level because they may affect other projects.

The cross-regional coordination is ensured by two groups, namely: an **EU Stakeholders Group** and a **CAM Coordination Group**. These groups work in close cooperation with ACER and ENTSOG, which have the role of promoting and facilitating a consistent implementation of the CAM projects across Europe along with the market developments of each gas region.

The **EU Stakeholders group** comprises representatives of the European Commission, ACER, ENTSOG, Member States, NRAs and TSOs representing the pilot projects (as well as other NRAs and TSOs interested), the Lead Regulators of the three gas regions and stakeholder associations, and has the aim to:

- Involve and engage EU stakeholders;
- Promote a high level of transparency in each step of the implementation process.

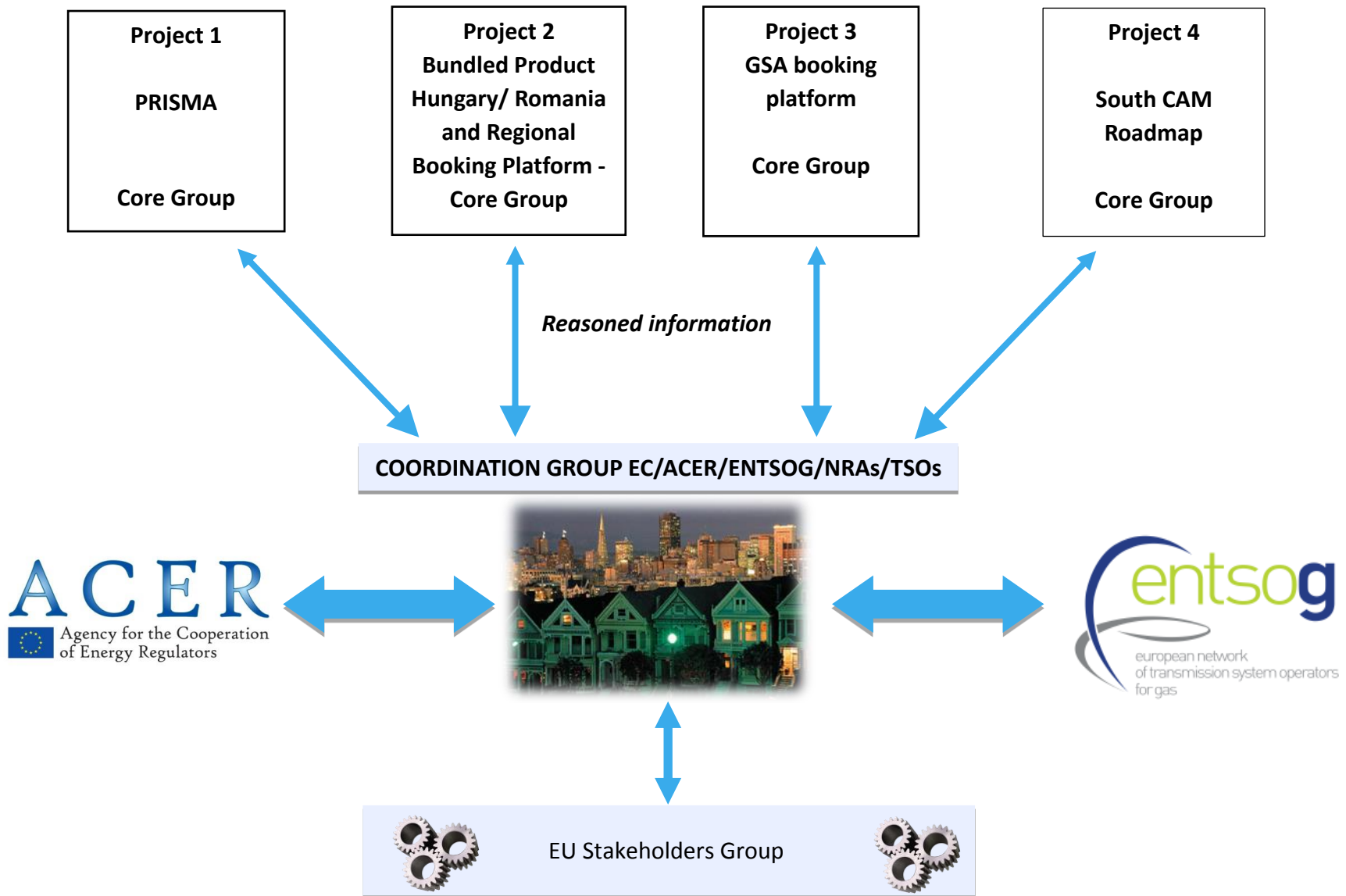
The **CAM Coordination group** encompasses EC, ACER, ENTSOG and NRAs and TSOs representing the pilot projects. Member States also have the possibility to participate; other interested NRAs and TSOs may be invited as well. Its main aim is to facilitate the implementation process by:

- Building a common understanding on how to apply the NC provisions;
- Identify and exchange best practices among participants and anticipate any issue or complexity arising from the implementation process, so as to promote the adoption of the most effective solution or solutions building upon the work already done;
- Monitor the developments of the projects' implementation according to the objectives and timeline set in the Roadmap;
- Discuss the evolution of national regulations aimed at ensuring consistency between the pilot projects;
- Support projects facing problems and/or delays which might arise in the course of the projects' implementation, by helping to identify and promote solutions. The aim is to resolve problems swiftly and with a consensual approach.

NRAs and TSOs representing a Core Group may ask ACER and ENTSOG to organise ad-hoc meetings with representatives of the EC, ACER and ENTSOG in order to discuss, on a high level, specific issues which are relevant for a given pilot project and which, due to their sensitivity, deserve to be preliminarily discussed within a more restricted group compared to the CAM

Coordination Group. Any request for such an ad hoc-meetings shall be complemented with a brief explanation of the issues that require discussion.

This new framework and the interaction between the different groups can be represented as shown in the figure in the following page.



4. Implementation

This second part of the CAM Roadmap illustrates the details of the implementation of the CAM NC provisions for each of the projects involved. For this purpose, the following sections have been included:

- Brief description of the pilot projects currently existing and of the network code provisions that are in place or are foreseen to be implemented, and the expected timing;
- Geographical scope of the projects;
- Review of issues, lessons learned, solutions adopted and open questions that arise during CAM NC early implementation.

A fuller description of each project and their detailed timeline and milestones can be found in Annex I.

Finally, the previous version of this CAM Roadmap document contained in its Annex II a table with information at the level of interconnection points (IPs) on the firm standard capacity products (where available) being offered and how they are being offered in the course of early implementation. This table is now available on ENTSOG's and ACER's websites³. The table contains updated information about implementation of CAM NC provisions per IP.

4.1. Scope of projects related to CAM NC provisions

The table below summarises the four pilot projects currently in place in EU Member States⁴.

As early implementation of the CAM NC is voluntary, it should be noted that the table does not represent an assessment of implementation compliance by ACER or ENTSOG (formal implementation monitoring), but it is intended instead to give an overview of the scope of projects in progress.

³ http://www.acer.europa.eu/Gas/Regional_%20Initiatives/CAM_roadmap/Pages/default.aspx
http://www.entsog.eu/public/uploads/files/publications/CAM%20Network%20Code/2014/CAP0471_141022_Annex%20II%20-%20CAM%20Roadmap_final.xls

⁴ Readers will note that a previously included pilot project, "Bundled product at Lasów," is currently not part of the CAM Roadmap. The suspension of this project was notified by the project promoters in June 2014. Diverging views of the responsible TSOs on which platform to be used for the bundled auction are the reason for the project's suspension. Further implementation of the project requires discussions between TSOs and NRAs in order to work out the methodology applicable for the choice of the auction platform.

	PROJECT NAME	Project description	Member States involved	TSOs involved
1*	PRISMA	Joint platform for the allocation of capacity according to the CAM NC rules as well as according to national rules. Implementation started in April 2013 and is currently in progress	Austria, Belgium, Denmark, France, Germany, Italy and the Netherlands As of Nov. 2014: Slovenia As of 2015: Ireland, and the UK Via pilot project: Portugal and Spain	Bayernets, BBL Company, Enagas, Energinet.dk, Fluxys Belgium, Fluxys Deutschland GmbH, Fluxys TENP, GASCADE Gastransport, Gas Connect Austria, Gaslink, GRTgaz, GRTgaz Deutschland, GTS, GTG Nord, Gasunie Deutschland, Gasunie Ostseebindungsleitung, jordgasTransport, National Grid, Nowega, ONTRAS Gastransport, OPAL Gastransport, Open Grid Europe, Plinovodi, Premier Transmission, REN-Gasodutos, Snam Rete Gas, terranets bw, Thyssengas, TIGF, Trans Austria Gasleitung
2	GSA	Capacity auctioning platform developed in accordance with the requirements of the CAM NC	Poland, Czech Republic	GAZ-SYSTEM, NET4GAS
3	Bundled Product Hungary/ Romania on the Regional Booking Platform (RBP)	Allocation of firm rolling monthly bundled capacity as a first step on the HU-RO interconnector via the RBP according to the CAM NC, applying the 'product bundling' principle	Hungary, Romania	FGSZ, Transgaz

4**	Coordinated implementation of CAM NC at all IPs between entry-exit systems in the South Region: France, Portugal and Spain (South CAM Roadmap)	Allocation of firm standard yearly, quarterly and monthly bundled and unbundled products via auctions that are developed according to the calendar and algorithms defined in the NC in virtual points. The allocation is done on the PRISMA platform ⁵	France, Portugal, Spain	GRTgaz, TIGF, REN, Enagas
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* Some functionalities provided by the platform may not be adopted by all connected TSOs during the voluntary phase of CAM early implementation.

** The progressive auctioning of standard bundled products at the IP between GRTgaz North-GRTgaz South and both the VIP PIRINEOS (France and Spain) and the VIP IBÉRICO (Portugal and Spain) takes place on the PRISMA platform. Monthly products were offered for the first time in September 2014 and daily and within-day products will be offered in November 2015.

CAM NC IMPLEMENTATION PER PROJECT

The below table reports on:

- Provisions already in place by the end of 2013 (marked with 2013)
- Key provisions of the CAM NC that current projects are already planning to implement by the end of 2014 (marked with 2014)
- Key provisions of the CAM NC that current projects are planning to implement before November 2015 (marked with 2015).

CAM NC Provisions		Projects	PRISMA ⁶	GSA	Bundled Product Hungary/Romania and Regional Booking Platform ⁷	Coordinated implementation of CAM NC at all IPs between entry-exit systems in the South Region (South CAM Roadmap)
Platform	Joint, anonymous, web-based platform established		2013	2015	2014	
	Using already existing platforms		2012	2014		2014 (PRISMA) ⁸
	Web-based platform not yet used					
	Platform offers secondary capacity		2014	2015	2015	
Standard Firm Bundled Capacity Products	Yearly		2013	2014	2014	2014
	Quarterly		2013	2014	2014	2014
	Monthly		2013	2014	2014	2014
	Day Ahead		2013	2015	2014	2015

⁶ Some functionalities provided by the platform may not be adopted by all connected TSOs during the voluntary phase of CAM implementation. Annex II shows which of these elements are being implemented at which IPs.

⁷ Estimated dates from the RBP project promoters

⁸ Enagás and REN joined PRISMA in 2014 via a pilot project.

	Within-day	2015	2015	2014	2015
CAM NC Auctions	Auctions used	2013	2014	2014	2013 (VIP IBÉRICO - ES-PT ⁹) 2014 (VIP PIRINEOS - ES-FR ¹⁰)
	Other allocation method currently used	2013 (for non-CAM NC purposes, i.e. to allow for compliance with national rules)			2013 (only for daily and within-day until 2015)
	CAM timings	2013	2014	2014	2014
	Other auction timings		2014	2014	2013 (VIP IBERICO)
Auction algorithm	Ascending clock algorithm for yearly, monthly, quarterly products	2013	2014	2014	2014
	Uniform price algorithm for day-ahead, within-day products	2013	2015	2014	2015
Bundling	Bundled product offered	2013	2014	2014	2013 (VIP IBÉRICO - ES-PT) 2014 (VIP PIRINEOS - ES-FR)

⁹ Capacity of the two physical IPs between Portugal and Spain (i.e Valença do Minho (PT) / Tuy (ES) + Badajoz (ES) / Campo Maior (PT)) is offered through a Virtual Interconnection Point (VIP) called VIP IBERICO.

¹⁰ Capacity of the two physical IPs between France and Spain (i.e Larrau + Irún (ES) / Biritatou (FR)) is offered through a VIP called VIP PIRINEOS.

	All capacity offered as bundled to the extent it can be matched	2013	2014	2014	2013 (VIP IBÉRICO - ES-PT) 2014 (VIP PIRINEOS - ES-FR)
	Follows CAM NC rules on offer of unbundled capacity	2013	2014	2014	2014
	Virtual Interconnection Point established	2013	Not applicable	Not applicable	2013 (ES-PT VIP) 2014 (ES-FR VIP)
Nomination	CAM Centralised Approach (i.e. Single Nomination)		Not applicable	2014	2015
	Decentralised Approach (i.e. double nomination)				2013
Interruptible	Day-ahead product offered	2013	2015	2014	2015
	Other interruptible products offered	2013	2015		2014
	Default interruption lead time used	2013 (At discretion of TSOs)			2014 (At discretion of TSOs)
	Other interruption lead time used	2013 (At discretion of TSOs)			2014 (At discretion of TSOs)
	Timestamp + pro rata approach to interruption sequence	2013 (At discretion of TSOs)		At discretion of TSOs and NRAs involved	2014 (At discretion of TSOs)
	Other approach to interruption sequence	2013 (At discretion of TSOs)	At discretion of TSOs and NRAs involved	At discretion of TSOs and NRAs involved	2014 (At discretion of TSOs)
Contract model	One contract with each TSO	2013	2014	2014	2013 (VIP IBÉRICO - ES-PT) 2014 (VIP PIRINEOS - ES-FR)

Principles of co-operation	Co-operation practices in line with CAM NC	2013	2014	2014	2013
	Other co-operation practices currently used		At discretion of TSOs involved		
Tariffs	Reserve price = regulated tariff	2013	National discretion of TSOs and NRAs involved	National discretion of TSOs and NRAs involved	2013 (VIP IBÉRICO - ES-PT) 2014 (VIP PIRINEOS - ES-FR)
	50:50 default rule applied for split of auction premium	2013	National discretion of TSOs and NRAs involved	National discretion of TSOs and NRAs involved	2013 (VIP IBÉRICO - ES-PT) 2014 (VIP PIRINEOS - ES-FR)
	Other rule applied for split of auction premium	2013	National discretion of TSOs and NRAs involved	National discretion of TSOs and NRAs involved	
	Over and under recovery mechanisms approved by NRA	2013	National discretion of TSOs and NRAs involved	National discretion of TSOs and NRAs involved	2015, at national discretion of involved authorities

Capacity calculation and maximisation (Article 6 of CAM NC)

In addition to the early implementation work carried out by TSOs through the pilot projects, it is relevant to point out that TSOs are also working to fulfil other provisions of the CAM NC that will require to be implemented by 1 November 2015.

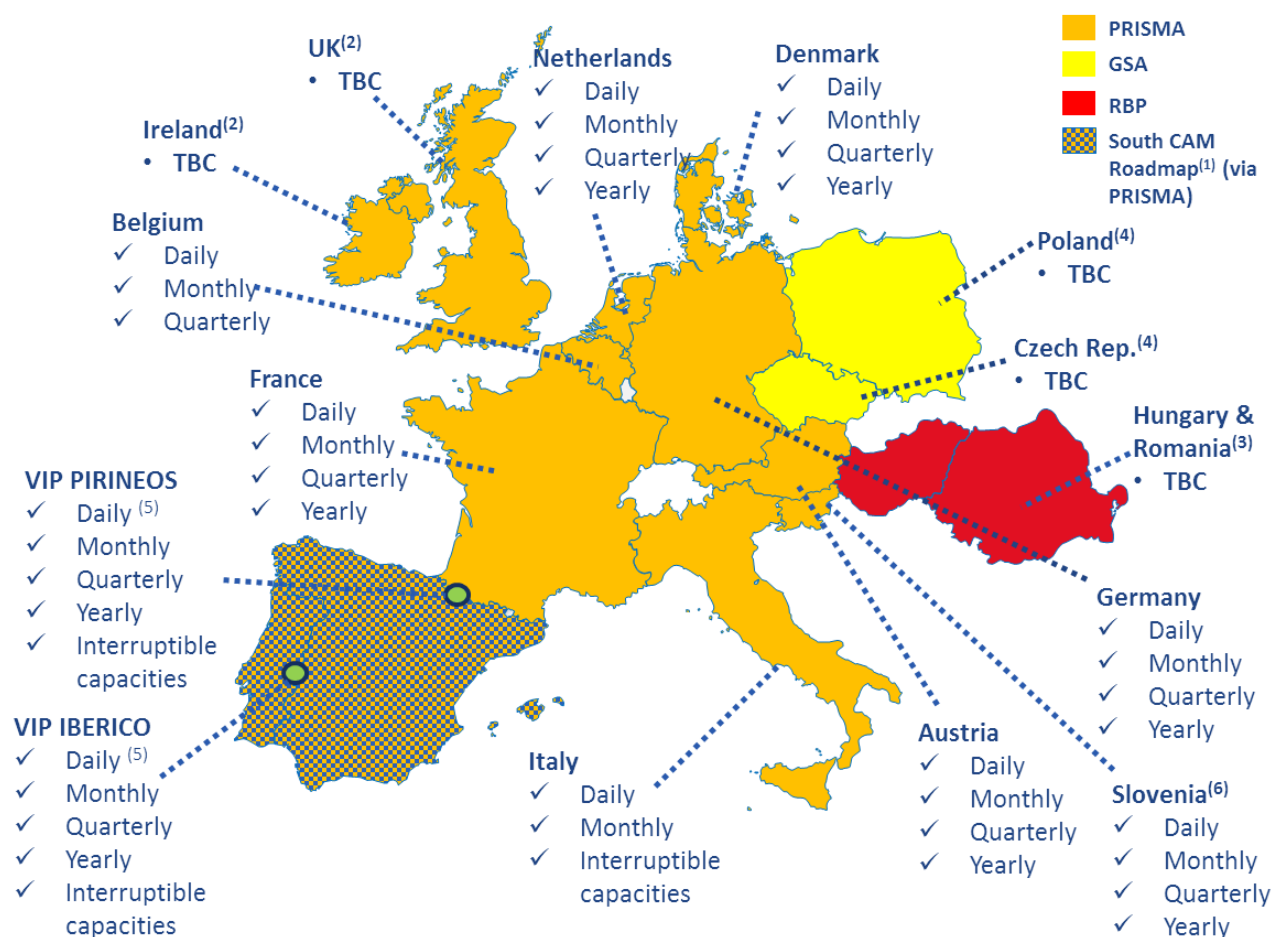
According to Article 6(1)(a) of the CAM NC, TSOs have to take certain measures in order to maximise the offer of bundled capacity through the optimisation of the technical capacity at IPs, giving priority to those IPs where there is contractual congestion pursuant to point 2.2.3(1) of Annex 1 to Regulation (EC) No 715/2009. By 4 February 2015, TSOs shall establish and apply a joint method, setting out the specific steps to be taken by the respective TSOs to achieve the required optimisation. The detailed description of the requirements of such joint method is outlined in points (1), (2), (3) and (4) of Article 6(1)(a) of the CAM NC.

The community of TSOs, including those not involved in the pilot projects, are preparing for the February deadline. They are sharing experiences and knowledge on joint method approaches via ENTSOG working groups in order to comply with the applicable provisions of the NC.

4.2. Geographical scope of the projects

The map below (Figure 3) summarises the products offered in Q3 2014 in each of the countries involved in pilot projects. As indicated in the previous section, several TSOs are envisaging the implementation of further capacity products during 2015. This list of products reflects the current status and it may be modified in the future due to internal evaluations by TSOs and discussions with the relevant NRAs where necessary.

Figure 3 – Indicative product offer per project, Q3 2014



(1) Capacity in the South CAM Roadmap project is currently allocated via the PRISMA platform

(2) Allocation of capacities on PRISMA in Ireland and UK will start in 2015

(3) Allocation of cross-border capacities on the RBP is foreseen to start in Dec. 2014

(4) Allocation of cross-border capacities on the GSA is foreseen to start in 2015

(5) These products are available on a FCFS basis

(6) Allocation of capacities on PRISMA in Slovenia will start in Nov. 2015

4.3. Review of issues related to CAM Implementation challenges

This section aims to analyse the issues with implementation that have been encountered in each of the projects in place or planned and the barriers that may be faced by TSOs:

- **General issues (including those areas where pilot projects are not currently in progress)**

General issues and challenges

Stability of CAM NC	Future amendments to the CAM NC may have impacts on existing pilot projects which should be carefully analysed, e.g., in the current CAM NC amendment proposal, ENTSOG has involved platform operators when working on the auction sections.
Workload/ prioritisation	A large number of European and national initiatives are currently being developed and implemented. This means that some countries (e.g. some smaller countries and those with less experience of implementing European energy legislation) are fully occupied and cannot devote resources towards voluntary projects.
Network user support necessary	Many changes impose costs on network users (e.g. costs of modifying their IT systems). Particularly in areas of zero or very rare contractual congestion, network users have sometimes been resistant to move towards early implementation, as the current system in place may be easier and less costly for them.
Integration of back end systems	TSOs rely on a large number of complex, interconnected IT systems, the nature and structure of which differ considerably between countries. Integrating these systems with new front-end systems for the implementation of CAM is a costly and time consuming process and in some cases may be difficult to complete before the mandatory deadline for implementation of CAM.
Legality of CAM NC provisions	Early implementation requires that governments prioritise work on reviewing and granting requests for derogations or on amending legislation if needed.
Co-ordination with regulatory regime	There may be reluctance in some cases to re-open regulatory settlements to allow early implementation of CAM.
Co-ordination between neighbouring regimes	Due to the interconnected nature of their systems, TSOs generally have substantial experience in co-ordination with neighbouring companies. The development of similar co-operation between neighbouring NRAs is also essential for implementation; this is still under development in some cases.
Recognition of costs incurred by TSOs in implementing new EU provisions	Despite the principle of efficient cost recovery for implementing EU legislation, in some countries TSOs are experiencing difficulties in having costs related to the common booking platform projects recognised in tariffs.

- In those areas where pilot projects are already taking place:

Project	TSOs and NRAs involved	Review of issues
PRISMA	<p>31 TSOs involved (including 2 in pilot projects)</p> <p>NRAs: BNetzA, E-Control, CREG, DERA, CRE, AEEGSI, ACM, CNMC and ERSE (AGEN from Nov. 2014; OFGEM and CER from 2015)</p>	<p>The early implementation of the CAM NC to such an extent in Europe requires a pragmatic and coordinated approach between the different NRAs and TSOs involved. Such a coordination is essential on e.g. the following points (not exhaustive list):</p> <ul style="list-style-type: none"> • Combined offer of bundled products at an IP • Definition of the big and small price steps at both sides of a border • Agreements on auction premium split <p>This requires a robust governance process that needs to be agreed upon between the involved TSOs especially due to the fact that a core business from TSOs (allocation of capacity) is now carried out by a third party (PRISMA platform operator).</p> <p>The funding TSOs of PRISMA agreed since the beginning that PRISMA has to be an open cooperation project in which European TSOs can become Shareholders, according to ENTSG voting rights of the country. They steer the developments of the company. In view of the TSOs involved in PRISMA, the current participation regime ensures a level of independence of the platform operator with balanced and fair treatment of all TSOs. Finally, IT developments for the implementation of the auction algorithms, the connection of the IT tools with the respective back-ends of the parties active on the platform and the implementation of national regulatory requirements involve resources and costs which need to be shared appropriately. The cost allocation mechanism in accordance with ENTSG voting rights has recently been adjusted in order to increase cost-reflectivity in PRISMA. A neutral definition of system interfaces offers a choice of backend suppliers.</p>

Project	TSOs and NRAs involved	Review of issues
GSA		From the technical perspective, Stage 1 (more information in annex, section B) of the GSA implementation is completed. Works regarding Stage 2 shall be completed by the end of 2014. Therefore the technical perspective seems not to be a problem.
	GAZ-SYSTEM and NET4GAS (TSOs)	In terms of early implementation of the CAM NC, the process requires involvement of the different NRAs and TSOs, especially in the CEE and V4 regions, where the CAM NC implementation is at a different stage of maturity. Even auction procedures are not available in all these countries. Therefore the implementation requires also the update of the internal national legal framework in some cases.
	URE and ERU (NRAs)	Also TSOs have various domestic needs in terms of cooperation of the Platform with their internal systems.

Project	TSOs and NRAs involved	Review of issues
Bundled Product Hungary/Romania and Regional Capacity Platform (RBP)	FGSZ and Transgaz (TSOs) HEO and ANRE (NRAs)	<p>In the CEE region, the general environment for the early implementation of the CAM NC, especially the introduction of bundled capacity allocation necessitates close cooperation between all TSOs and NRAs involved in the alignment of the below criteria:</p> <ul style="list-style-type: none"> • Network usage dimensions • Licensing for genuine capacity bundling (i.e. any Network User should have sufficient access to both transmission systems concerned) • The issue of multi-currency environment • Access rules for bundled capacity products • At least the VTP should be accessible for Bundled Capacity owners. <p>The Regional Booking Platform concept and IT solution – due to special regional regulatory, but also practical and financial reasons – was created focusing on the following principles reflecting the expectations of a large number of stakeholders:</p> <ul style="list-style-type: none"> • High reliability (in order to accommodate Member State, NRA and customers' S.o.S. concerns) • Scalability both in operations and offered services (on TSO request) • Easy usage (on TSO and Network Users' request) • Technical requirements for least cost/effort introduction, and short implementation time (on TSO and Network Users' request) • Fair business model based on real cost drivers (TSO and NRA concern) <p>The Booking Platform particularly aims at offering services beyond primary capacity sales:</p> <ul style="list-style-type: none"> • OTC Secondary Capacity Market • Single nomination and allocation, • Client Risk Management • Comfort services.

Project	TSOs and NRAs involved	Review of issues
Coordinated implementation of CAM NC at all IPs between entry-exit systems in the South Region: France, Portugal and Spain (South CAM Roadmap)	<p>GRTgaz, TIGF, Enagas and REN (TSOs)</p> <p>CRE, CNMC and ERSE (NRAs)</p>	<ul style="list-style-type: none"> • During 2013 and early 2014, the SGRI made progress in the regulatory changes in each country for an early implementation of the CAM in the terms defined in the NC. • In March 2014, according to the calendar and procedure (in particular, the auction algorithm) of the NC, firm bundled and unbundled yearly products were auctioned at the FR-ES and PT-ES border via PRISMA. On first Monday June 2014 similar quarterly products were auctioned at PRISMA on both borders. Monthly products were auctioned for the first time in September 2014. All auctions in 2014 follow the CAM NC provisions.

4.4. Review of lessons learned, solutions adopted and open questions arising during CAM NC early implementation

The following tables present a number of issues and implementation aspects which are not explicitly addressed or developed in the CAM NC but which often must be tackled during the implementation of the NC provisions. Each of the tables gives a brief description of the issue and collects examples of solutions adopted or explains the current status. A review of other issues already tackled can be found in previous versions of this document¹¹.

Interaction between CAM and CMP	
Brief description	Current status
<p>A number of provisions of the CAM NC interact with some of the requirements of the CMP Guidelines. The application of these provisions from the CAM NC and the CMP Guidelines has to take place in a compatible and consistent way. An example is the provision on the offer of bundled capacity at both sides of an IP in combination with the implementation of the capacity surrender mechanism established by the CMP Guidelines.</p>	<p>The implementation of the CMP Guidelines and CAM NC requirements and potentially relevant coordination issues were analysed by ACER's "Issue paper" on the need for coordinated decisions at EU level for the implementation of the CMP guidelines in spring 2013, which was published on the ACER website¹². This non-binding document addressed coordination issues as well as interacting topics, such as the identification of cross-border issues in oversubscription and buy-back and firm day-ahead UIOLI provisions; potential coordination issues in the application of capacity surrender (surrender of bundled products, priority rule for reallocation of surrendered capacity, payment obligations); and the Interpretation of long-term UIOLI.</p> <p>In July 2014, the European Commission issued a non-binding staff working paper, "Guidance on best practices for congestion management procedures in natural gas transmission networks."¹³ It presents</p>

¹¹ CAM Roadmap version of October 2013:

http://www.acer.europa.eu/Gas/Regional_%20Initiatives/CAM_roadmap/Documents/ACER-ENTSOG_CAM_Roadmap_Update_Oct-13.pdf

<http://www.entsog.eu/public/uploads/files/publications/CAM%20Network%20Code/2013/CAP0395-13%20CAM%20Roadmap%20Update%20October%202013%20FINAL.pdf>

¹² "Issue paper" on the need for coordinated decisions at EU level for the implementation of the CMP Guidelines: http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_CMP_Guidance_issue_paper_on_CMP_implementation_20130808.pdf

¹³ http://ec.europa.eu/energy/gas_electricity/codes/doc/20140711_guidance_congestion_management_ngtn.pdf

	the EC services' understanding of how the provisions of the CMP Guidelines are to be applied in practice, including for when bundled capacities are introduced (e.g., how to address having oversubscription and buyback and firm day-ahead use-it-or-lose-it applied at different sides of the same IP).
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Bundling of different firm capacity products	
<p>Brief description</p> <p>The amount of capacity that can be bundled at each IP is in some cases limited due to the existence of asymmetric available capacity at both sides of the IP. Moreover, different levels of capacity firmness at each side of the IP may require specific rules to allow for effective bundling.</p>	<p>Example/s of solutions adopted</p> <p>On PRISMA, two bundling approaches are possible:</p> <p>Classic bundling approach, where the bundling of capacity products is done “offline” by the TSO. The TSOs submit bundled or unbundled products which cannot be changed by the platform. The coordination and matching of quantities and capacity products implies “offline” coordination between TSOs, especially regarding day-ahead products;</p> <p>Cross bundling approach, where the bundling of capacity products is done “online/automatically” by the platform. TSOs submit capacity raw data (currently booked and available capacity) to the platform. The matching and creation of the bundled and unbundled products is done by the platform in accordance with the applicable legal/regulatory framework, in a sequential manner according to a priority order where products of different types exist at either side of the border.</p> <p>In the GSA platform, the TSOs determine the bundled capacity product and submit it to GSA or each Operator submits capacity on the platform on the same product, date, currency, and common capacity will be offered as a bundled product. If the capacities are different, the common amount will be offered as a bundled product. The rest of the capacity will be offered as unbundled.</p> <p>Product bundling approach (RBP): capacity products are bundled online on the RBP platform. TSOs upload their available capacity, and the amount of capacity which cannot be bundled will be released back to the relevant</p>

	TSO for marketing via its own platform or RBP. In order to be able to bundle products, TSOs need to have harmonised capacity product quality in terms of firmness and usage criteria to the extent possible, so that there is no discrepancy in the practical usage of the bundled capacity product on either side.
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Harmonisation of capacity contracts at both sides of the border	
<p>Brief description</p> <p>The implementation of the CAM NC will result in the harmonisation of a number of aspects of capacity contracts (duration, units, etc.). The CAM NC, however, does not require standardisation of capacity products in terms of aspects such as firmness, restrictions to allocability or accessibility to the VTP. Further harmonisation of contractual terms may eventually be required when other, already developed network codes are fully implemented (e.g. the balancing network code as regards nominations). During the preliminary scoping of a potential FG on Rules for Trading, stakeholders, called for appropriate definitions of certain contract terms and clauses, such as “firm capacity”, temperature issues, rules for maintenance, force majeure, clear conditions on availability and use for capacities with regard to interruption reasons (in terms of transparency) as well as the fair pricing of such products.</p> <p>The appropriate degree of harmonisation of capacity contracts remains an open issue and requires further analysis and monitoring at EU-level.</p>	<p>Current status</p> <p>Existing differences among the contractual terms applied by TSOs at both sides of an IP (e.g. different degrees of firmness) may create inefficiencies and/or additional costs for network users. In contrast, some other network users have asked that the rights underlying the existing contracts are maintained. An overview of the different opinions regarding the convenience or not of harmonising capacity contract terms can be found in the results from the public consultation on the preliminary scoping on potential Framework Guidelines on Rules for Trading¹⁴.</p> <p>ENTSOG and ACER have identified the existence of differences in capacity contracts in EU Member States on aspects such as levels of firmness and restrictions to allocability. It remains to be assessed whether they may represent a barrier to capacity trade and, should that be the case, how this could be tackled.</p>

¹⁴ http://www.acer.europa.eu/Official_documents/Public_consultations/Pages/PC_2014_G_03.aspx

Different currencies in use at each side of the border

Brief description	Example/s of solutions adopted
<p>When TSOs allocate capacity at IPs where the currency in use at each side of the border is different, operational challenges arise. In such situations, TSOs are working in order to solve the potential issue.</p>	<p>In the HU/RO project, it was decided to keep the reserve price in the corresponding currencies and then execute the bids in percentages of the reserve prices.</p> <p>In PRISMA, when the platform started only the currency for the Danish TSO, energinet.dk was different from the reference currency (euro) used elsewhere and a currency conversion mechanism was not implemented by that time. However, due to the growth of the platform, PRISMA is currently working on a multi-currency handling tool which will be implemented by the end of 2014 as a functionality at European level.</p> <p>On GSA, the currency should be agreed by both TSOs upfront. GSA allows using percentages of the reserve prices as well as the price steps previously defined.</p>

Licensing issues

Brief description	Example/s of solutions adopted
<p>The different requirements in terms of licenses for the users to operate in different countries might create in some cases potential obstacles for users when accessing bundled capacity at certain IPs.</p>	<p>Energy shippers in Hungary and some other Central-Eastern European Member States are required to obtain a licence allowing them to trade gas at wholesale level. The licencing criteria differ from Member State to Member State. A form of cross-border licensing may therefore be needed. This issue has been addressed in discussion with NRAs.</p> <p>In France, all network users are required to obtain a licence from the government, which then enables them to sign a transmission contract with GRTgaz and/or TIGF. It is not, however, the task of the TSO to check the validity of the licence, as it is a representation of the network user who commits on it and remain liable for any misrepresentation.</p> <p>In the coordinated implementation of CAM NC at all IPs between entry-exit systems in the South CAM Roadmap, network users have to be registered in each system following the requirements applicable in each Member State in order to participate in auctions for bundled capacity.</p>

	In the consultation for the scoping of a potential FG on Rules for Trading, stakeholders requested the mutual acceptance of licenses across the EU, in the sense that a trader licensed in one of the Member States of the EU should be accepted as trader in another Member State.
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Transition period from the current gas year to the CAM NC gas year (where it is different)

Brief description	Current status
According to the CAM NC, the gas year runs from 1 October to 30 September of the following year. A number of Member States are already in line with that gas year in their country. In a few countries the gas year is still different (e.g. 1 July to 30 June). In such cases, the question arises when that gas year has to be aligned with the provision from the CAM NC: on 1 October 2015 or on 1 October 2016.	The question about the implementation date of the gas year was raised by an NRA to ACER and consulted with the EC. The common view is that the first legally binding yearly auction is in March 2016. Products should be offered in this auction for the gas year Oct 2016 - Sep 2017 and onwards. To the extent that measures are necessary to know what will be on offer in March 2016 for selling these products and then using them in October 2016, measures should be taken in advance of 1 October 2016 (and if the case may be, even before the implementation date of 1 November 2015) and communicated to the users. The earlier the alignment of the gas year takes place, the easier will be for network users to prepare for the yearly auction of March 2016.

Implementation of auction calendar

Brief description	Current status
When exactly does the TSO have to start auctioning capacity products in line with the code: from the annual yearly auction in March 2016 (following the sequence of yearly-quarterly-monthly-day-ahead products offered according to Article 8(3)) or if it should start already with the day-ahead auctions on 1 November 2015.	The auction calendar based on Article 28 of the CAM NC is applicable as of 1 November 2015 (with the exception of Article 6(1)a). This implies that after this date only standard products could be offered and those shall be offered through auctions. Therefore, although Article 8(3) of the NC could seem to suggest that there is a logical order in offering capacity, starting from yearly to daily products, as of 1 November 2015 day-ahead and rolling monthly capacity products shall start to be offered via auctions.

Booking platforms (Article 27 of CAM NC)

Costs of booking platforms	
Brief description	Current status
<p>The establishment and use of 'joint web-based booking platforms', as required by the CAM NC, involves capital expenditure and operational expenditure to be incurred by TSOs.</p> <p>How such fixed and variable costs are shared across the TSOs using a given platform and whether (and how) they are recognised as 'efficiently incurred' by the relevant NRAs remains an open issue in some Member States.</p>	<p>The establishment of one or a limited number of joint booking platforms is required by the CAM NC (Article 27(3)). The related costs have to be assessed by TSOs when deciding which platform(s) to use and be recovered. In a number of Member States, TSOs have already joined a booking platform and NRAs have already recognised the costs involved. However, in other cases, TSOs have not yet decided whether to join an existing platform or to set up their own, due to concerns about the costs, their split among TSOs and about their recovery. The costs of participating in a platform or setting up a new one have been a matter of discussion both at TSO and NRA-level. Cost drivers have been shared with the involved NRAs and different cost allocation keys have been discussed.</p> <p>The different platforms are using varying approaches in terms of cost allocation. In the case of PRISMA, a new cost allocation key will be implemented by January 2015 with the aim to increase cost-reflectivity given the fact that PRISMA offers various functions to market national points and to fulfil national regulatory requirements beyond the scope of NC CAM. In the case of GSA, the cost allocation model aims to reflect the level of use of the platform by each TSO. In some Member States, the discussion about the recognition of costs by the relevant NRAs has influenced the timing of the early implementation of the CAM NC.</p> <p>Discussions on this matter will continue within the next months to ensure that TSOs can take part in one of the platforms currently existing (or still to be implemented) at a fair cost and that these expenditures are recognised by NRAs.</p>

Activities of joint platforms and need for appropriate exchange of information

Brief description	Example/s of solutions adopted
<p>TSOs should ensure that CAM implementation activities which take place via joint platforms are transparent to the market and NRAs, allowing appropriate exchange of information.</p>	<p>With the objective of transparency, a copy of the general terms and conditions (GTs&Cs) between PRISMA and network users is available on the 'Download' webpage, a public section of PRISMA's website¹⁵. These GTs&Cs are periodically revised, whenever necessary due to changes in the services and functionalities offered or other developments. When such revisions take place, stakeholders and NRAs are involved and have the opportunity to provide comments and propose changes to PRISMA (as well as approving the GT&Cs where necessary). The GTs&Cs have been recently revised and a new version is to be applied as of 1 October 2014.</p> <p>In the case of GSA, all necessary information is provided by the platform website in the section Download¹⁶. All documents are in the updated version based on the dialogue with NRA authorities, TSOs and network users.</p>

Agreement on which platform to use when allocating capacity at an IP between two adjacent TSOs using different booking platforms

Brief description	Current status
<p>The CAM NC sets out that TSOs shall offer capacity for the relevant standard capacity products on a booking platform (Article 19(2)). It also establishes that capacity at any single IP or virtual IP shall be offered at not more than one booking platform (Article 27.2(e)). This implies that, in case two adjacent TSOs use different platforms for allocating capacity, they will have to agree which</p>	<p>To date, it has not yet happened that two adjacent TSOs sharing an IP were using different platforms and had to agree on a single platform where allocating capacity at that IP. However, the situation may arise in view of the full implementation of the CAM NC by 1 November 2015 whereby potential disagreement would have to be dealt with.</p> <p>This matter has been raised and discussed within ENTSOG and will be further discussed at upcoming meetings with stakeholders in order to find a suitable solution for possible cases in the future.</p>

¹⁵ <https://platform.prisma-capacity.eu/center/download.xhtml;jsessionid=31FAF403285709E9FBF27D3827FAD96C.node03?conversationContext=1>

¹⁶ <https://auctions.gaz-system.pl/files/downloads>

platform they will use for allocating capacity at their common IP(s). The CAM NC does not set out how it will be ensured that those TSOs agree on which platform to use in that case.	
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Regulatory oversight of booking platform activities	
<p>Brief description</p> <p>Some NRAs are currently exercising their regulatory powers when supervising the costs incurred by their respective TSOs in joining or setting up booking platforms, as well as when reviewing the GT&Cs of booking platforms such as in the case of PRISMA.</p> <p>However, the more general question remains whether the activities of booking platform operators will need to be supervised, and in such case how that would be done. At present, supervisory functions are not foreseen by any regulation, neither in the CAM NC nor elsewhere.</p>	<p>Current status</p> <p>NRAs have started analysing and evaluating the need of putting in place a regulatory framework for supervising booking platform activities. This is an open issue that requires further attention and follow-up. The introduction of possible additional regulatory measures must be carefully evaluated. The final number of platforms deployed across the EU may be a relevant aspect to determine the scope for such regulatory framework.</p> <p>Other aspects related to the regulatory oversight of booking platform activities that may require more attention in future reviews are: procedures to ensure easy access by network users to the platforms and to allow NRAs carrying out their monitoring tasks; a common approach in case of incidents that may lead to invalidate an auction are detected; common principles and clear rules on auction transparency, etc.</p>

ANNEX I: PILOT PROJECTS MAIN FEATURES

A. PRISMA

TSOs involved	Member States Involved	Project description
Bayernets, BBL Company, Enagas, Energinet.dk, Fluxys Belgium, Fluxys Deutschland GmbH, Fluxys TENP, GASCADE Gastransport, Gas Connect Austria, Gaslink, GRTgaz, GRTgaz Deutschland, GTS, GTG Nord, Gasunie Deutschland, Gasunie Ostseeanbindungsleitung, jordgasTransport, National Grid, Nowega, ONTRAS Gastransport, OPAL Gastransport, Open Grid Europe, Plinovodi, Premier Transmission, REN Gasodutos, Snam Rete Gas, terranets bw, Thyssengas, TIGF, Trans Austria Gasleitung	Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, (at present) As of Nov. 2014: Slovenia As of 2015: Ireland and the UK Via pilot project: Portugal and Spain	<ul style="list-style-type: none"> - Joint platform for the allocation of primary and secondary capacity according to CAM NC rules - The common platform is in operation since April 2013 and functionalities for the secondary market are implemented from January 2014. - New functionalities, e.g. within day allocation will be implemented - The platform is open to all TSOs interested in the project. - Project offers functions for TSOs to comply with national obligations as well.

Project Features

- The service company is operating the platform, carries out auctions and allocates capacity products according to the CAM NC on behalf of the participating TSOs since April 2013.
- The shares & costs of the new company are distributed over the participating countries based on the ENTSG voting rules. Starting from 1 January 2015 and in order to improve cost-reflectivity a new cost allocation scheme will be applied so that: 1) Costs related to EU functionalities are attributed to TSOs according to ENTSG voting rights; 2) Costs related to national requirements are individually allocated to the requesting TSOs; 3) Connection and testing costs are attributed as same amount to all TSOs on the basis of their number.
- The platform connects the different backend systems of the various TSOs using standard IT-communication interfaces.
- Requirements have been developed by TSOs and platform operators; the requirements have been evaluated by and discussed with IT specialists.

- Existing infrastructures has been effectively used to ensure cost efficiency.
- The platforms TRAC-X, Capsquare & Link4Hubs, have been replaced by the new joint platform which uses all their benefits and collective experience.
- With the joint platform shippers are able to book capacities at many European network points through one single tool.
- Currently 378 shippers and more than 1200 users are using the platform
- In addition the platform is able to handle regional regulatory specifics of different countries
- Functionalities in order to allow TSOs to comply with obligations beyond CAM (e.g. FCFS, buyback, surrender etc.) and secondary market features have been introduced in 2014.
- Multi-currency functionalities will be implemented by the end of 2014.
- Functionalities to allow for allocation of within-day capacity according to CAM NC will be implemented at the latest by 1 November 2015.

Calendar of implementation

Main Milestones	2011		2012				2013				2014				2015			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
PRISMA				1 2 3 4	3 4 6	3 4 5 6 7 9	3 7 8 9	8 9	8 9 10	9 10	9 10	9 10	9 10					CAM in place

Joint platform

1. Announcement of initiative
2. Analysis of CAM NC requirements
3. Discussions with NRAs to ensure national regulatory context allows early implementation of CAM
4. Development of process and functional specifications
5. Development of ICT specifications
6. Foundation of new company
7. Implementation and testing
8. Prepare and implement go-live
9. Integration of other TSOs
10. Progressive implementation of new features (continues throughout 2014)
11. Secondary market (Q1 2014)
12. Multi-currency (Q4 2014)
13. New cost allocation approach (Q1 2015)
14. Within-day product offer (Q4 2015)

B. GSA Poland – Czech Republic bundling capacity project

TSOs involved	Member States Involved	Project description
GAZ-SYSTEM	Poland	Allocation of the bundled capacity on the PL-CZ border as the early implementation of the CAM NC. The aim of the project is to: - define the terms and conditions how the bundled capacity products can be offered between the Czech Republic and Poland now and in the future; - test the GSA Platform for the offering of the bundled product at the IP Cieszyn.
NET4GAS	Czech Republic	Creation of the CAM NC compliant platform open for the products of other TSOs in two stages: Stage 1: Y, M, Q products (bundled and unbundled) (available) Stage 2: Y, M, Q, D, WD products (bundled and unbundled) (2015)

Project features

The Czech - Polish Interconnector is a joint project of the Polish TSO GAZ-SYSTEM S.A. and the Czech TSO NET4GAS s.r.o. The project was completed in September 2011. Since then, both TSOs offer unbundled products on each side of the interconnection point.

Both TSOs also work closely in terms of coordinated CAM NC implementation in the two countries.

During the 12th GIE Annual Conference in Berlin, the two operators GAZ-SYSTEM and NET4GAS agreed to launch a pilot project regarding the bundled capacity of IP Cieszyn. The planned pilot will concern capacity at the currently existing IP Cieszyn, connecting Polish and Czech transmission systems. Both TSOs also agreed to use the GSA (auctions.gaz-system.pl) for the allocation of the capacity. Both companies NET4GAS and GAZ-SYSTEM with the assistance of the respective NRAs of the countries, i.e., ERU and URE, agreed to set up a Working Group (WG) in order to prepare the marketing concept of the bundled capacity at IP Cieszyn and identify all obstacles for the purpose of implementation of the project.

The relevant cooperation agreement between GAZ-SYSTEM and NET4GAS was concluded in August 2014.

Both TSOs use the GSA test environment (available at auctions.gaz-system.pl/test) for the testing purposes of the upcoming pilot project.

Next steps

As described above, the WG works shall be continued in 2014. The WG shall define details of the pilot project, such as: products, auction details, time schedule, responsibilities etc. The necessary informational campaign shall be prepared in parallel to this process.

GAZ-SYSTEM and NET4GAS agreed on performing tests on GSA Test Environment in the 4th Quarter 2014. In this period both sides are under discussion about Edig@s interface, Marketing Concept, preparing uploading NET4GAS documents on a platform. The Czech side is free to report all necessary requirements. All talks are performed with cooperation with the NRAs in both countries. At a future stage, the parties will discuss the products with cooperation between both dispatching centers.

Calendar of implementation

STAGE I (MAY/JUNE 2014)

- Implementation of GSA platform functionalities related to conducting bundling product auctions
- Ready for bundled projects
- Monthly, Quarterly, Annual products

GSA Platform

Information Exchange System for GAZ-SYSTEM S.A.

- Memorandum of understanding
- Pilot projects
- Cooperation agreements

STAGE II (January 2015)

- Additional interface (edig@s v5.1 in accordance with BRS ENTSOE)
- Multicurrency
- Secondary Market
- Advanced security mechanisms
- Multilanguage
- Tariff calculator
- Financial security check
- Daily & Within-day Auctions



C. Bundled Product Hungary/ Romania and Regional Booking Platform (RBP)

TSOs involved	Member States Involved	Project description
FGSZ,	Hungary,	Allocation of bundled capacity on the HU-RO interconnector via the Regional Booking Platform according to the CAM NC.
Transgaz	Romania	RBP will also be used to book all domestic network points from 2015 on in Hungary.

Project features

The **Regional Booking Platform (RBP)** is an electronic auction and capacity trading platform developed for the easy and cost-efficient implementation and continuous support of the Commission Regulation (EU) No 984/2013 on establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems and supplementing Regulation (EC) No 715/2009 of the European Parliament and of the Council (CAM NC). Regional Booking Platform consists of two major functional blocks: the RBP Application and the RBP Portal.

Overview of functions, implemented product types and services

As the new capacity allocation mechanisms required a new logic and a powerful performance in order to support capacity auctions and data exchange at a massive scale, Regional Booking Platform was decidedly a new IT system both in terms of hardware and software.

That is, RBP is a new and independent IT solution from other FGSZ IT systems, without any precedence in FGSZ's Information Platform or any other related IT systems, and it does not represent an upgrade / added function to older IT solutions. The clear distinction is on one hand serving the fulfilment of high-performance requirements (300 parallel running auctions, with a computing capacity of 100.000 transaction/second), functional independence from other IT solutions and the avoidance of any legacy costs not related to the compliance with CAM NC, on the other.

In order to minimise adaption costs and time, RBP was developed to be an Internet-based thin client solution for both network users and TSOs, which means that everyone may use their current back-end (mainly capacity and contract management and publication-related) systems without the need to modify or add additional modules to these. RBP can be accessed via commonly used web browsers such as IE, Chrome or Firefox.

A description of the functions divided by their mandatory / optional status from the point of view of CAM NC can be found below.

RBP's Basic Services fulfilling the minimum CAM NC requirements

- Ascending clock and uniform price algorithms
- Bundled capacity allocation using the above algorithms
- Unbundled capacity allocation using the above algorithms
- Yearly, quarterly, monthly, daily and within-day auctions
- Electronic contracting
- OTC secondary market for bundled and unbundled capacities
- Multi-currency handling
- Credit limit and regulatory license management
- Permanently available test environment
- 24/7 technical helpdesk

RBP's On-demand Services

- SOAP interfaces
- Flexible auctions (non-standard capacity products, auction calendar and auction scheduling)
- Parallel bidding ladder auctions
- Single-sided nominations (a CAM NC requirement implemented on RBP instead of individual TSO level)
- Bundling of more than two capacity products (route bundling)
- CMP for bundled capacities
- Exchange-like (cleared, anonymous) secondary capacity market
- Multi-language web interfaces
- Non-mandatory publication services

The above functionality is realised in two main logical building blocks, the RBP Application and the RBP Portal.

The two blocks are organised and operated in a layered architecture.

- Layer 1 (Proxy Layer) is responsible for directing users to the active set of servers, supporting the testing and replaying functions (used for maintenance).
- Layer 2 (Application Layer) is serving the active and passive environments of RBP, which means that no shutdown is required for any upgrade or maintenance of RBP.
- Layer 3 (Database Layer) using Oracle DB technology is the source of reports and data exchange.
- Synchronisation among Layers 1-3 is done real-time (including the real-time backup of the RBP transactions) using the Oracle Streams technology, which enables fast data exchange and the reproduction of the status of the system at any time and in any state.

Business model (pricing, governance, shareholding)

Operatorship

The Regional Booking Platform was developed by FGSZ, which is currently the Platform Operator. FGSZ has indicated its readiness to discuss the possibility to create a joint venture to operate RBP, if TSOs joining the RBP would show interest in doing so.

Access to RBP

Regional Booking Platform has its own contractual framework which regulates the access to RBPs' auction system and other services. The roles, responsibilities and the control mechanisms are described in these documents:

- Operational Rules of the Regional Booking Platform: general terms and conditions of RBP,
- TSO Membership Agreement: an agreement between the RBP Operator and a TSO regulating specific terms and conditions of the Regional Booking Platform,
- Cooperation Agreement: an agreement between the adjacent TSOs that offer bundled capacities at their joint IP via the RBP,
- Network User Membership Agreement: an agreement between the RBP Operator and a network user regulating specific terms and conditions of the Regional Booking Platform,

Cost allocation and change request management

Costs can be allocated into distinctive groups: for services necessary to cover all required CAM NC functionalities while there are other functions that are required by national legislation or are demanded purely on market basis.

- A) The annual TSO membership fee includes the following items of which costs are to be shared in an equal proportion by all TSO Members of RBP:
- Software and hardware development costs:
 - i. Historic development cost of software and hardware providing the current functionalities of RBP, necessary to provide full CAM NC compliance.
 - ii. Development costs of software and hardware arising from new / modified European regulations for continuous compliance (e.g. the Incremental Capacity chapter of the CAM NC).
 - iii. Universal IT development costs arising from updating and upgrading IT security, communication standards and other IT specifications.
 - iv. There is an annual development plan and a limited annual budget to cover the new development requirements related to ii) and iii), included in the annual TSO Membership fee. The annual development plan is defined jointly by the RBP Operator and the TSO Members.
 - Operating costs:
 - i. Cost of IT maintenance and IT support,
 - ii. Cost of RBP staff, including also the 24/7 helpdesk service,
 - iii. Cost of utilities used for the purpose of RBP.

- B) Besides the annual TSO membership fee, TSOs and network users as well may request the development of additional functions from the RBP Operator, in which case the beneficiaries of the new development are to bear the additional costs.
- Functions that can be attributed to one or a limited number of individual beneficiaries and / or that are not prescribed by European regulations are financed by the originator(s) of the development request, so that cross-financing is avoided. Such special functions could be e.g. the availability of the platform in national language; specific NRA reports; non-standard interfaces; or any specific service related to a national gas market, etc.
 - In each and every case, the RBP Operator will prepare a feasibility study including technical and financial details, how the individual development requests could be realised. This is then handed over to the originator(s) of the development request who can decide among themselves whether to pursue or abandon the development proposal.
 - An individual development request may take place outside the scheduling of the annual development plan as well.

Calendar of implementation

Main Milestones	2011		2012				2013				2014				2015			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
HU-RO bundling and allocation					1 2	3	4	4	4	5 6			7					CAM in place

- Transgaz and FGSZ signed MoU in order to co-operate on 3rd energy package issues
- Joint working groups established.
- Platform for CAM-NC compliant offer of capacity completed and ready for use
- Harmonising access rules involving both TSOs and NRAs
- First capacity offer (monthly bundled capacity; 10 December 2014)
- Progressive introduction of further standard capacity products according to CAM NC auction calendar and optionally outside of the calendar if so agreed between the project partners. Capacity auctions for Hungarian unbundled capacity products

D. Allocation of capacity in all IPs between entry-exit systems in the South Region: France, Spain and Portugal (South CAM Roadmap)

TSOs involved	Member States Involved	Project description
GRTgaz, TIGF, REN, Enagas	Portugal, France, Spain	<p>The standardised CAM is an auction procedure for all interconnection points between entry-exit systems, establishing standard capacity products to be offered for the cross-border and cross-market area capacity, according to principles established by CAM NC. Regulatory needs at national level for implement the CAM NC have been identified: harmonization of gas day, temperature to measure gas, VIP creation and modification of national regulatory frameworks to introduce auctions according to CAM NC.</p> <p>Main characteristics are: firm bundled and unbundled products to be offered, standard capacity products (yearly, quarterly, monthly, daily and within-day products), capacity set aside for products with shorter term duration, allocation calendar for 2014 and onwards, process to move from physical points to VIP, IT systems implementation for TSOs to use PRISMA platform and integrate the information from auctions and its interaction with nomination, renomination and CMPs schemes.</p> <p>I) ES-FR: Monthly capacity products available for the period from April 2014 to September 2014 were offered using an Open Subscription Period.</p> <p>II) ES-FR & ES-PT:</p> <ul style="list-style-type: none"> - Allocation of yearly and quarterly capacity products through auctions in March 2014 and June 2014, respectively, using the PRISMA platform. - Monthly capacity products were offered through rolling monthly auctions from the 3rd Monday of September 2014. - Daily and within-day products will be offered when TSOs IT systems will be in place (the latest on 1 November 2015) <p>The following IPs are integrated into one VIP in the FR-ES border (VIP PIRINEOS).</p> <ul style="list-style-type: none"> • Larrau (ES) / Alçay (FR) • Irún (ES) / Biriadou (FR) <p>The following IPs are integrated into one VIP in the ES-PT border (VIP IBÉRICO).</p> <ul style="list-style-type: none"> • Valença do Minho (PT) / Tuy (ES) • Badajoz (ES) / Campo Maior (PT) <p>III) FRENCH BALANCING ZONES:</p> <p>i) IP between GRTGaz North and South</p> <ul style="list-style-type: none"> - GRTgaz North-GRTgaz South: same methodology as Nov 2012 for Apr 2014 to Sept 2014 (guaranteed allocation + pro rata taking into account delivery commitments in North to South direction, OSP with pro rata in the South to North direction) and first auctioning of yearly capacity in March 2014 (for capacity between October 2014 and 2018). As of March 2014, progressive auctioning of all standard capacity products according to CAM NC calendar. - Objective to create a single PEG France in 2018 <p>ii) IP between GRTGaz South and TIGF</p> <ul style="list-style-type: none"> - Single PEG GRTgaz Sud-TIGF in April 2015 - OSP with pro-rata to allocate April 2014-Sept 2014 and Oct 2014-Mar 2015 - Daily and within-day auctions is subject to the availability of the TSOs IT systems

Project Features

- Products offered in 2014 at VIP IBÉRICO (Spanish-Portuguese VIP) and VIP PIRINEOS (Spanish-French VIP) simultaneously were:
 - Yearly firm bundled and unbundled capacity products in both flow directions offered for the gas year 1st Oct. 2014 to 30th Sep. 2015 at VIP IBÉRICO and for the gas years 1st Oct. 2014 to 30th Sep 2029 at VIP PIRINEOS.
 - Quarterly firm bundled and unbundled capacity products in both flow directions offered for the gas year 1st Oct. 2014 to 30th Sep. 2015.
 - Interruptible unbundled products could be offered in an unbundled way, since the conditions for interruption on both sides of the borders are different, if more than 98% of firm capacity is allocated.
 - At the VIP IBÉRICO all capacity offered is firm capacity
- Since September 2014, firm bundled and unbundled monthly products are offered at VIP IBÉRICO and VIP PIRINEOS following the calendar and methodology referred in the CAM NC.

Evaluation of the process (I)

- In the first round of auctions in autumn 2012 at VIP IBÉRICO, no capacity was allocated.
- In 2013 auction at VIP IBERICO, the participation level was higher and yearly capacity products were allocated.
- In the annual yearly capacity auction in 2014, capacity was allocated for the following gas year:
 - At VIP IBERICO, from Spain to Portugal at the reserve price, and
 - At VIP PIRINEOS, from France to Spain at a premium over the reserve price.
- In the annual quarterly capacity auctions in 2014, the results were similar.
- The transition from a continuous FCFS system to an auction system is accepted but shippers still need to get used to using the capacity allocation platform.
- It implies potentially higher costs for shippers: the risk of a premium charge, but improves competition.
- Shippers also miss the possibility of securing “flat” capacity for a given period (different than one year).
- Since October 2013, capacity booking at entry-exit points of the Portuguese transmission network as well as for LNG terminal and underground storage facilities is done through standard capacity products and allocated through a mechanism based on the CAM Network Code (through auctions). As from gas year 2014-2015, unbundled capacity at the Portuguese side is also included in the VIP IBERICO.

- When the project was launched the main physical point at Spain-Portugal border was congested. Due to market and/or regulatory changes, at the time of applying the process there was no congestion, so a significant level of demand was not expected.
- Despite these difficulties, the pilot has been very useful to identify which regulations had to be adapted, which documentation and processes had to be improved, and to raise awareness among shippers of the implications of the NC (“bundled capacity”, standard capacity products...).

Calendar of implementation

Main Milestones	2012				2013				2014				2015			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Spain - Portugal (VIP IBÉRICO)	1	1 2	3 5 4 6			2 7	8 9		10	11	12					13
Spain- France border (VIP PIRINEOS)									10	11	12					13
IP between GRTgaz North and GRTgaz South (*)									10 12	11						

1. Discussions with NRAs and agreement to develop a bundled capacity auction process
2. Finalisation and publication of associated documents and corresponding approval by NRAs
3. Open Information Sessions for Shippers (Madrid and Lisbon)
4. Firm yearly product auctions: pre-qualification and qualification phases for shippers; capacity bidding window (24 - 25 July)
5. Firm monthly product auctions: pre-qualification and qualification phases for shippers; capacity bidding window (10- 11 September)
6. Interruptible firm and monthly products auctions: qualification phases for shippers; capacity bidding window (17-18 September)
7. Firm yearly products auction: pre-qualification and qualification phases for shippers; capacity bidding window (27-28 June)
8. Firm quarterly products auction: qualification phases for shippers; capacity bidding window (16-17 July)
9. Interruptible year and quarterly products auction: capacity bidding window (22-23 July)
10. First annual yearly capacity auction in March 2014 using a common platform
11. First annual quarterly capacity auction in June 2014 using a common platform
12. First rolling monthly auction in September 2014
13. First rolling day ahead auction and within-day auction

(*) The schedule for implementing auctions at the IP between GRTgaz North and South areas (via the PRISMA platform) is still under discussion in France.