



Capacity Allocation Mechanisms (CAM)

Roadmap for early implementation of CAM Network Code via pilot projects

- Projects in the CAM Roadmap
- Review of national regulatory frameworks
- Issues and challenges being addressed in CAM implementation

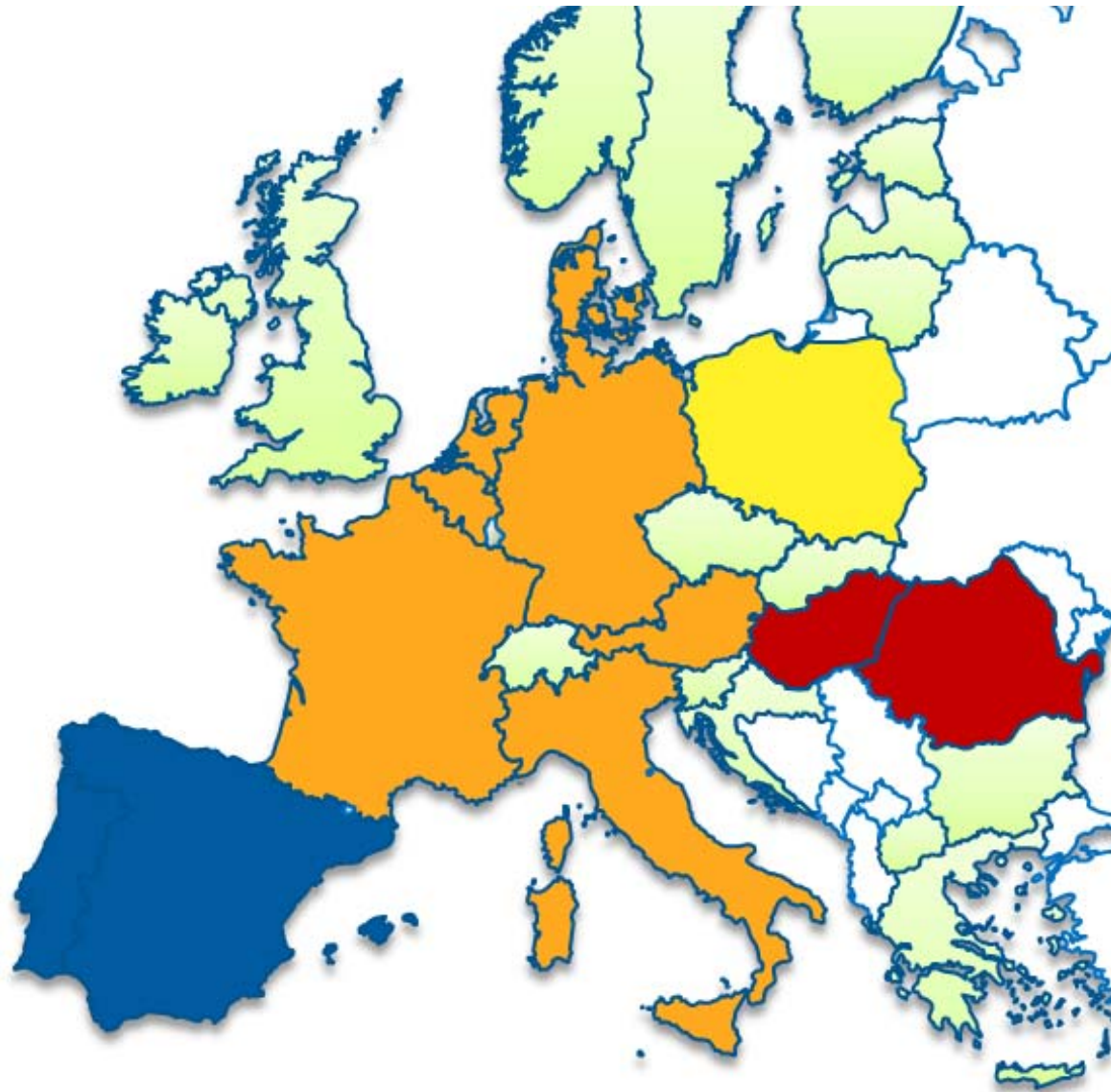
Projects in the CAM Roadmap



PILOT PROJECTS

- Rapid progress towards early implementation of CAM NC in large number of MSs spanning most EU regions
- Driven by voluntary initiatives established by TSOs, with support from NRAs.

Projects in the CAM Roadmap



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Projects in the CAM Roadmap

PRISMA



- MoU signed in April 2012. New platform in operation since the 1st of April 2013, less than one year later.
- It serves for the booking of primary capacity products on all IPs of adjacent E/E systems in accordance with CAM NC.
- The aim of the initiative has been to merge existing capacity platforms, using the benefits and collective experience of the current platforms.
- Open cooperation that allows all EU TSOs to participate in it.
- The initiative connects important EU Gas Hubs as of 1st of April 2013
- Already 262 shippers registered

Projects in the CAM Roadmap

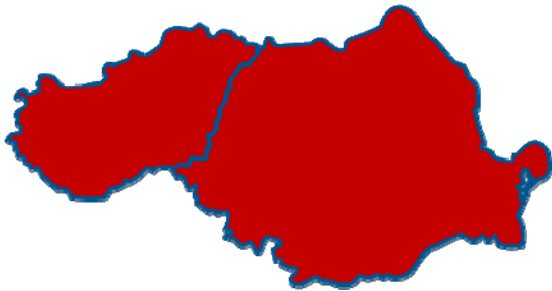
Bundled product at Lasów



- The pilot project allows the allocation of bundled quarterly products in accordance with CAM NC.
- The first auctions will take place on the 3rd of June 2013, when the first three quarters of 2014 will be auctioned. The platform PRISMA is being used for the pilot project.
- An agreement has been reached to extend the project to include auctions for other CAM NC products.
- Yearly products are planned to be offered as of March 2014, monthly and daily products as of end 2014.

Projects in the CAM Roadmap

Bundled product and Capacity Platform Hungary - Romania



- The Regional Booking Platform is a web-based booking platform for the offer of primary and secondary capacity.
- The platform is designed to be CAM NC compliant and to fit within the European regulatory diversity and with different TSOs' and network users' expectations.
- The aim of the initiative is to provide a flexible solution for TSOs and network users to book capacities, the service of which is accessible on any IP and any capacity product across Europe.
- The first monthly capacity auctions will be possible in mid 2013.
- Secondary capacity will be tested by the 2nd half of 2013 and will go live by 1st quarter of 2014.

Annual capacity auction at the VIP Spain - Portugal



- Enagas and REN committed to develop a joint allocation procedure to allocate bundled products in a coordinated mechanism by 2012.
- In 2013, a similar procedure will be carried out. This year, yearly and quarterly capacity products will be offered.
- The price payable for the capacity allocated is the regulated tariff and the auction premium. The auction premium will be split (50%-50%) between the two TSOs.
- Firm and interruptible products are offered. Interruptible products are not offered if less than 95% of firm capacity for the equivalent firm product has been allocated.

Capacity products offered through the pilot projects

✓ represents products offered by 2013

■ **PRISMA**

■ **Bundled product at Lasów**

■ **Bundled product and capacity platform HU/RO**

■ **Annual capacity auction at the VIP SP/PT**

Some TSOs are currently evaluating the introduction of other capacity products in line with the changes required by the respective regulatory frameworks.



Review of national regulatory frameworks

- National regulators are already taking action in order to adapt national regulatory frameworks and pave the way for early CAM implementation
- Measures of diverse nature are being taken by NRAs in different countries where required by national frameworks. In many cases TSOs are playing a significant role in this work.

Examples of measures	AT	BE	DK	FR	DE	H U	IT	NL	PL	PT	RO	SP
Publication of bilateral agreements between NRAs	★						★			★		★
Adaptation of national Network Code	★	★				★	★		★	★	★	
Harmonisation of other network access rules (e.g. gas day, energy units)	★					★				★	★	★
Adaptation of transmission contracts or licenses	★	★				★			★	★	★	★
Modification of transmission tariffs framework	★			★		★				★	★	★
Specific decision or approval by NRA, or exemption granted	★	★	★	★	★	★	★	★	★	★	★	★

Early implementation allows to identify and anticipate these changes where needed
Public consultation with stakeholders has been a key element in all projects

Early Implementation Roadmap for the CAM NC

Issues and challenges being addressed

BUNDLING

- Bundling will only be implemented to the extent that there is available capacity on both sides of the IP given existing contracts
- Even in case capacity is available, full bundling may not be immediately possible; for example, because of challenges created by different levels of firmness or different units
- In the above cases, bundling may take place progressively during the early implementation period
- Where there are differences between the terms and conditions of the products making up the bundled product, full transparency for users and potential users to be ensured

Early implementation allows learning and progressive moves towards full bundling;
TSOs and NRAs are cooperating to ensure smooth resolution of issues

Issues and challenges being addressed

COST RELATED TO BOOKING PLATFORMS

- Implementation of the CAM network code involves costs related to the set-up of booking platforms
- A robust IT solution for these platforms is a key step for the CAM NC implementation
- Recovery of the efficiently incurred costs of early implementation shall be guaranteed
- Transparency of costs towards NRAs and new TSOs willing to join a pilot project is necessary in order to allow their evaluation
- All parties will need to seek appropriate solutions for cost allocation between countries

Projects should represent workable solutions for all players

Issues and challenges being addressed

CONTRACTS

- CAM NC and other developing network codes harmonise key elements of TSOs' transportation contracts (products, duration, etc.)
- Implementation of CAM NC will also lead to harmonization of further provisions that are not explicitly required by the NC. This is because TSOs must develop business processes and system architectures based on consistent regulation and standards.
- Such changes have a profound impact on how TSOs and network users do business

Standardization of the commercial rules and allocation procedures via NC implementation is the key priority

HARMONISATION OF TECHNICAL ISSUES

- Many issues must be addressed at a project level
- Including gas day, treatment of multiple currencies, energy units...

Conclusions and next steps

- The process of early implementation of the CAM NC, facilitated by the CAM Roadmap, is benefitting from the good cooperation and strong commitment of all parties involved
- Projects are meeting key milestones, putting involved TSOs on track to implement key CAM NC provisions well ahead of mandatory deadlines. NRAs are taking the actions needed to make this possible in a timely manner
- A few open questions are arising during the early implementation phase. They will be kept on the agenda for discussion in future meetings of CAM Coordination & EU Stakeholders groups
- The CAM Roadmap is proving useful for bringing all parties together, identifying issues, looking for appropriate solutions and promoting transparency and stakeholder participation

ACER and ENTSOG appreciate the efforts put in to the early implementation of CAM NC and encourage all involved parties to continue their cooperation to pave the way for final CAM implementation

Annex – Project information

Main building blocks of the Roadmap: 1. PRISMA

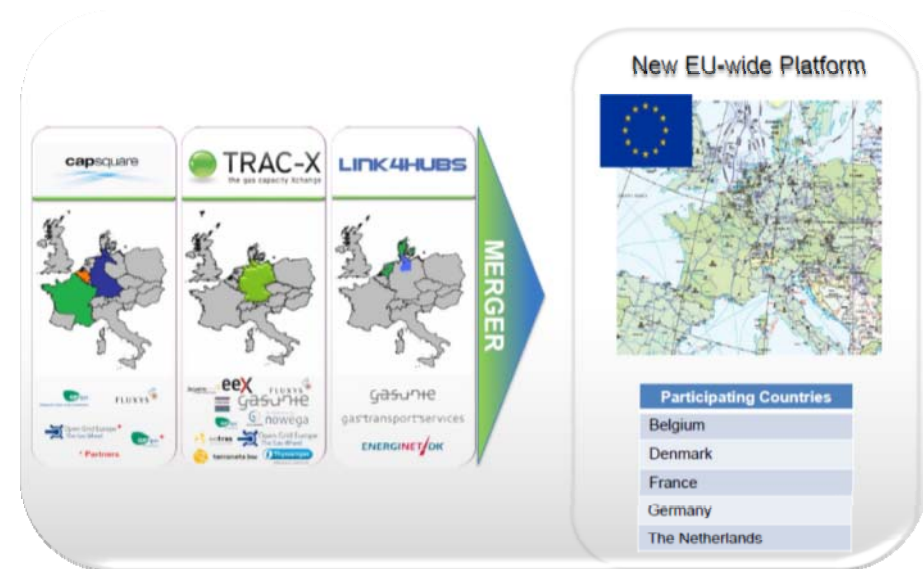
Since the beginning, the initiative's aim has been to merge existing capacity platforms...

- Capsquare, Link4Hubs & Trac-X in order to save costs and to develop a single European platform for network users
- PRISMA has been created on 4th December 2012 by 19 TSOs of 7 countries.

... and to capitalise on existing technologies to develop a platform which consists of established and well-tested functionalities

The new platform serves for the booking of primary capacity products on all IPs of adjacent Entry Exit Systems in accordance with CAM

- Primary market features for points out of the scope of CAM is envisaged
- Secondary market features are also part of the project
- In addition, the platform is able to handle regional regulatory specificities of different countries



Early Implementation Roadmap for the CAM NC

Main building blocks of the Roadmap: 1. PRISMA

19 TSOs already involved in the initiative

Following TSOs are involved in PRISMA initiative:

- Austria: BOG, Gas Connect Austria, TAG
- Belgium: Fluxys Belgium
- Denmark: Energinet.dk
- France: GRTgaz
- Germany: Bayernets, Gastransport Nord, Fluxys Tenp, Gascade
Gastransport, Gasunie Deutschland Transport Services, GRTgaz
Deutschland, Nowega, ONTRAS, Open Grid Europe, terranets bw,
Thyssengas
- Italy: SNAM Rete Gas
- The Netherlands: Gasunie Transport Services



PRISMA is an open cooperation that allows all European TSOs to participate in the cooperation

Early Implementation Roadmap for the CAM NC

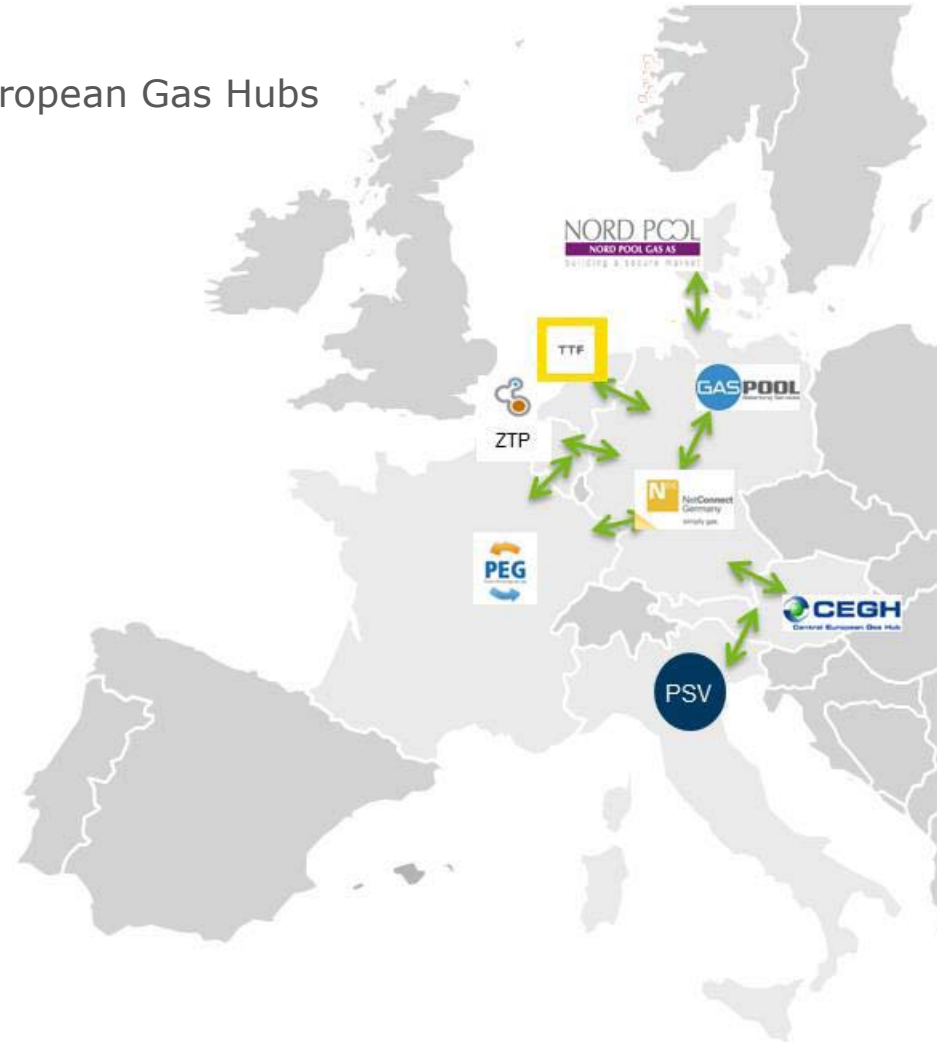
Main building blocks of the Roadmap: 1. PRISMA

... Connecting 7 markets

- The initiative already connects important European Gas Hubs

- CEGH
- Gaspool
- NCG
- Nord Pool
- PEG North
- PEG South
- PSV
- TTF
- ZTP

- The platform allows grid users to book (cross-border) capacities at IPs of participating countries
- Further interconnections might follow soon



Main building blocks of the Roadmap:

1. PRISMA

PRISMA is an open cooperation...

PRISMA is an open cooperation that allows all TSOs to participate

- **The initiative welcomes all ENTSOG TSOs**

In the next stage TSOs could get involved in different ways

- **Joining the platform on a service-based level**
The TSO is connected to the platform with all points and products on a service-based level
- **Becoming shareholder**
The TSO not only fully connects its backend-system to the platform but also becomes a shareholder to the company

Main building blocks of the Roadmap:

1. PRISMA

... that has been built through a transparent and collective process

- **PRISMA is based on the existing return on experience of Capsquare, Trac-X and Link4hubs**
- **During the implementation phase, a broad communication has been given to the Market to give feedbacks on the objectives and the timelines**
 - 8 meetings in South, NW and SSE GRIs since March 2012
 - 6 Shippers' meetings have been organized in Amsterdam, Brussels, Milan, Paris, Vienna and Warsaw in 2013 (**approx. 300 participants**)
 - 3 meetings with NRAs and ACER
 - 3 TSOs specific workshops

Main building blocks of the Roadmap:

1. PRISMA

PRISMA is operational as of 1st April 2013

www.prisma-capacity.eu

Capacity products

- Bundled products between hubs
- Unbundled products
- Products as defined in the CAM Network code
- Firm & Interruptible

Allocation

- Auction mechanism as defined in the CAM NC
- Uniform price auction: day-ahead products
- Ascending clock algorithm: monthly, quarterly and yearly products

All products available on one platform: **PRISMA European Capacity Platform**

- Regional specifics can also be handled

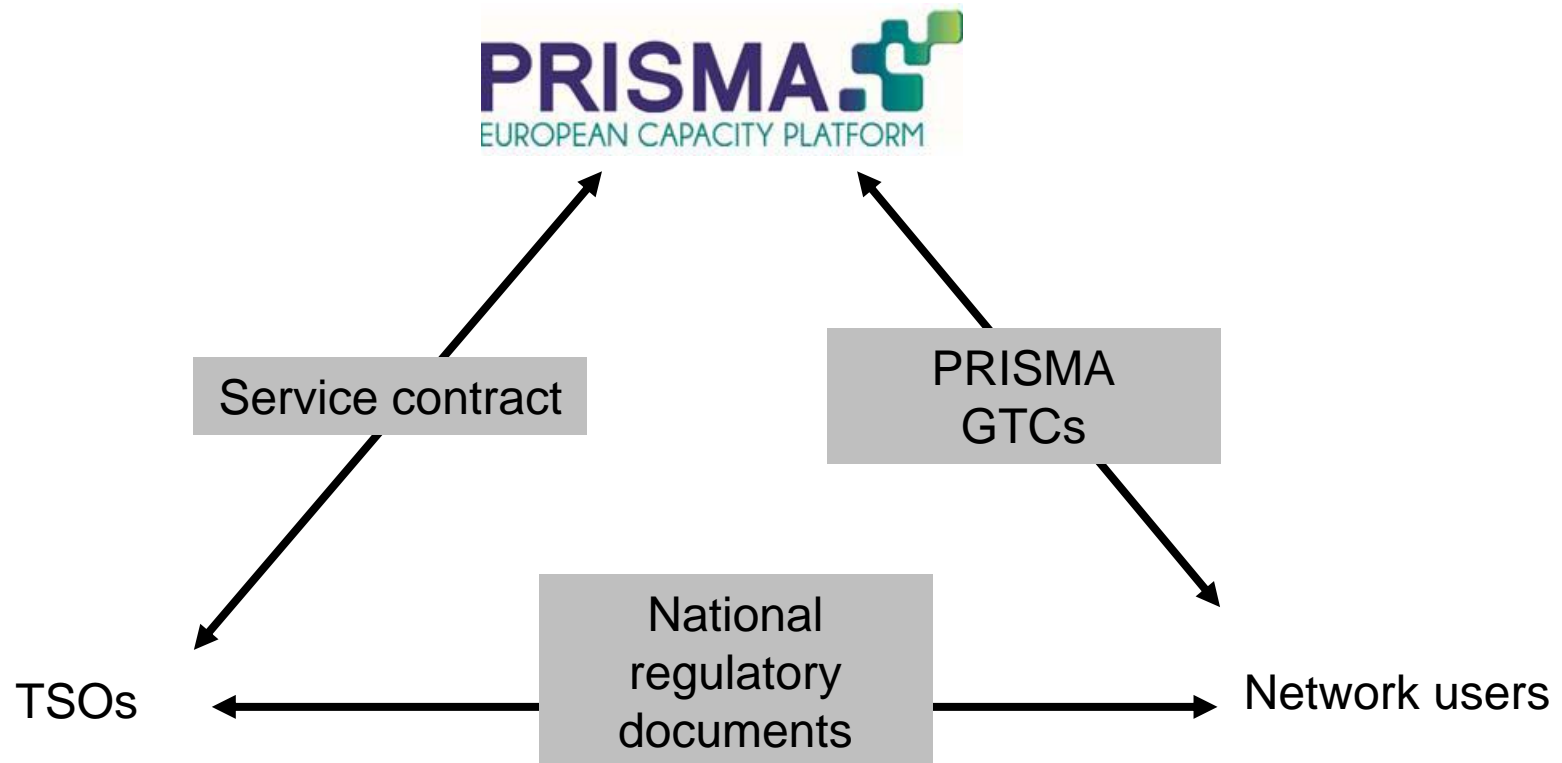


Main building blocks of the Roadmap: 1. PRISMA

Contractual landscape

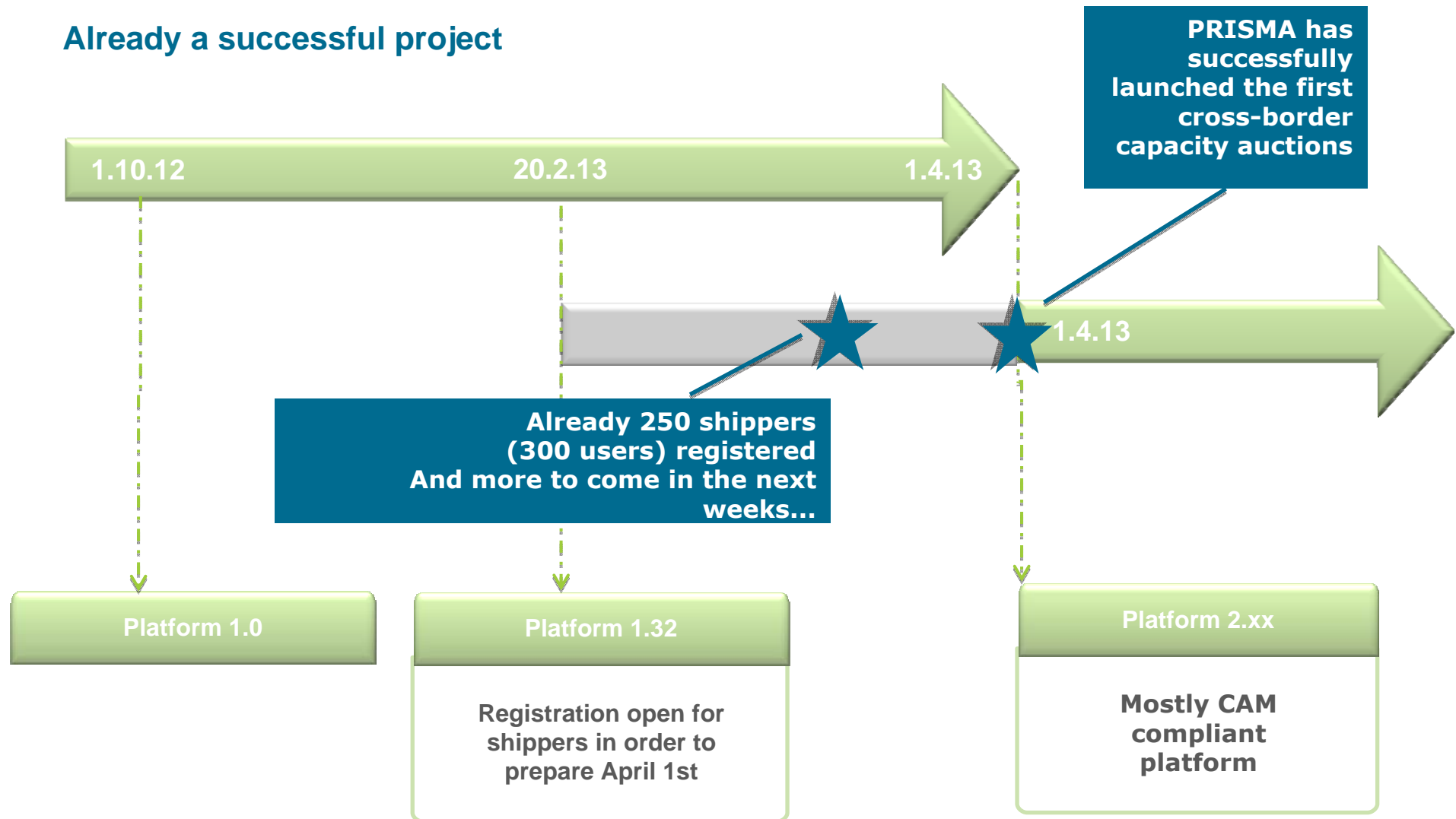
GTCs formalise relations between shippers and PRISMA

Close collaboration NRAs/TSOs when drafting the GTCs



Main building blocks of the Roadmap: 1. PRISMA

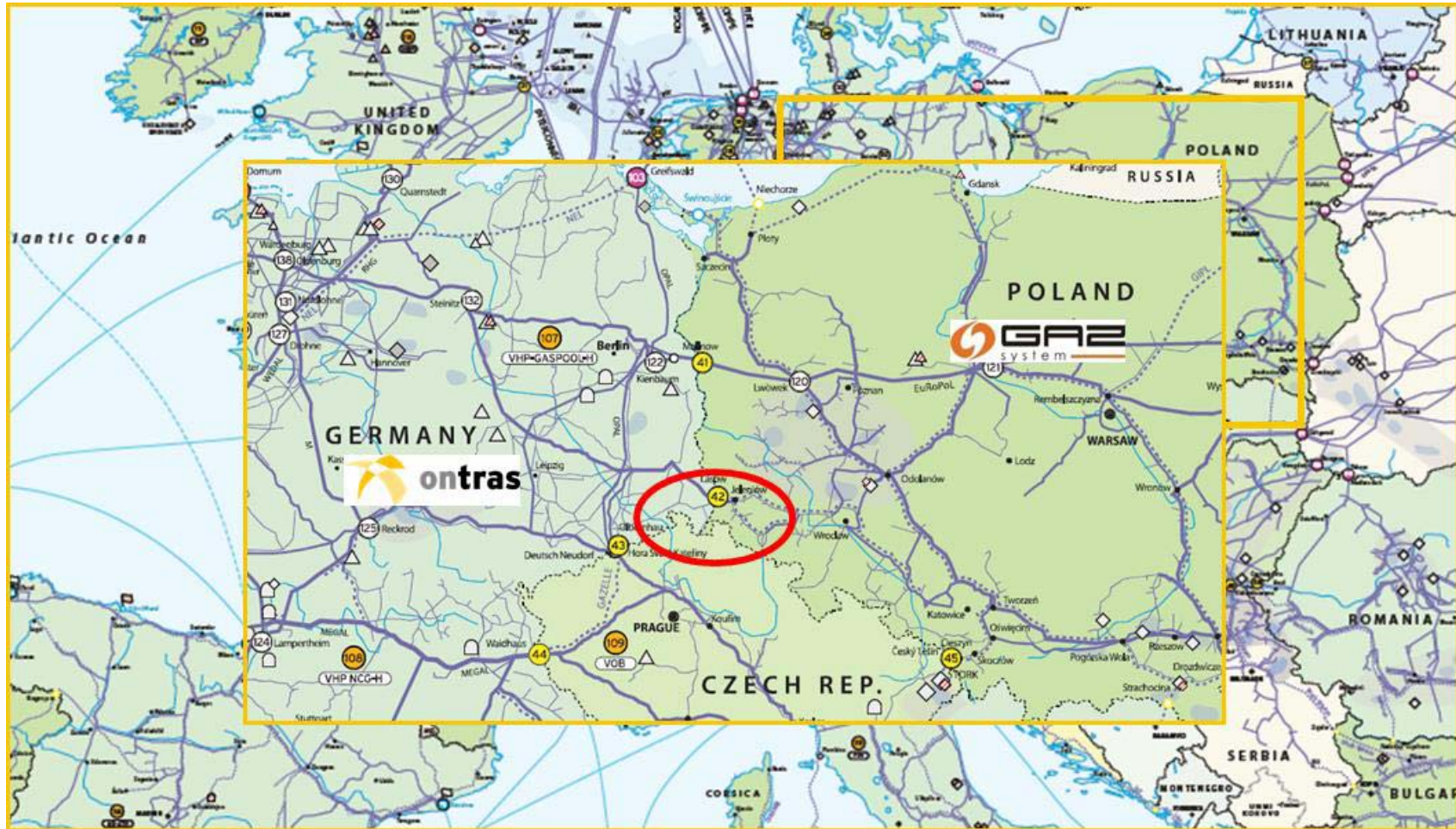
Already a successful project



Early Implementation Roadmap for the CAM NC

Main building blocks of the Roadmap: 2. Bundling Pilot at Lasów

Where is our Pilot located?



Main building blocks of the Roadmap: 2. Bundling Pilot at Lasów

Scope of the Bundling Pilot

- Total technical capacity at IP Lasów
 - » 2.007.000 kWh/h (180.000 nm³/h)
- Quarterly products to be auctioned initially
 - » First three quarters of 2014
 - » Capacity: 57.980 kWh/h
- Allocation to take place according to NC CAM
 - » Auction will be held on June 3rd, this summer
- Single booking for the cross-border product

Main building blocks of the Roadmap: 2. Bundling Pilot at Lasów

What have we achieved so far?

- Contractual aspects

Concept and contractual framework consulted with the market

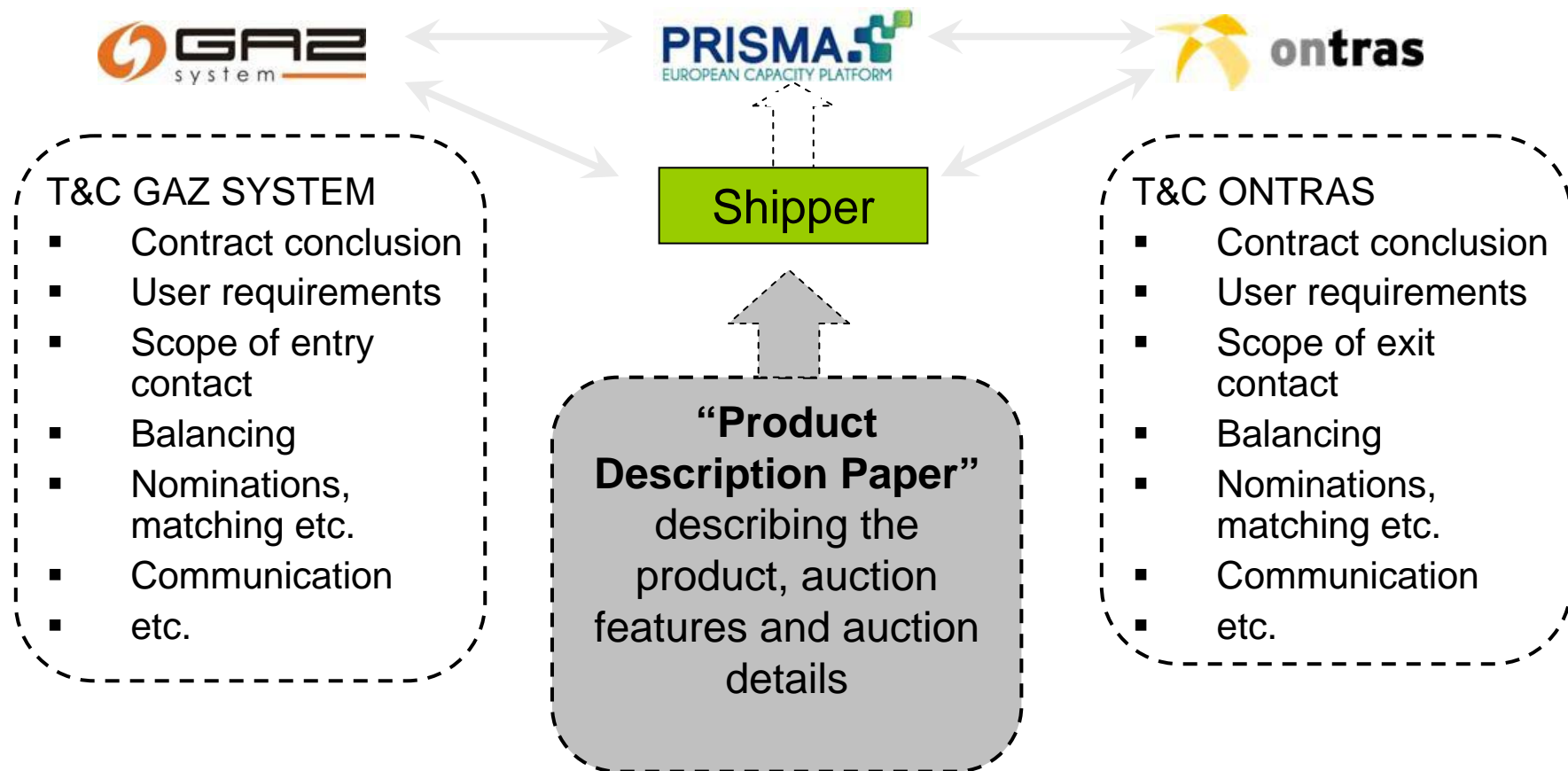
- Cooperation Agreement
- Specific T & Cs
- Shipper Manual
- Service Agreement
- Concept paper
- Capacities identified
- Product Description Paper



Main building blocks of the Roadmap: 2. Bundling Pilot at Lasów

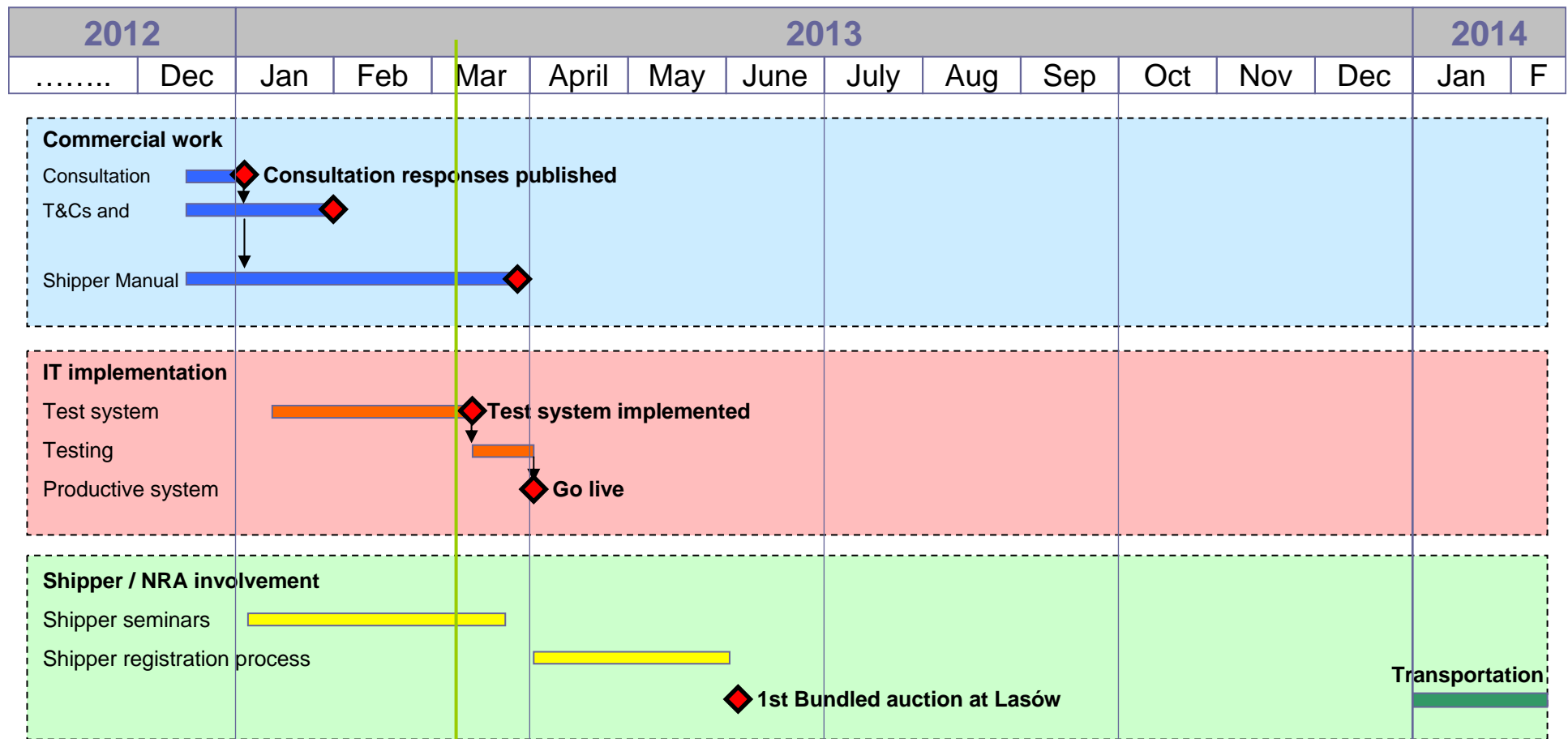
What have we achieved so far?

- Contractual aspects



Main building blocks of the Roadmap: 2. Bundling Pilot at Lasów

Project planning (Pilot phase)



Main building blocks of the Roadmap: 2. Bundling Pilot at Lasów

Next steps after the Pilot

- GAZ-SYSTEM and ONTRAS aim to implement
 - » Yearly products according to CAM as of March 2014 (and in the following years)
 - » Subsequent quarterly products as of June 2014 (and in the following years)
 - » Monthly and daily CAM products as of end 2014



Main building blocks of the Roadmap: 2. Bundling Pilot at Lasów

- GAZ-SYSTEM and ONTRAS bridge two regions
- The development is progressing as planned
 - » Pilot auction in June 2013
 - » Contracts and informational material developed
 - » Concept agreed with the NRAs
 - » IT issues and solutions identified
 - » Technical connection in progress (on GAZ-SYSTEM side)
- Agreement on the future bundling evolution reached between GAZ-SYSTEM and ONTRAS

The products according to the CAM NC rules should be implemented prior to the EU schedule

Main building blocks of the Roadmap:

3. Capacity Platform and Bundling pilot project Hungary/Romania

Regional Booking Platform

- **Web-based booking platform**
 - For primary & secondary capacity
 - Tailor-made functionality
 - Flexible business solutions
- **Designed & built especially to fulfil & fit**
 - CAM NC requirements
 - European regulatory diversity
 - Different TSO & NU expectations
 - Secure & easy access

Main building blocks of the Roadmap: 3. Capacity Platform and Bundling pilot project Hungary/Romania

Ambitions Regarding Technical Implementation (TSOs)

Core functions

- Already available in the sandbox (test) environment
- Ready to go live by April 2013
- First monthly capacity auction possible in June

Other functions

- Secondary capacity market
 - Test environment in H2 2013
 - Ready to go live in Q1 2014
- Nominations and other comfort services
 - Test environment by the end of 2013
 - Ready to go live in Q1 2014

Main building blocks of the Roadmap:

3. Capacity Platform and Bundling pilot project Hungary/Romania

Ambitions Regarding Regulatory Challenges (NRAS and Misitries)

Bundling concept to be clarified (implementation mostly depends on this!)

- Formal or essential?
- Which products can be bundled?
- There should be a strong link between the products in the bundle

What are the network access conditions?

- Licencing
- Similarities and differences in network usage

Main building blocks of the Roadmap: 3. Capacity Platform and Bundling pilot project Hungary/Romania

NRA-TSO Core Group Discussion

NRA-TSO Core Group meeting in Bucharest (February 2013)

- Identifying challenges ahead (checklist)
- List of tasks to be done
- Further work plan

NRA's support

- Harmonizing network access rules
- Harmonising capacity products to the extend required
- Harmonising licencing criteria in order to facilitate easier market entry

Main building blocks of the Roadmap:

3. Capacity Platform and Bundling pilot project Hungary/Romania

FGSZ-Transgaz Cooperation within and beyond the Pilot

Pilot Project

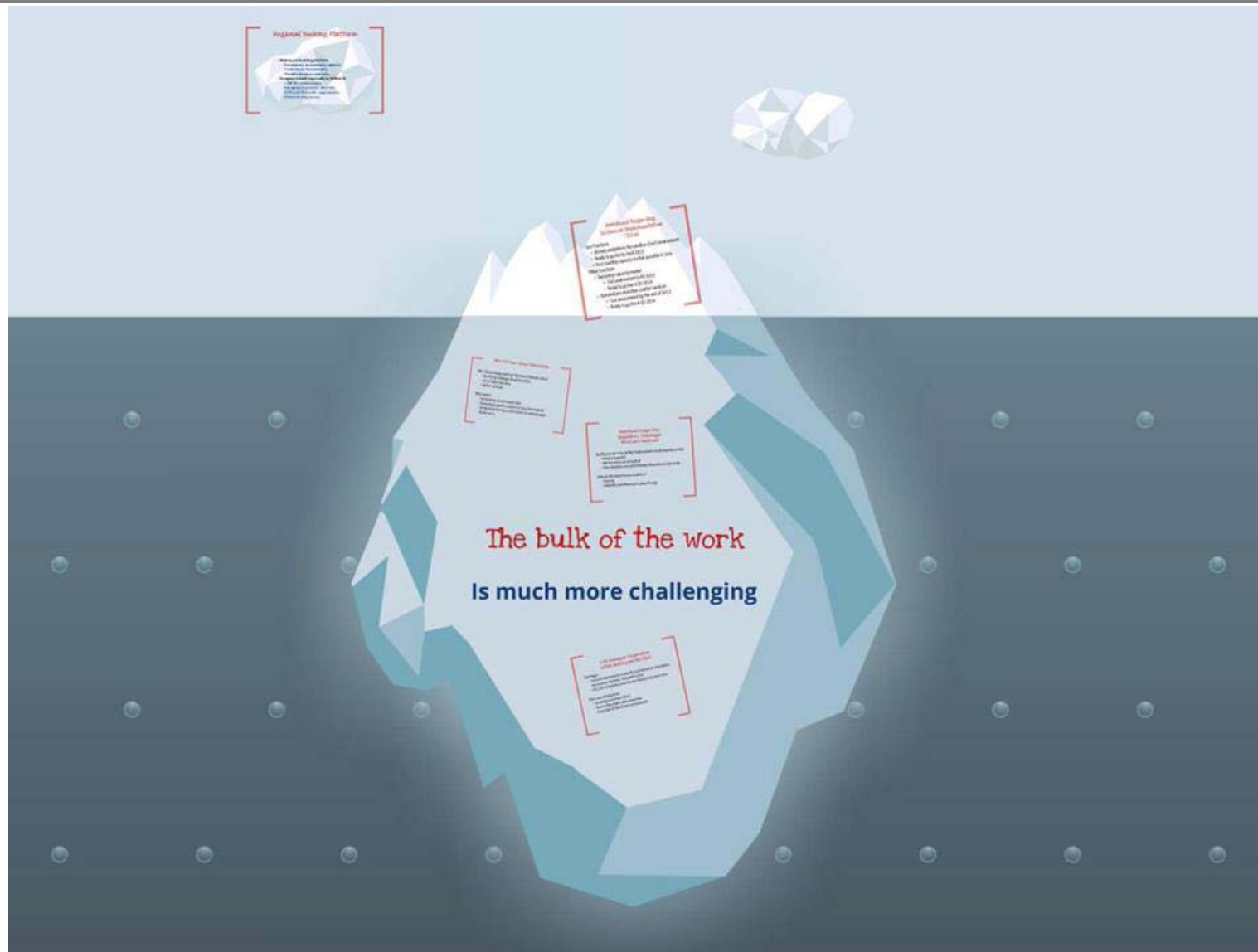
- Technical implementation is possible as scheduled but presupposes the necessary regulatory framework in place
- FGSZ and Transgaz discusses the way forward in business terms

Other areas of cooperation

- According to the MoU of 2012
- Reverse flow project under preparation
- Preparation for BAL NC early implementation

Main building blocks of the Roadmap:

3. Capacity Platform and Bundling pilot project Hungary/Romania



Early Implementation Roadmap for the CAM NC

Main building blocks of the Roadmap:

4. Capacity Auction at the VIP between Portugal and Spain

Objective

- South Gas Regional Initiative Work Plan 2011-2014: the final goal on CAM for 2014 would be having in place **joint coordinated capacity allocation mechanisms for the allocation of cross-border capacity in all the interconnections** between the balancing zones in the region.
- Within this context, **Enagás and REN** committed to develop a joint allocation procedure inspired on ENTSOG's Network Code on CAM to allocate bundled products on both sides of the border in a **coordinated mechanism by 2012**.
- In **2013**, Enagás and REN will carry out a **similar procedure to allocate capacity** between Spain and Portugal.

Main building blocks of the Roadmap:

4. Capacity Auction at the VIP between Portugal and Spain

Products offered

- Existing entry and exit capacity between Spain and Portugal.
- Virtual Interconnection Point (V.I.P.): two physical interconnection points Badajoz/ Campo Maior and Valença do Minho/ Tuy → one commercial point VIP Spain-Portugal.



Early Implementation Roadmap for the CAM NC

Main building blocks of the Roadmap:

4. Capacity Auction at the VIP between Portugal and Spain

Products and auctions

4 types of Capacity Products, sold through 4 Annual Auctions

Products	Auctions
Firm Yearly Products*	Firm Yearly Products Auction
Firm Quarterly Products*	Firm Quarterly Products Auction
Interruptible Yearly Products	Interruptible Yearly Products Auction
Interruptible Quarterly Products	Interruptible Quarterly Products Auction

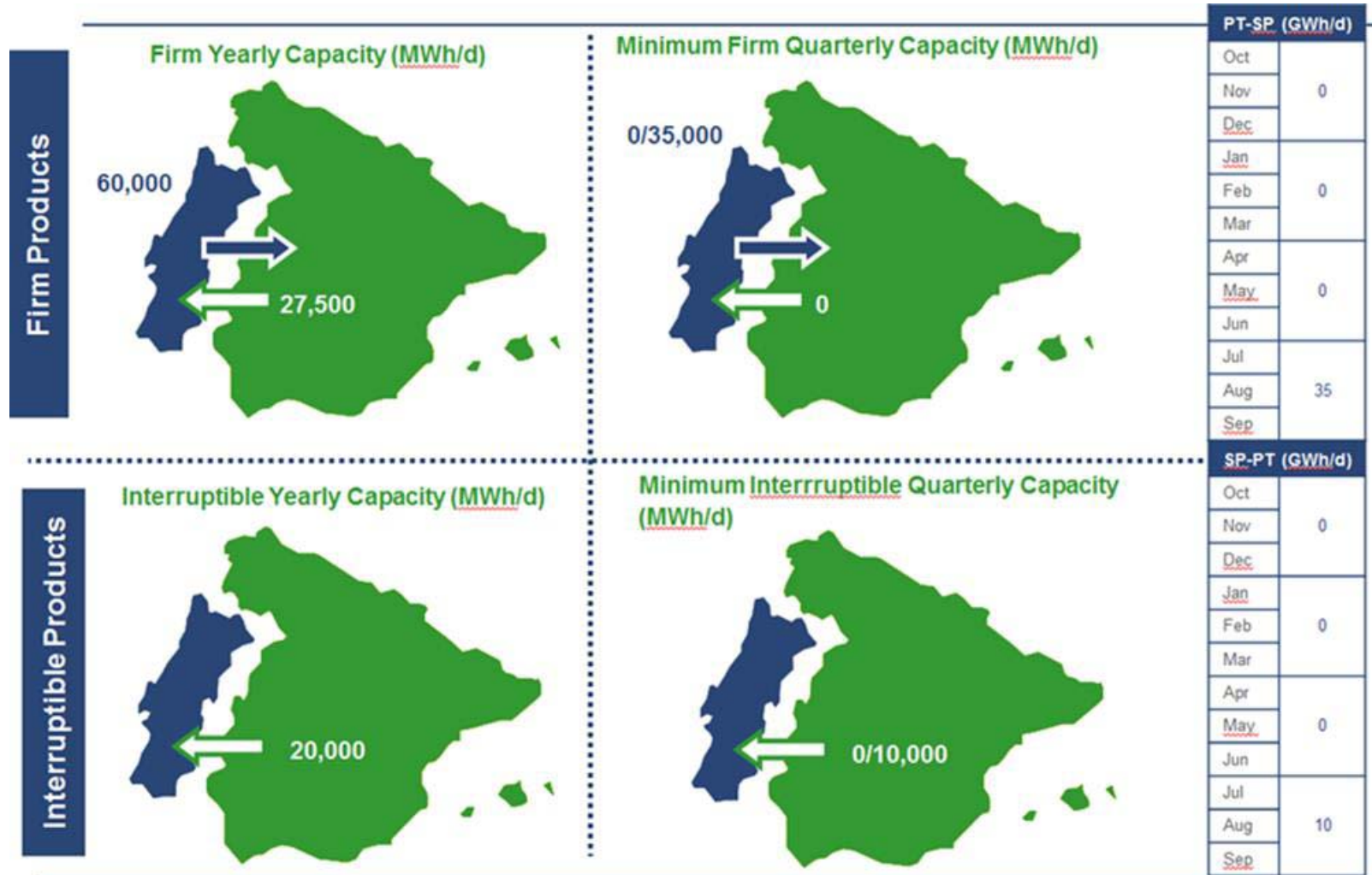
(*) Include the two flow directions: from Portugal to Spain (POR→ESP) and from Spain to Portugal (ESP→POR).

Availability of interruptible products

At the Interruptible Products Auctions, for any given period, no interruptible Product will be offered if less than 95.00% of firm capacity for the firm Product(s) for that period and flow direction has been allocated at the previous Firm Products Auctions.

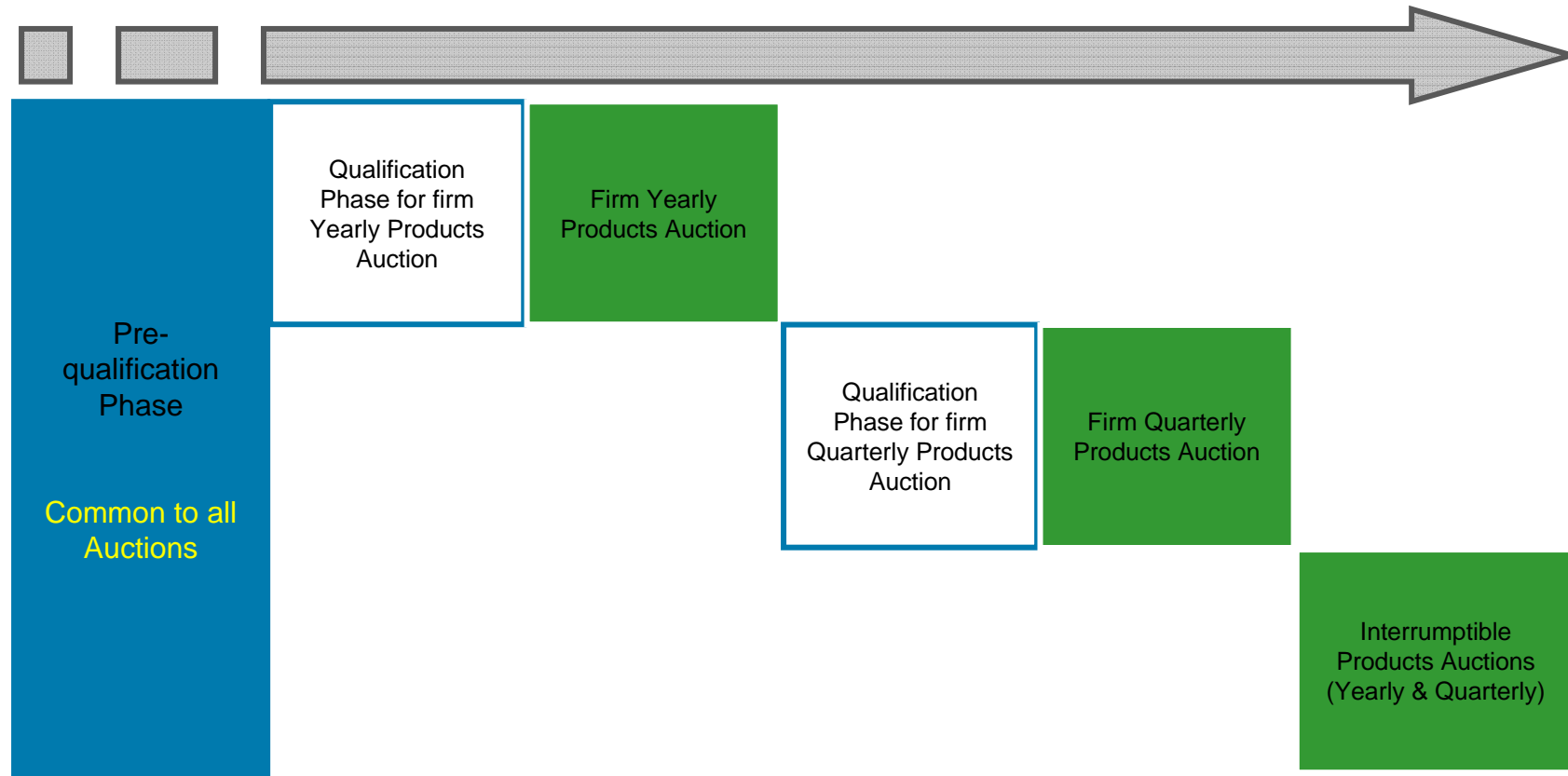
Main building blocks of the Roadmap: 4. Capacity Auction at the VIP between Portugal and Spain

Firm and interruptible products



Main building blocks of the Roadmap: 4. Capacity Auction at the VIP between Portugal and Spain

2013 auctions



In order to participate in an Auction, Shippers shall be accredited as Qualified Shippers.
The Qualification Process will include two phases:

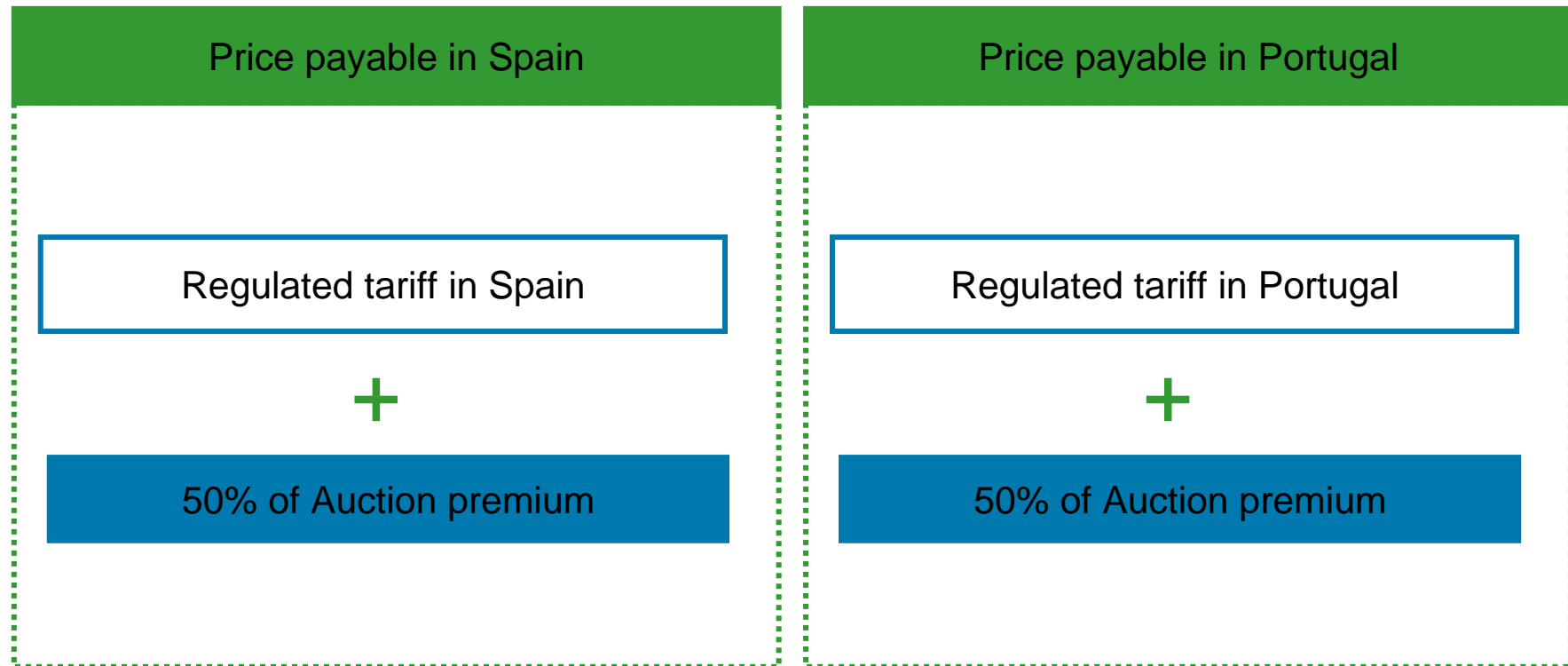
1. the **Pre-qualification Phase**, common to all Auctions to be held in 2013, and
2. the **Qualification Phase**, only required for firm products Auctions.

Main building blocks of the Roadmap: 4. Capacity Auction at the VIP between Portugal and Spain

Price

The reserve price of all Auctions will be the sum of the regulated tariffs in force in Spain and in Portugal.

Auctions revenue split:



Main building blocks of the Roadmap:

4. Capacity Auction at the VIP between Portugal and Spain

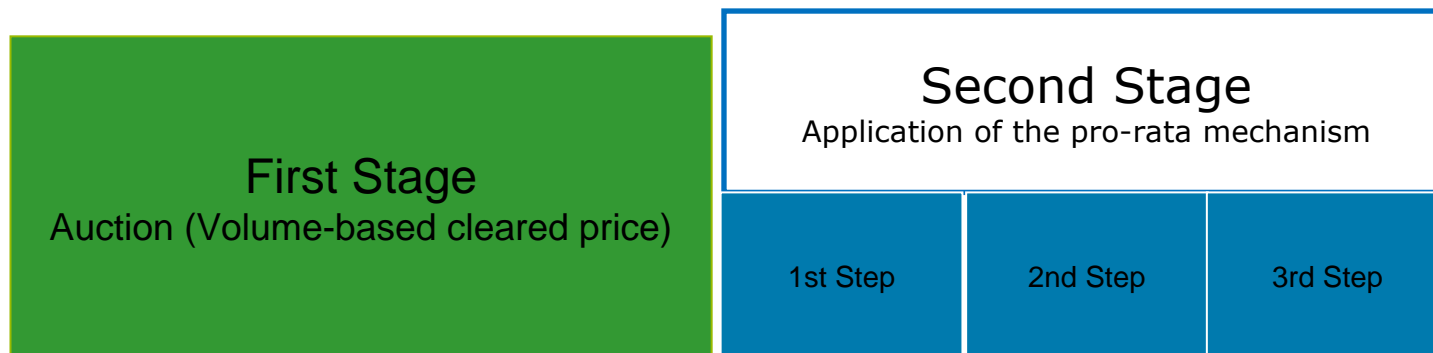
Auction design and allocation methodology

Bidding procedure:

- Single-round auctions.
- One bidding form with 30 price steps per auction.
- Shipper's bids limited to a maximum allowed quantity per auction (Qualification Volume) and a minimum of 500 MWh/d per price step.
- Bidders may indicate a minimum amount of capacity to accept allocation

Allocation procedure:

- One clearing price to all Bidders.
- Capacity to be allocated in kWh/day
- First stage: provisional allocation if demand is lower than capacity offered
- Second stage: to apply if capacity still remains unallocated after first stage
- 3 consecutive steps to allocate the maximum possible capacity to all bidders



Process designed to maximise the allocation of capacity.

Main building blocks of the Roadmap:

4. Capacity Auction at the VIP between Portugal and Spain

Lessons learned

- Last year's pilot has been very useful to identify which regulations had to be adapted, which documentation and processes had to be developed, and to raise awareness among shippers of the implications of the NC – minor changes needed for this year's pilot (update on products, capacity figures and calendar).
- Qualification window duration to be considerably extended to allow for shippers to comply with all formalities (financial guarantees, contract signing, etc.).
- Shippers prefer to book capacity through a First-Come-First-Serve mechanism as from October with no premium risk, if the VIP remains uncongested.
- Possibility to offer quarterly products and thus further converge with the CAM NC provisions.
- Likelihood of auctions to take place is small – the option for an IT platform to perform the auctions is thus not justified on a cost-efficiency perspective.