Development of the TAR NC: 1st Stakeholder Joint Working Session

Introduction: Process Update and Meeting Objectives

Ann-Marie Colbert

ENTSOG

TAR SJWS 1 – the 11th of February 2014

Process Update

PHASE 1: Project Planning - Completed

Meeting / Workshop / Consultation	Date
Draft Project Plan Consultation	19th December – 20th January
Kick Off Meeting	15th January
Publication of Launch Documentation	22nd January
Publication of Final Project Plan	30th January

Question 1: 'What do you expect to be your organisations' level of involvement during the Tariff NC development?'

40 Consultation Respondents

10 Prime Movers

19 Active SJWS Participants

11 Consultation Respondents

Participant	Organisation and/or company (association, if relevant)	Name
1	E. On	Gunnar Steck
2	EDF Trading	Andrea Bonzanni
3	ExxonMobil	Kees Bouwens
4	Statoil	Davide Rubini
5	Gas Infrastructure Europe	Philipp Palada
6	Gazprom Marketing & Trading	Alex Barnes
7	GDF SUEZ	Laurent Hamou
8	Reganosa	Laurent Moriceau
9	RWE Supply & Trading GmbH	Stephen Rose
10	Utility Support Group (IFIEC/Cefic)	Dirk-Jan Meuzelaar

Project Plan Consultation Update

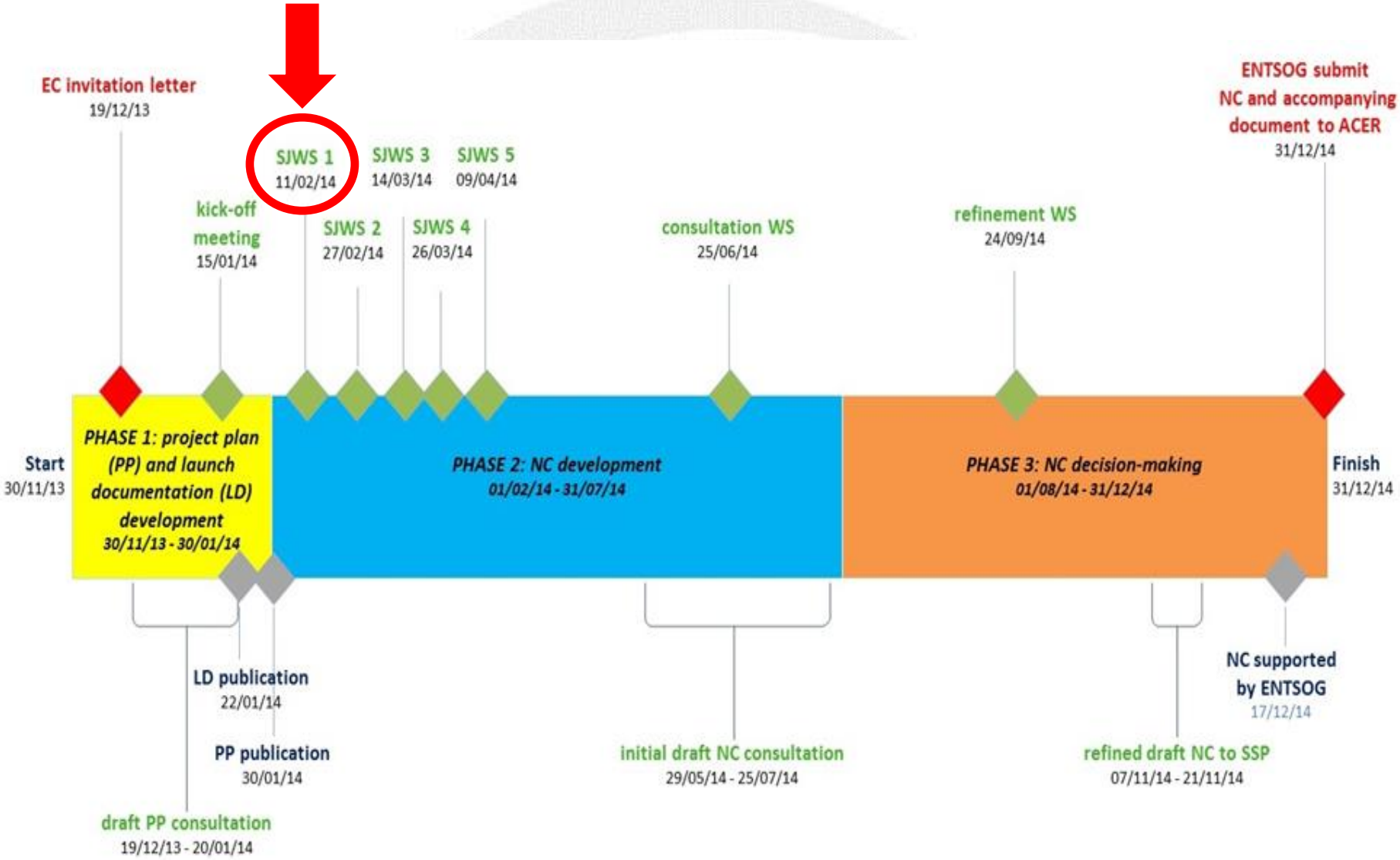
No.	Question	Response
2	Does the draft project plan for the development of a Tariff NC contained in this document provide sufficient basis for quality Stakeholder involvement given the timelines within which this project must be delivered?	Yes – 33 No – 1 No response - 6
3	What do you think of the proposed timeline, including the frequency and number of public meetings?	Yes – 33 No – 3 No response - 4
4	What do you think of the proposed topics and scheduling for each SJWS? What other topics might be included?	Yes – 20 No – 16 No response - 4
5	Do you think it would be a good idea for there to be live streaming of the SJWSs?	Yes – 37 No – 0 No response – 3

Proposed Topics for SJWSs

- Following responses to the consultation, ENTSOG has included two new topics, 1. Mitigating measures (SJWS 2) and 2. Storage (SJWS 3).

	Date	Issues
SJWS 1	11 Feb	Bundled Capacity, Cost Allocation, Interruptible Capacity & Non-physical backhaul, Payable Price, Virtual Interconnection Points (VIPs)
SJWS 2	27 Feb	Cost Allocation, **Mitigating Measures**, Multipliers & Seasonal Factors, Tariff Setting Year Impact Assessment (IA), Transparency
SJWS 3	14 Mar	Cost Allocation, Interruptible Capacity & Non-physical backhaul, Revenue Recovery, **Storage**, VIPs
SJWS 4	26 Mar	Cost Allocation, Multipliers and Seasonal Factors, Tariff Setting Year IA, Transparency, Additional topics
SJWS 5	9 Apr	Additional topics and conclusions

Phase 2: Network Code Development



TAR NC SJWS 1 – Meeting Objectives

- Update on ACER's Initial Impact Assessment
- Open Discussion of Tariff Topics
  - Cost Allocation Tasks
  - Interruptible Capacity
  - Non-Physical Backhaul Capacity
  - Bundled Capacity
  - Payable Price
  - Virtual Interconnection Points
- Input from Stakeholders, suggestions welcome

Thank you

ACER
Agency for the Cooperation of Energy Regulators

Initial Impact Assessment
State of Play

Benoît Esnault,
Co-chair of ACER Tariff & incremental TF

Thomas Querrioux
ACER Gas Department officer

ENTSOG SJWS 1 – Brussels – 11 February 2014

Today's presentation

- **Introduction to Impact Assessment** ('IA') reports -> based on the methodology used by the EU institutions and followed by ACER;
- Introduction to the IA approach (the triangle of **problem identification - policy options - policy assessment**) by sharing key elements from the ACER IIA report;
- Other important issues.

Next steps

- Publication of a document **before the end of Q1** (to enable ENTSOG to build on this).

ACER's ambitions focused on proposing a consistent approach to tariff calculation throughout the EU

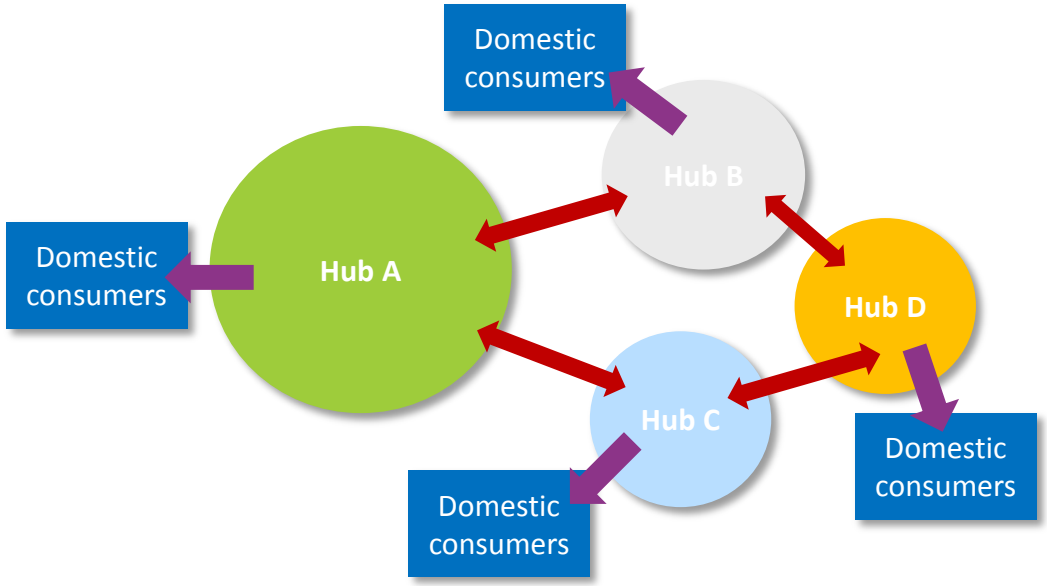
- Defining the right price for capacity products at the interconnections between market areas
- Ensuring that there is no discrimination, in particular to the detriment of cross-border trade
- Developing solid justifications to the tariff methodologies

Initial statements about the existing situation

- Each Member State has its own tariff methodology
- Differences often reflect national specificities and, sometimes, different objectives
- Achieving the single gas market (and in particular implementing the CAM network code) require to converge at least on common structural principles

Tariff structures and the "target model"

- All market areas within the EU organised as **entry-exit zones with virtual hubs**
- Developing **cross-border trade and liquid hubs** is a central objective
- Transmission tariffs at interconnections influence price differences, hub-to-hub arbitrages and the competitiveness of transit routes
- The way costs are allocated to the various entry and exit points **at a national level has an impact on market integration**



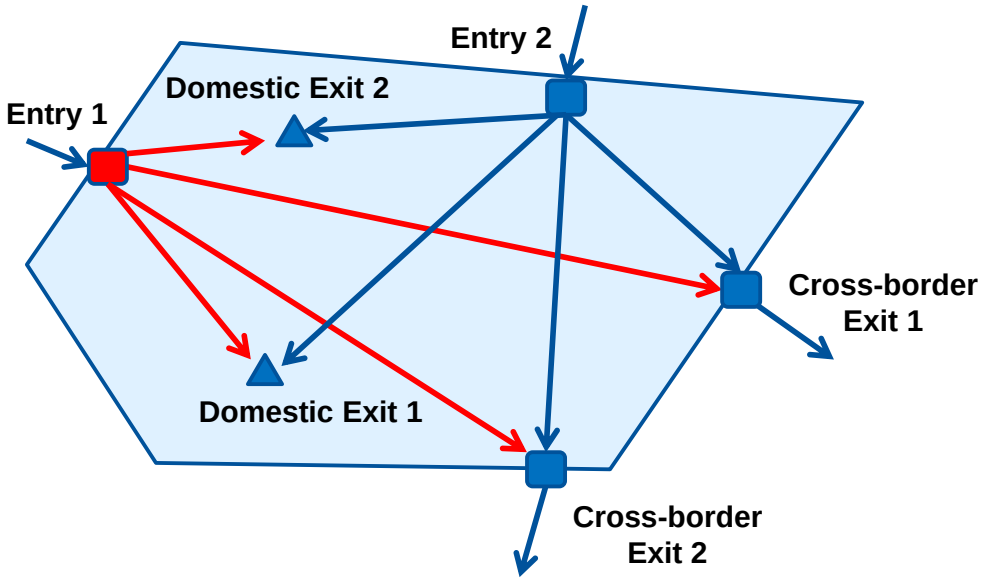
- **Avoiding cross subsidies** within a market area is essential for an efficient use of the system and avoiding pan-caking
- **Cross-border TSO & NRA cooperation** is key to implement the targets and reach consistent tariffs on both sides of IPs

Tariff structures, what are the issues?

- Transporting gas has a cost which has to be covered by tariffs paid by shippers:
  - Costs include capital expenditures in transport infrastructure, operating expenditures and the remuneration of TSOs;
  - Principle of regulation: TSOs' efficiently incurred costs shall be recovered.
- Shippers have to pay an appropriate share of the costs:
  - Individually, tariffs should reflect the costs each shipper incurs (cost reflectivity);
  - Collectively, tariffs should be, as much as possible, stable and simple, and often require some cost socialization;
  - Objective: minimise cross-subsidies between different categories of network users.

Challenges relating to cost reflectivity

- Cost reflectivity is promoted by the FG and Gas Reg, but is complex to achieve
  - Capacities at entry and exit points are booked separately;
  - In a zone, a shipper can go to every exit from any entry: many paths possible;
  - It is generally not possible to keep track of gas flows.



- Full cost reflectivity is not achievable in an E/E
- Other objectives shall be met: foster market integration and promote efficient investment.

Combining economic signals and cost recovery

- **Tariffs send economic signals to stakeholders:**
  - Tariffs influence TSOs and shippers behaviours, the objective is to promote efficiency in terms of infrastructure usage and development
  - Complete NC CAM with the reserve prices of different kinds of capacity products: facilitate cross-border trading in a balanced manner.
- **Cost recovery has to be ensured over time**
  - Gaps between “collected” and “allowed” revenues and observed costs of TSOs have to be filled, in general by adjusting tariffs the following year(s) – TSO’s revenue stability;
  - Adapting tariffs to deal with over or under revenue recoveries should not lead to too much tariff instability for shippers .

The initial impact assessment methodology

The IA examines what is the adequate policy option ('solution') to a regulatory problem.

The content of an IA is imposed by a methodology*:

- Identifying the problem;
- Define the objectives;
- Develop **main policy options**;
- Analyse the impacts of the options^ (**proportionate analysis**);
- Compare the options;
- Outline policy monitoring and evaluation.

The IA should be based on the **evidence gathered from various consultations** and studies available**.

ACER provides on a voluntary basis an **Initial** Impact Assessment, which requires updating as the process goes on.

*See impact assessment guidelines : http://ec.europa.eu/governance/impact/commission_guidelines/docs/iag_2009_en.pdf
**Here, Think, Kema, Brattle,…
^ Within the parameters of the EG process.

Timing

- EC asked (letter **December 19**) for the inclusion of additional topics in relation to the ACER IIA; discussed at first ACER Gas Working Group occasion (**Feb 3**); **an effort will be made to address some of these;**
- Scope: following prescribed Commission methodology, IIA will provide overall analysis of **most important policy options**, but **does not address individual impacts**. Impacts considered on level of E/E zone and in relation to tariff structures. National measures on top of FG are out of scope;
- Important but **late/ revised data input** from NRAs will be included;

The challenge of numerical evaluations

- Information gathered from stakeholders through public consultations and voluntary contributions of NRAs. **ACER has no information gathering powers.**
- Stakeholders are encouraged to provide further analysis (**quantitative!**) on potential impacts during the NC development process.

Main policy options – core features of a tariff structure

- **The Cost allocation methodology**, used to allocate network costs between entry and exit points on the basis of assumed cost drivers or network characteristics;
- **The reserve price.** Where auctions are used, the reference price is used as the reserve price for the annual capacity and the basis for setting the reserve prices for capacity products of shorter duration and for interruptible capacity. Where auctions are not used to allocate capacity, the reference price is used as the regulated price for the annual capacity product.
- **The revenue reconciliation mechanism** is the method by which any under/over recovery of collected revenues relative to allowed revenues is reconciled.
- **The payable price** is the price paid for capacity by the network user to the TSO at the time of capacity use. The payable price may be subject to reference prices changes relative to the prevailing price at the time of capacity booking. Where capacity auctions are used to allocate capacity, the payable price may also include premia bid in excess of the reference price.

Policy options: comparison

	Cost allocation		Reconciliation	Reserve price	Payable price
Harmonisatoin	Harmonised parameters 7	Top-down - 5.5 Bottom-up - 7 Fully deterministic - 5	Harmonisation of reconciliation tool & its application 6.5	Fully deterministic approach 5	Fully harmonised floating payable price 8 Fully harmonised fixed payable price 6
Transparency	Further transparency 5.5		Transparency and harmonisation of the reconciliation approach 6.5	Harmonised parameters 8	Harmonised parameters 5
Business as usual	No Further Action 4		No Further Action 4	No Further Action 4	No Further Action 4

Options comparison: criteria used

Each option was assessed against a set of objective criteria:

- **Effectiveness** – This is an assessment of the extent to which the option meets the FG and Gas Reg. objectives, in particular Article 1 and 13 of the Gas Regulation.
- **Feasibility** – This is an assessment of the feasibility of implementing the given policy option, including any foreseeable structural barriers.
- **Acceptability** – This is an assessment of the extent to which the option has support among industry stakeholders.

For the acceptability criteria, we have used responses to our 2012 and 2013 **public consultations** and our knowledge of **NRAs' points of view** as expressed in the FG development process, as a proxy.

What the FG tackles…

- **Harmonised tariff structures** across the EU
- By default, **eligible costs** are recovered **from capacity selling**
- Every entry or exit point is given **a "cost weight"** used to calculate unit tariffs
- The "primary" cost allocation methodologies aim at **finding a key for splitting costs** among the points
- **Cost allocation test** and **methodology counterfactual** submitted to public consultation

What the FG does not tackle…?

- **Allowed revenues remain unchanged** and tariff levels are set nationally (Article 41 Gas Dir.);
- **TSOs are independent**, but are also regulated businesses
- Contractual issues (national and Union law)
  - May require further dialogue to understand the concerns;
  - Focus on issues relating to **tariff structures**, not on extreme scenarios combining potential effects which are unlikely to materialise;
  - New provisions may **reduce cross-subsidies** (TBC via cost allocation test) -> the tariff restructuring improves competition in the markets.

ACER Recommendations on the NC process

- Avoid time-consuming opinion-based debates on policies determined in the FG;
- The process is sufficiently open to allow for further opinions and evidence to be shared;
- Focus on evidence-based debates on important technical issues raised in the FG, in particular in relation to cost allocation:
  - Circumstances;
  - Methodology inputs (network representation, distance…)

Mitigating measures / Implementation Timeline

- Designed on the basis of the information the Agency has gathered during the public consultations;
- Two proxies were used: (i) global impact and (ii) per E/E point;
- Portfolio effects are not quantified in the analysis, as data was not made available for the Agency, nonetheless policy considerations take into account the existence of the portfolio effects;
- Public consultations failed to deliver specific data, but provided a view on possible thresholds (tariff changes ranging between 5-25%)
- **Necessary balance between offering mitigating measures and ensuring the timely application of the NC in order to reach the targets of IEM.**

Non-physical backhaul

CAM NC distinguishes between bidirectional and unidirectional IPs:

- At unidirectional interconnection points **where technical capacity is offered only in one direction**, transmission system operators shall offer a daily product for interruptible capacity in the other direction.
- Diverging views regarding pricing:
  - **'service view':** non-physical backhaul should be priced like any other interruptible product vs.
  - **'incentives approach':** backhaul flows have the potential to reduce variable and perhaps fixed costs for the networks and should thus be incentivised

Non-physical backhaul

Consultation outcome

- 16 respondents support 'incentives approach'
- 16 respondents support 'service view'

The Brattle Group 2012 study for ACER conducted a detailed evaluation of the various options

- **Moderate 'incentive approach',** i.e. no zero or negative prices, was identified as **best balance** between the objectives of cost-reflectivity, non-discrimination and promoting efficient investment.

Payable price

- Floating tariffs composed of:
  - Reference price;
  - and auction premia, if any.
- Applies to incremental and new capacity.
- Ensures appropriate risk sharing across the network users.

➔ Floating tariffs are the most appropriate mechanism to reconcile the regulatory account.

All network points and all users will contribute to the reconciliation, therefore tariff stability will be improved (the larger is the basis of the reconciliation mechanism, the less tariff change is needed).

- **Universal floating tariffs** to avoid fragmentation of tariffs

➔ A single reference price for the same capacity at the same time should foster competition (no advantage for the previous capacity owners).

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Cost Allocation Tasks

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TAR NC Overview/Scope

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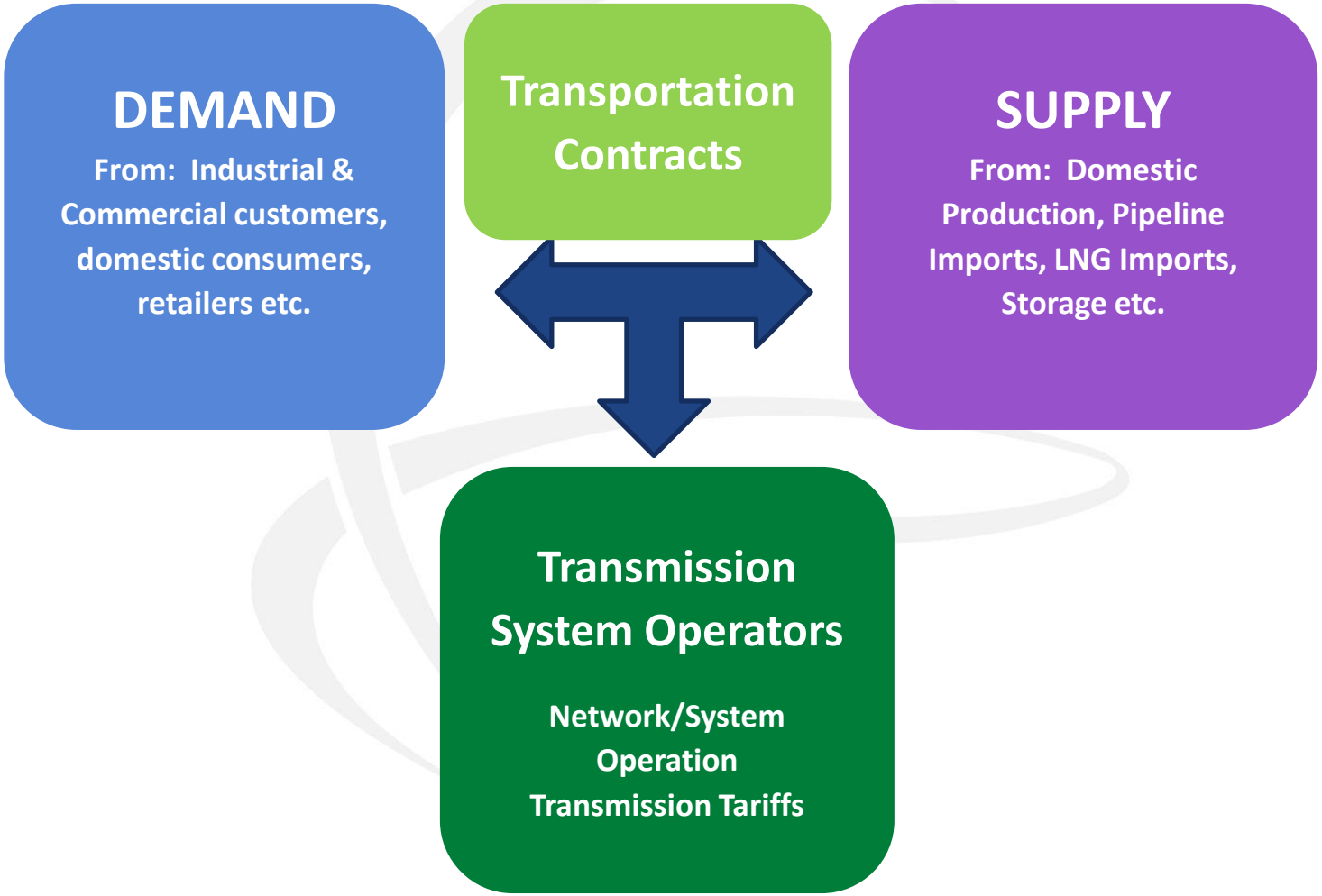
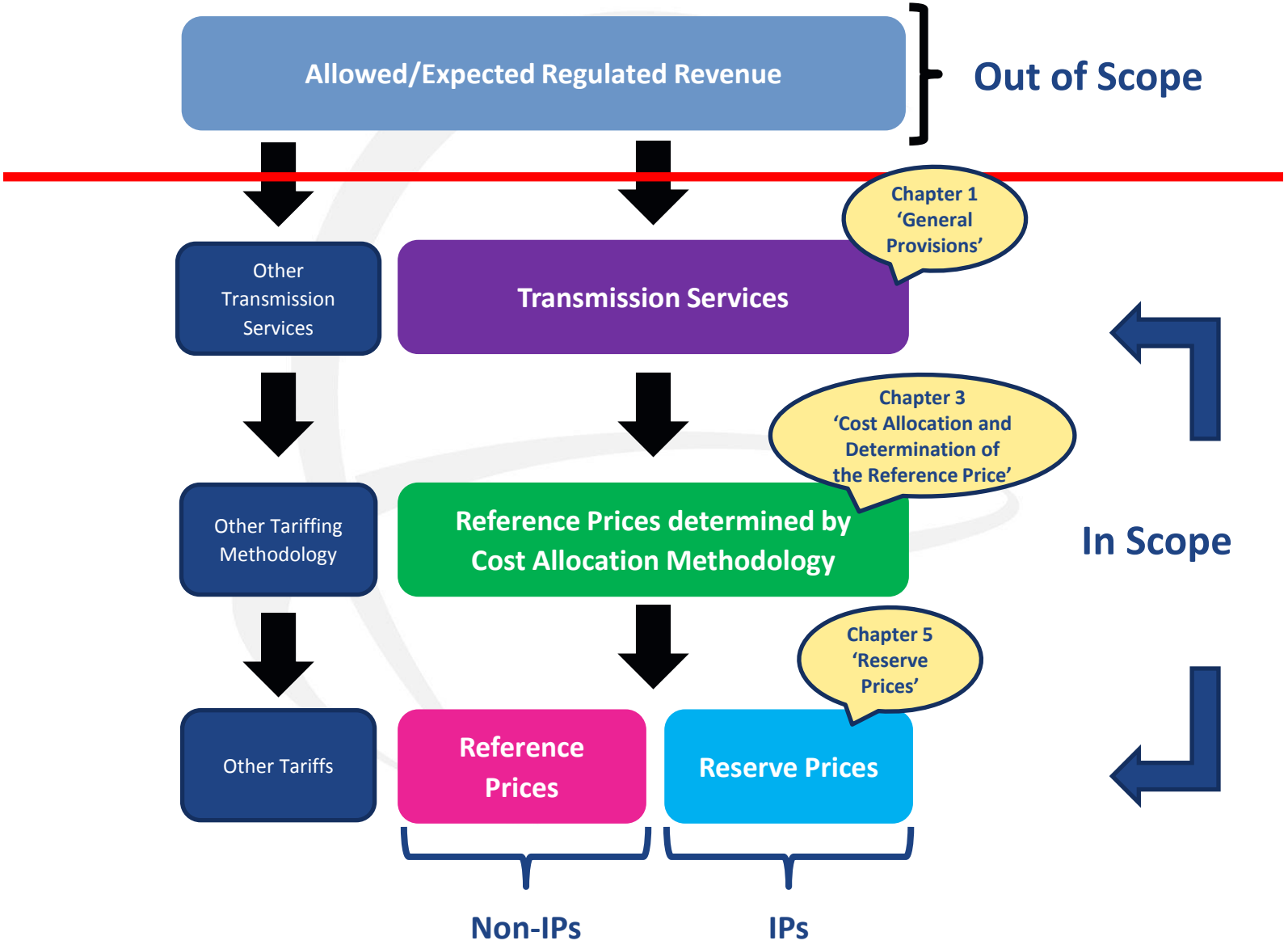
TAR SJWS 1 – the 11th of February 2014

Gas Wholesale Market



TAR Network Code Scope



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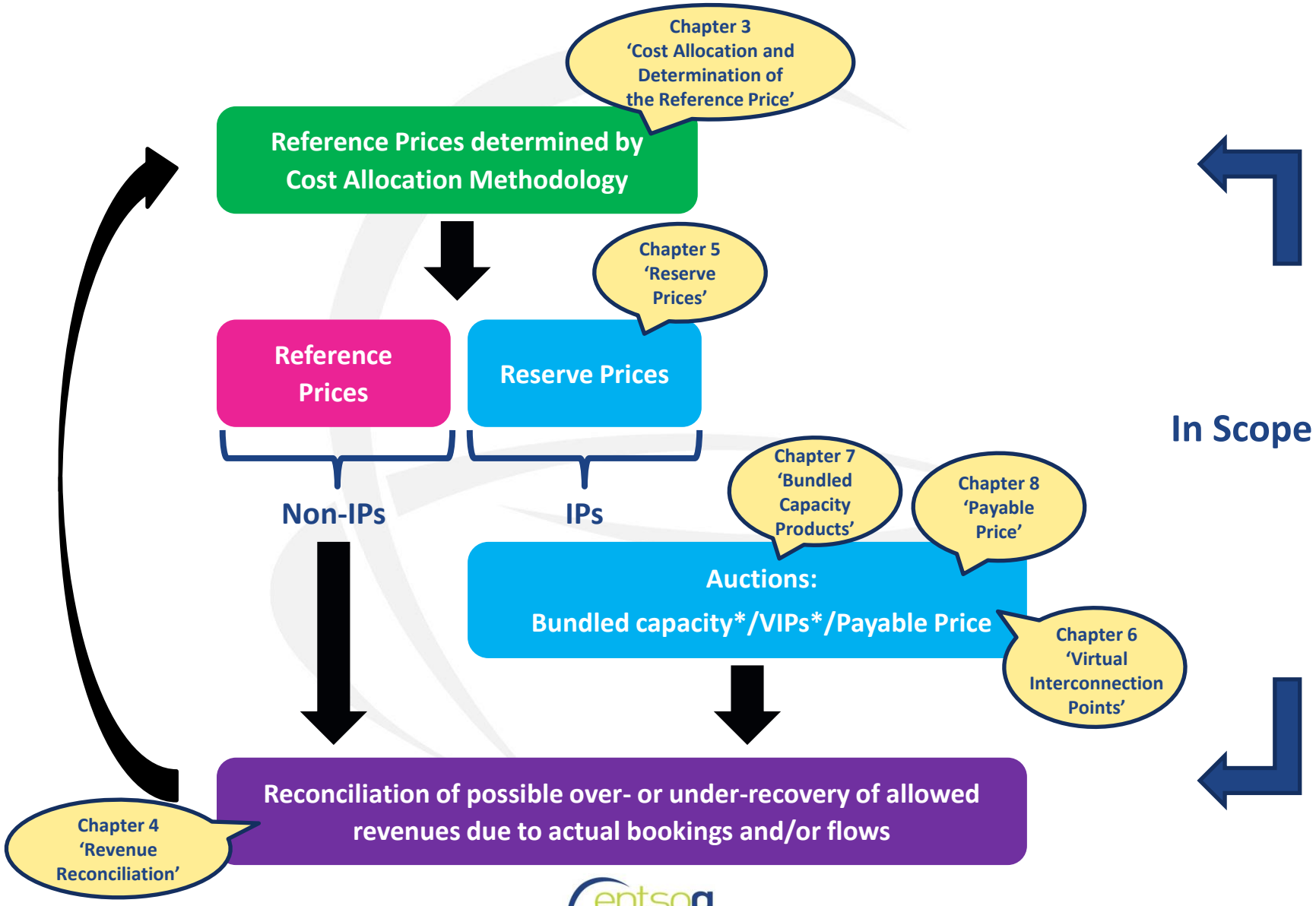
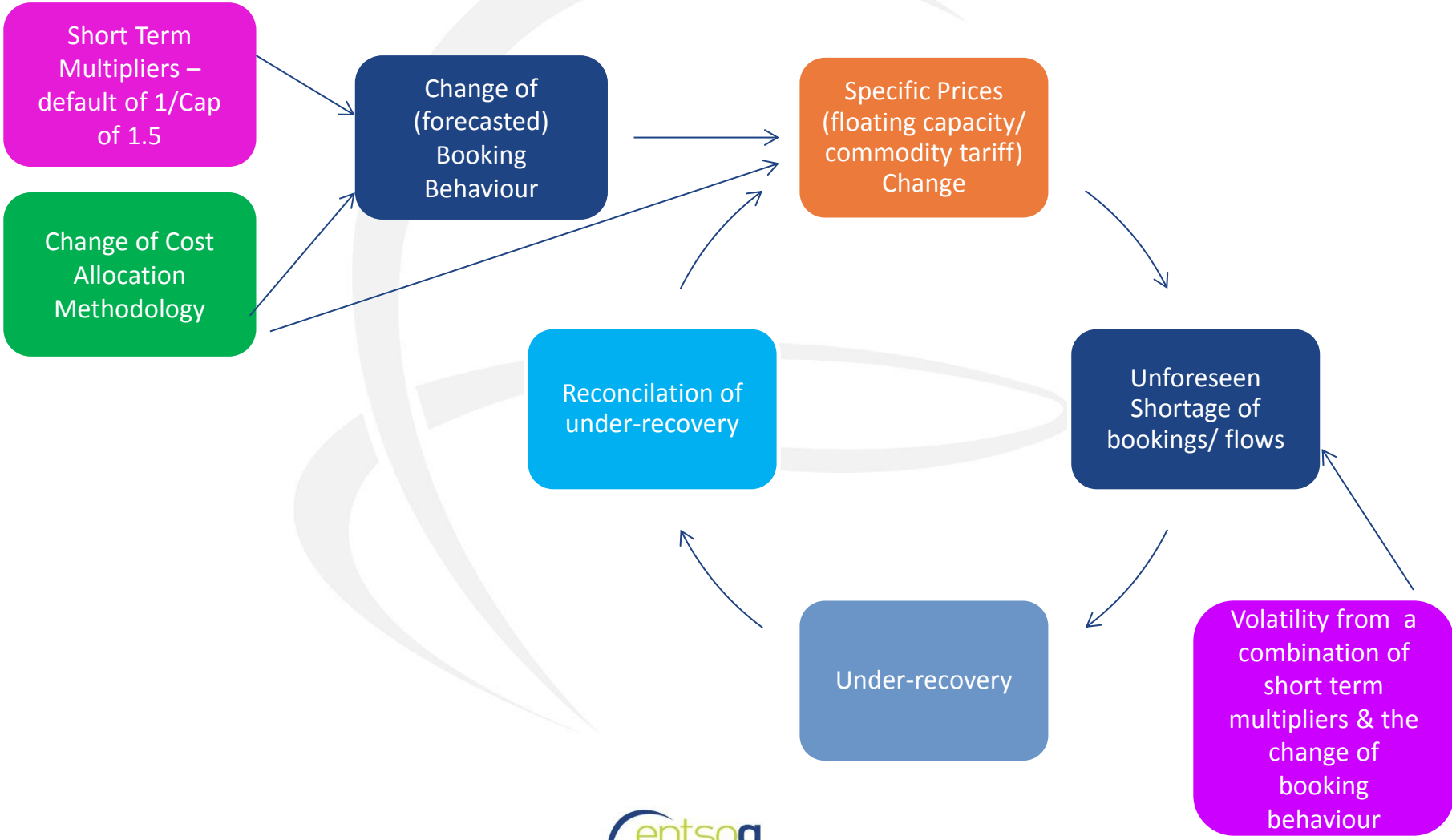


*If applicable

Interactions: Potential Impact of Cost Allocation Methodology and Short Term Multipliers Changes



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Transmission Services and Dedicated Services/Infrastructure

Ann-Marie Colbert

ENTSOG

TAR SJWS 1 – the 11th of February 2014

Transmission Services Definition in the FG

TAR Framework Guidelines Requirement:

The Network Code on Tariffs shall propose and justify a consistent definition for transmission services in line with Section 1.3.

TAR Framework Guidelines Definition from section 1.3:

Transmission Service is 'any service necessary to transport natural gas through a transmission system, excluding balancing, flexibility, metering, depressurisation, ballasting, odorisation and any other dedicated or specific service.'

Other TSO provided services

Activity	Included in Methodology	Explanation
Balancing	No	Charged separately as per BAL NC (neutrality)
Flexibility services	No	Charged separately as per BAL NC
Metering	Possible	May form part of transmission services or may be charged separately
Depressurisation	Possible	
Ballasting	Possible	
Odourisation	Possible	
Specific service	No	

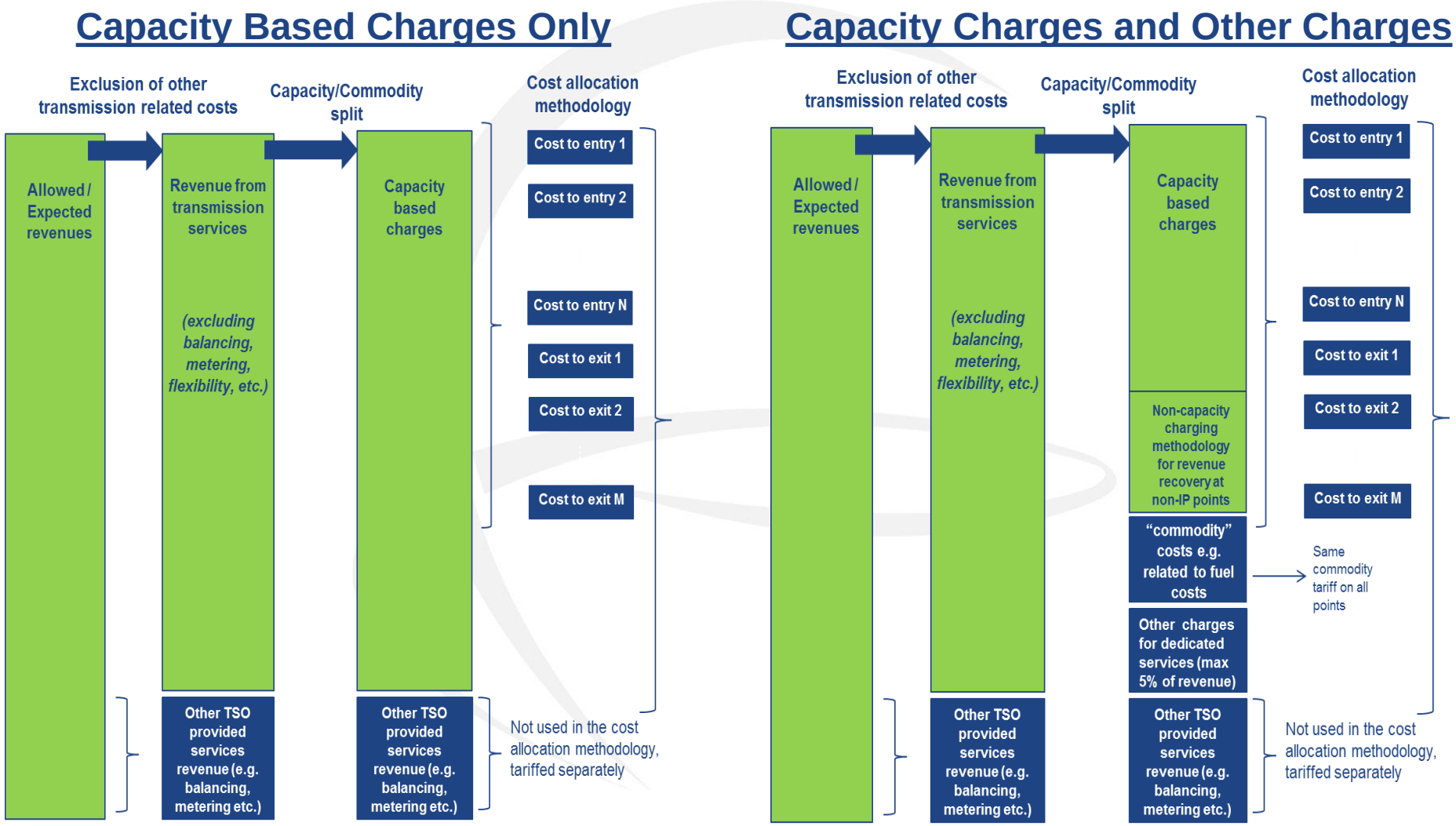
ACER's definition referred to dedicated/specific service but dedicated services is already referred to separately in the TAR FG. Therefore here we should just refer to specific services.

Transmission Services Definition

ENTSOG's initial proposal for a transmission services definition:

"Transmission service: any service necessary to transport natural gas through a transmission system, excluding those activities which may be linked to local requirements, depending on national circumstances, (e.g. regional and local transmission activities, flexibility services, metering, depressurisation, ballasting, quality conversion, biogas related services, odorisation and any other specific TSO service)".

Representation of TSO Charges



List of services for dedicated services / infrastructure charges

TAR Framework Guidelines Requirement:

Upon approval or determination by the NRA, specific charges for dedicated services and/or dedicated infrastructure (such as the provision of metering services), may be established, provided that such charges will be in accordance with the objectives of the Framework Guidelines. The revenue collected from these charges on aggregate will be limited to a maximum of 5% of total (allowed) revenues.

The Network Code on Tariffs shall provide for a list of TSO services that could be covered by the provision.

List of services for dedicated services / infrastructure charges

Dedicated TSO Services

1. Maintenance of technical devices which are owned by a third party;
2. Matching in case a smaller provider of storage capacity does not have the technical capacity or manpower to do so;
3. Data management, e. g. technical volume determination or communication with other market participants;
4. Invoicing;
5. Title Transfer Fees

Dedicated TSO Infrastructure

1. Metering stations;
2. Add-on assets that benefit a specific point or type of customer e.g. odourisation equipment, a specifically dedicated depressurising station

Some of the items listed above could form part of the transmission services revenue that is used as an input for the cost allocation methodology and would not be considered as dedicated services depending on the national circumstances.

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Cost Allocation Tasks

Laurent De Wolf

Fluxys (on behalf of ENTSOG)

TAR SJWS 1 – the 11th of February 2014

Overview of the Cost Allocation Methodologies

Cost Allocation Methodology	Inputs	Outputs
Postage Stamp Approach	Revenue and Capacity	Equal Tariffs
Capacity Weighted Distance Approach	Capacity, Distance and Revenue	Differentiated Tariffs
Virtual Point Based Approach	Capacity, Distance, Network Representation, Virtual Point (theoretical or geographical), Flows and Revenue	Differentiated Tariffs
Matrix Approach	Capacity, Distance, Network Characteristics, Flows, Costs and Revenue	Differentiated Tariffs

Network Representation

TAR Framework Guidelines Requirement:

'The Network Code on Tariffs shall … give guidance on how to simplify the network representation in a transparent, non-discriminatory and objective way.'

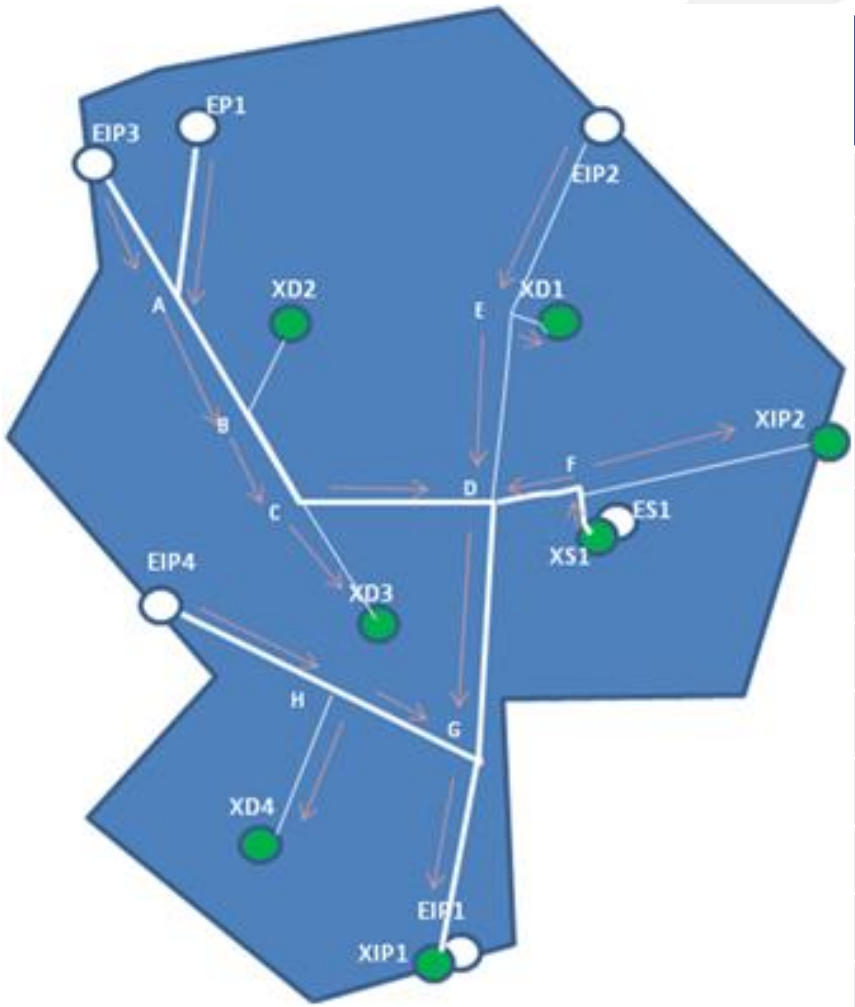
Simplification of the network representation can be achieved by carrying out the following steps.

1. **Aggregating exit points into clusters**
   - trade-off between cost-reflectivity and transparency

2. Possibly aggregating entry points into clusters, when a high number of entry points would require aggregation e.g. all points of production.

3. Simplification of network representation via a **segment & node system** (i.e. if path distance is used) or
   Simplification of network representation via a **table**, summarising all entry and exit points and their geographical and capacity data (i.e. if Euclidean distance is used)

Segment & node system vs. table



Entry/Exit Points	Capacity (in GWh/d)	Location (North)	Location (East)
Entry Point 1 - EIP1	29	100	553
Entry Point 2 - EIP2	30	1134	773
Entry Point 3 - EIP3	20	1134	228
Entry Point 4 - EIP4	25	545	175
Storage Entry - ES1	35	628	764
Production Entry - EP1	29	1134	228
Exit Point 1 - XIP1	30	100	553
Exit Point 2 - XIP2	40	744	1075
Storage Exit - XS1	13	628	764
Exit Domest 1 - XD1	20	895	711
Exit Domest 2 - XD2	25	891	353
Exit Domest 3 - XD3	22	520	467
Exit Domest 4 - XD4	29	250	314

Distance and Average Distance

TAR Framework Guidelines Requirement:

'The Network Code on Tariffs shall ***define possible objective approaches to distance and average distance*** *and shall give guidance on how to simplify the network representation in a transparent, non-discriminatory and objective way.'*

Approaches to calculate point-to-point-distance:

1. Euclidean Distance (airline distance)
2. Path Distance

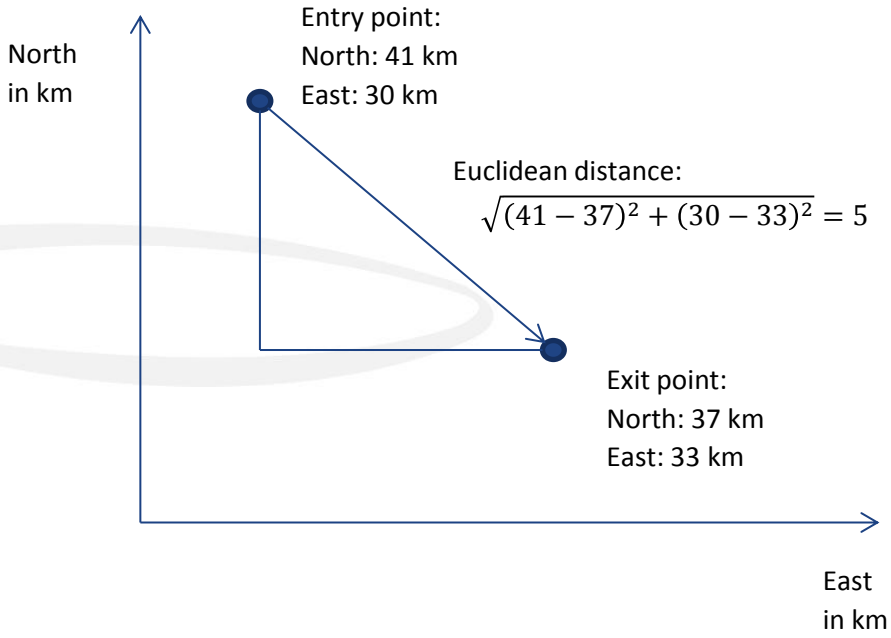
To calculate an **average distance** per entry or exit or group of points, the above distance have to be weighted

Approaches to Calculating Distance - Euclidean Distance (airline distance)

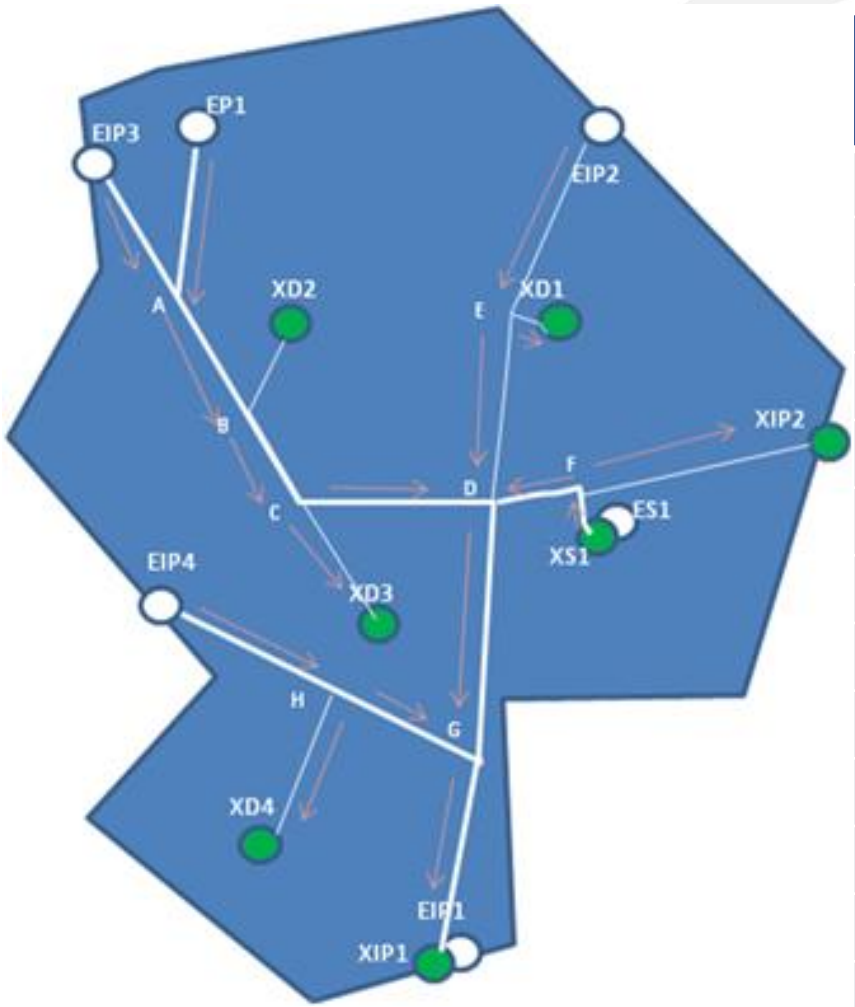
Distance (En;Ex) = √((East En-East Ex)^2+⟦(North En-North Ex) ⟧^2)

- where:

- Distance (En; Ex) – Distance between the entry point and the exit point in km
- East En, East Ex – easting of the entry or, respectively, exit point according to the projected coordinate system
- North En, North Ex – northing of the entry or, respectively, exit point according to the projected coordinate system



Generic Example used for distance calculation and network representation



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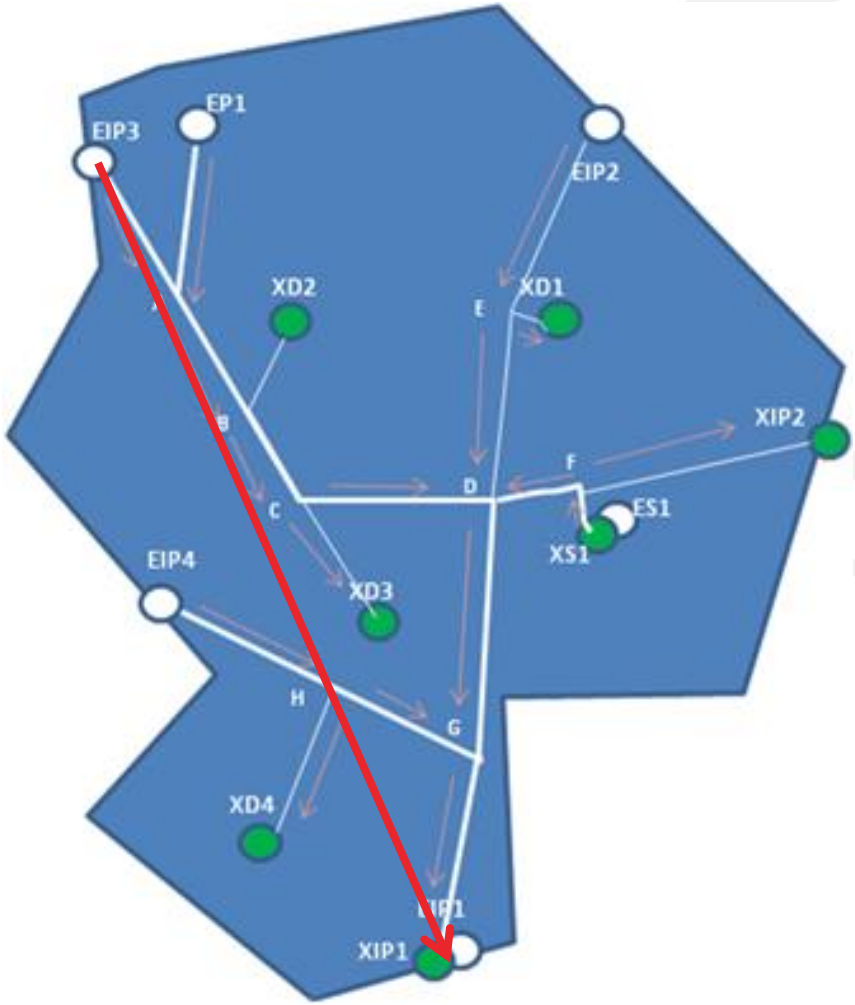
Calculation of point-to-point distance with Euclidean Distance approach



Calculation of distance EIP3 to XIP1:

Locations of IPs:

- EIP3 (1,134 North; 228 East)
- XIP1 (100 North, 553 East)

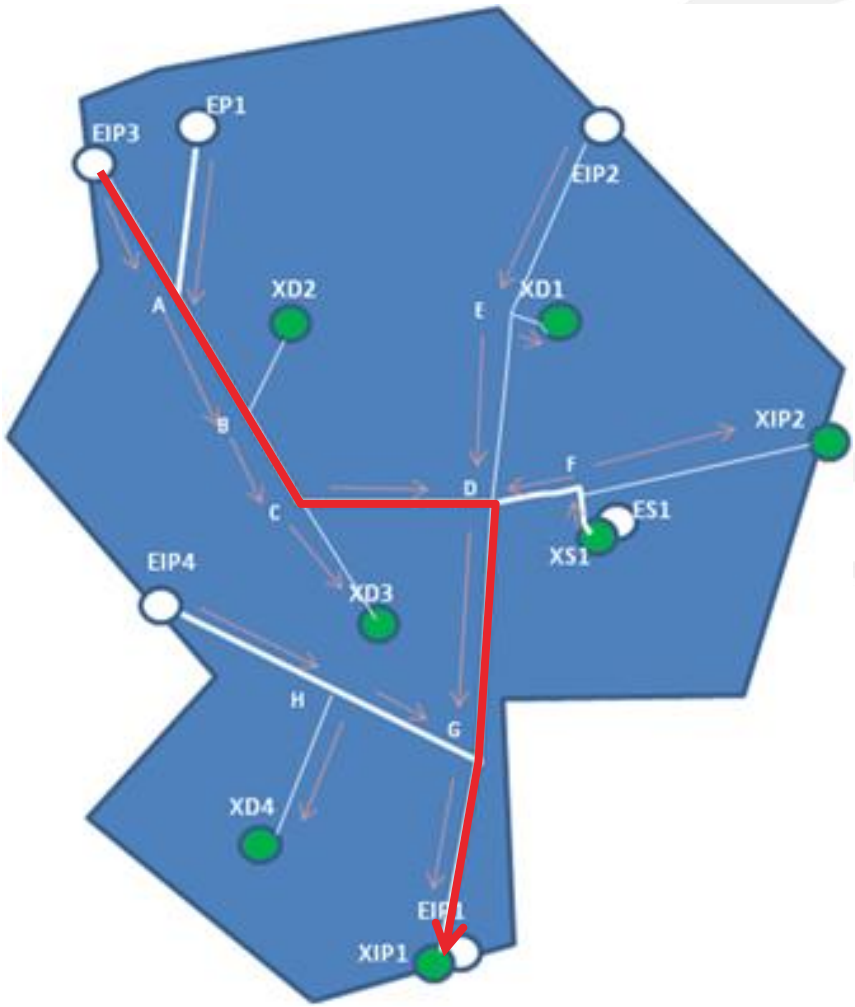
Euclidean distance (Pythagoras)

$$= \sqrt{(1{,}134 - 100)^2 + (228 - 553)^2}$$
$$= 1{,}084$$

Approaches to Calculating Distance - Path Distance

- Path distance is the distance along a defined path
- If detailed information for the pipelines are available then the pipe length between two points can be easily estimated
- If there are two different pipeline-paths with different lengths connecting entry and exit point, the minimum, (determined in distance or economical terms) can be used or the average of the two path distances can be calculated.

Calculation of point-to-point distance with Path Distance approach



Segment	Distance
EIP3 to A	150
EP1 to A	150
A to B	300
B to XD2	150
B to C	200
C to XD3	200
C to D	300
D to E	400
E to XD1	20
EIP2 to E	400
D to F	100
XS1/ES1 to F	50
F to XIP2	300
D to G	600
G to XIP1/EIP1	450
H to G	350
H to XD4	250
EIP4 to H	300

Path distance Path distance from Entry EIP3 to Exit XIP1 is 2,000

Approach to Calculating Average Distance

Average Distance for a certain Exit Point:

$$= \frac{\sum_i (Weight\ of\ entry\ point_i) \times \left(distance\ between\ entry\ point_i\ and\ exit\ point\ _j\right)}{\sum_i Weight\ of\ entry\ point_i}$$

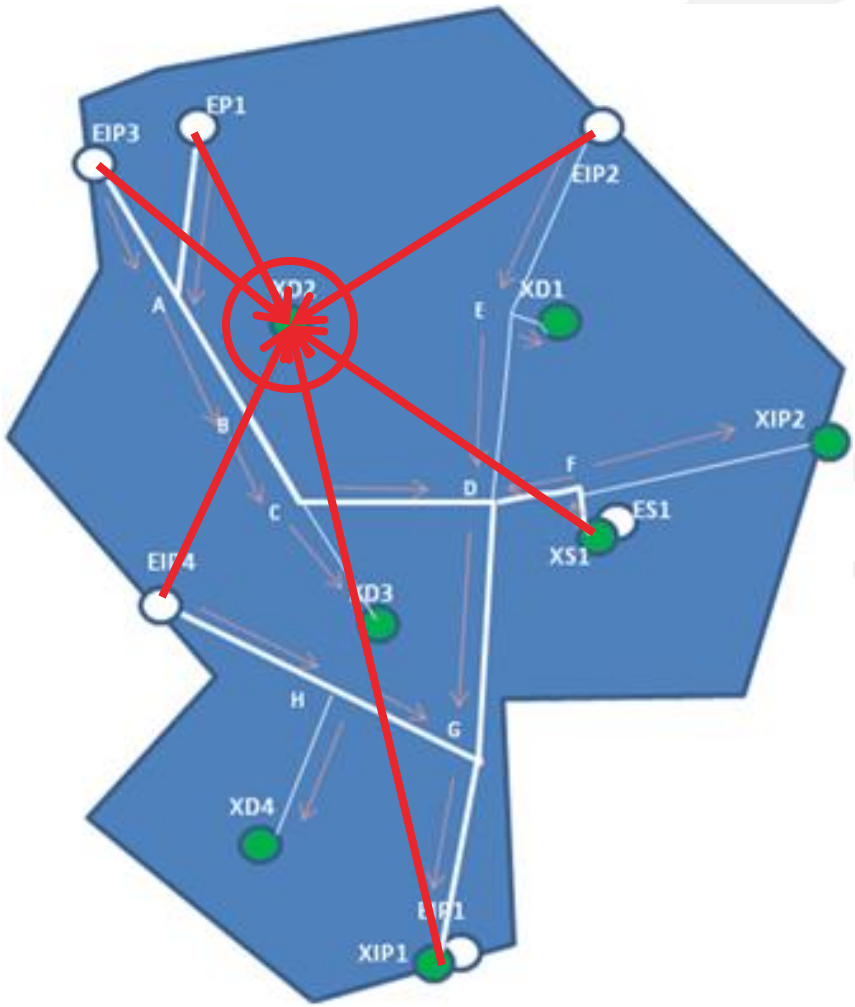
Average Distance for a certain Entry Point:

$$= \frac{\sum_i (Weight\ of\ exit\ point_i) \times \left(distance\ between\ entry\ point_i\ and\ exit\ point\ _j\right)}{\sum_i Weight\ of\ exit\ point_i}$$

Average Distance for a group of Point:

$$= \frac{\sum_j \left(Weight\ of\ certain\ \ point_j\right) \times \left(Average\ distance\ of\ certain\ point_j\right)}{\sum_j Weight\ of\ certain\ point_j}$$

Calculation of average distance of a certain exit point in the Generic Example



Point-to-point distances of entry points to exit point XD2:

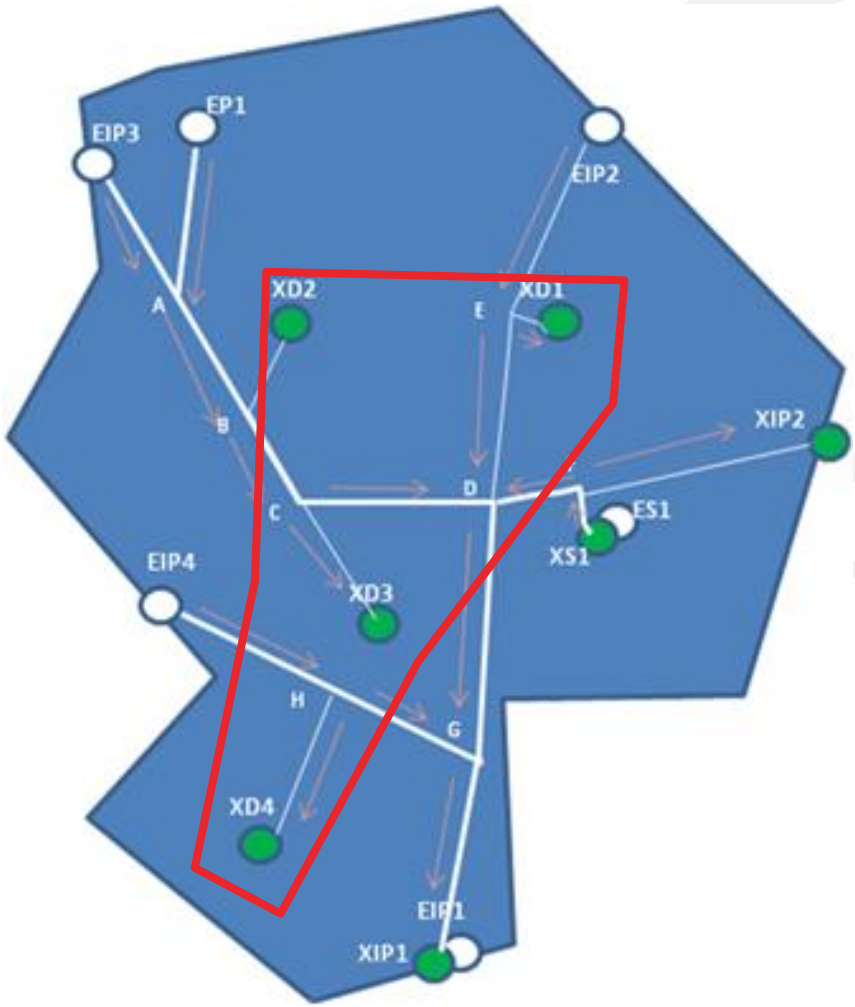
Point	EIP1	EIP2	EIP3	EIP4	ES1	EP1
capacity	29	30	20	25	35	29
distance	811	247	539	640	272	539

(capacity) weighted average distance of XD2

$$= \frac{29 \times 811 + 30 \times 247 + 20 \times 539[\dots]}{29 + 30 + 20 + [\dots]}$$

$$= 467$$

Calculation of average distance of all domestic exit points in the Generic Example



Average distance of group of domestic exit points:

Point	XD1	XD2	XD3	XD4
capacity	20	25	22	29
Average distance	493	467	498	657

(capacity) weighted average distance of domestic exit points group

$$= \frac{20 \times 493 + 25 \times 467 + [\dots]}{29 + 25 + [\dots]}$$

$$= 537$$

Develop Forecasting Models

TAR Framework Guidelines Requirement:

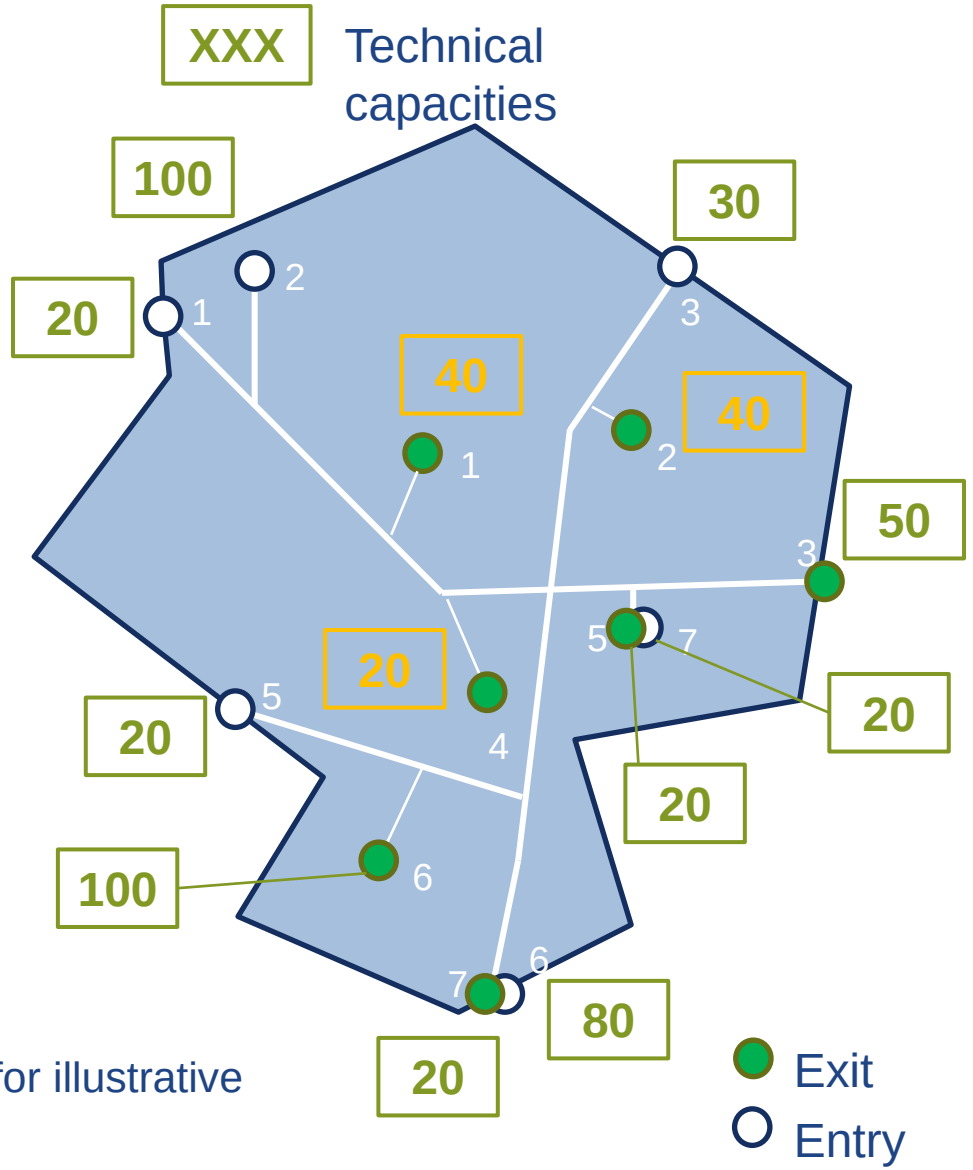
In particular, the Network Code on Tariffs shall develop appropriate forecasting models to forecast technical capacity or sale of capacities[10], taking into account the relevant TYNDPs, for the input parameters of the tariff methodology.

Footnote:

[10] We note that nationally 3 different methods are currently in use to arrive at such assumptions, such as bookings, technical or flow estimates. The choice of method may be determined by NRAs and TSOs, consistent with the chosen cost allocation methodology.

Forecasting capacities when ‘technical capacity’ is used for the tariff calculation

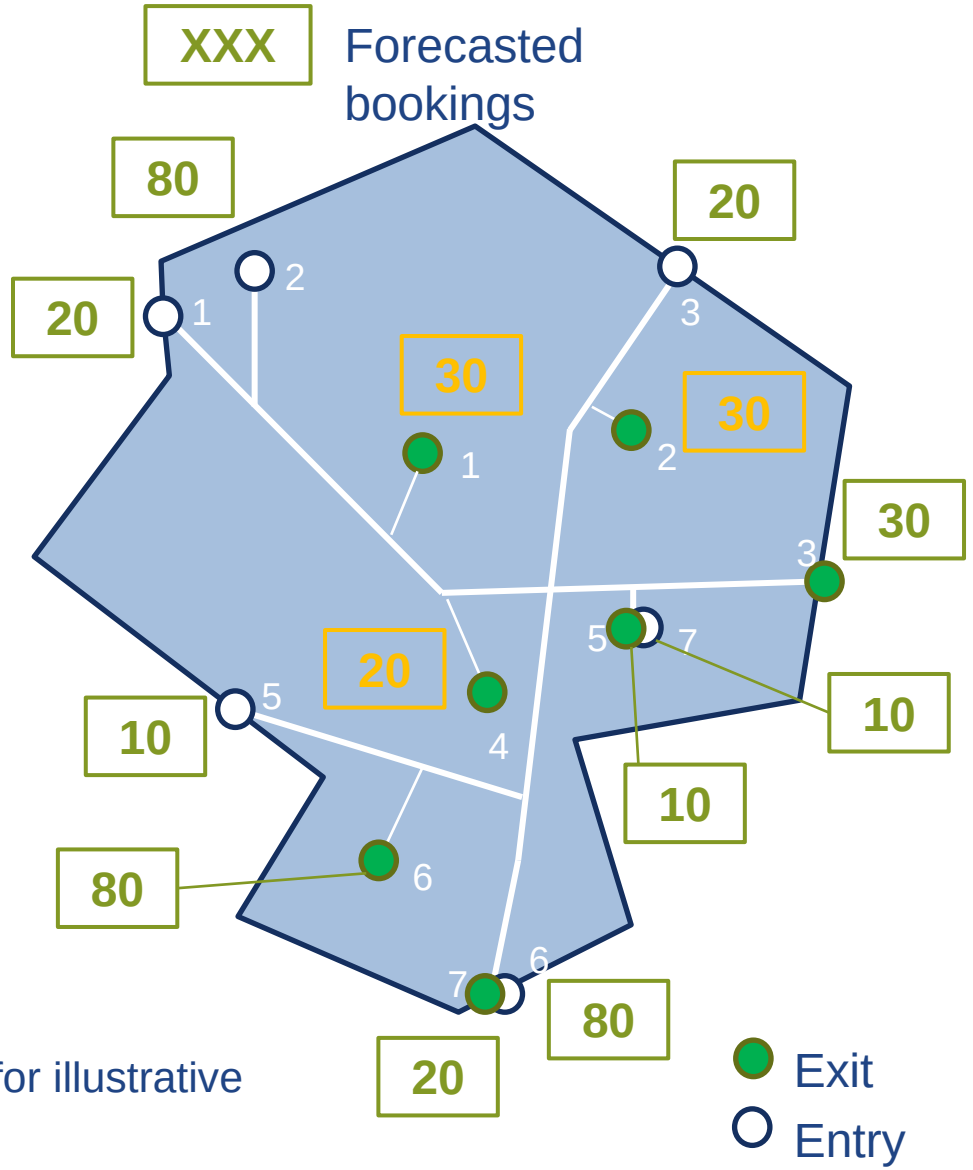
- A TSO may refer to their National Development Plan (NDP) or the ENTSOG TYNDP for forested capacities; any deviations between these development plans and capacities used shall be justified
- The capacity input of the calculation is constant



Please Note: the Network Representation is for illustrative purposes only.

Forecasting capacities when ‘forecasted bookings’ are used for the tariff calculation

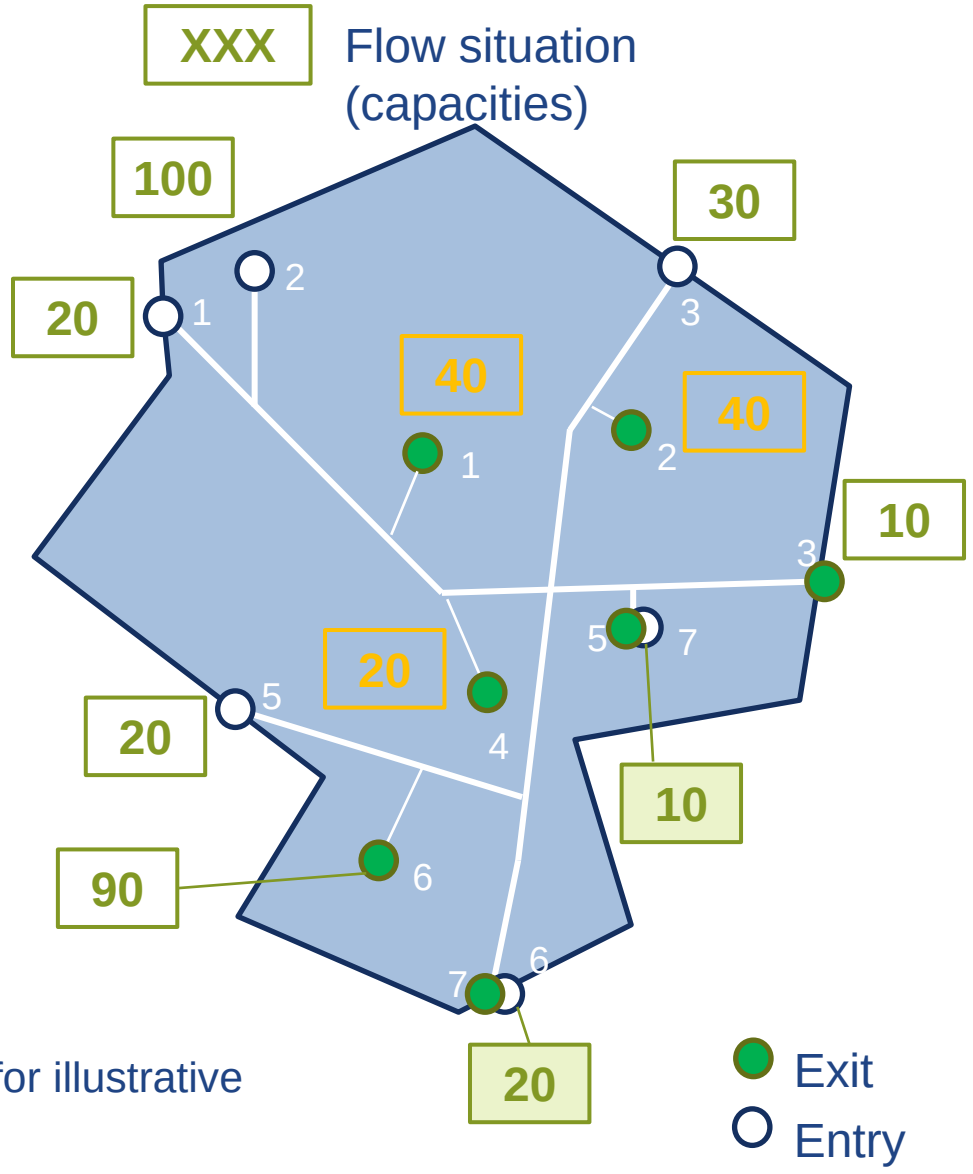
- The forecasted bookings are based on a commercial estimation of the TSO based on:
  - Actual bookings
  - Forecasted bookings
- The input data depends on the TSO estimation



Please Note: the Network Representation is for illustrative purposes only.

Forecasting capacities when ‘flows based on supply and demand scenarios’ are used for the tariff calculation

- The flow approach takes the supply and demand into account (demand estimation could be a peak estimation or based on a national demand forecast)
- It considers the capacity in the system in certain flow situations
- The input data depends on the system optimization and does not consider bi-directional points and storages in both configurations



Please Note: the Network Representation is for illustrative purposes only.

FG requirement for Capacity concept in systems with unstable flow patterns

TAR Framework Guidelines Requirement:

Regarding assumptions related to capacity, the TSOs communicate capacity values for each entry and exit point in the system at reference conditions. Flows in the system may be used to characterise the capacity. However, unstable flow patterns decrease the quality of forecasts.

The Network Code on Tariffs shall define in relation to unstable flow patterns what forecast quality cannot be used and provide appropriate proxies instead.

ENTSOG's vision on Capacity Concepts for Networks with Highly Variable Flow Patterns

Features of Networks with variable (unstable) flow patterns

1. *Networks capable of different physical flow directions*
2. *Several peak scenarios*

Main implications for such Networks on choice of Capacity Concept

1. *Flows based on supply/demand scenario could create inappropriate locational signals*
2. *No suitable flow-based proxy therefore different approach recommended*

Conclusion

- *Technical or Booked Capacity approaches could be used as both are suitable*

Stakeholder perspective on Tariff NC

Thought provoking statements for discussion purposes only

kees.bouwens@exxonmobil.com

Stakeholder perspective on Tariff NC

Objective of this NC (Section 1.2 FG)

- Harmonising the gas transmission tariff structures across the EU, to the extent that this is necessary to contribute to the completion and the efficient functioning of the market

Further binding guidance based on Art. 13 of the Gas Regulation:

- Tariffs shall: (and this should be in place from 3 March 2011)
  - be transparent;
  - reflect the actual costs incurred, insofar ...
  - facilitate efficient gas trade and competition;
  - avoid cross-subsidies between network users;
  - provide incentives for investments;
  - maintain or create interoperability for transmission networks;
  - be applied non-discriminatory
- Where differences in tariff structures would hamper cross-border trade, TSOs/NRAs should actively pursue convergence thereof

Stakeholder perspective on Tariff NC

What is required?

- Guidelines on tariff methodology related to cross-border trade of natural gas (re. Art. 23.1(d) of the Gas Regulation)
- Tariff arrangements for implementation of the CAM NC:
  - reserve price for all standard capacity products in all auctions
  - timing of the tariff decision(s) relative to the auction calendar
- Provisions on the economic test for incremental and new capacity

What is driving FG to address non-IPs?

- Considering the large number of affected points
- While domestic points in general have a stable/predictable demand
- Can this be justified by impact on cross-border trade?

Stakeholder perspective on Tariff NC

Cost reflectivity in entry-exit systems

- Should this be applied on aggregated or individual level?
- Individual cost reflectivity is impossible to achieve:
  - nature of entry-exit system means distance is eliminated
  - different pipeline costs (size, terrain characteristics)
  - different levels of depreciation
  - meshed network
  - gas flow variations (LNG imports)
- Is it possible to apply a meaningful cost allocation test?
- Equalisation approach for domestic exits points reflects that all users have access to same virtual hub

Stakeholder perspective on Tariff NC

Tariff setting at Interconnection Points

- Gas Target Model describes system of well connected liquid markets
- Bundled capacity at IPs aims to facilitate hub-to-hub transactions
  - although capacity remains a physical service
- Price deltas between hubs set market value of capacity products
  - fixed at time of transaction
  - without interruptions or force majeure
- Tariff setting determines whether capacity is ‘in-the-money’ or not
- Exit charges may be justified in systems with transit function, but entry charges are considered to hamper cross-border trade

Thank you for your attention !

Development of the TAR NC: 1st Stakeholder Joint Working Session

Interruptible Capacity & Non-Physical Backhaul

TAR SJWS 1 – the 11th of February 2014

OVERVIEW

Brendan O'Riordan

Gaslink (on behalf of ENTSOG)

TAR SJWS 1 – the 11th of February 2014

Interruptible Capacity - Definition of the concepts

FIRM CAPACITY

- 'Firm capacity' means gas transmission capacity contractually guaranteed as uninterruptible by the transmission system operator.
- In some MSs, the conditions for firm/interruptible capacity are specified in the general terms and conditions for access to the transmission network of TSOs.

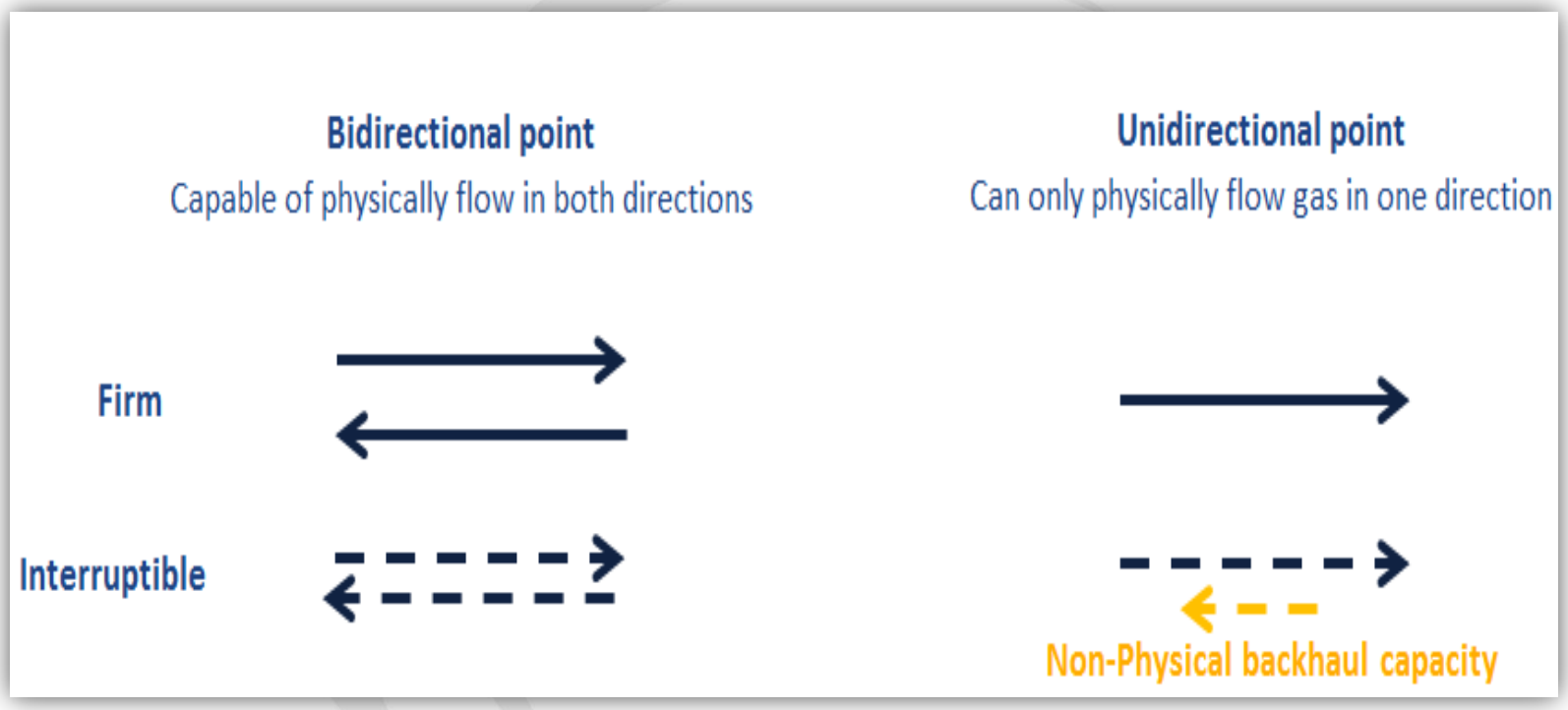
Interrupt-ible Capacity

- 'Interruptible capacity' means gas transmission capacity that may be interrupted by the transmission system operator in accordance with the conditions stipulated in the transport contract.

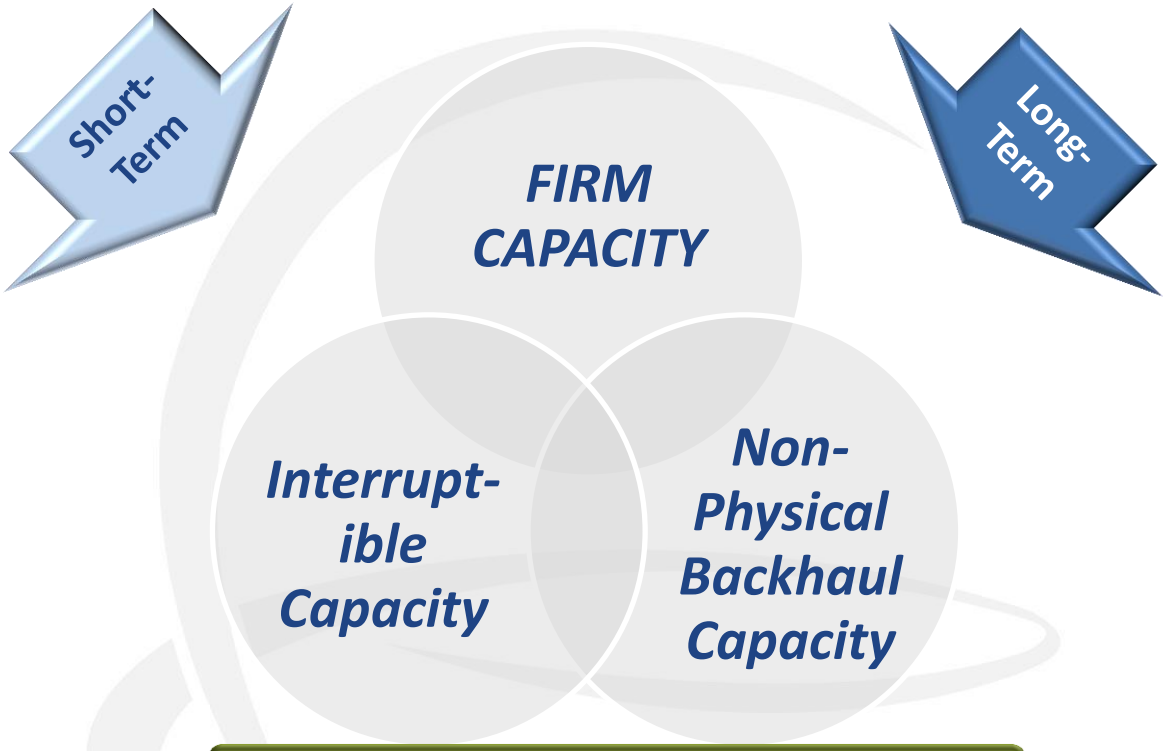
Non-Physical Backhaul Capacity

- 'Non-physical backhaul flows' means that at unidirectional entry or exit points, the volume of gas is nominated to flow in the opposite direction to the physical flow.
- Non-physical backhaul is by definition interruptible, since it requires a forward flow nomination to occur. It can only be provided if there are nominations for gas to flow in the opposite direction.

Interruptible Capacity – Definition of the Concept



Interruptible Capacity – Impact of Pricing



Optimal use of available capacities

Appropriate Pricing is Crucial for Trading Stimulation and Tariff Certainty

Forecasted interruptible capacity is in many cases an input parameter for the cost allocation methodology

Regulation Requirement

- According to Article 14 (1) (b) of the Gas Regulation, Transmission System Operators shall provide both firm and interruptible third-party access services.

- The **price** of interruptible capacity shall **reflect the probability of interruption**.

Interruptible Capacity at bidirectional points

Brendan O'Riordan

Gaslink (on behalf of ENTSOG)

Network Code Requirement from the FG Interruptible Capacity at bidirectional points

- The Network Code on Tariffs shall set out that reserve prices for interruptible capacity be set at a discount to the reserve price of the firm standard capacity product with equivalent duration.

- The Network Code on Tariffs shall set out a **methodology for determining reserve prices for interruptible capacity.**

- The methodology shall meet the following criteria:
  - At interconnection points where firm capacity is offered in both directions, the **discount(s)** for interruptible capacity **shall adequately reflect the risk** (likelihood and duration) of interruptions, so that if the risk is low, the discount shall also be low.
  - TSOs shall publish their assessment of the risks of interruption. The discount is to be recalculated at least once a year.

Discount Alternatives

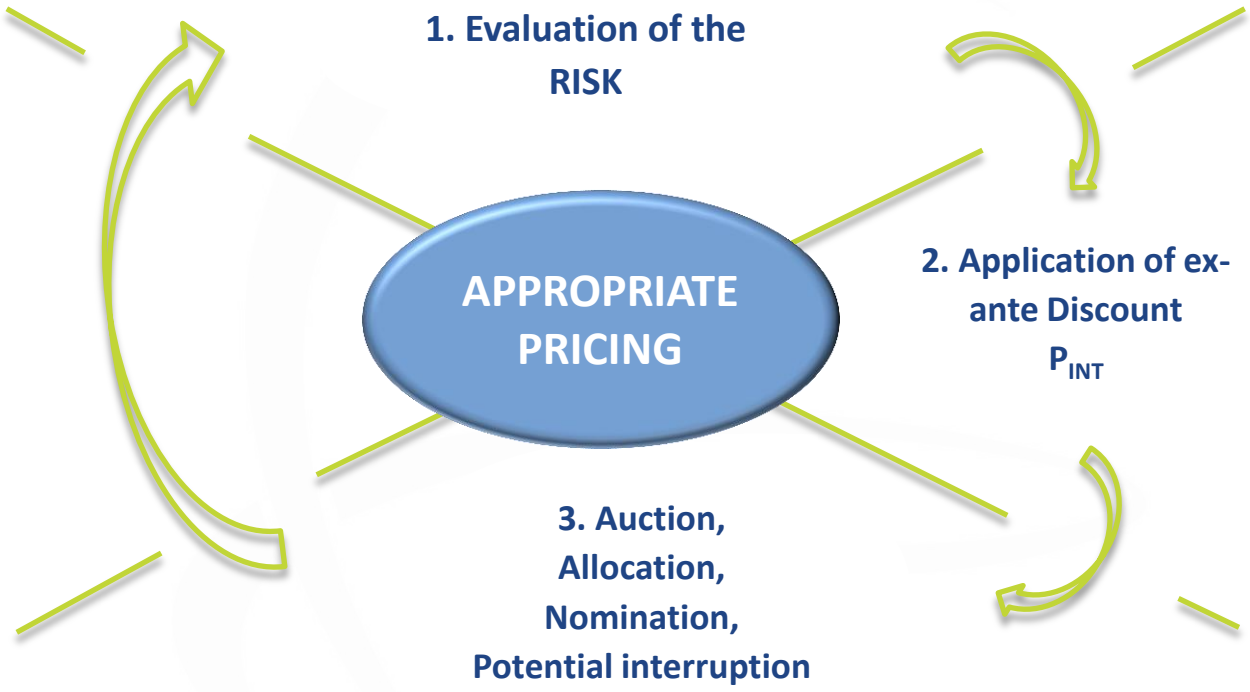
> TSOs could have the following alternatives for the discount:

(1) an ex-ante discount only, Di_{I}***;***
The reserve price of the interruptible capacity products on IPs will be calculated by applying the ex-ante discount to the reserve price of the equivalent firm capacity product.

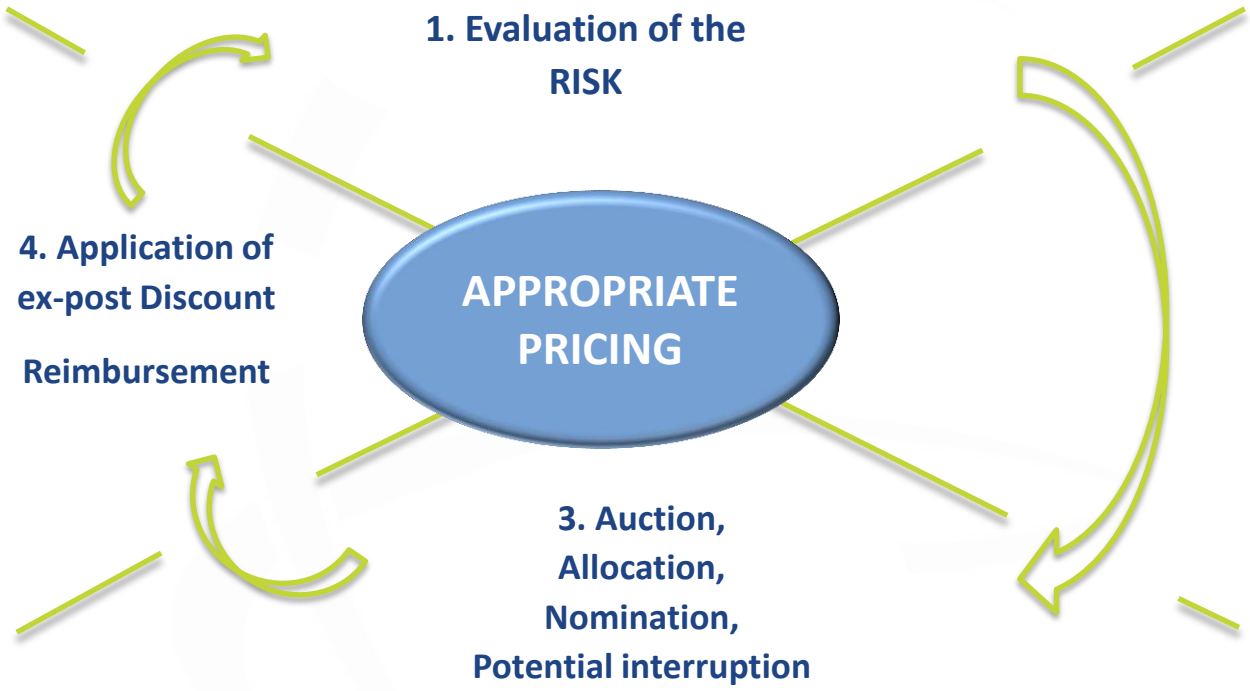
(2) an ex-post discount only, $\mathrm{Di}_{\mathrm{II}}$***;***
A reimbursement will be made to the network user when capacity has been actually interrupted.

(3) combination of an ex-ante discount and an ex-post discount

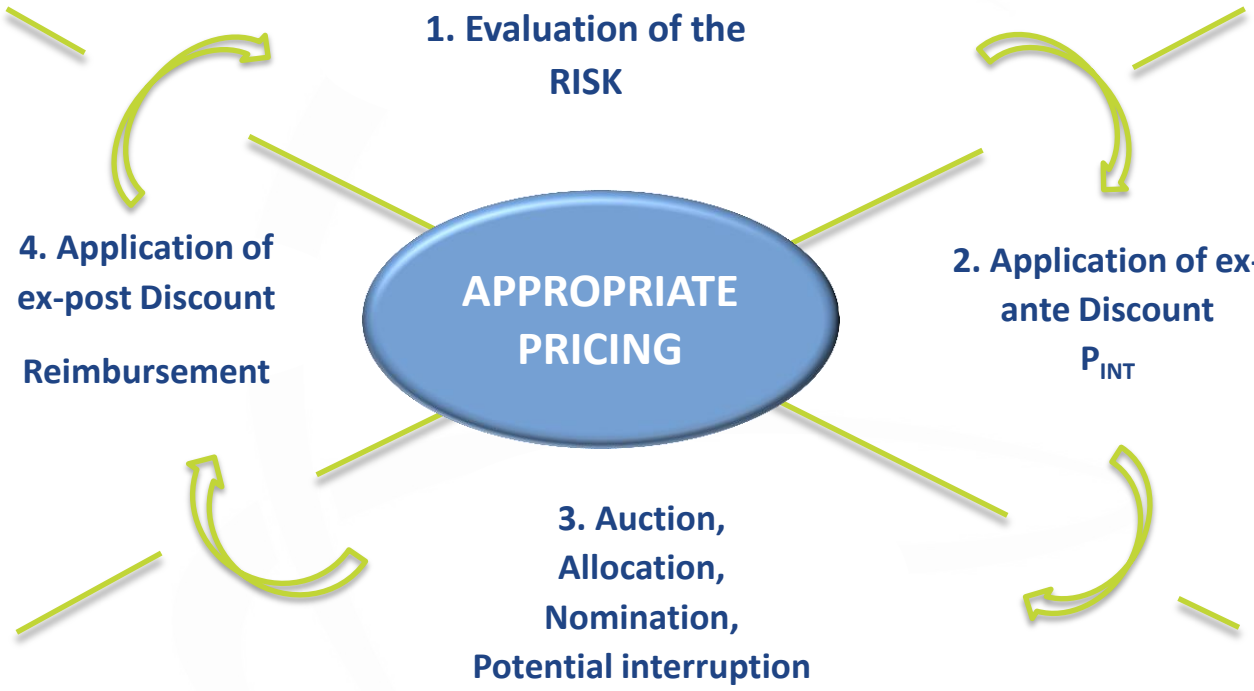
Discount Alternatives: ex-ante discount



Discount Alternatives: ex-post discount



Discount Alternatives: ex-ante discount and ex-post discount



Step 1. EVALUATION OF THE RISK

Gas Regulation Requirement

The price of interruptible capacity **shall reflect the probability** of interruption.

TAR FG Requirement

The price of interruptible **shall reflect the risk** (likelihood and duration) of interruptions.

ENTSOG has developed two initial alternatives to evaluate the risk of interruptions.

ENTSOG would like to gather your views on the two alternatives.

Step 1. Risk of Interruption – Option A with 2 parameters

- Du(%) is the duration of the interruptions expressed as a % and calculated in accordance with the defined assumptions.

$$\text{Du (\%)} = \frac{\text{estimated duration of interruptions (days)}}{\text{total duration of the product (days)}}$$

- L(%) is the likelihood of the assumptions defined by the TSO using historical data, forward looking projections or a combination of both, expressed as a %

Example for a daily product

Daily product	0 h	6h	12	18	24 h	Du
	0%	25%	50%	75%	100%	hours of interr / total hours of the prod
0%	0%	0%	0%	0%	0%	
10%	0%	3%	5%	8%	10%	
20%	0%	5%	10%	15%	20%	
30%	0%	8%	15%	23%	30%	
40%	0%	10%	20%	30%	40%	
50%	0%	13%	25%	38%	50%	
60%	0%	15%	30%	45%	60%	
70%	0%	18%	35%	53%	70%	
80%	0%	20%	40%	60%	80%	
90%	0%	23%	45%	68%	90%	
100%	0%	25%	50%	75%	100%	
L Probability of the assumptions	Risk (%) = L x Du					

Risk (%) = L x Du

Step 1. Risk of Interruption – Option B taking account of 3 parameters

- N = statistical expectation of number of interruptions over the whole duration of the product
- d = average duration of each interruption (hours or days)
- C = average interrupted capacity of each interruption (kWh/h or kWh/d)

$$\text{Risk (\%)} = \left(\frac{N \times d}{\text{total duration of the product}}\right) \times \left(\frac{C}{\text{total capacity of the product}}\right)$$

Step 2. Derivation of ex-ante discount from the Risk

> Alternative 1 for Step 2 based on a formula

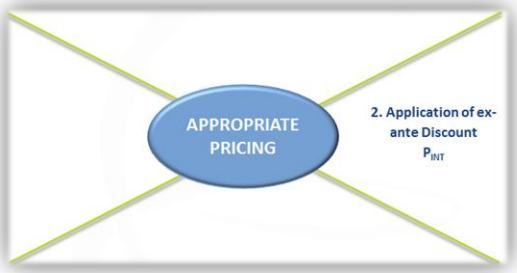
$$\text{Discount, } Di_I = \text{Risk x a}$$

a: constant included to improve the attractiveness of the product and the real value of the interruptions (interruptions usually more probable during periods in which users most need the capacity). To be defined by TSO and NRA nationally.
There is a cap of 100% on the discount.

> Alternative 2 for Step 2 based on ranges

Ranges to be defined by TSO and NRA nationally.

Example:
if Risk is below 2% → Discount is equal to 10%
if Risk is between 2% and 5% → Discount is equal to 20%
etc.



Step 3. (Potential) Capacity Interruptions

Allocation of interruptible services via auctions → Nomination → Potential interruption

Per allocated product or aggregated

Provisions for the offer, allocation of interruptible capacity products and sequence of interruptions as set out in the CAM NC

For Within-Day Products:

Over-Nomination for WD interruptible capacity → Potential allocation → Potential interruption

(only allocated if firm capacity is sold out)

Step 4. Ex-post Discount

> Calculation of the Ex-Post Discount

The ex-post discount will be calculated by the following formula, taking into account the fraction of the capacity that was actually interrupted:

$$\mathrm{Di_{II}}\ (\%) = \min\left[\ f_{ex-p} \cdot \frac{\Sigma\ \text{interrupted cap for the product duration}}{\Sigma\ \text{nominated cap for the product duration}}\ ;\ 100\%\ \right]$$

The default value for the factor '$f_{ex\text{-}p}$' shall be 1. Other values shall also be possible, subject to the NRA approval, in order to find the appropriate level for the ex-post discount, depending on the characteristics of each system or its circumstances.

The calculation would need to be carried out for each invoice period separately.

The ex-post discount is capped to 100% to limit the reimbursement to 100% of the reserve price

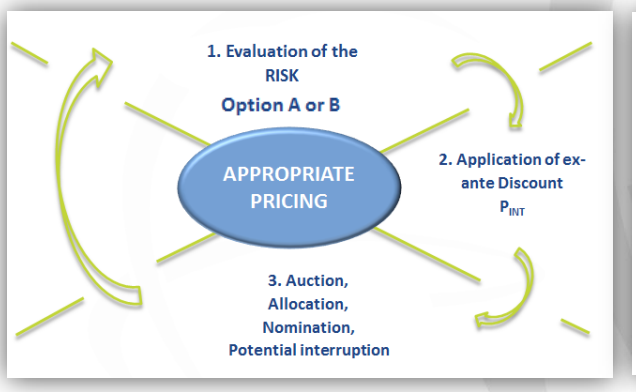
Discount Alternatives

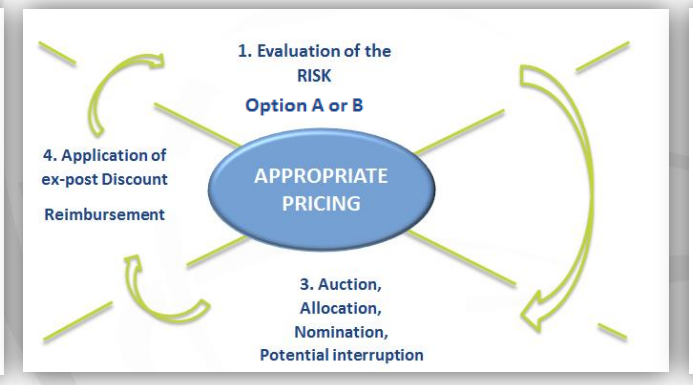
> TSOs will have the following alternatives for the discount:

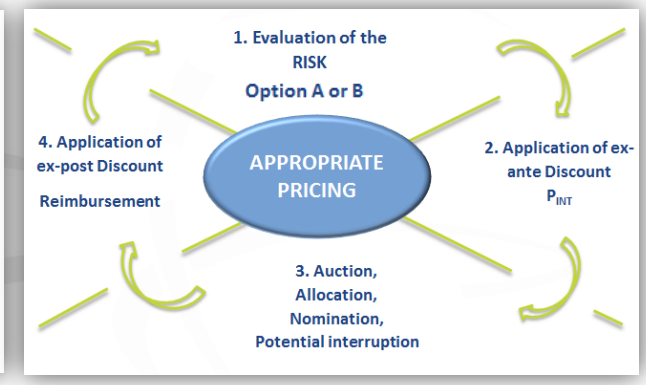
(1) an ex-ante discount only, Di_I***;***

(2) an ex-post discount only, Di_{II} ***;***

(3) combination of an ex-ante discount and an ex-post discount







How to calculate reserve prices

- When the ex-ante discount is applied the following formulas will apply to calculate the reserve price of a standard interruptible product:

For daily interruptible capacity products

$$P_{INT} = (1 - Di_I) \times (m \times sf) \times (p_y/365)$$

where:

P_{INT} is price of a daily interruptible product

Di_I is the ex-ante discount of the product (%)

m is the corresponding multiplier

sf is the corresponding seasonal factor

p_y is price of the yearly firm product

How to calculate reserve prices

- When the ex-post discount is applied and capacity has been actually interrupted, a reimbursement will be made to the network user.

$$\text{Reimbursement} = Di_{II} \times P_{INT}$$

Final payable price by the shipper = $P_{INT} - Di_{II} \times P_{INT}$ [+ auction premium (if any)]

where:
P_{INT} is the reserve price of an interruptible product
Di_{II} is the ex-post discount of the product (%)

Assessment Report

- TSOs may publish a report on their assessment of the risks of interruption at the same time as the publication of the tariffs.

- The assessment report will include at least:
  - Detailed list of the interruptible standard capacity products offered during the following year
  - Detailed explanation on how the risk of interruption is calculated
  - Table for each IP and for each interruptible standard product offered

	Year A – IP x, daily product		
	Type 1	Type 2	Type n
Description Brief description of the main characteristics of the product			
Risk of interruptions (L(%) and Du(%) or Risk(%))			
Other optional information e.g. • Max. allowed interruptions (e.g. for a yearly product) • Max. duration of each interruption • Max. duration of overall interruptions during the whole duration of the product			
Ex-ante Discount $Di_{d,I}$			
Ex-post Discount $Di_{d,II}$			

Annex

Assessment Report Table - Example

	Year 1 – IP x, interruptible monthly product	
	Type 1	**Type 2**
Description **Brief description of the main characteristics of the product**	Monthly interruptible product offered in winter months	Monthly interruptible product offered in summer months
Season	Winter Season (Oct – March)	Summer Season (Apr – Sept)
Risk of interruptions **(Risk (%))**	Risk (%) = 15 %	Risk (%) = 2 %
Ex-ante Discount $Di_{m,I}$	$Di_{m,I}$ (%) = Risk (%) x a (1)	
	$Di_{m,I}$ (%) = 15%	$Di_{m,I}$ (%) = 2%
Ex-post Discount $Di_{m,II}$	$Di_{m,II}(\%) = \frac{\Sigma\ interrupted\ cap}{\Sigma\ nominated\ cap}$	

Non-Physical Backhaul Capacity

(Interruptible Capacity at unidirectional points)

Violeta Bescós

ENTSOG

Network Code Requirement from the FG

- The Framework Guidelines state that the Network Code on Tariffs shall set out a **methodology** for determining **reserve prices for interruptible capacity,** meeting the following **criteria**:

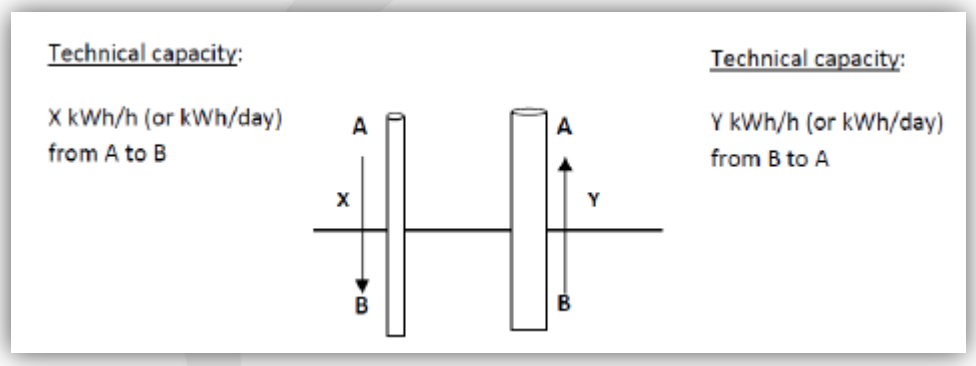
  - At unidirectional interconnection points where TSOs offer firm capacity only in one direction and capacity is offered in the other direction on an interruptible basis (non-physical backhaul capacity), the methodology for determining the reserve price shall be set to reflect the actual marginal (additional) costs that the TSO incurs to provide this service and shall not be below zero."

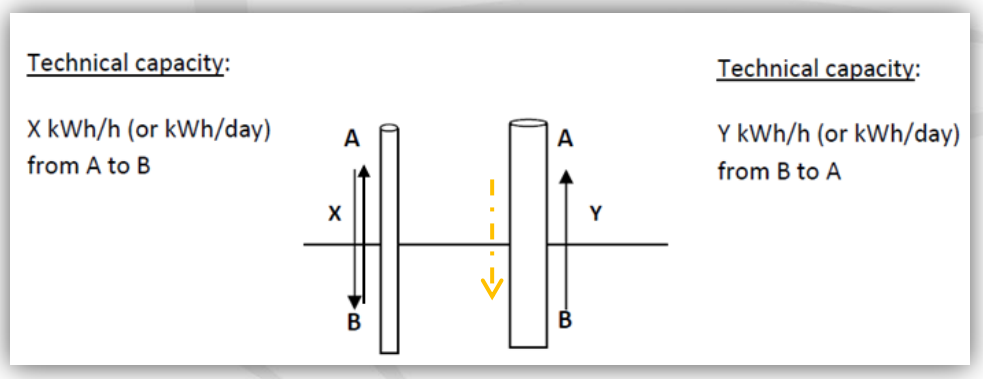
ENTSOG's view

- The interruptible products whether physical or non-physical are very similar; with the only difference that one product will be interrupted if there are too many nominations whereas the other one will be interrupted if there are not enough nominations.
- Non-physical backhaul capacity is very similar to interruptible capacity at bi-directional points; the pricing for both products could be similar.
  - ! The marginal pricing does not take account of the fact that the non-physical backhaul product only exists if there is forward flow and underlying infrastructure to facilitate such flow.
  - ! Marginal pricing affects the provision of investment signals. Any potential investment for physical reverse flow could be hindered as the marginal pricing structure cannot reflect the capacity demand in the same way as the tariff level for physical flow can.

ENTSOG's view

- Forward flows and backhaul products could be offered in parallel to enter the same E/E zone, even at the same IP (more than 1 TSO at 1 side); creating the risk of potential cross subsidies.





BOOKINGS SHIFTED TO THE UNI-DIRECTIONAL IP

ENTSOG believes that treating the pricing for all interruptible capacity in the same way is a viable option to be considered

entsog

european network
of transmission system operators
for gas

Thank you

Interruptible and Non-Physical Backhaul Capacity Price

Steve Rose – Tariff SJWS1 – 11/2/14

RWE
The energy to lead

Disclaimer

The views presented below do not represent the official position of RWE Supply & Trading but are provided in my capacity as a Prime Mover for the purposes of discussion and debate, as part of the on-going EU Network Code development process. RWE Supply and Trading will express its official position on this, and other issues, in response to the consultation.

Interruptible Capacity Price

- Price of interruptible capacity supposed to reflect the risk of interruption
- Risk of interruption at IPs should be considered in conjunction with CMP and CAM requirements
- Risk of interruption at non-IPs should be considered in conjunction with national network characteristics and capacity booking regimes
- CMP Guidelines are intended to incentivise TSOs to oversell firm capacity and buy it back if flows changes mean they cannot fulfil it
- CAM states that interruptible capacity shall be offered in both directions at IPs where firm capacity has sold out day-ahead

Interruptible Capacity Price – CMP considerations

- Under CMP TSO should make any unsold or surrendered firm capacity available first
- Thereafter, TSOs should oversell firm capacity based on their assumptions about how much of the firm capacity will be nominated
- Incentive schemes should encourage TSOs to oversell firm capacity and keep a proportion of the extra revenue to reflect the buyback risk they are taking on
- The higher the reserve price of interruptible capacity price the less incentives TSOs have to oversell firm capacity
- TSOs face less risk from interruptible capacity than oversold firm capacity but the risk of interruption remains the same
- If interruptible capacity is charged at firm prices with ex-post discounts given only in the event of interruption why would a TSO ever oversell firm capacity

Interruptible Capacity Price – CAM considerations

- Under CAM TSOs must offer interruptible capacity in both directions where firm capacity has sold out day-ahead
- TSOs may offer interruptible capacity for longer durations by auction but are not obliged to do so
- Interruptible capacity to be auction day-ahead and allocated by over nomination within day
- CAM does not require interruptible capacity to be bundled
- In future interruptible capacity will only be made available at congested interconnection points mainly on a day-ahead and within day basis
- TSOs will already be maximising their revenues at IPs where interruptible capacity is offered through sold out firm capacity and oversold firm capacity

Interruptible Capacity Price – Conclusions

- Historic evaluations regarding the length and duration of interruption are less relevant to the risk of interruption of interruptible capacity sold day-ahead
- If firm capacity is sold out or oversold the risk of interruptible will be driven by within day nomination changes and FM events – both inherently unpredictable
- Price needs to be simple to allow for interruptible capacity to be sold both through day-ahead auctions and within day over-nomination.
- Price needs to be set to maximise opportunities for day-ahead and within day arbitrage between markets at congested IPs
- If TSOs provide adequate information on nominations, flows and system imbalances shippers can form their own views on the risk of interruption
- Suggests the reserve price for interruptible capacity should be zero or a nominal price

Non Physical Backhaul Capacity Price

- CAM requires TSOs at unidirectional IPs to offer interruptible non physical backhaul capacity as a daily product i.e. day-ahead
- Risk of interruption is subject to the same drivers as physical interruptible capacity offered at congested bi-directional IPs – nomination changes and FM
- Price needs to be set to maximise opportunities for arbitrage between markets and to counter inefficient “flows against price differentials”
- Non physical backhaul flows may actually reduce the cost of system operation e.g. reduced compressor usage
- If TSOs provide adequate information on nominations, flows and system imbalances shippers can form their own views on the risk of interruption
- Suggests the reserve price for non physical backhaul capacity should be the same as for physical interruptible capacity – i.e. zero or a nominal price
- One-off fee to reflect the cost of setting up the service may be appropriate

Development of the TAR NC: 1st Stakeholder Joint Working Session

Bundled Capacity, Payable Price, VIPs

TAR SJWS 1 – the 11th of February 2014

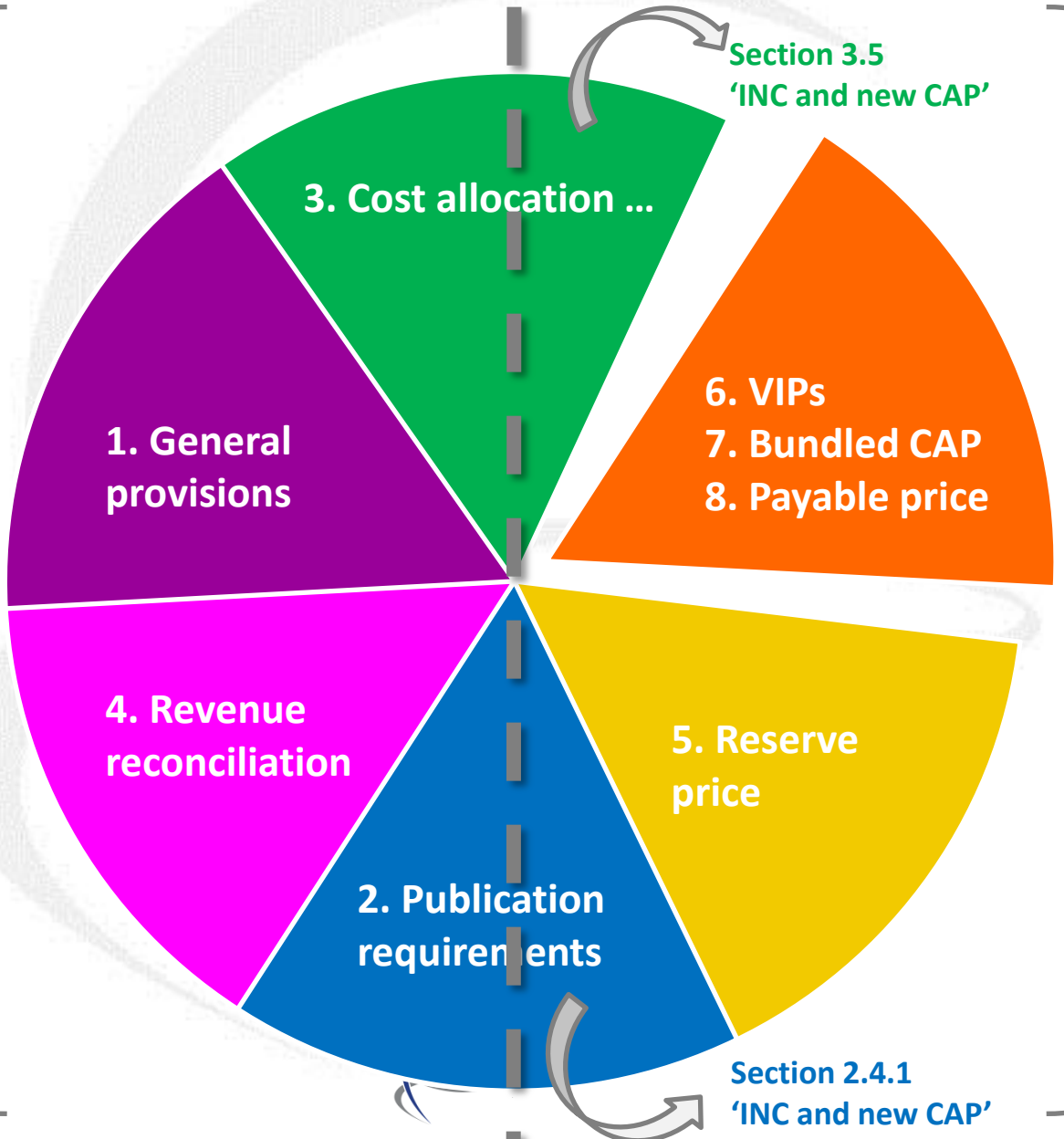
OVERVIEW

Irina Oshchepkova

ENTSOG

TAR SJWS 1 – the 11th of February 2014

TAR FG Chapters with different scope



SCOPE

IPs and non-IPs

SCOPE

IPs only

PAYABLE PRICE

Pavanjit Dhesi

Interconnector UK (on behalf of ENTSOG)

TAR SJWS 1 – the 11th of February 2014

What is 'payable price' and how to calculate it?

'the price to be paid, at the time of use, by the network user to the TSO, for capacity products'

TAR FG, Section 1.3 'Definitions', p. 7

'The Network Code on Tariff shall include *mathematical formulations for the payable price*.'

TAR FG, Chapter 8 'Payable price'
3rd paragraph, p. 34

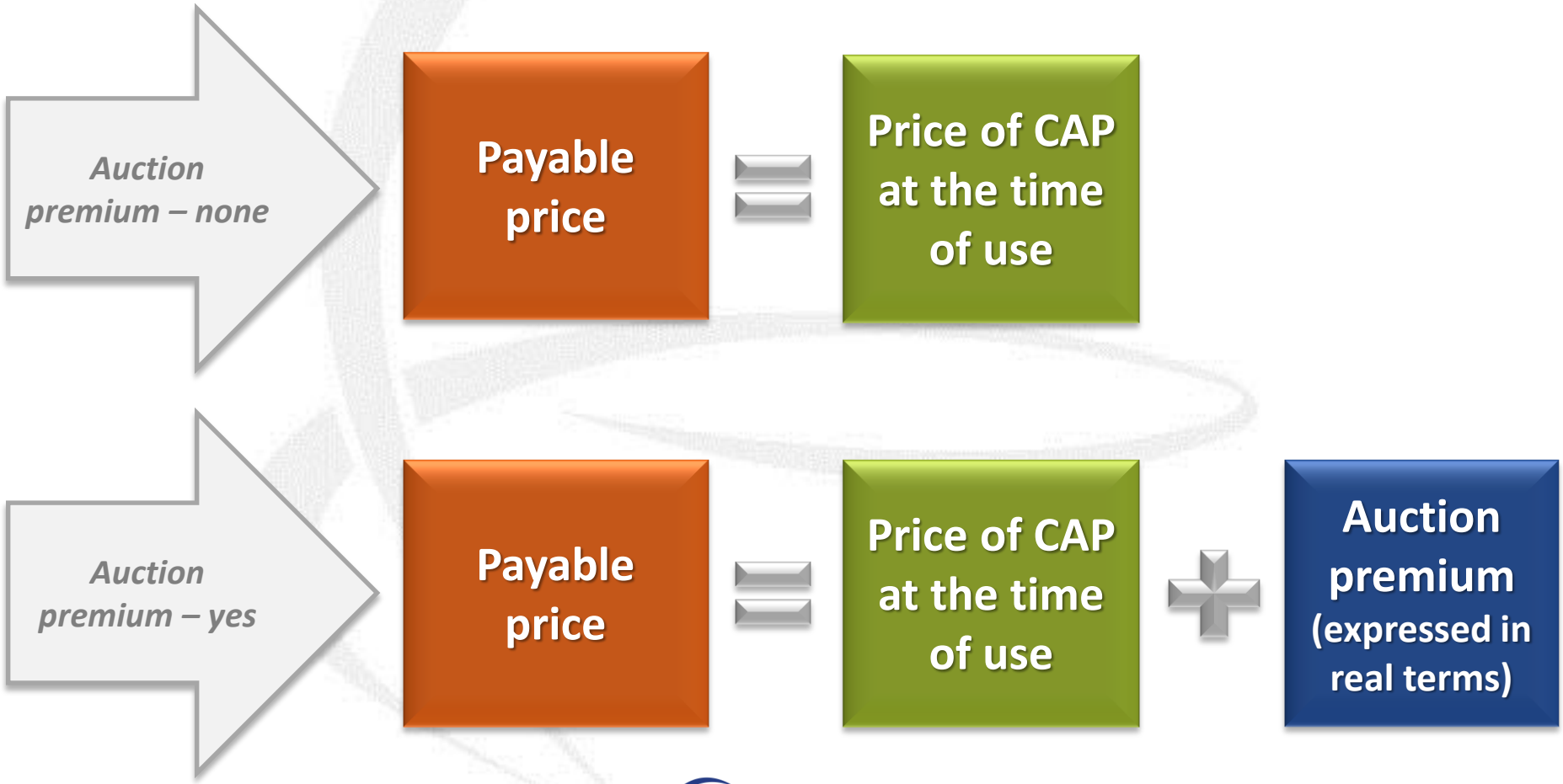
'The Network Code on Tariffs shall set out that, notwithstanding any reserve price adjustments determined by the provisions set out in Chapter 5, the *payable price* determined in a capacity auction *shall be a floating price*, which consists of the applicable reference price *at the time when the capacity can be used* plus the auction premium, if any.'

TAR FG, Chapter 8 'Payable price'
1st paragraph, p. 34

Different to CAM NC

CAM NC also foresees another option
- '*fixed price*'

TAR FG: options for components of payable price



Fixed price vs. floating price: advantages

FIXED PRICE	FLOATING PRICE
Advantages for shippers: - less risk - certainty regarding future capacity charges for the duration of the given contract - greater confidence to commit to LT contracts - may encourage investment and commitment in other parts of the value chain	Advantages for shippers: - minimise cross-subsidisation between: (i) shippers paying only fixed; and (ii) those paying either only floating or the combination of both - every shipper pays the same price when using the capacity
Advantages for TSOs: - stable revenue stream for capacity charge - may encourage more LT contracts (certainty about the revenue coming from these contracts) - premium for fixed price	Advantages for TSOs: - enables the TSO to adjust the capacity charges for revenue reconciliation purposes

Fixed price vs. floating price: disadvantages

FIXED PRICE	FLOATING PRICE
Disadvantages for shippers: - if sufficient bookings are not realised then the TSO may need to charge additional non-capacity charge which would be variable - shippers pay different capacity charges when using the capacity (which depends on when the capacity was purchased)	Disadvantages for shippers: - uncertainty about the price → high risk to commit to LT contracts - may hinder shippers' ability to commit to LT contracts elsewhere on the supply chain (e.g. LT customer contracts)
Disadvantages for TSOs: - restricts the option of TSO to adjust capacity charges → if sufficient bookings are not realised then the TSO may need to charge additional non-capacity charge for revenue reconciliation purposes	Disadvantages for TSOs: - may increase revenue volatility and tariff instability - entry/exit points in competition with other flexibility sources at which the fixed prices are charged may become unattractive

TAR FG & ENTSOG initial proposal

TAR FG:
payable price = only floating price

- Only one option is foreseen
- Restriction does not allow to take account of all possible circumstances
- Limiting the current requirement of the CAM NC

ENTSOG initial view:
payable price = floating price and/or fixed price

- Effectively, three options are suggested:
  - floating price;
  - combination of fixed and floating prices;
  - fixed price.
- The suggested variety of options enable to take account of all possible circumstances
- In line with the current requirement of the CAM NC

Potential impact of fixed prices on INC and new CAP

- ENTSOG's initial proposal ***(payable price = floating and/or fixed)*** could have an impact on offer of incremental and new capacity

- Considerations should be given to the impact of fixed prices on incremental and new capacity
  - in particular, with regard to parallel bidding ladder auctions (for existing capacity and for incremental capacity)

- E.g., ***advantages of fixed price***:
  - for TSOs: to get a precise estimation of shippers' commitments
  - for shippers: to make business decision on a sounder basis

Fixed and Floating Prices

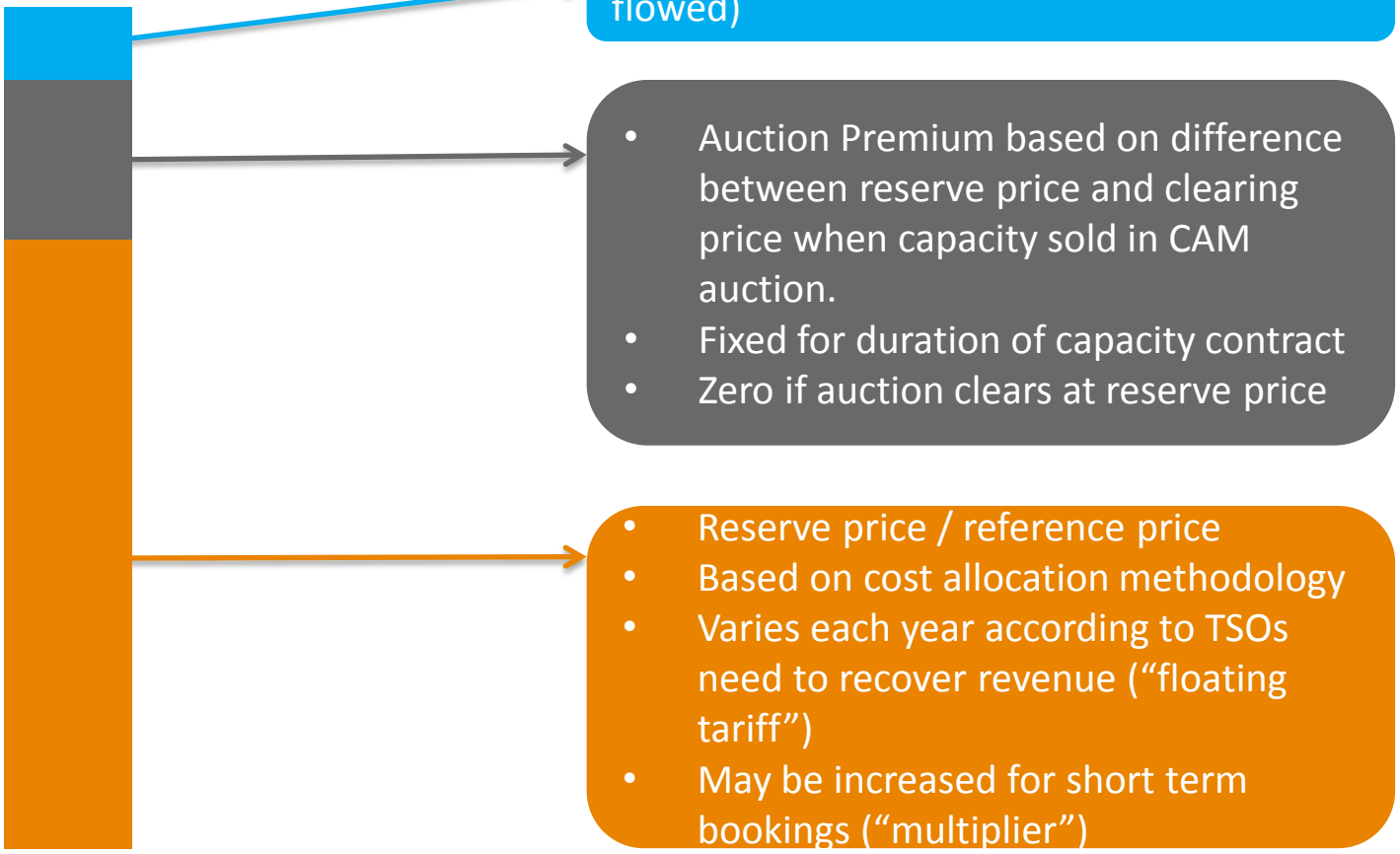
Tariff SJWS 1 – 11th February 2014

Alex Barnes, Prime Mover ENTSOG Network Code Development Process

GAZPROM MARKETING & TRADING

Disclaimer: these slides do not represent Gazprom's official position

Proposed Gas Capacity Charges Composition

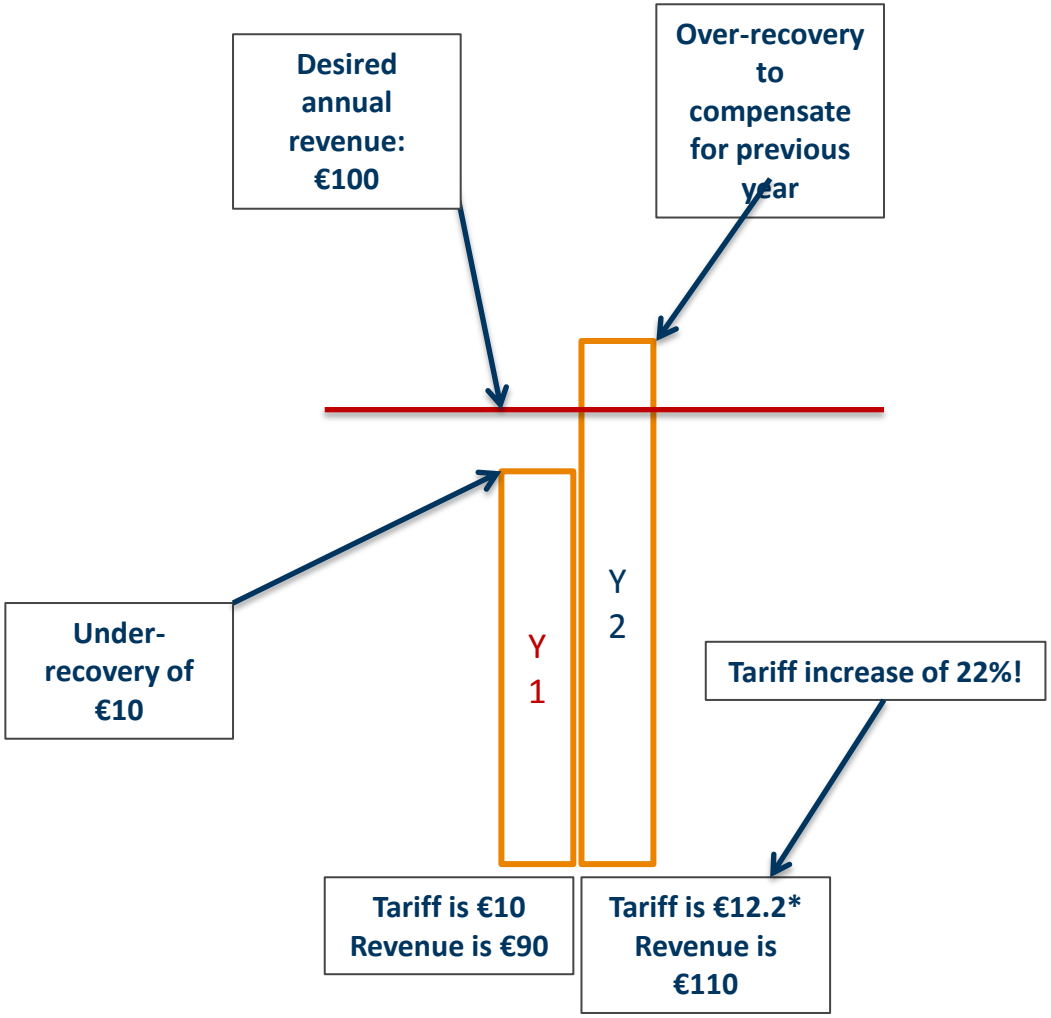


Greater part of gas capacity costs are not fixed on a year to year basis

Disclaimer: these slides do not represent Gazprom’s official position

Floating tariffs mean that existing capacity holders can be penalised for changes beyond their control that create under-recoveries

- TSO sells 1 less unit of capacity than expected in Y1 (9 instead of 10 units) leading to under-recovery of revenue of €10
- TSO recalculates the capacity it expects to sell in Y2 (9 units) taking account of experience in Y1
- TSO also needs to increase floating capacity charge (reserve / reference price) in Y2 to make up for revenue under-recovery of €10 in Y1
- Double whammy effect leads to potential tariff increase of 22% in one year
- Floating Capacity Charge penalises those who book more capacity than they use



* Assumes TSO only expects to sell 9 units again

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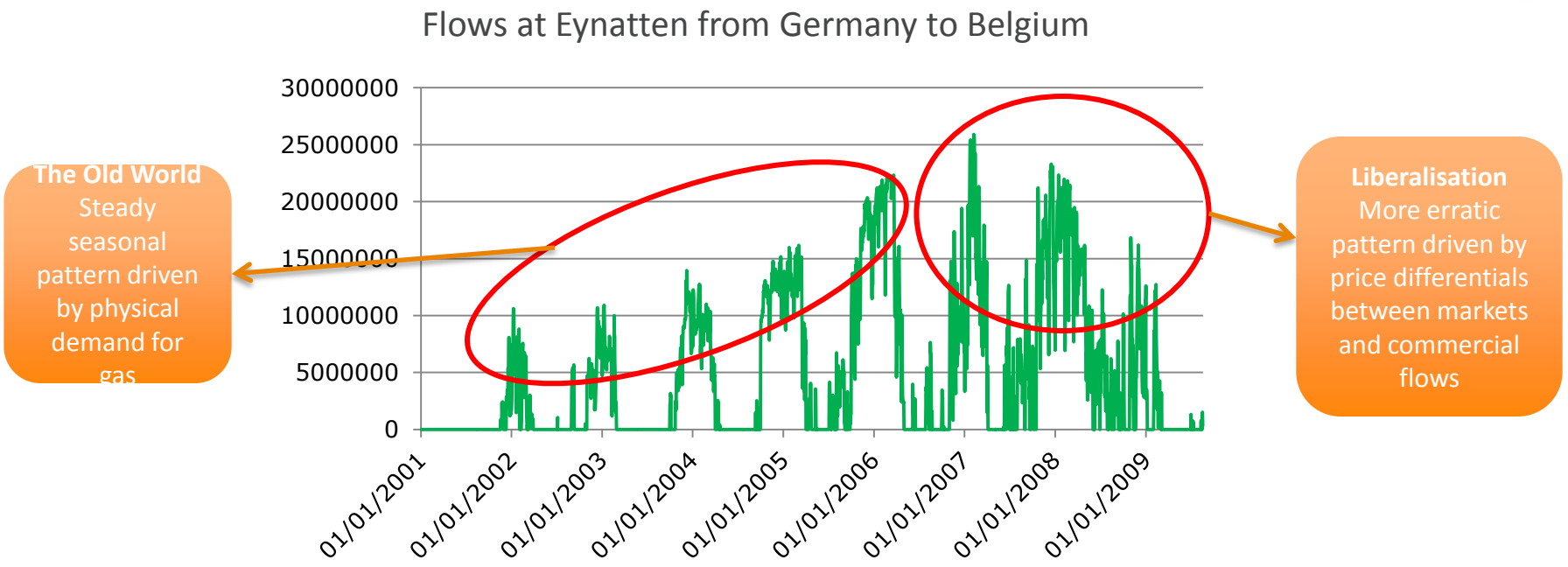
Changing gas flow patterns will impact capacity tariffs

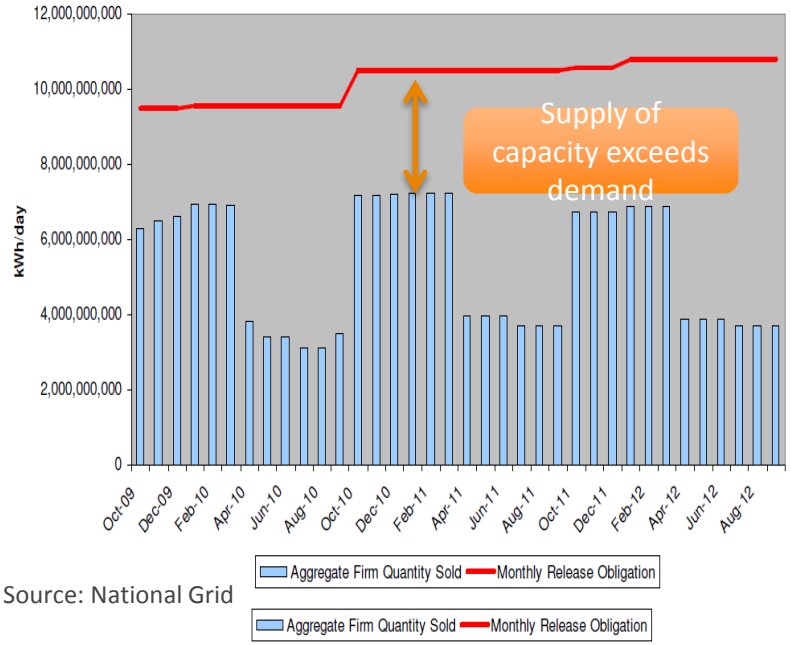


- Gas flow patterns will change as there is more trading between countries
- Changes in flow directions will impact variable costs (own use gas) and demand for capacity at different points
- Different demand for capacity will impact actual revenues recovered compared to forecasts . . .
- . . . which will impact floating capacity tariffs and cost of capacity at each point . . .
- . . . which in turn can impact demand for capacity at different points.

Disclaimer: these slides do not represent Gazprom's official position

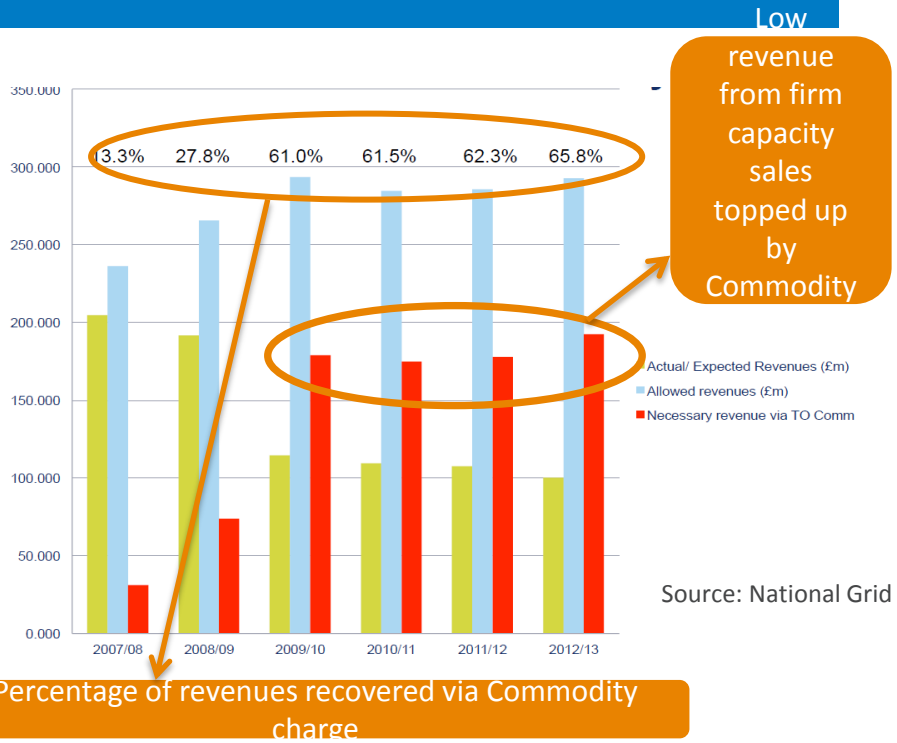
Floating Tariffs - the GB experience of Commodity Charges

GB Entry Capacity



Source: National Grid

GB TSO Revenues



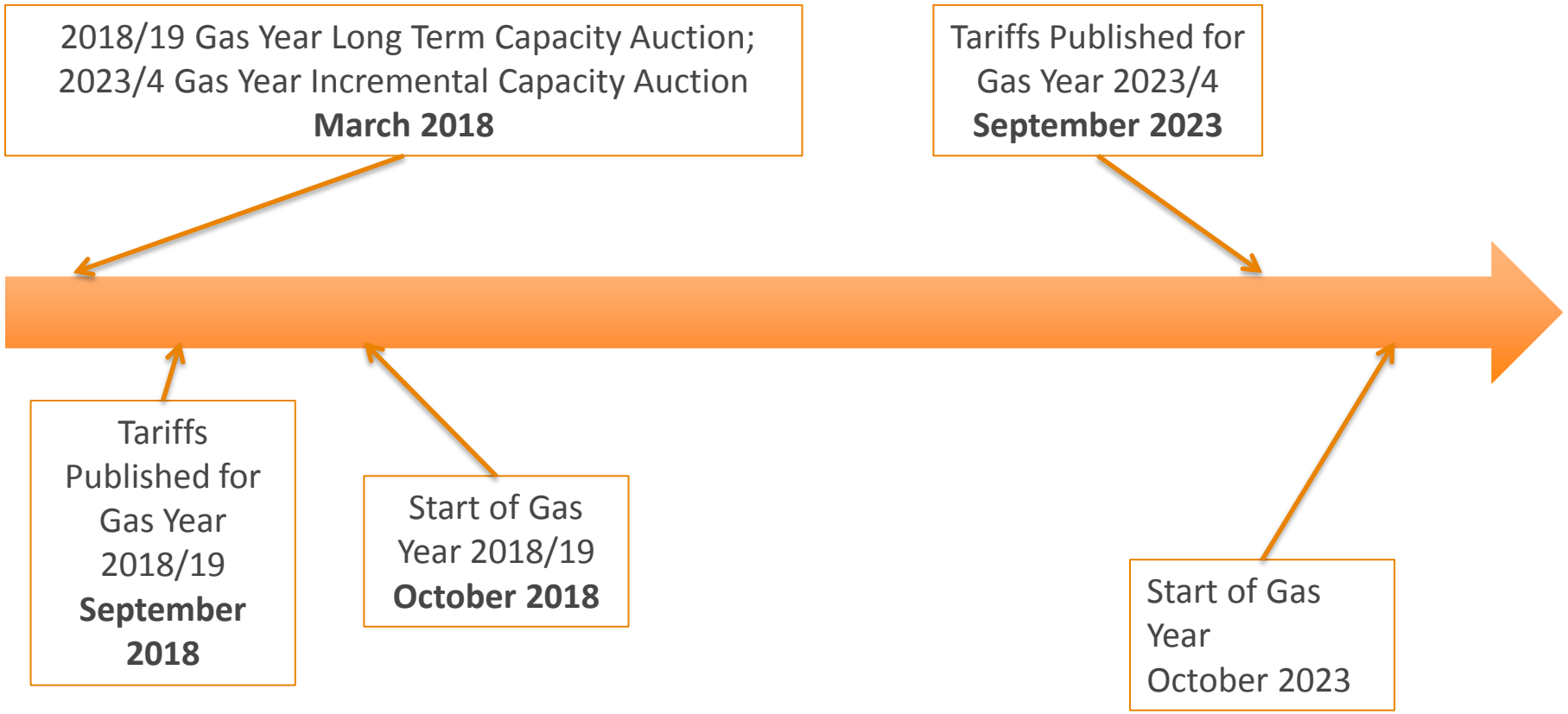
Source: National Grid

- Combination of plentiful capacity and discounts for short term pricing discourage long term booking
- Low revenues from capacity booking means National Grid needs to top up revenues via Commodity Charge – similar to the proposed Floating Capacity Charge, but less penal on those shippers who book more than they use

Disclaimer: these slides do not represent Gazprom's official position

Certainty of Tariffs

When booking annual capacity, both existing and incremental, via the CAM process, you do not know what the tariff will be



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BUNDLED CAPACITY

Irina Oshchepkova

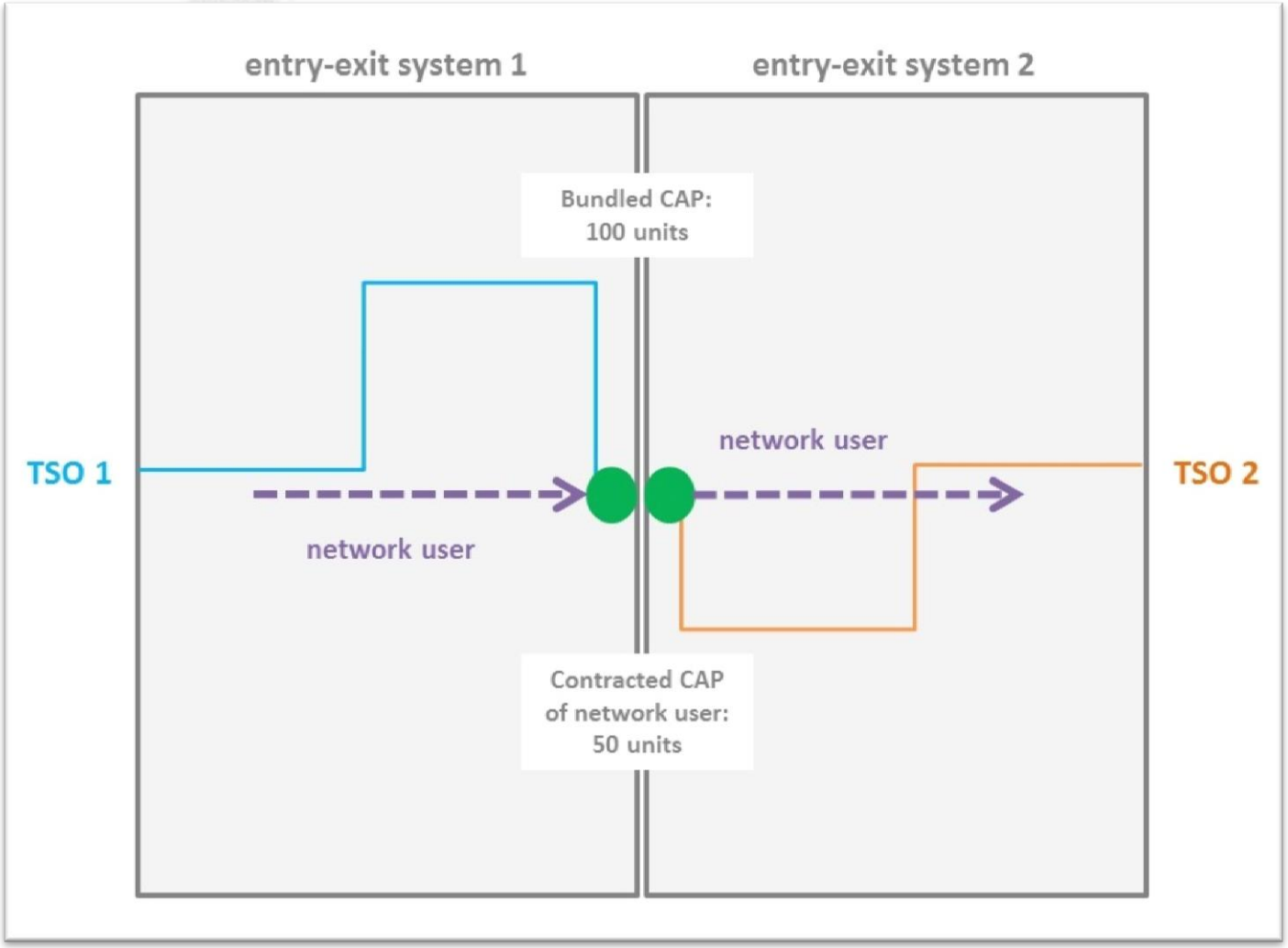
ENTSOG

TAR SJWS 1 – the 11th of February 2014

What is ‘bundled capacity’?

‘a standard capacity product offered on a firm basis which consists of corresponding entry and exit capacity at both sides of every interconnection point’

CAM NC, Article 3(4)



TAR FG: components of bundled reserve price

'The Network Code on Tariffs shall specify that, for bundled capacity products at entry or exit points, *the sum of the reserve prices for capacity at entry and exit points* (i.e. on both sides of the interconnection point to be bundled) *is used as the bundled reserve price* for the purpose of capacity auctioning.'

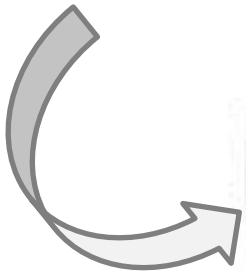
TAR FG, Chapter 7 'Bundled capacity products'
2nd paragraph, p. 34

Identical to CAM NC

TAR FG: split of revenue for bundled reserve price

'The Network Code on Tariffs shall specify that the *revenues from the reserve price* of bundled capacity products be distributed among the TSOs *in proportion to the reserve prices of their capacities* in the total bundled capacity.'

TAR FG, Chapter 7 'Bundled capacity products'
3rd paragraph, p. 34



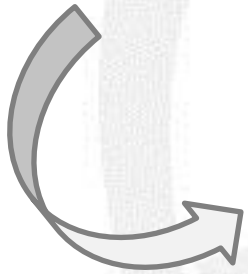
Identical to CAM NC

Revenue from bundled reserve price = **TSO_1 revenue: in proportion to reserve price from TSO_1** + **TSO_2 revenue: in proportion to reserve price from TSO_2**

TAR FG: split of revenue from auction premium [1]

'The *revenue stemming from the auction premium* for bundled capacity, i.e. the revenue that exceeds what would have been obtained based on the bundled reserve price, shall be *split* between the relevant TSOs *on the basis of an agreement between the respective NRAs*.'

TAR FG, Chapter 7 'Bundled capacity products'
3rd paragraph, p. 34



Different to CAM NC

Different parties to a contract:

CAM NC foresees that the basis is
an agreement between TSOs
(which is subsequently *approved* by the NRAs)

TAR FG: split of revenue from auction premium [2]

'If *no such agreement* is concluded ahead of the auction, the Network Code on Tariffs shall specify that any *revenues* from the auction premium be *split equally* between the relevant TSOs.'

TAR FG, Chapter 7 'Bundled capacity products'
3rd paragraph, p. 34

Following the TAR FG

Absence* of timely agreement between NRAs → application of default option of *50/50 split

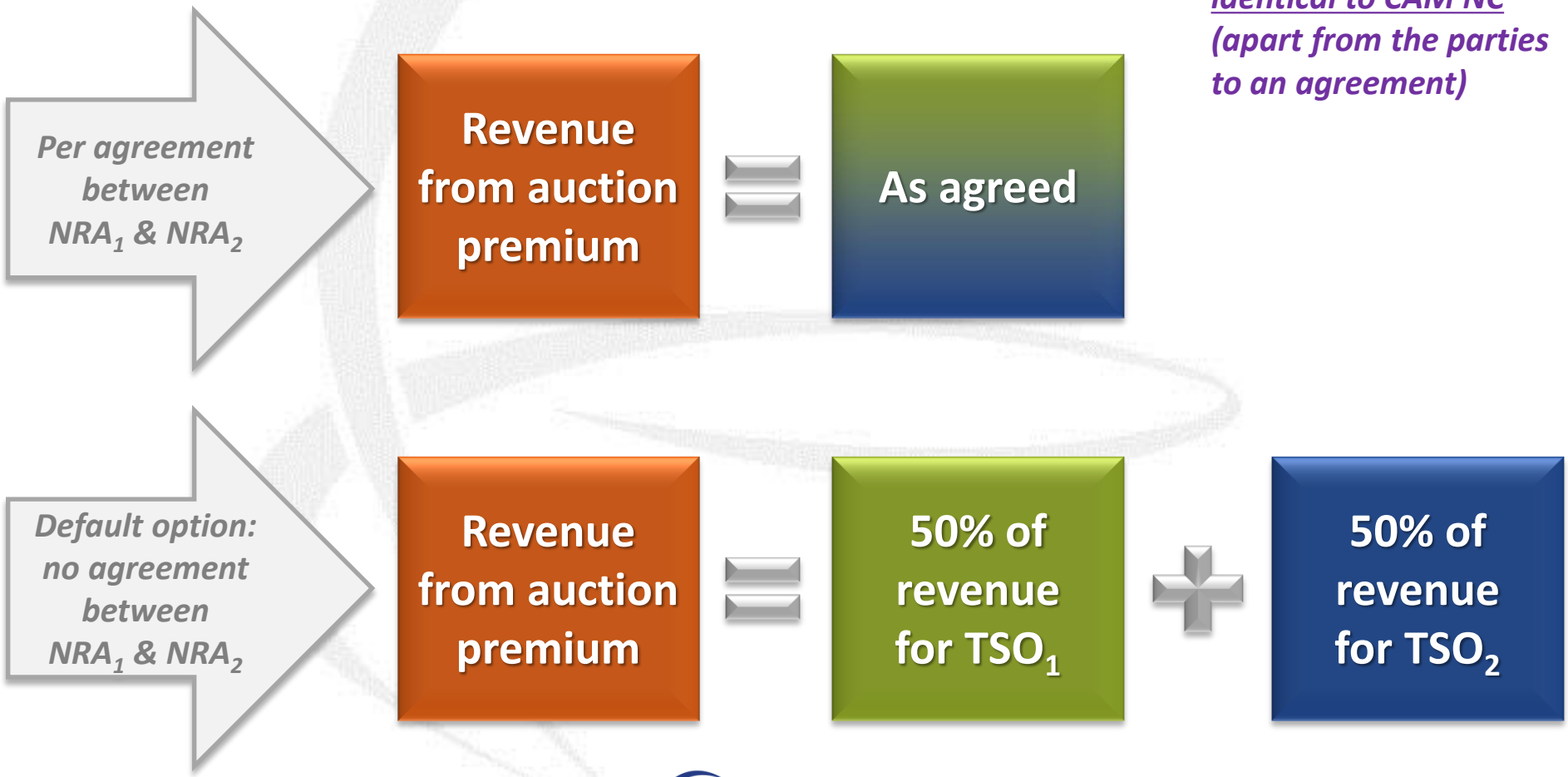
Concern

Necessity to be sure that there is such agreement, *sufficiently in advance of the auction*

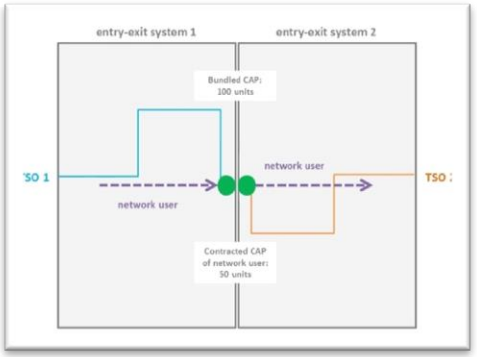
→ so that TSOs can run their processes smoothly

TAR FG: split of revenue from auction premium [3]

Options are identical to CAM NC (apart from the parties to an agreement)



Price of bundled capacity



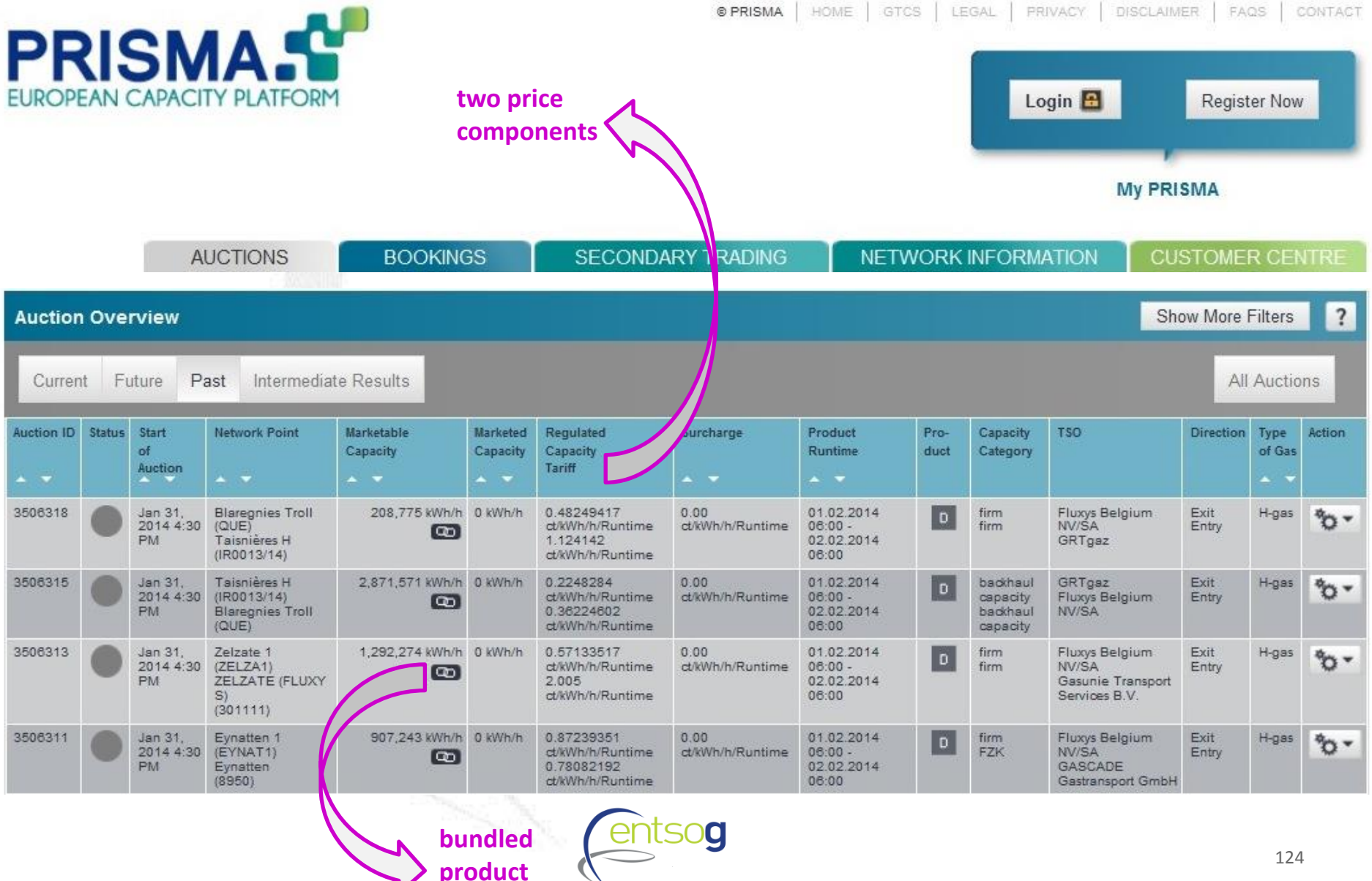
AUCTION PROCEDURE

- Auction bids for bundled capacity are based on two price components of a bundled product

CONTRACTUAL ARRANGEMENTS

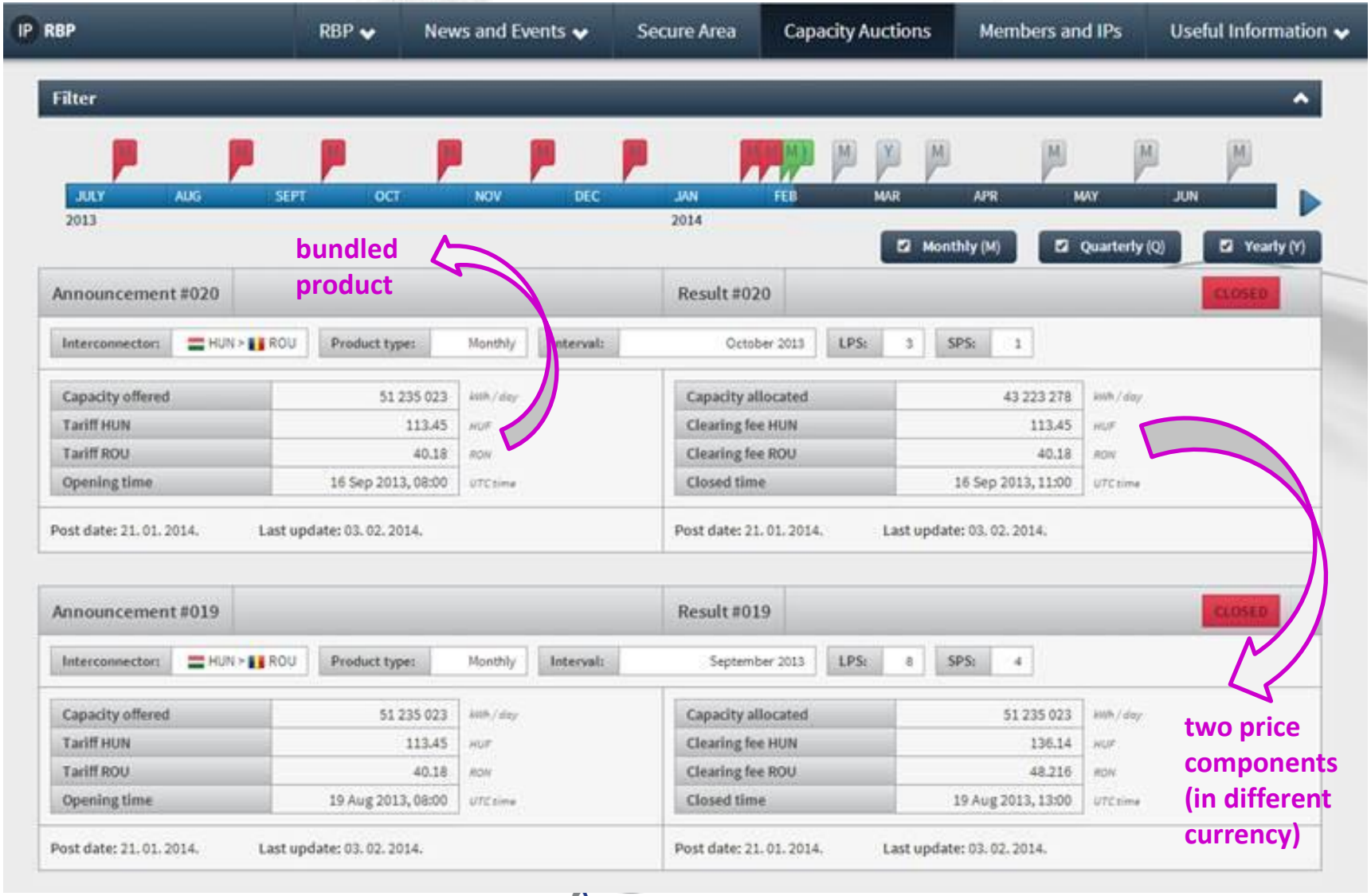
- A **network user** has two separate contracts – with **TSO 1** and with **TSO 2** – and hence, pays separately to each of them

Price of bundled capacity: PRISMA example



Auction ID	Status	Start of Auction	Network Point	Marketable Capacity	Marketed Capacity	Regulated Capacity Tariff	Surcharge	Product Runtime	Pro-duct	Capacity Category	TSO	Direction	Type of Gas	Action
3506318		Jan 31, 2014 4:30 PM	Blaregnies Troll (QUE) Taisnières H (IR0013/14)	208,775 kWh/h	0 kWh/h	0.48249417 ct/kWh/h/Runtime 1.124142 ct/kWh/h/Runtime	0.00 ct/kWh/h/Runtime	01.02.2014 06:00 - 02.02.2014 06:00	D	firm firm	Fluxys Belgium NV/SA GRTgaz	Exit Entry	H-gas	
3506315		Jan 31, 2014 4:30 PM	Taisnières H (IR0013/14) Blaregnies Troll (QUE)	2,871,571 kWh/h	0 kWh/h	0.2248284 ct/kWh/h/Runtime 0.36224602 ct/kWh/h/Runtime	0.00 ct/kWh/h/Runtime	01.02.2014 06:00 - 02.02.2014 06:00	D	backhaul capacity backhaul capacity	GRTgaz Fluxys Belgium NV/SA	Exit Entry	H-gas	
3506313		Jan 31, 2014 4:30 PM	Zelzate 1 (ZELZA1) ZELZATE (FLUXY S) (301111)	1,292,274 kWh/h	0 kWh/h	0.57133517 ct/kWh/h/Runtime 2.005 ct/kWh/h/Runtime	0.00 ct/kWh/h/Runtime	01.02.2014 06:00 - 02.02.2014 06:00	D	firm firm	Fluxys Belgium NV/SA Gasunie Transport Services B.V.	Exit Entry	H-gas	
3506311		Jan 31, 2014 4:30 PM	Eynatten 1 (EYNAT1) Eynatten (8950)	907,243 kWh/h	0 kWh/h	0.87239351 ct/kWh/h/Runtime 0.78082192 ct/kWh/h/Runtime	0.00 ct/kWh/h/Runtime	01.02.2014 06:00 - 02.02.2014 06:00	D	firm FZK	Fluxys Belgium NV/SA GASCADE Gastransport GmbH	Exit Entry	H-gas	

Price of bundled capacity: RBP example (existing layout, demo auction)



VIRTUAL INTERCONNECTION POINTS

Jann Keller

GTG Nord (on behalf of ENTSOG)

TAR SJWS 1 – the 11th of February 2014

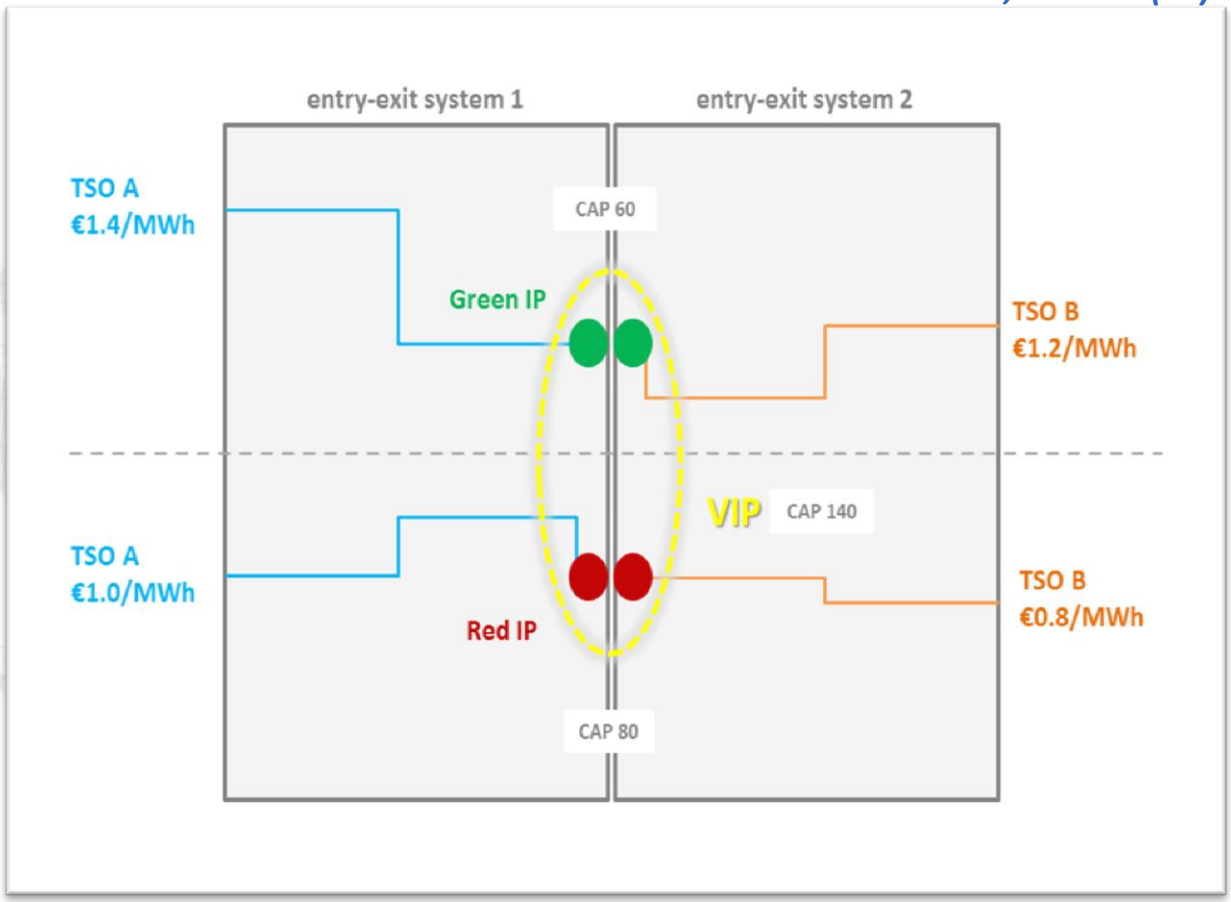
What is a VIP?

VIP: **'two or more interconnection points which connect the same two adjacent entry-exit systems, integrated together for the purposes of providing a single capacity service'**

IP: **'a physical or virtual point connecting adjacent entry-exit systems or connecting an entry-exit system with an interconnector, in so far as these points are subject to booking procedures by network users'**

CAM NC, Article 3(17) and (10)

Illustration of a VIP with one TSO at each side of the border



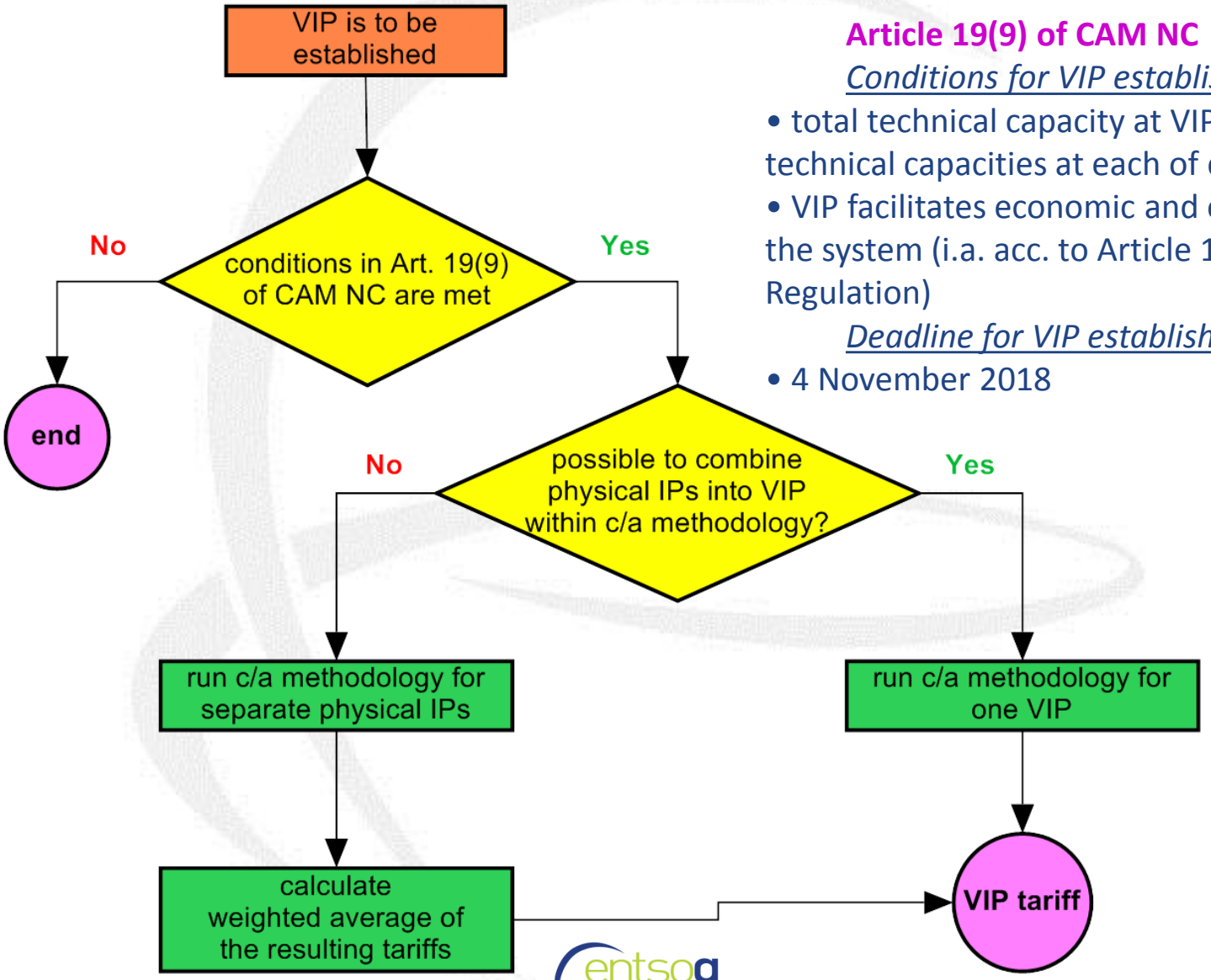
TAR FG: reserve price for VIP

The *reserve price for virtual interconnection points* shall be established based on the *combination of the reserve prices set for the individual entry or exit points*. The combination mechanism shall be elaborated in the Network Code on Tariffs consistently with the fulfilment of the overall objectives of these Framework Guidelines, and especially avoiding that the establishment of a virtual interconnection point creates barriers to cross-border trade.

The Network Code on Tariffs shall include *mathematical formulations for the reserve price for virtual interconnection points*.

TAR FG, Chapter 6 'Virtual interconnection points'
2nd and 3rd paragraphs, p. 33-34

How to calculate the VIP tariff for each TSO?



Article 19(9) of CAM NC

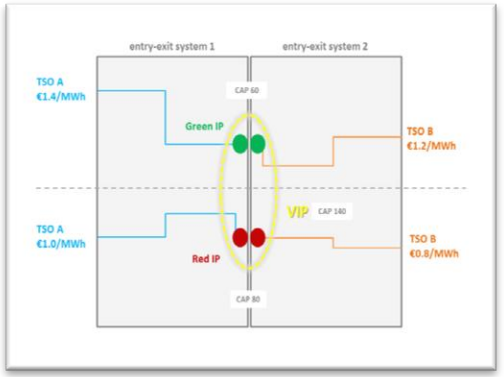
Conditions for VIP establishment:

- total technical capacity at VIP ≥ sum of technical capacities at each of contributing IPs
- VIP facilitates economic and efficient use of the system (i.a. acc. to Article 16 of the Regulation)

Deadline for VIP establishment:

- 4 November 2018

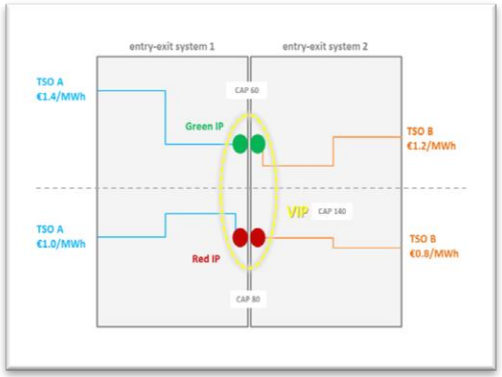
How to calculate the weighted average of tariffs for physical IPs?



FOR TSO A:

VIP tariff = (**tariff for Green IP** × **applicable value of weight** + **tariff for Red IP** × **applicable value of weight**) / (**applicable value of weight** + **applicable value of weight**)

How to calculate the reserve price for bundled capacity at the VIP?



FOR TSO A:

FOR TSO B:

VIP tariff for bundled capacity = **VIP tariff** + **VIP tariff**

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Any Questions?

Topics for TAR NC SJWS 2 on February 27th

- Cost Allocation Tasks
  - Circumstances and Criteria
  - Cost Allocation Test
- Multipliers and Seasonality
  - Short term pricing with multipliers
  - Seasonality methodology
- Mitigating Measures
- Tariff Setting Year – Impact Assessment
- Transparency
  - What to publish
  - How to publish

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THANK YOU