

**ACER**

 Agency for the Cooperation  
of Energy Regulators

# **ACER Workshop on Gas Tariffs and Incremental Capacity**

*Brussels/Ljubljana*

**3/9/2013**

# ACER

 Agency for the Cooperation  
of Energy Regulators

## Opening remarks & organisation of the workshop

### Introduction

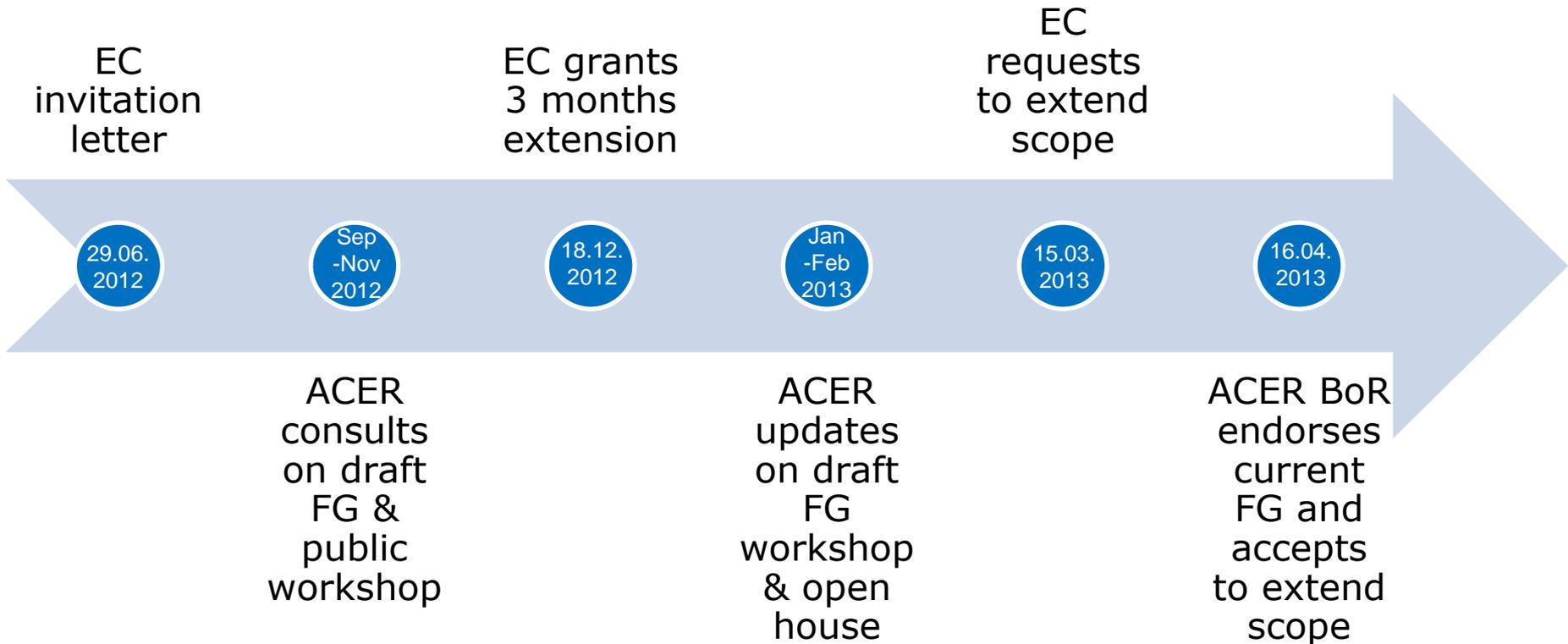
**Walter BOLTZ**

ACER BoR Vice-Chair and AGWG Chair

## Today's workshop

- Aim: to gather your views on the foreseen options regarding cost allocation methodologies and incremental capacity and tariffs issues
- Setup: dual location workshop connected via video-conference
- Ljubljana
- Brussels

## Process so far



12 months of intense work with much stakeholder involvement

# Overview of the FG tariff structures

**Transparency:  
methodology,  
costs,  
congestion,  
tariff  
evolution**

Ch. 1-2: General provisions, publication requirements

**Avoid  
risk of  
discrimination  
between  
cross-border  
and domestic**

Ch. 3: Cost allocation and determination of the reference price

**Enable CAM:  
reserve price,  
revenue  
recovery and  
payable price**

Ch. 4-8: Revenue recovery, reserve price, virtual interconnection points, bundled capacity products, payable price

non-discrimination, effective competition and the efficient functioning of the market  
cost-reflectivity, avoidance of cross-subsidies, promotion of efficient new investment, and greater transparency

ACER delivered on EC's initial request

# ACER

 Agency for the Cooperation  
of Energy Regulators

## **Cost Allocation Methodologies and determination of the reference price**

## **ACER - General presentation**

***Csilla BARTOK***

ACER Framework Guidelines & Network Codes  
Team Leader

**ACER Workshop on Gas Tariffs and Incremental  
Capacity**

# Milestones

- 1. Invitation letter** from EC was received on 29/06/2012;
2. First deadline of extension – 31/03/2013;
3. EC letter of 15/03/2013 raised some **concerns**
4. BoR on 16/04/2013 **informally endorsed** the draft FG, with exception of Cost Allocation Chapter
5. New **deadline of 30/11/2013** was confirmed by the EC (10/06/2013 letter)

## **EC main topics; 15/03/2013 EC letter**

- Role of ENTSOG
- E/E split / the objectives
- Cost allocation test
- Methodology E & E
- **Circumstances/consequences of the methodologies**
  - Develop further the text
  - Explain what trade-offs are allowed based on the objectives that apply
  - As a results, when a methodology or a secondary step apply
- Implementation - Mitigating measures to be refined: lengths and instruments applied

# Introduction of chapter 3 on cost allocation (as published for PC)

- 1. Publication requirements**
- 2. General principles on the determination of the reference price**
3. Main cost allocation methodologies
4. Secondary adjustments
5. Cost allocation test
- 6. Implementation**

# Introduction of chapter 3 on cost allocation

- **Publication requirements** (additional transparency measures, to be eventually merged with the provisions set in the Framework Guideline of 16 April 2013)
- **General principles on the determination of the reference price** (includes provisions on the split between capacity-based and commodity-based charges, the split between the share of revenue collected from entry and exit points in the system, and the circumstances influencing the choice of a cost-allocation methodology)
- **Implementation** (introduces specific and provisional measures in the context of the coming into force of the tariff network code)

# Expectations from the public consultation

- Transparency
- Level of details
- Implementation measures

Link to the public consultation page

[http://www.acer.europa.eu/Official\\_documents/Public\\_consultations/Pages/PC\\_2013\\_G\\_03.aspx](http://www.acer.europa.eu/Official_documents/Public_consultations/Pages/PC_2013_G_03.aspx)

Deadline for reply – 17 September 2013

**ACER**

 Agency for the Cooperation  
of Energy Regulators

## **ENTSOG - High level reaction**

***Nigel Sisman***  
ENTSOG

**Workshop on Gas Tariffs and Incremental Capacity**

# Tariff – Key issues?

“Proportionate Pricing”

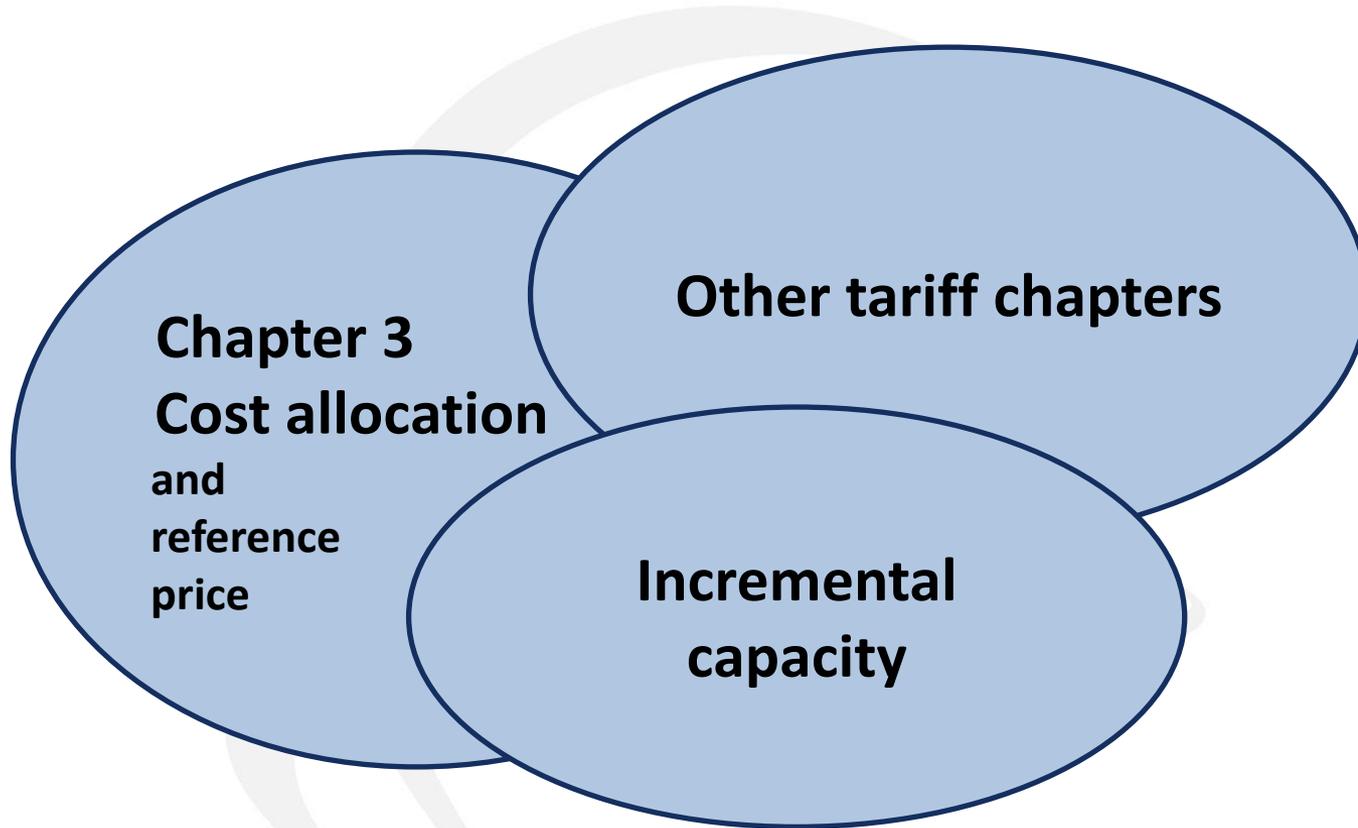
Chapter 3  
Cost allocation and reference  
price setting

Pricing of long or short lead  
time bookings

Part of the previously agreed  
Framework Guideline

**... confirmation of key issues and assessment  
criteria would enhance prospects of success**

# Content and interactions



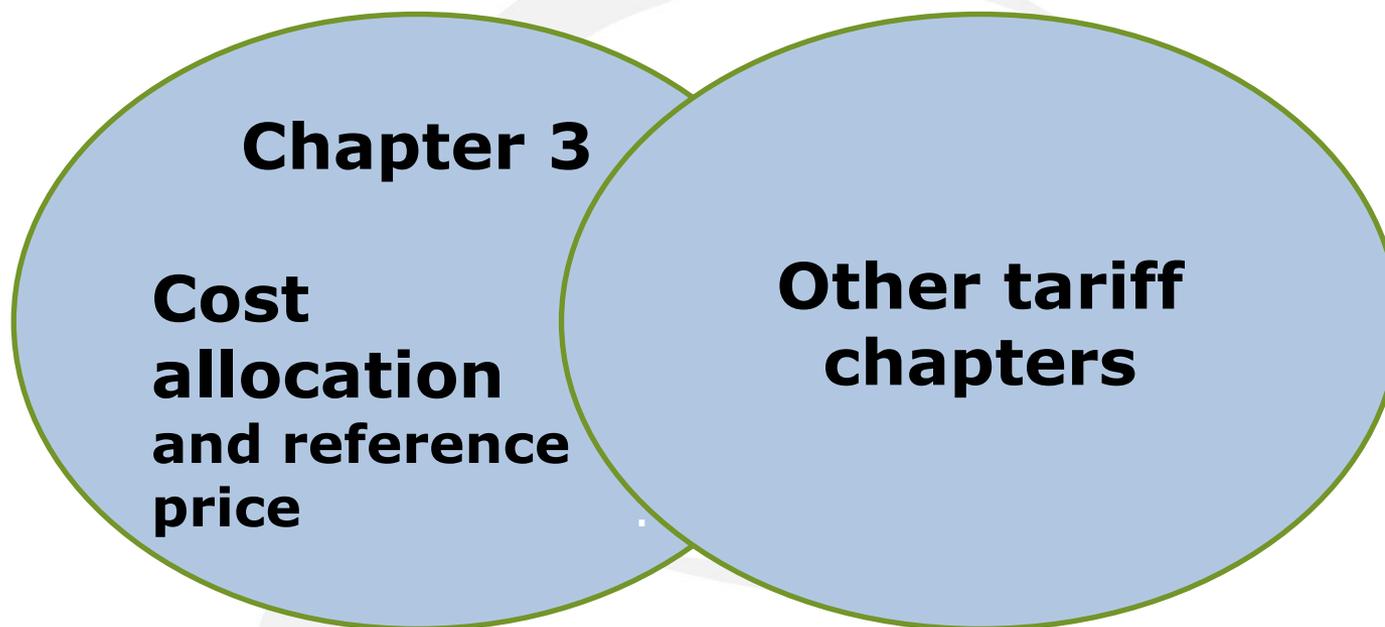
*Major overlaps and multiple objectives necessitate coherence and co-ordination*

# Preliminary views: Cost allocation methodologies

- > Transparency
- > Primary cost allocation methodologies
- > Secondary adjustments
- > “The Test”

*Overall the major thrust of the chapter is “not too bad” but there are some significant refinements needed*

# Content and interactions



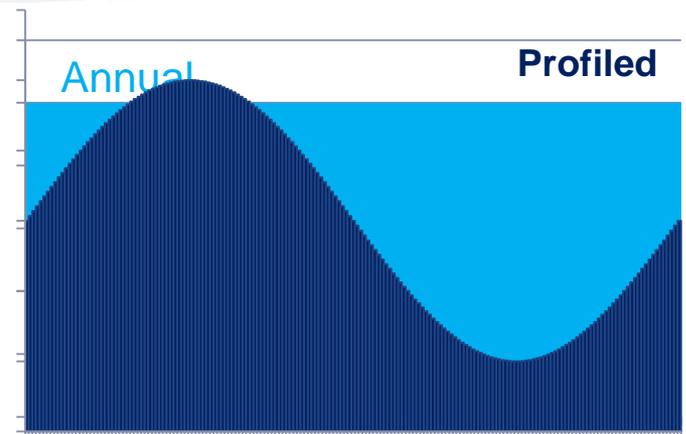
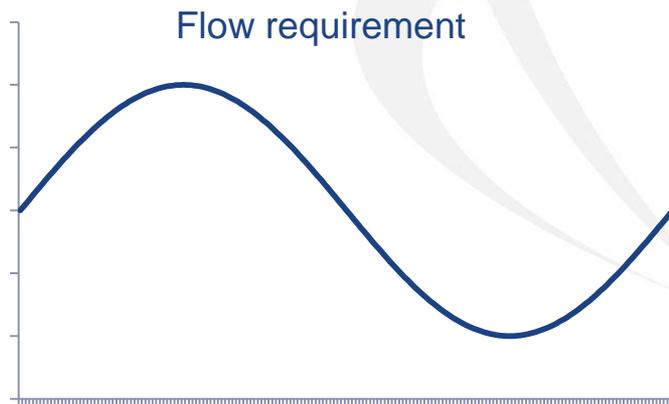
*Key policy decisions in the other tariff chapters will be critical to tariff outcomes*

# The Short Term v Long Term booking conundrum

*The price multipliers will determine user bookings*

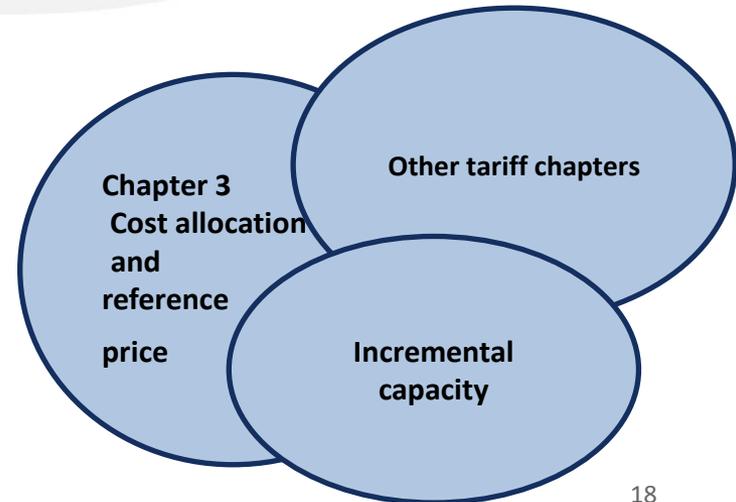
*Policy choice favours late booking!*

*... at a 60% load factor IP underlying capacity prices will have to rise by 67% to deliver same revenue if all bookings were to be made on an annual basis*



# Overall conclusions

- > Framework guidelines development making good progress
- > To ensure a robust framework we encourage ACER to
  - fully consider both ENTSOG and wider feedback
  - have further dialogue with ENTSOG/EC/stakeholders
  - ensure robustness, consistency and coherence of
    - tariff framework guideline, and
    - capacity network code, and
    - incremental capacity proposals



**ACER**

 Agency for the Cooperation  
of Energy Regulators

# **Primary cost allocation methodologies and determination of the reference price**

***Tanja Held / Kristof Kovacs***

European Commission, DG Energy

**Workshop on Gas Tariffs and Incremental Capacity**

**DG Energy welcomes the development of a bottom up approach by ACER to ensure level playing field for network users,** in particular to ensure that the gas transmission tariffs are:

- non-discriminatory
- facilitate competition and cross-border trade
- transparent
- avoiding cross-subsidy between any type of network user / cost reflective
- providing incentives for investments / locational signals

**Bottom up approach doesn't mean full harmonisation** but ensures that tariffs are set in a fair way, based on specific objective and revisable criteria

- limited number of cost allocation methodologies
- description how the tariff is determined under the respective cost allocation methodology
- description under which circumstances each cost allocation methodology can be used
- taking into account the need for flexibility and possible trade-offs in achieving contrarious objectives with regard to setting transmission tariffs in Entry Exit systems

# ACER

 Agency for the Cooperation  
of Energy Regulators

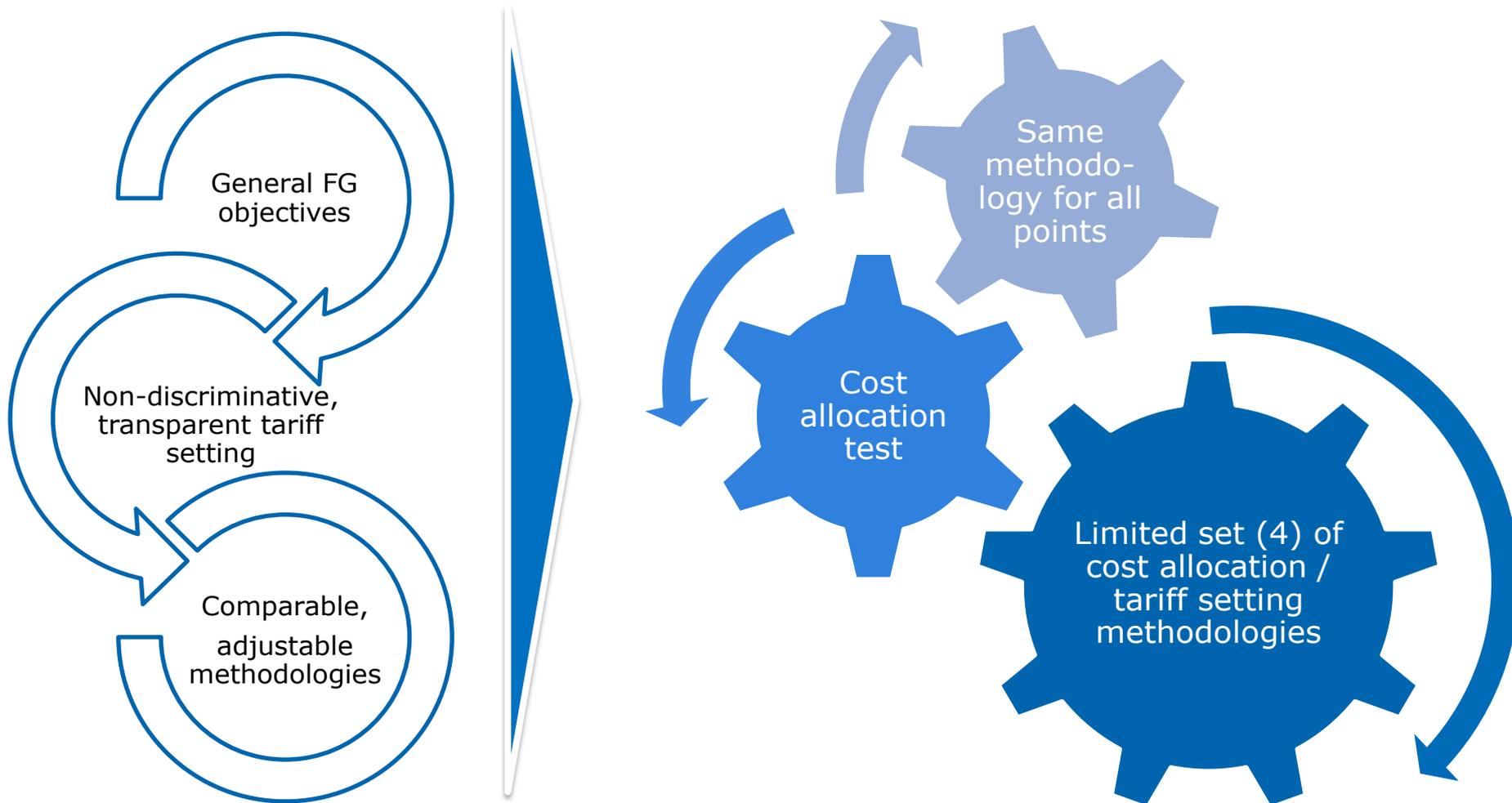
## **Primary cost allocation methodologies**

***Tom MAES***

Co-chair ACER Tariff Task Force

**Workshop on Gas Tariffs and Incremental Capacity**

# ACER's response to EC's request



## **4 primary methodologies incl. variants**

1. Postage stamp
2. Capacity weighted distance
  1. Variant A
  2. Variant B
3. Virtual point based approach
  1. Variant A
  2. Variant B
4. Matrix approach

## **Consultation questions**

- Do you agree with the 4 generic methodologies and their level of harmonisation as a basis for the description and harmonisation of current European tariff approaches?
- Do you agree with the proposed cost allocation test?

**ACER**

 Agency for the Cooperation  
of Energy Regulators

## **Capacity weighted distance**

***Stefan Krumnack***

BNETZA

**Workshop on Gas Tariffs and Incremental Capacity**

# Capacity weighted distance (1)

## General concept

- Share of the allowed revenue to be collected from each point proportionate to its contribution to the cost of the system
- Cost drivers are capacity and distance

## Why two Variants?

- Variant A: Addresses all combinations for entry and exit points for the calculations
- Variant B: Restricts calculation to relevant combinations that are used by network users relying on peak flow simulations

## When to apply?

- Appropriate in meshed networks where the matrix methodology is too complex and/or
- Appropriate where it is difficult to identify a unique node

# Capacity weighted distance (2)

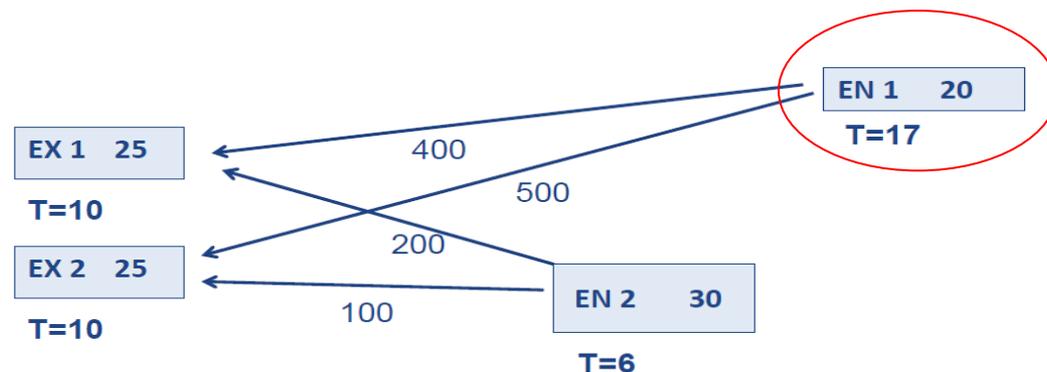
Main steps (entry capacities):

...

3. Calculate the proportion of capacity at each entry point relative to the total entry capacity;
4. For each entry point, calculate capacity-weighted average distance to all exit points
5. Determine the weight of each entry point as the ratio between the product of its capacity with its average distance and the sums of such products for all entry points

...

➤ Tariffs at Entry 1 result to be higher than at Entry 2



**ACER**

 Agency for the Cooperation  
of Energy Regulators

## **Methodology “Capacity-weighted distance – variant B”**

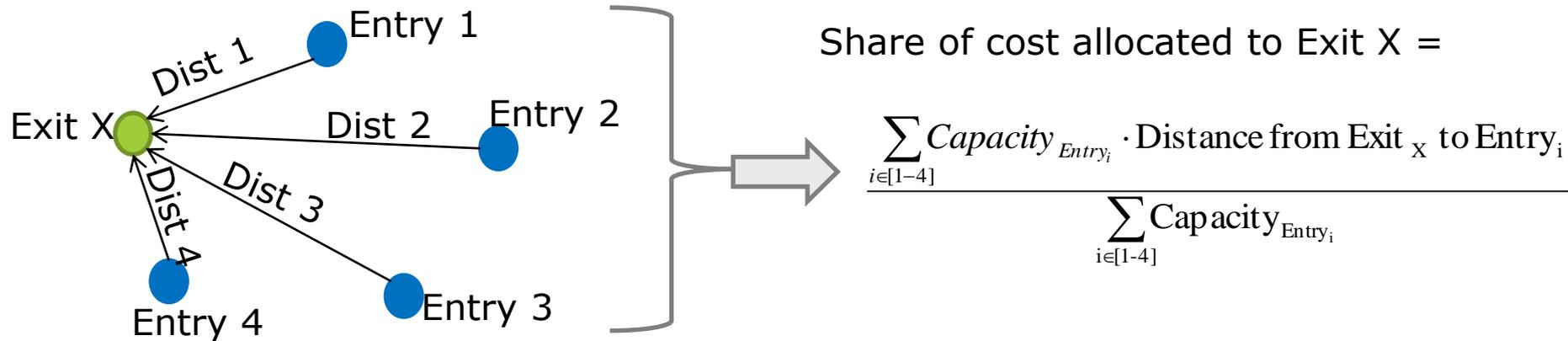
***Laurent De Wolf***

Member of the Ad Hoc Expert Group

**Workshop on Gas Tariffs and Incremental Capacity**

## Introduction

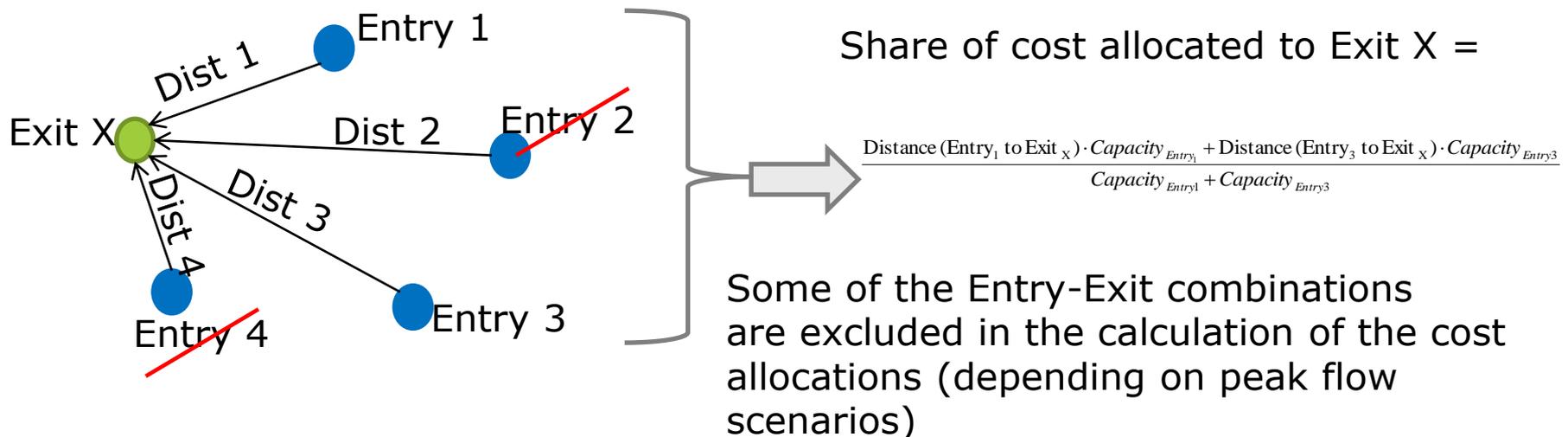
- Variant A of the « Capacity Weighted Distance » methodology  
→ cost allocated to each entry (exit) point depends on the weighted average distance from this entry (exit) point to each exit (entry) point



- Underlying assumption of this methodology → gas exiting at a specific exit point can come physically from any entry point

## Variant B of the capacity weighted distance

- Assumption of this variant: at peak flow situations (most constraining for network investment), not all combinations are possible → E.g. gas at a specific exit point will not physically come from some of the entry points



## Example of situations where variant B could be considered

- Bi-directional IP's:
  - Bi-directional IP's are at the same time entry points and exit points. In peak flow situations these points cannot be both at the same time
- E/E zones with multiple gas qualities:
  - E.g: in most cases, gas exiting a low-cal exit point will not physically enter the system at a H-cal entry point
- Etc.

**ACER**

 Agency for the Cooperation  
of Energy Regulators

## **Distance to Virtual Point**

***Richard Miller***

Ofgem

**ACER Workshop on Gas Tariffs and Incremental Capacity**

## Virtual point-based approach

1. Tariffs for each entry and exit point determined by their distance to a virtual point (VP)
2. Two variants:
  1. Variant A: where difficult to specify appropriate geographical point on network
  2. Variant B: where single dominant node can be identified as virtual point on network

## Variant A

1. Develop network representation
2. Identify capacity used at peak and flow direction in each segment
3. Calculate marginal distance between each point and VP
4. Calculate initial tariff - multiply marginal distance by expansion constant and annuitisation factor

**ACER**

 Agency for the Cooperation  
of Energy Regulators

## **Virtual point-based approach Variant B**

***Martin Bliem***

Gas Connect Austria

**ACER Workshop on Gas Tariffs and Incremental Capacity**

# The Virtual Trading Point – Positioning

- No Entry/Exit-System without VTP
- Always notional point in the network
- Non-physical / virtual point but existence in function
- No exact method for determination → only possible by approximation
- Investigation for fair cost-allocation approach and convergence of flows
- Possible solution:
  - Virtual point-based approach

## **Determine the geographical location of the VTP**

- Determination of single dominant node by flow convergence and/or
- Geographical location (longitude and latitude) of relevant network points
  - Sum of capacity-weighted coordinates determine the geographical location of VTP
- Capacity-weighted distances to VTP indicate Entry/Exit-Split
- Set reference price and multiply by booked capacities to calculate revenue
- Minimisation of difference between calculated revenue and revenue to be recovered by adjusting reference price

**ACER**

 Agency for the Cooperation  
of Energy Regulators

## **Cost allocation methodologies: Matrix Approach**

***Marco La Cognata***

Infrastructures Department

**Autorità per l'Energia Elettrica e il Gas**

**ACER Workshop on Gas Tariffs and Incremental Capacity**

# Content

- 1. Key steps of the matrix methodology**
- 2. Specific features of the Italian model**

## Steps (1)

### 1) DEFINE A COST DRIVER

*unit transport cost,  $uTC$*

The cost driver could be the distance, or a driver which also takes other factors (investment costs, network topology) into account

### 2) APPLY THE COST DRIVER TO NETWORK SEGMENTS

$$TC_i = uTC * driver$$

The goal is to find each segment transport cost ( $TC_i$ )

### 3) CALCULATE THE COST FOR EACH ENTRY/EXIT PATH

$$TC_{en,ex} = \sum TC_i$$

The cost of each path ( $TC_{en,ex}$ ) is the sum of all segments costs composing the path

### 4) CREATE A MATRIX OF COSTS

	<b>Exit 1</b>	<b>Exit 2</b>	<b>...</b>
<b>Entry 1</b>	$TC_{en1,ex1}$	$TC_{en1,ex2}$	...
<b>Entry 2</b>	$TC_{en2,ex1}$	$TC_{en2,ex2}$	...
<b>...</b>	...	...	...

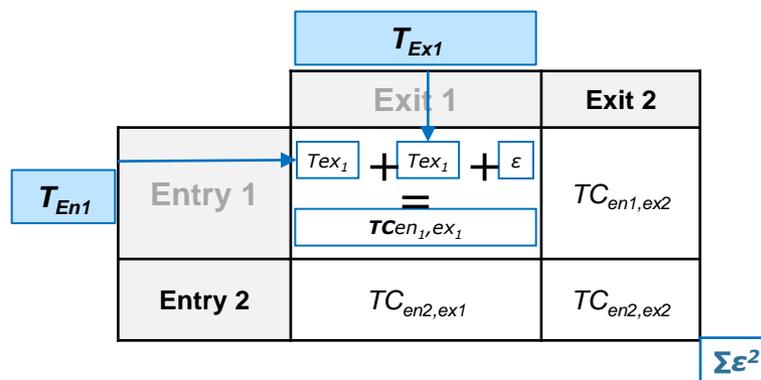
## Steps (2)

Tariffs at entry ( $T_{En}$ ) and exit ( $T_{Ex}$ ) are defined by solving  $\min \sum_{en,ex} \epsilon_{en,ex}^2$

Whereby  $TC_{en_i,ex_j} = T_{en_i} + T_{ex_j} + \epsilon_{en_i,ex_j}$

Therefore, the function can also be seen as  $\min \sum_{en,ex} (T_{En} + T_{Ex} - TC)^2$

### 5) MINIMIZATION



The function can be subject to the following constraints

- $T_{en}$  and  $T_{ex} > 0$ , to avoid negative charges
- Include rescaling to meet allowed revenues
- Include entry/exit split

## Standard investment costs

- In the Italian model, the cost driver as defined in Step 1 takes into account the following features of each segment:
  - a) **technical capacity, function of the pipe diameter;**
  - b) **standard investment cost index in relation to diameter (*IC*);**
  - c) **length.**
  
- The ***IC*** index is defined by the TSO and refers to investment costs in relation to pipe diameter (therefore in relation to capacity), which means taking into account mainly economies of scale.
  
- The ***TC*** is defined as:

$$\begin{aligned}
 uTC &= IC/capacity \\
 TC &= (IC/capacity)*length
 \end{aligned}$$

## Counter flow

In the Italian model, when applying the cost driver to network segments (Step 2), those which result counter flow when compared to «dominant flows» are assigned 14% of the unit transport cost instead of the full transport cost. Dominant flows are defined as those occurring during peak conditions, i.e. a winter working day of the second week of January. Modeling is done by the TSO.

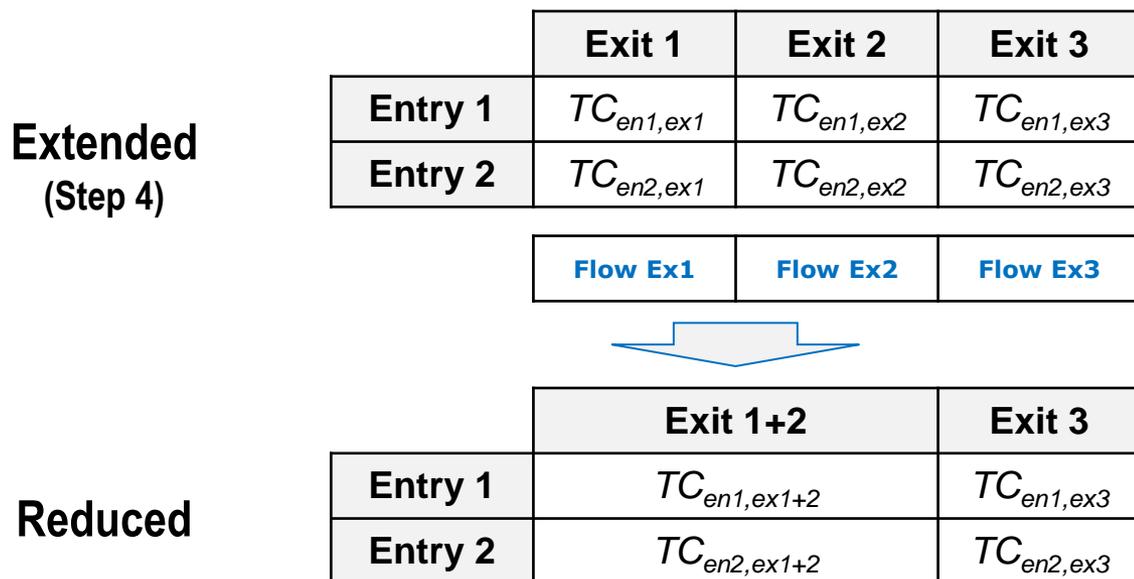
## Multiple paths

When calculating the cost for each entry/exit path (Step 3), if multiple paths are possible the lowest cost principle is applied: the entry-exit cost is the cost resulting from the “cheapest” path.

## Equalisation

In the Italian model, an equalisation mechanism is in place for exit points located in the same macro-area (there are currently 6 areas).

The «**reduced**» matrix of costs is built from the «**extended**» matrix (Step 4), by weighting the Transport Costs with the expected flows under peak conditions (see «counter flow» in Slide 9).



**ACER**

 Agency for the Cooperation  
of Energy Regulators

# **Primary cost allocation methodologies**

## **MATRIX APPROACH**

Views of the Portuguese TSO

***Pedro Furtado***

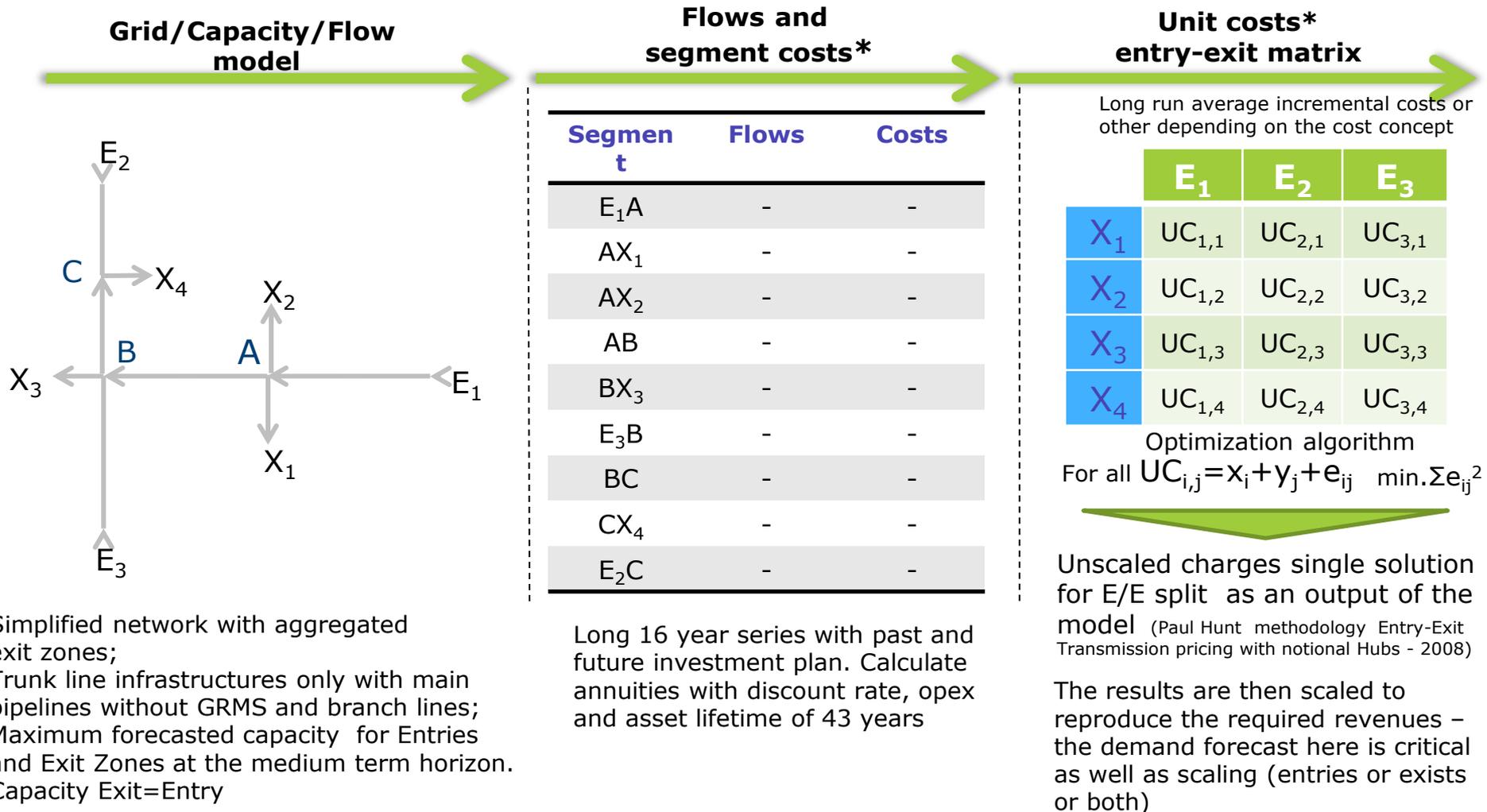
REN - Head of Regulatory Affairs

**ACER Workshop on Gas Tariffs and Incremental Capacity**

# Portugal

- **2010/11 – Introduction of Entry-Exit transmission tariffs**  
with matrix based cost allocation methodology
- **2012/13 - VIP Pilot project for bundled cross-border capacity**  
offered in conjunction with Enagás
- **2013/14 – starting in October:**
  - ❖ Anticipation of CAM implementation with allocation of primary capacity products (from yearly to daily) with an auction platform for all domestic entry and exit points, including the LNG terminal and underground storage. (IPs are sold under VIP pilot process under SGRI.)
  - ❖ Implementation of secondary market for capacity trading starting the 1<sup>st</sup> of October where all capacity products may be resold in any combination of daily rights.
  - ❖ Implementation of most of the FG for tariffs extending to all national entry and exit points as well as IPs

the tariff methodology and the tariffs are approved by ERSE (NRA)

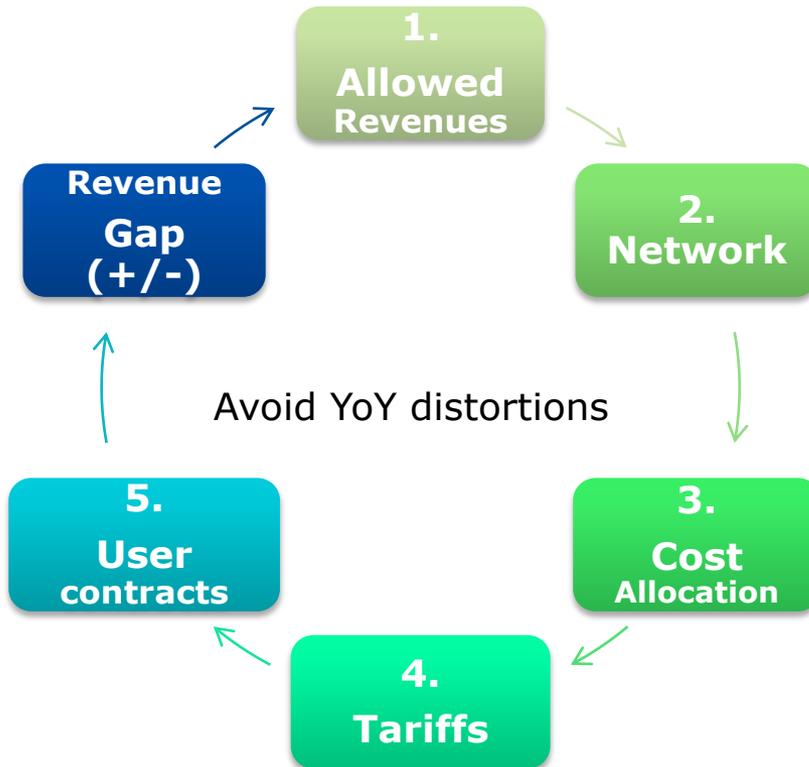


Simplified network with aggregated exit zones;  
Trunk line infrastructures only with main pipelines without GRMS and branch lines;  
Maximum forecasted capacity for Entries and Exit Zones at the medium term horizon.  
Capacity Exit=Entry

Long 16 year series with past and future investment plan. Calculate annuities with discount rate, opex and asset lifetime of 43 years

(\* ) cost concepts must be clear, LRMC; LRAIC or other suitable marginal proxys.

## The tariff cycle



1. Not discussed here but care must be taken for price cap regimes;
2. Simplified Network model – validated flows, entry-exit routes scenarios and forecasts, investments, capacity;
3. Cost allocation Matrix methodology  
E/E charges for trunk-line;  
Scaling for revenue recovery;  
LRAIC for exit points;  
commodity applies only to exits;  
Commodity defined with NPV for OPEX costs.
4. Tariffs are derived after being properly scaled when necessary
5. Users pay for tariffs as contracts happen

Resulting Revenue gap for the year (will affect scaling the following year and may distort)

Closing the 'gap' not to distort future tariffs.

Regulatory accounts have to be settled in the following year

**Commodity charges should be used for under/over recovery adjustments**

# Market Integration in Iberia

## Strengths

- Signals higher costs for more intensively used sections of the grid and vice-versa.
- The split between Entry and Exit revenues are an output.
- Better reflects the costs implied in the use of each specific infrastructure

## Weaknesses

- Determination of Long Run Marginal Costs may be cumbersome and less transparent when compared with other approaches
- Requires attention to ensure cost reflectivity for transit flows

## Challenges

- Avoid regulatory options that reduce cost reflectivity
- Harmonization of rules and methodologies
  - Split between entry/exit revenue allocation should result from the model
  - Proportion of capacity/commodity tariffs in line with variable costs
  - No discrimination between domestic and cross-border flows
  - Equal treatment of storage tariffs
  - Trunk line only costs for transit flows
- Coherent short term tariff rules
- Set common short-term cross border tariff mechanisms
- Deviations from allowed revenue recovered within next year

The greater the areas the less cost reflective  
Are we aware of where we are heading?

**ACER**

 Agency for the Cooperation  
of Energy Regulators

## **Secondary adjustments**

***Markus KRUG***

Co-chair ACER Tariff Task Force

**Workshop on Gas Tariffs and Incremental Capacity**

## **Secondary adjustments**

- Adjustments to the results of the primary cost allocation methodologies (reference prices per point)
- For homogeneous set of points, e.g. domestic exit points
- Exhaustive list of adjustments:
  - Rescaling
  - Equalisation
  - Benchmarking

## **When may they be applied?**

- Exhaustive list of situations
- Rescaling:
  - to recover the allowed revenue
  - to avoid negative capacity charges
- Equalisation
  - security of supply
  - fostering competition on the retail market
  - simplicity
  - price stability
  - renewable energies (e.g. biogas, power-to-gas)
- Benchmarking
  - only to be used when tariffs from the pure application of the chosen methodology impede effective competition

## Consultation questions

- Do you agree with the 3 proposed secondary adjustments and their level of harmonisation?
- Do you agree with the proposal regarding the “rescaling”?
- Do you agree with the proposal regarding the “equalisation”?
- Do you agree with the proposal regarding “benchmarking”?

**ACER**

 Agency for the Cooperation  
of Energy Regulators

# Equalisation and Rescaling

***Debra Hawkin***

National Grid

**ACER Workshop on Gas Tariffs and Incremental Capacity**

# Equalisation and Rescaling

Equalisation can be:

- Embedded in primary methodology
  - E.g. Local distribution zones
- Secondary adjustment
  - Applied separately to groups of entry/exit points but 'domestic' and cross border points separated to avoid cross subsidisation

# Equalisation and Rescaling

Rescaling can be used to:

- adjust cost based tariffs to meet allowed revenue targets
- remove negative tariffs

The adjustment may be:

- multiplicative
- additive or
- composite

**ACER**

 Agency for the Cooperation  
of Energy Regulators

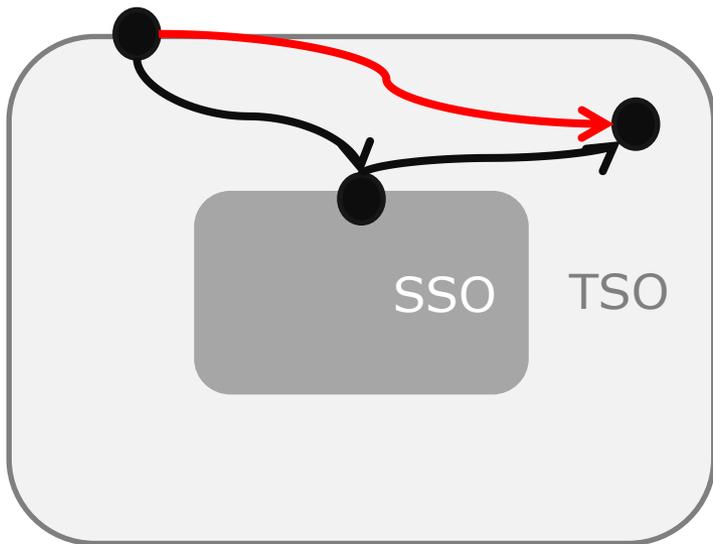
# Storage

***Philipp Palada***

GIE

**ACER Workshop on Gas Tariffs and Incremental Capacity**

## Fair treatment of storage users, level playing field for SSOs



- Methodology should take into account the fact that storage users have already entered the market area and paid for entry
- Storing gas in UGS means that its delivery to final customer is just postponed, exit will be paid too
- Consequently tariff at transmission-storage point should only reflect the additional costs of this point taking into account the service rendered

GSE supports the approach of the draft FG

## Contribution of gas storages to system stability, efficient use of the network and efficient level of investments

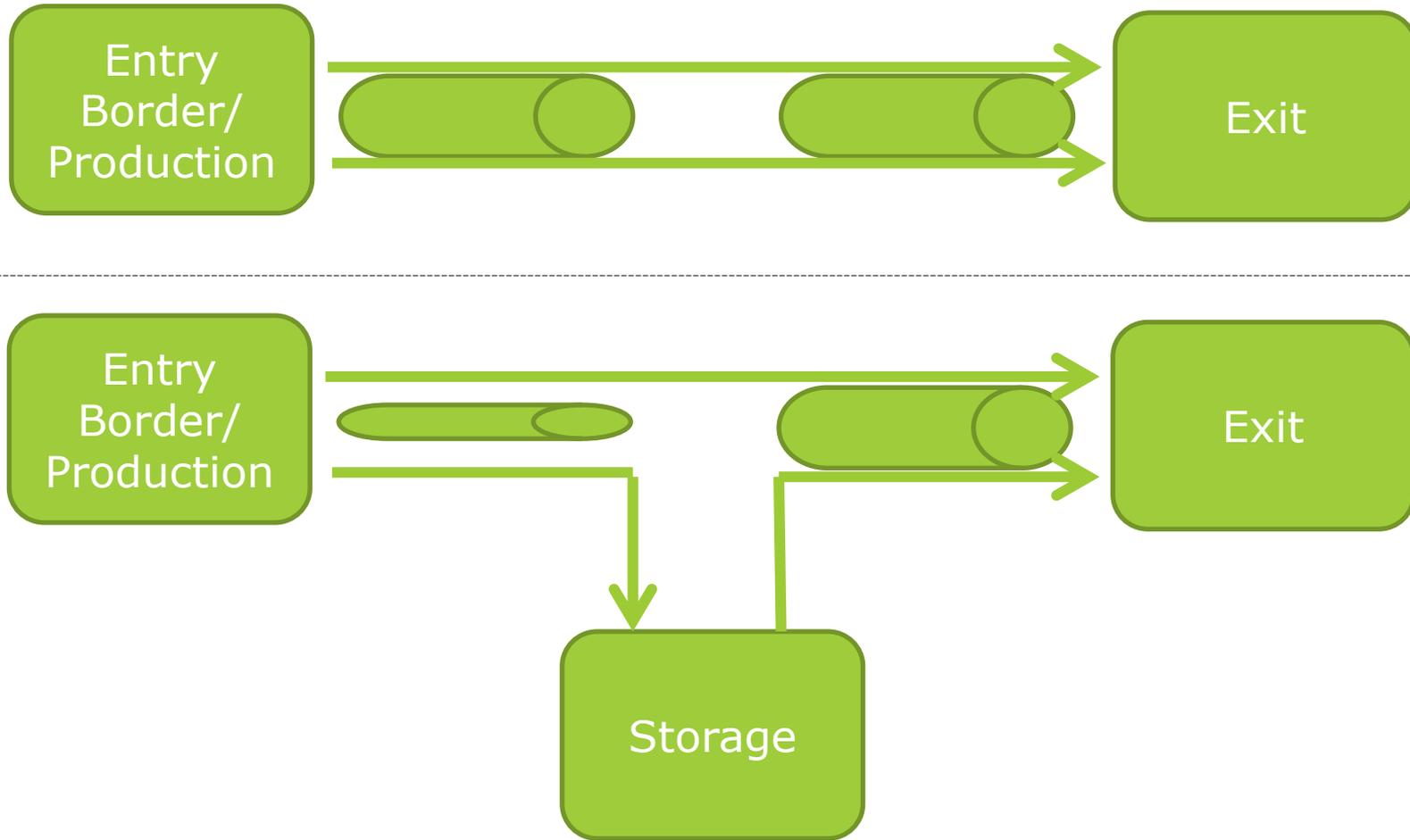
- In Europe (without storage) transmission networks and import facilities would need to be sized up by 9% -16%\*.
- In France, without storage, transmission network capacity would need to be doubled, implying around 3 bn€\*\* of additional investment.
- In the UK, the annualised investment savings in transmission network thanks to storage amount to up to £200m/y\*.
- Storage allows to optimize transmission compression, resulting in operational expenditure savings of around 20%-25%.
- Storage helps alleviate temporary congestion and maintain system stability

GSE will propose a more precise wording for 2nd point

\* Pöyry estimate (Nov 2012)

\*\* GSE estimate

## Networks without Storage vs. Networks with Storage





**Gas Storage Europe**  
32 member companies  
16 countries

**ACER**

 Agency for the Cooperation  
of Energy Regulators

**Cost allocation:  
Benchmarking of tariffs as  
secondary adjustment to  
primary cost allocation  
methodologies Incremental  
capacity and tariff issues**

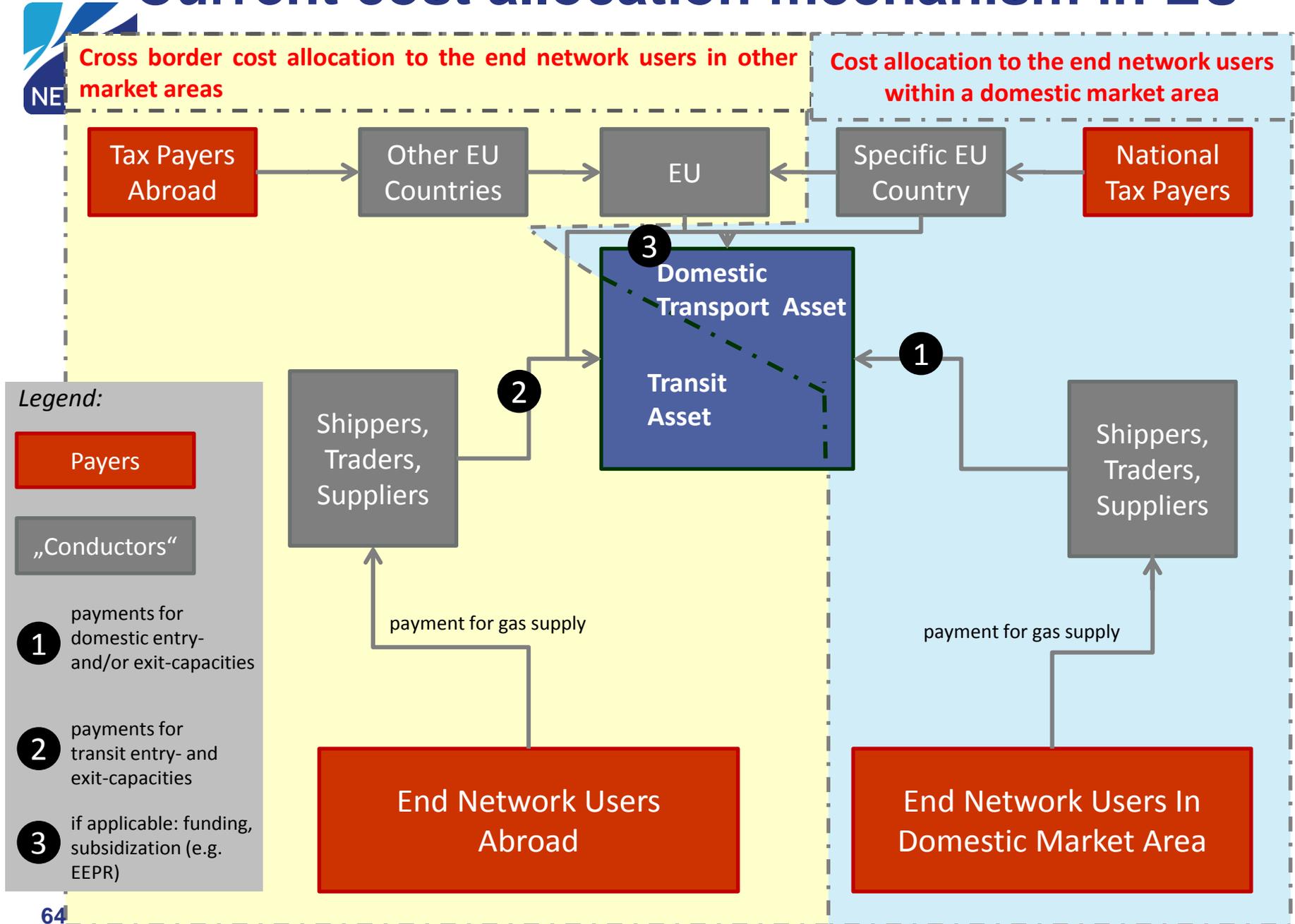
***Petr Molik***

NET4gas

**ACER Workshop on Gas Tariffs and Incremental Capacity**

**03/09/2013**

# Current cost allocation mechanism in EU





# Price cap, Revenue cap

## Price cap

**Under the condition, that cross subsidies between network users shall be avoided, price cap shall be applicable where:**

- Transit assets of a TSO located in the domestic market area are providing service to the end network users in other market areas where different NRAs hold the legal responsibility for price control and therefore the domestic NRA can not guarantee recovery of allowed revenues from transit assets
- Transit assets of the TSO are clearly identifiable
- The end network users who enjoy service from these assets are located in different market area than the TSO and therefore can not take over the capacity risk of transmission system thru revenue cap mechanism of price control and herewith guarantee revenues of a TSO – the capacity risk is borne by the TSO

**IF such environment does not exist, other possibility has to be allowed**

## Revenue cap

**Under the condition, that cross subsidies between network users shall be avoided, revenue cap is applicable:**

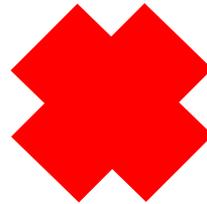
- Only to those costs, which are related to assets of TSO which are located in the domestic market area and which are providing service to end network users located in the domestic market area
- Thru the mechanism of price control steered by the NRA which is legally holding the responsibility for price control in the domestic market area cost recovery from domestic end network users is guaranteed – the capacity risk is borne by end network users in that domestic market area

# Benchmarking is not the same in price cap regime and in revenue cap regime

## Price cap

**Benchmarking is directly determining the competitive price at each single E/X point:**

- Where efficient pipeline to pipeline exists, and where pure cost based prices hamper the competition, NRA's shall determine the price via benchmarking of tariffs on competing gas transmission routes
- **Revenues of the TSO depend on annual capacity sales in the competitive environment**
- **TSO bears the capacity risk, as capacity sales are not guaranteed**



## Revenue cap

**Benchmarking is shifting costs between E/X points in order to achieve competitive tariff levels**

- Where efficient pipeline to pipeline exists, and where pure cost based prices hamper the competition, NRA's shall determine the price via benchmarking of tariffs on competing gas transmission routes
- **Revenues of the TSO depend on OPEX, depreciation and regulatory asset base**
- **End network users in the domestic market area always recover the (allowed) revenues**

# ACER

 Agency for the Cooperation  
of Energy Regulators

## **Incremental capacity and tariff issues**

***Benoît Esnault***

CRE, co-chair of ACER tariffs and incremental  
capacity work streams

***Johannes Heidelberg***

BNetzA, co-chair of ACER incremental capacity  
work stream

**ACER Workshop on Gas Tariffs and Incremental Capacity**

**03/09/2013**

# Background

- ACER work on incremental and new capacity aims at developing **harmonized approaches to market-based procedures**
  - CEER “Blue Print” serves as an input to amendments to the tariffs framework guideline and the CAM network code
  - Approach to tariffs presented in the document on “delineation of the tariff incremental issues”
  - ACER is preparing some guidance for ENTSOG to amend the CAM network code
- Objective: finalizing ACER proposals on tariffs and CAM by **30 November 2013**.

# **ACER Guidance to ENTSOG for CAM Amendment (in preparation)**

- ...define in CAM NC **when an offer of incremental capacity shall be made** at least
- ...clarify that close **cross-border co-ordination** between TSOs and NRAs is required and on which subjects at least
- ...define **minimum information to be provided to market** including economic test parameters
- ...reiterate **principles**: non-discrimination, transparency, bundling, short term quota
- ...test and consult **how best to integrate incremental capacity into CAM NC algorithm** and draft detailed provisions accordingly
- ...clarify that **Open Season procedures are still possible** where integration into CAM NC allocation is impractical and to lift some GGPOS principles (but not draft detailed process provisions).

## The “economic test” (1/2)

- Investment decisions are made according to an “economic test”
  - **Principle:** determine a financial threshold to trigger investment decisions
  - **Objective:** showing that the investment project is financially viable considering network users’ binding commitments

- Formula

$$\mathbf{PV} \geq \mathbf{f} \bullet \mathbf{DIC}$$

Where **PV** is the present value of expected shippers’ payments, **DIC** is the deemed investment cost to provide the capacity and **f** is the minimum fraction of costs to be underwritten by commitments.

## The “economic test” (2/2)

- The level of cost coverage shall take into account
  - Duration of shippers’ commitments compared to the economic life of the asset
  - Capacity set aside for short term bookings
  - Reliability of investment cost forecasts
  - Externalities, when monetised: positive externalities (competition, security of supply, etc.) or negative externalities
- Cost sharing agreements and external financial support should be included in the economic test (modification of expected cash flows, reduction of DIC).

# Interaction between the economic test and tariffs

- By default, the reference price resulting from the application of the **cost allocation methodology** applies to incremental capacity
- If necessary to pass the economic test, the reference price can be **increased in specific cases**
- **Single bidding ladder**: no adjustment possible if incremental and existing capacity are allocated together
- **Parallel bidding ladders**: a reference price can be determined for each step
- **Open seasons**: adjustment of tariffs to ensure the investment is decided if all the offered capacity is sold.

# Options for setting an adjusted tariff level

Concrete measures	PROS	CONS
Increasing the reference price for all capacity users at the IP	<ul style="list-style-type: none"> <li>• Simplicity of the approach</li> </ul>	<ul style="list-style-type: none"> <li>• Unexpected tariff increase for users having booking LT capacity before the investment</li> </ul>
Increasing the reference price except for users who booked capacity before the investment decision	<ul style="list-style-type: none"> <li>• “Existing” users protected from unexpected tariff increase</li> </ul>	<ul style="list-style-type: none"> <li>• Complexity linked to the coexistence of two reference prices (up to 14 years ahead)</li> </ul>
Introducing a minimum premium for users participating to the incremental process	<ul style="list-style-type: none"> <li>• “Existing” users protected from unexpected tariff increase</li> <li>• Simplicity as there is a single reference price</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces the incentives to commit long term since the reference price for future bookings will be lower than the incremental tariff</li> </ul>

**ACER**

 Agency for the Cooperation  
of Energy Regulators

# **Incremental capacity and Tariffs issues**

**ENTSOG reaction**

***Ann - Marie Colbert***

ENTSOG

**ACER Workshop on Gas Tariffs and Incremental Capacity**

# Agenda

- ***The Economic Test***
- ***The 'f' Value***
- ***Tariff Adjustment / Payable Prices***
- ***Options for Tariff Adjustment***
- ***Interdependency with the Tariff FG***
- ***Conclusions***

# The Economic Test

## Economic Test

In principle, the formulation  $PV \geq f \cdot DIC$  meets the criteria for achieving transparency and mitigating against complexity.

Allows relevant network users to provide a clear investment signal that enables the TSO to make long term investment decisions.

ENTSOG supports harmonisation of technical and procedural aspects of the market test - though flexibility is needed on values for parameters

Alignment could include integration of the economic test into the allocation mechanisms and the means by which users are informed about the level of commitment needed.

A positive market test is only one of the conditions that may need to be met before an investment can proceed.

The results of the economic test shouldn't be viewed in isolation but rather, as part of a framework of commitments that need to be put in place to successfully drive investment.

**Formulation  $PV \geq f \cdot DIC$  can usefully be harmonised  
- but values for parameters must be set locally**

# The 'f' and '1-f' Value

**'f'  
value**

Discussions on incremental capacity allocation have focused on the market test and the 'f' parameter. The division of costs not underwritten by network users has received relatively little attention.

It is critical to define in advance how the part of the DIC not covered by up-front network user commitments (1-f) is covered. Stable and credible regulatory commitments can form part of this mix

In general, ENTSOG agrees with ACER's suggested guidelines for setting 'f' on a national or project-specific level.

Consideration of the regulatory settlement and the recovery of allowed revenues is also a prerequisite for determining the necessary commitment by network users.

All costs (both 'f' and '1-f') must be covered by up-front commitments

It would not be appropriate, to reduce the value of 'f' based purely on the monetised value of external effects, such as climate resilience and system security.

**The full costs of investment must be covered by up-front commitments from network users (f) or another willing party (1-f)  
The most effective split will depend on the type of investment.**

# Tariff Adjustment / Payable Prices

## Tariff Adjustment / Payable Price

In terms of tariff adjustments, increasing the reference price is only one of several options that could be considered.

Where there is elastic demand discounts may be more appropriate. Shorter and variable depreciation periods for new infrastructure could also be considered in some circumstances.

'Fixed' payable prices reduce uncertainty for network users benefitting from them and could serve as an incentive for commitments in an economic test.

The TAR NC endorses NRA discretion to use a fixed payable price approach for the IP(s) affected by an incremental capacity investment.

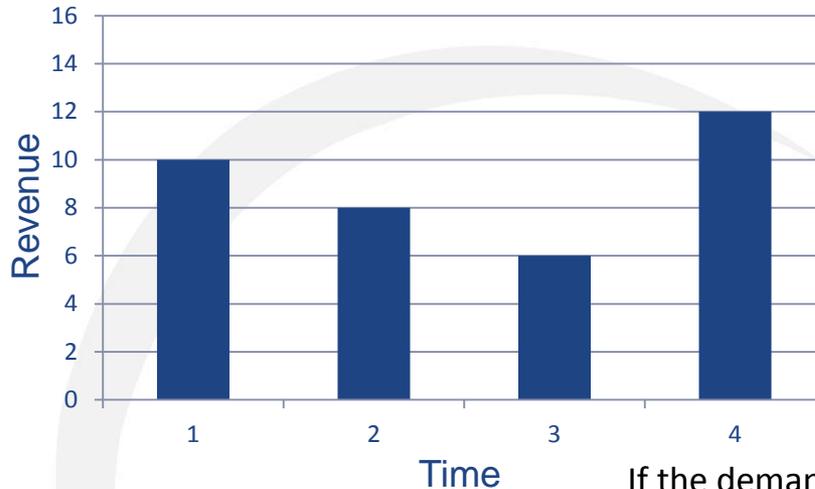
But fixed prices mean that over/under recovery of revenue may be passed on only to users on floating tariffs.

As a general rule, network users committing for long-term capacity at a specified price (regulated price + auction premium), should not be delivered from their payment obligation, including the premium.

If auction premia for existing capacity are returned to users, they should be returned to the whole market.

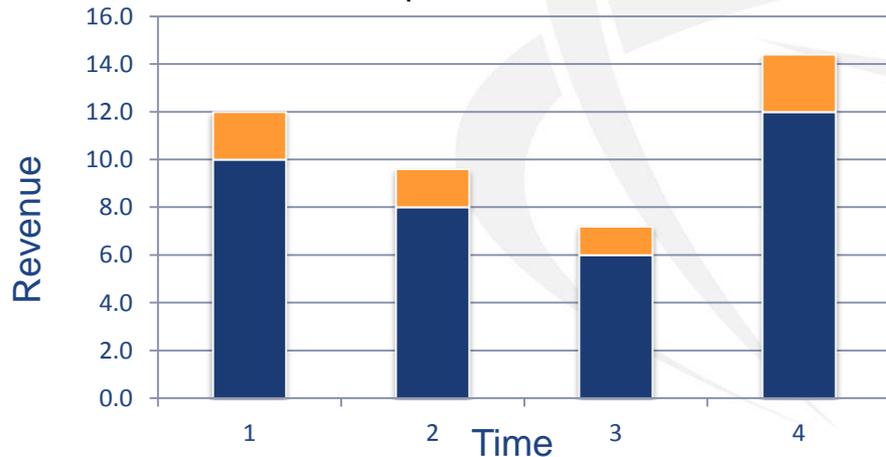
# Options for Tariff Adjustment

The 1<sup>st</sup> graph (right) shows the revenue from up front capacity commitments with a reference price of 1.5 but this does not meet the threshold to pass the economic test.

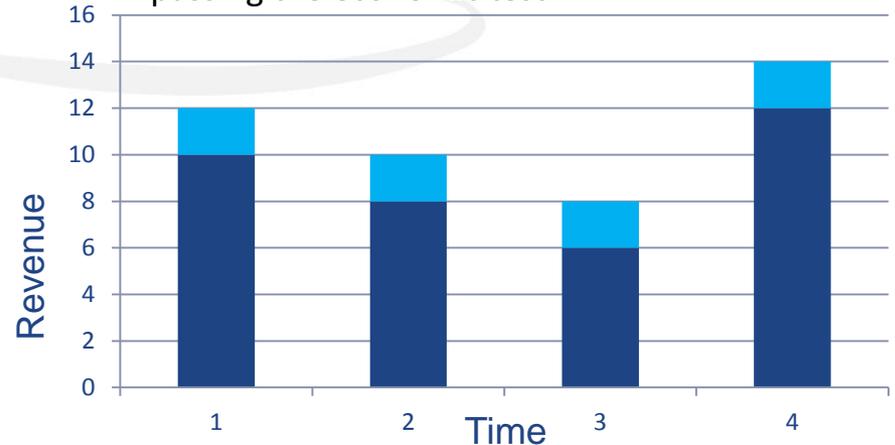


If the threshold to pass the economic test is not met then the TSO could adjust the reference price, either increasing it or offering a discount depending on the elasticity of demand.

If the demand is inelastic then the reference price could be changed to 1.8 in order to meet the threshold to pass the economic test.



If the demand is elastic then the reference price could be changed to 1.3 to encourage increased capacity bookings and thus meet the threshold for passing the economic test.



**Any adjustment could in principle be via any of the options presented by ACER – or could be spread across all users at all points**

# Interdependency with the Tariff FG

- Contradictions remain in terms of the proposed rules for the pricing of short term capacity (within the endorsed Tariff FG) and the need for the long term commitments to pass the market test
- ENTSOG has concerns about how incremental capacity will interact with the proposed rules set out in the final Tariff FG
- It isn't clear what additional requirements, if any, will be included in the final tariff FG and what requirements will go into the incremental capacity brief being produced by ACER for the 30<sup>th</sup> of November

**ENTSOG welcomes further clarity at the earliest opportunity**

# Conclusions

- The current investment climate is challenging. The TAR NC and CAM NC should allow the application of approaches that could help to meet the economic test threshold.
  - This could be by incentivising network user commitments, or by providing alternative sources of commitment
- An amended CAM NC should include a provision specifying that before an investment can proceed, there must be clarity regarding how '1-f' costs will be covered.
- Tariff adjustments should be made only if there is no credible prospect that the economic test will be passed at the standard reference price. The three options for implementing tariff adjustments, together with a fourth option to spread the adjustment across all IPs, should be presented as a 'menu' from which NRAs/TSOs can select the most appropriate option.
- 'Fixed' prices, may have advantages and disadvantages. It is appropriate for NRAs should have discretion on whether to adopt such an approach.
- Clarity is needed about the interaction between incremental capacity and the tariff framework guideline.

**ACER**

 Agency for the Cooperation  
of Energy Regulators

# **Incremental capacity and Tariffs issues**

**EFET reaction**

***Alex Barnes***

EFET

**ACER Workshop on Gas Tariffs and Incremental Capacity**

We welcome ACER's work on this issue

## Pipeline Investment in response to market needs

- Market based investment mechanisms are superior to planned approaches as they reflect what the market is willing to book and pay
- Open seasons and integrated auctions are two complementary market based approaches
- Open seasons better suited to large complex projects which cross more than one market zone
  - Enable proper coordination between several TSOs and NRAs
  - Allow project to be optimally sized and routed
- Integrated auctions better suited for single Interconnection points
  - Easier to standardise and combine with long term CAM auction process
  - Can be held regularly (every year as part of CAM process) so that new entrants have regular opportunities to buy capacity

## ■ Economic Test

- Support financial economic test
- Principles can be harmonised but unlikely one size fits all will work (e.g. different  $f$  factor due to different externalities in markets)

## ■ Externalities

- Makes sense to take these into account
- More work required e.g. interaction between capacity and flows or quality

## ■ Tariff adjustment

- Further work required – interaction with incremental capacity mechanism (see following slides presented at 3<sup>rd</sup> June workshop)
- Question of how lack of long term price certainty will impact shippers willingness to make sufficient long term bookings to trigger economic test

## ■ Incremental capacity mechanism needs development by stakeholders as part of NC process – FG should not be too prescriptive

## Allocation issues – integrated auctions

- Technical Design 1
  - Price steps do not reflect costs of providing capacity but are only means to determine allocation of capacity – economic test is decoupled from capacity allocation
  - Shippers need to have model of economic test so they can modify bids if required to ensure test is passed.
- Technical Design 2.
  - More complex
  - Setting P0 at equivalent of regulated cost of new capacity could solve the issue of decoupling of economic test and allocation
- Do shippers want to pay more for a given amount of capacity to pass the economic test or book more capacity at a lower unit price to pass the test?

## Allocation issues – open seasons (1)

- By definition Open Seasons are likely to be more bespoke depending on the nature of the project. Key requirements:
  - Transparency of rules and timetable to enable all who wish to participate
  - Ability of project sponsors to adapt to market requests and bidders to adapt in light of market demand
- Technical Design 1
  - Concern that capacity sold at premium to regulated costs and related “free rider” problem for shippers who only bid in the auction phase
- Technical Design 2.
  - Possible to allocate capacity based on size of financial commitment (i.e. NPV value) rather than duration of booking?
  - Benefit of flexibility for complex projects involving multiple Interconnection Points
  - US have successfully used this approach for many years

## Allocation issues – open seasons (2)

- Technical Design 3.
  - Mirrors current GB approach which has delivered significant incremental capacity (e.g. Milford Haven)
  - Shippers know the cost of incremental capacity and pay the regulated cost
  - Shippers can see if the economic test will be met at the end of each bid window
  - Can this cope with multiple interconnection points or will it mean that the whole project succeeds or fails based on the result of one interconnection point (e.g. North West Gas Regional Initiative Virtual Test study 2009)

## Conclusions

- Welcome ACER continuing work of CEER on this and recognition of its importance to prevent unnecessary physical congestion and resulting high capacity costs.
- Urge CEER, ACER and ENTSOG to push forward developing the way forward
  - ACER should avoid making the FG too prescriptive on exact mechanism (Note precedent that CAM FG did not specify the mechanisms for the auctions)
  - Further workshops required to develop workable approach – can start this before start of NC development approach
  - Clarity on way forward - how does amendment process for CAM / NC's work?
- Needs to be in place when long term CAM auctions start in 2016 or as soon as possible after that date

**ACER**

 Agency for the Cooperation  
of Energy Regulators

# **Incremental capacity and Tariffs issues**

**EFET reaction**

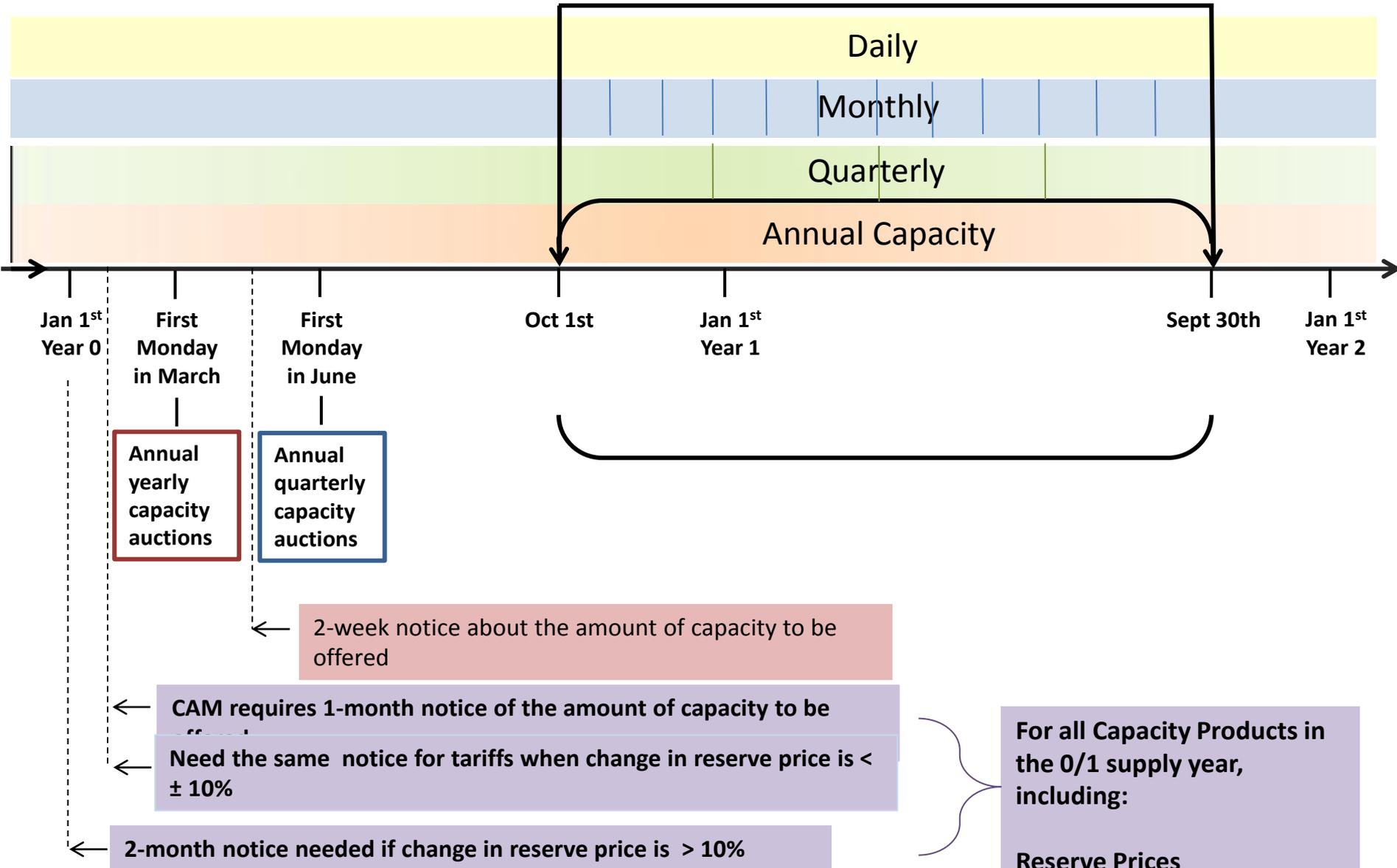
***Gunnar Steck***

EFET

**ACER Workshop on Gas Tariffs and Incremental Capacity**

- **Publication:** Reserve prices, seasonal factors (if any) and multipliers (if any) relating to all auctioned capacity products in the relevant gas year (Oct – Sept) must be published in advance of the first annual auctions for that gas year,
- **Notice period:** a minimum 1-month notice period should apply before the start of the auction for annual capacity for any change to any reserve/reference price

# Publication Timeline for Regulated Capacity Tariff Information



### ■ Principles:

- Quarterly and monthly reserve prices should be proportional to the annual reserve price
- If multipliers remain a feature of the final Framework Guidelines on Tariffs, they should not be unduly prescriptive (e.g. not linked directly to congestion) nor too complex

### ■ **Reserve price multipliers applying at an IP:** NRAs on both sides of the border should decide collectively on a balanced solution for that IP

### ■ **Factors to be considered:** effects on liquidity, balancing market and on the efficiency of cross-border trade; the magnitude of price spreads between the relevant market areas; congestion; risk of under/over recovery;

### ▪ **Principles:**

Day-ahead or within-day reserve prices would risk segmenting the market and limiting opportunities for optimisation and efficient price arbitrage. A day-ahead reserve price is likely to be needed at any IP where there is an abundance of available capacity. However: the need for within-day reserve pricing has to be demonstrated!

### ▪ **Reserve price multipliers applying at an IP:**

If there are day-ahead or within-day reserve prices and multipliers then Regulatory Authorities on both sides of the border would need to decide collectively on a balanced solution at that IP in a consistent way as for quarterly and monthly products.

### ▪ **Principle:**

Fixed tariffs provide certainty. If there is a ‘floating’ payable price, then measures must be introduced to mitigate the impact of substantial changes in the reserve price.

### ▪ **For example**

- Introducing a limit of + or – 10% for any annual change in reserve price published at least ‘x’ months before the annual auction
- Publishing any changes greater than + or – 10% at least ‘y’ months before the annual auction
- Either require TSOs to offer an equivalent fixed price as an alternative to the floating price, or allow market participants to terminate their contract if their tariff increases by > ‘z’ % in one year

**ACER**

 Agency for the Cooperation  
of Energy Regulators

## **Incremental capacity and Tariffs issues**

**OGP preliminary reaction**

***Kees Bouwens***

ExxonMobil

**ACER Workshop on Gas Tariffs and Incremental Capacity**

**OGP**



**International  
Association  
of Oil & Gas  
Producers**

More about OGP: Our membership spans the globe and accounts for more than half of the world's oil output and about one third of global gas production. From our London office, we foster cooperation in the area of health, safety and the environment, operations and engineering, and represent the industry before international organisations, such as the UN, IMO and the World Bank, as well as regional seas conventions, such as OSPAR, where we have observer status. OGP Europe in Brussels represents before the EU OGP members who are active in Europe.

## General remarks on Tariffs and Cost allocation

**OGP**

- **OGP does not support 50:50 split as a general principle**
  - Entry charges < 50% reflect economies of scale (cost allocation) and support gas imports/cross-border trade
- **OGP calls for stability of tariff regulation**
  - Network users should be protected from significant and rapid tariff changes as result of regulatory changes
    - Existing contracts with fixed tariffs should be respected;
    - Users should have the option to book capacity at fixed prices;
    - Where floating prices are applied, they should be predictable and any changes should be implemented gradually
- **Avoid cross-subsidies by pricing of short-term products**
  - Seek balance between annual capacity/short-term products

## General remarks on Tariffs and Cost allocation (2)

**OGP**

- **Tariffs can vary significantly depending on method used**
  - Examples show results for the same network configuration:

point s ect.	3.4.1.1	3.4.1.2 (A)	3.4.1.4
EN1	1,073	819	804
EN2	1,073	1,449	2,729
EN3	1,073	945	243

- **NRAs should consult on selection of methodology**
  - We support that at least 2 methods are examined in detail (of which 1 is a harmonised reference method - tbd)
  - NRAs should justify why other methods have not been selected for the short-list
  - Impact assessment should address the objectives of section 1.2, especially market integration and cross-border trade

## **Incremental capacity and Tariff issues**

**OGP**

- **OGP thanks CEER for the work on Incremental capacity and welcomes ACER's proposal to address this in Tariff FG**
- **We support a harmonised economic test that specifies what level of initial bookings is required for the investment**
  - Factor  $f$  to reflect expected short-term sales + externalities
  - Test should be set in advance and be fully transparent
  - All users should be consulted as they may share in the costs
- **NRAs should co-operate and agree a single economic test and cost-sharing arrangements for cross-border projects**
  - Tariff Code to resolve issues when costs/benefits not aligned
  - Requires some harmonisation of economic test parameters

## **Incremental capacity and Tariff issues (2)**

**OGP**

- **Pricing of Incremental capacity**
  - Economies of scale could reduce reference price at IP
  - When existing tariff is not sufficient to pass economic test:
    - NRAs should have the flexibility to set a minimum premium for incremental capacity above reference price;
    - Increase should not apply to existing capacity holders at IP (they may share in the investment costs which are smeared);
    - Alternative options are to allow 20-25 years booking window and reduce % of capacity set aside for short-term bookings
  - OGP supports measures to avoid discrimination between new users and existing users who committed to a premium

*Thank you for your attention !*

**ACER**

 Agency for the Cooperation  
of Energy Regulators

# **Incremental capacity and Tariffs issues**

## ***Eurogas reaction***

***Claude MANGIN***

Chairman of the Eurogas Task Force on Tariffs

**ACER Workshop on Gas Tariffs and Incremental Capacity**

**03/09/2013**

## The economic test

The process that will offer incremental capacity (whether it is an auction, an open-season or another mechanism) :

- should not lead to cross-subsidies between holders of existing capacity and buyers of incremental capacity,
- and should minimize stranded cost/asset.

The list of criteria to be considered when setting the  $f$  parameter (§ 2.2.) is appropriate, especially the positive and negative externalities.

Nevertheless, they should be more guidance to assess the criteria and their numerical impact on the  $f$  parameter.

→ The  $f$  parameter should be high enough to limit the amount of stranded capacity and, by doing so, to minimize cross-subsidization of incremental capacity by the existing network.

## Price for incremental capacity

The process that will offer incremental capacity (whether it is an auction, an open-season or another mechanism):

- should not lead to cross-subsidies between holders of existing capacity and buyers of incremental capacity;
- and should minimize stranded cost/asset.

→ Increasing (or decreasing) the reference price except for users who booked capacity before the investment decision can be achieved with the parallel bidding ladders.

→ It is a cost-reflective and market-based investment procedure which could lead to different reference price for existing capacity and for incremental one.

## Secondary adjustments

- **Rescaling**: Rescaling by adding a constant top up value to the tariffs should be authorized **only in the cases where this top-up value represents only a small fraction of capacity costs** else it will weaken locational signals.
- **Equalisation**: *“each set of points subject to equalisation can only include either domestic or cross-border points”*.  
 The wording should make clear within **any sub-group of domestic or cross-border points can have different equalisation tariffs**.
- **Benchmarking**: Eurogas has a special concern regarding this adjustment **since it would lead to cross-subsidisation between entry points. If pipe-to-pipe competition occurs, the risk should be borne by the TSOs and not by shippers in other parts of the transmission system.**

## Mitigating measures

Mitigating measures **are absolutely necessary** since else shippers who have booked long-term capacity would have been unprotected against huge changes in tariffication. **But:**

- They **should apply to any quick and significant increase in tariffs** and not only when implementing the cost allocation methodology (e.g. in case of massive under-recovery).
- Their trigger should be assessed during the Network Code drafting. **A 25% increase from one year to the next is an arbitrary and too high threshold.**
- **The design of the mitigation measures should be discussed during the Network Code and should not be limited to a smoothing of the price increase over the tariff period.** Other solutions must be debated and assessed like:
  - the ability for a shipper to surrender capacity;
  - the option to have a fix reserve price in exchange of a premium (as the cost of this “guarantee”);
  - the shift of entry points revenues towards exit points if exit points tariff scheme is reviewed to avoid cross-subsidies between modulated and non modulated end-customers.

## **Conclusion: Eurogas concerns**

- Eurogas' most important issue **concerns the setting of short term capacity products' reserve prices lower or equal than long term ones which will lead to discrimination and massive cross-subsidization between shippers and to massive under-recovery.**
  - One simple solution is to apply the so-called revenue equivalence principle.
  - Nevertheless, Eurogas will be happy to participate to the elaboration of other solutions.
- Another issue Eurogas has already expressed is **the consistency between separated interacting network codes.**
  - A review mechanism seems needed?
  - For instance, what will be the process to amend the CAM NC regarding incremental capacity?
  - As an example, ACER non-binding guidance for the implementation of the CMP Guidelines and in particular interactions with the CAM NC.

**ACER**

 Agency for the Cooperation  
of Energy Regulators

## **Incremental capacity**

***Tanja Held / Kristof Kovacs***

European Commission, DG Energy

**Workshop on Gas Tariffs and Incremental Capacity**

# **Dual approach on rules regarding an EU-wide market-based approach on the allocation of 'new build' gas transmission capacity ["Incremental capacity"]**

- drafting of amendment of network code on capacity allocation mechanisms by ACER and ENTSOG
- including respective tariff rules in the network code on transmission tariff structures

## **Drafting of amendment of network code on capacity allocation mechanisms by ACER and ENTSOG process:**

- ACER drafting of "Guidance" by 30/11/2013 based on blueprint developed by CEER
- ENTSOG drafting of NC amendments in 2014
- ACER finalization of NC amendment latest by early 2015
- Adoption by European Commission in 2015
- New rules to apply from 2017 annual auctions

**Thank you for your attention!**



**[www.acer.europa.eu](http://www.acer.europa.eu)**