

**Scope and main policy options for
Framework Guidelines on
Harmonised transmission tariff
structures**

Consultation Document

DFGT-2012-G-004

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This document contains the proposed scope and main policy options for Framework Guidelines on harmonised gas transmission tariff structures, which the Agency for the Cooperation of Energy Regulators (ACER) is going to prepare pursuant to Articles 6 of Regulation (EC) No 713/2009 and 715/2009 on the basis of a request from the European Commission. Following this scoping consultation, further analysis will be undertaken on the specific policy options.

Stakeholders are invited to submit responses by:

9 March 2012 extended to **26 March 2012 - 12:00 noon Ljubljana Time**
to:

consultation2012G06@acer.europa.eu

Stakeholders are requested to give due justification to their answers.

Following the public consultation period, ACER will publish all answers received from stakeholders. Please indicate if you wish your response, or a specific part of it, to be treated as confidential. Stakeholders shall also consider that confidential answers could be used in a limited way. In this case, a non-confidential version of the answers shall be submitted.

Related Documents

- European Commission, DG Energy, Study on Methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe, http://ec.europa.eu/energy/gas_electricity/studies/gas_en.htm, December 2009
- EUI, THINK report on EU involvement in electricity and natural gas transmission grid tariffication, <http://www.eui.eu/Projects/THINK/Documents/Topic6.pdf>, January 2012

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PART I: Scope and objectives

1. Introduction

The implementation of the Third Energy Package¹ represents an important step forward in the harmonisation of gas market regulation in Europe through the adoption of network codes in several areas. The Agency for the Cooperation of Energy Regulators (ACER) adopted two framework guidelines in 2011, on capacity allocation mechanisms (CAM) and balancing. The European Network of Transmission System Operators (ENTSO) started working on the CAM network code in January 2011, which includes capacity products and allocation procedures. In addition, the discussion on the Energy Infrastructure Package (EIP), also relates to tariff methodologies with regard to cross-border cost allocation for new investments.

Market-based procedures have been at the heart of these recent developments. During discussions among regulators, the importance of pricing mechanisms in reaching an optimal outcome for both capacity allocation and balancing was highlighted. The CAM network code foresees the implementation of auctions on different capacity products of various durations, in which the concept of reserve price requires further elaboration. Tariffs appear to be the key element of regulation due to the impact they have on market players' behaviour, and on cost recovery for infrastructure operators and investment. According to their design, tariffs bring different kinds of incentives, which need to be clearly addressed through an appropriate tariff design, and prioritised where necessary.

1.1. Regulatory background

According to Articles 6(2) and 8(6)(k) of Regulation (EC) No 715/2009 (the Gas Regulation), ACER shall develop non-binding Framework Guidelines for rules regarding harmonised transmission tariff structures, setting out clear and objective principles contributing to non-discrimination, effective competition and to the efficient functioning of the market. ENTSOG shall then develop a network code on harmonised transmission tariff structures which shall be compliant with the framework guidelines.

The Third Energy Package gives regulators an important role in tariff setting. Therefore, the Framework Guidelines have to be consistent with the provisions of Directive 2009/73/EC² (the "Gas Directive") and the Gas Regulation, at a national and cross-border level. According to Article 32 of the Gas Directive, the national regulatory authority (NRA) shall approve and publish third-party access tariffs, or the methodologies underlying their calculation prior to their entry into force. According to Article 41, the NRA shall fix or approve, in accordance with transparent criteria, transmission and distribution tariffs or their methodologies. It shall ensure that there are no cross-subsidies between transmission, distribution, storage, LNG and supply activities and that TSOs are granted appropriate incentive, over both the short- and long-term, to increase efficiencies, foster market integration and security of supply and support the related research activities.

¹ see http://ec.europa.eu/energy/gas_electricity/legislation/third_legislative_package_en.htm

² Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas.

The requirements on tariffs for access to transmission networks are laid down in Articles 13 and 14(2) of the Gas Regulation. *“Tariffs, or the methodologies used to calculate them, shall facilitate efficient gas trade and competition, while at the same time avoiding cross-subsidies between network users and providing incentives for investment and maintaining or creating interoperability for transmission networks”*. Furthermore, they shall *“reflect the actual costs incurred, insofar as such costs correspond to those of an efficient and structurally comparable network operator and are transparent, whilst including an appropriate return on investments, and, where appropriate, taking account of the benchmarking of tariffs by the regulatory authorities”*. If Member States so decide, *“tariffs may also be determined through market-based arrangements, such as auctions, provided that such arrangements and the revenues arising therefrom are approved by the regulatory authority”*.

The Gas Regulation defines precise requirements for the basic transmission tariff model for gas systems: the decoupling of entry-exit charges and the non-discrimination between domestic transport and transit. According to Article 13, *“tariffs shall be set separately for every entry point into or exit point out of the transmission system”* and *“network charges shall not be calculated on the basis of contract paths”*. Furthermore, the *“cost-allocation mechanisms and rate setting methodology regarding entry points and exit points shall be approved by the national regulatory authorities”*. Thus, entry and exit tariffs should not differ on the basis of where the gas is transported to and from, and should ensure that there are no undue cross-subsidies between national transport and cross-border transit.

The development of Framework Guidelines on tariffs builds on the study on Methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe³ commissioned and published by the European Commission in December 2009. This study highlights differences between national transmission tariff structures in the EU that could result in barriers to trade. The main issues mentioned refer to the allocation of costs to different tariff components, the risk of contractual and price pancaking⁴, a lack of locational pricing, premiums on short-term products and improper pricing of non-physical backhaul capacities.

1.2. The context

When discussing tariffs, three issues need to be addressed:

1. Allowed costs/revenues

Two main approaches for determining the allowed cost (for tariff purposes, or revenues) exist in the EU⁵. These can be categorised as cost-of-service (or rate-of-return), (price/revenue) cap (or incentive) regulation approaches. The choice of the appropriate approach depends on system design and operation, which are addressed on a national basis. Therefore this aspect is not dealt specifically in this document

³ See European Commission, DG Energy, Study on Methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe, http://ec.europa.eu/energy/gas_electricity/studies/gas_en.htm, December 2009

⁴ See definitions in the Annexes

⁵ see European Commission, DG Energy, Study on Methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe http://ec.europa.eu/energy/gas_electricity/studies/gas_en.htm, December 2009

2. *Tariff structure*

The existence of different tariff structure arrangements between Member States could have a detrimental effect on cross-border trade and therefore there are benefits to be achieved from their harmonisation.

For example, the introduction of cross-subsidies between cross-border and domestic network users through Entry and Exit charging could affect cross-border flows, and efficient tariffs can enable a more cost-effective allocation of transportation costs. Therefore, this issue is addressed in this scoping document.

3. *Cross-border cost allocation for new investments*

In a system consisting of a large number of entry-exit zones, investments on one side of the border can often lead to benefits on the other side. Member States which make these investments should not be unduly disadvantaged by having to pay for the related costs where the benefits are mainly or at least partially accrued on the other side of the border, particularly where these investments are raised through national funds through taxation. Open seasons or other market-based mechanisms could provide a more appropriate means of allocating the costs on both sides of the border however their use may become relative when it comes to security of supply projects.

Market-based cost allocation principles could solve the issue either by using compensation schemes or allowing for direct payments from the beneficiaries based on the incurred costs for infrastructure development.

The impact on some projects of Regulation (EU) No 994/2010⁶ (concerning measures to safeguard security of gas supply) and of the upcoming legislation in the framework of the Energy Infrastructure Package⁷ on cross-border cost allocation is not specifically addressed in this document. Beyond the issues ACER currently raises on tariff structures, investment-related cross-border issues require additional analysis in the future, in particular concerning general principles and schemes for beneficiaries to pay.

1.3. The process

CEER started to work on a Framework Guideline on tariff issues in response to a request of the 17th Madrid Forum, focussing on scoping and policy options and examining national practices. Working closely with the Commission and ENTSOG, key principles were identified such as non-discrimination, cost recovery and efficiency of both market integration and use of capacity.

This work was taken over by ACER at the 20th Madrid Forum in September 2011, and the

⁶ See http://ec.europa.eu/energy/security/gas/gas_en.htm

⁷ See http://ec.europa.eu/energy/infrastructure/strategy/2020_en.htm

Agency is now consulting on the possible scope of the Framework Guidelines on harmonised transmission tariff structures, pursuant to Article 8(6)(k) of the Gas Regulation, ahead of the next Madrid Forum.

The purpose of this consultation document is to seek stakeholders' views regarding the scope and main policy options for Framework Guidelines on harmonised gas transmission tariff structures. The document includes two parts:

1. Part I addresses the scope, issues and objectives of the Framework Guidelines on harmonised transmission tariff structures;
2. Part II presents a set of policy options for evaluation.

2. Network Codes, EU Guidelines and the Target Model

The development of tariff codes is highly dependent on other code developments. The provisions of the CAM network code and the guidelines on congestion management procedures are moving to a final stage of policy discussion at the EU level. Other network codes might also interact with the tariff codes. The "target model" developed by CEER includes some aspects related to tariffs, on options to better integrate markets and promote an efficient use of cross-border infrastructures in the context of entry/exit systems.

The Framework Guidelines on CAM and the network code currently under development include a clear reference to tariffs, when it comes to capacity auctions, the standard allocation procedure in the European Union in the future.

The auction design introduces reserve prices and auction prices for capacity products and contains separate approaches for long or short-term products, which will impact shippers' booking strategies in the future. ENTSOG is proposing provisional tariff rules in the CAM network code before the adoption of the tariffs network code, where the average price of annual capacity products serves as a reference for other reserve prices. ENTSOG is proposing to apply multipliers higher than one for products with a shorter duration. This means that short-term products will be priced above long-term products, with a likely reduction on cross-border trade for short-term products. However, such a measure is likely to limit potential TSO revenue under-recovery. This shows how important it is to reconcile the promotion of efficient cross-border trade with stable long-term investment signals for TSOs. Promoting price convergence between hubs may require low reserve prices on day-ahead products, while promoting cost recovery would require high reserve prices, potentially reducing shippers' incentives to book short-term in particular products at non-congested interconnection points.

TSOs may recover more or less than their allowed revenues. The distribution of any excess revenue or under-recovery from auctions of bundled capacity products is yet another issue. In the CAM network code ENTSOG is proposing to apply a pro-rata rule based on the level of the reserve prices. Other approaches - such as a 50/50 split - have also been investigated. Further work on this topic may be necessary, potentially as part of the Framework Guidelines on harmonised transmission tariff structures.

3. Issues, objectives and ACER approach

The Third Energy Package aims to promote deeper harmonisation when regulatory gaps represent obstacles to market integration and the achievement of the single market. Any step in the direction of greater harmonisation should aim at solving such issues, and thus needs to be justified by an impact assessment. This consultation is the beginning of the impact assessment, and this section highlights the issues as they are identified at the present time, and also aims to explain the general objectives governing ACER approach to tariffs.

3.1. What are the issues?

Tarification issues need to be considered in the context of the integration of gas markets across the European Union. Given the diminishing indigenous production of natural gas in the EU, access to sources outside the EU increases the importance of gas flows across borders within the EU. An effective design of transmission tariffs is vital for the development of liquid gas markets. Tariff systems must promote competition and facilitate the development of hubs, allowing virtual balancing points to be established. Article 13(2) of the Gas Regulation requires that tariffs for network access shall neither restrict market liquidity nor distort trade across borders of different transmission systems. The scope of the Framework Guideline is therefore defined by issues of cross-border nature.

This section considers some of the potential barriers created by current national tarification rules, as well as the possible effects of the introduction of auctions as standard capacity allocation mechanisms⁸:

- **Inefficient use of the system** due to inefficient short-term gas trade where gaps between (wholesale) gas prices in adjacent markets are higher than transmission costs in the absence of congestion. In this respect, high premiums on short term products or excessive prices for backhaul capacity are sometimes considered as generating inefficiency.
- **Undue discrimination** between cross-border and domestic network usage, and the risk of price pancaking⁹.
- **Incompatible pricing of products** at borders where there are different practices in terms of pricing of capacity. Bundled products will contribute to reducing gaps but tariff approaches on the two sides of an interconnection point may need to be made compatible.
- **Under- or over-recovery of allowed revenues** due to auction results and the difference between the expected and realised capacity bookings.
- **Risk and uncertainty** where tariff structures do not provide enough stability to TSOs and shippers, to avoid drawbacks such as reluctance to commit in the long term. Uncertainty can thus be an obstacle to investment.

⁸ THINK study “EU Involvement in Electricity and natural Gas” P.40, 51

⁹ See Definitions in the Annexes

Question 1: What other issues should be dealt with in this Framework Guideline? What is the evidence for including these issues? Please provide justification.

3.2. General objectives of gas transmission tariff structures

The Gas Regulation introduces objectives and principles on tariffs, which may not necessarily be translated into specific policy options, but serve to support the development of these options. These objectives, derived from Article 13 of the Gas Regulation, are as follows:

- facilitation of trade and competition,
- avoidance of cross-subsidies, and undue discrimination between network users,
- cost-reflectivity,
- promotion of new efficient investment, and
- transparency.

3.2.1. Efficient gas trade and competition

The objective of promoting efficient gas trade and competition requires an appropriate tariff system that enables shippers to book capacity products according to their business and risk profiles, including short term, and that allows for an efficient allocation and use of infrastructures. Pricing transmission capacity shall strike a fine balance between the facilitation of short-term gas trading, on the one hand, and the provision of long-term signals and appropriate cost recovery, on the other. Before the implementation of the Third Energy Package, national regulatory frameworks have been dominated by long-term bookings, often leading to situations of contractual congestion and limited possibilities of short-term hub-to-hub trading.

3.2.2. Avoid cross-subsidies and undue discrimination between network users

Existing entry-exit charges may lead to cross-subsidies between cross-border and domestic network usage, or vice versa, if exit tariffs to final customers within an entry-exit zone are not cost-reflective. Overall, the Framework Guidelines on tariff structures shall aim at avoiding excessively low or high tariffs at the borders. For this purpose, it may be necessary to propose a transparent cost-based methodology in the Framework Guidelines on harmonised tariff structures.

3.2.3. Cost-reflective tariffs and recovery of allowed revenues

On a local basis, tariffs should reflect the cost of service, which ensures that cross-subsidies are minimised.

In a broader perspective, within a tariff system area, tariffs must ensure that the TSOs cover their allowed revenues. Starting from the global estimation of the allowed revenues, the tariff calculation methodology follows three main chronological steps:

- **Ex-ante tariff calculation**, including the calculation of reserve prices for auctions, and based on assumptions on parameters such as capacity bookings;
- **Revenue collection** based on capacity sold or volumes transported;

- **Ex-post reconciliation**, if applicable, aimed at covering the gap between the foreseen and actually collected revenues, so that any unintended under- or over-recovery of TSO revenues can be addressed. One objective of the Framework Guidelines may therefore be to propose options enabling revenues collected from interconnection points to cover the associated target revenues.

3.2.4. Allow new and efficient investments

As a general principle tariffs should give an appropriate remuneration of assets, which means that remuneration has to be consistent with risks and deliver proper signals to develop transmission capacity when appropriate. Auction revenues will play an important role in highlighting the demand for investment but, at the same time, tariff methodologies should avoid distortions between existing and new capacity offers. Even though incentives, remuneration determination and potential mechanisms for releasing incremental capacity are outside the scope of the Framework Guidelines on harmonised tariff structure, it is clear that tariff setting and efficient investments should be compatible.

Entry–exit tariffs should also provide locational signals in order to promote a better use of the existing gas transport system.

3.2.5. Transparency

Transparency is a key principle to be followed up on two aspects: firstly, the information provided to stakeholders through tariffs about the situation of the system in terms of both costs and congestion; and secondly the methodologies applied in setting tariffs, to ensure that they meet the stated principles and objectives, including that they are non-discriminatory, cost-reflective and not distorted to the detriment of adjacent markets.

Tariff evolution needs to be transparent both for investors and stakeholders. Transparency should be ensured on how capital expenditures are covered in the long term and stakeholders should be provided with the necessary information to understand tariff evolution.

Question 2: What are the most important problems that relate to tariff structures? Do the problems identified by you relate to the lack of harmonised approaches?

Question 3: Based on the Gas Regulation, are there further principles to be added?

Question 4: How would you interpret the above principles and objectives? Which objective would you consider to be the most important for achieving an EU internal market for gas? How would you rank the rest of the objectives? Please provide justification.

4. Proposed scope and application

The Framework Guidelines are required to harmonise transmission tariff structures with respect to cross-border network issues and market integration, and follow the principles of non-discrimination, effective competition and the efficient functioning of the market.

4.1. Which entry and exit points?

In line with the Framework Guidelines on CAM, the harmonisation of tariff structures shall

apply to cross-border interconnection points between two or more Member States, as well as interconnection points between adjacent entry-exit-systems within the same Member State.

To avoid any potential discrimination or adverse effect on cross-border trade, the scope of the Framework Guidelines on harmonised transmission tariff structures may include entry points from LNG-terminals and production facilities as well as any other entry point to the transport system, and may apply to entry/exit points to or from storage facilities, especially if capacity at these points is subject to booking procedures by network users. The extent of the cross-border distortions and advantages to trade resulting from the pricing of capacities to and from storage facilities and the existence of undue discrimination need further analysis. Concerning LNG terminals, the main issue regarding the interaction with tariffs at cross-border points would relate to potential cross-subsidies leading to discrimination between terminal users and pipeline shippers (in one way or the other). The Framework Guidelines may hence ensure that compatible cost allocation methodologies are used to define transmission tariffs for LNG terminals and pipeline entry points.

4.2. What should the Framework Guidelines prescribe?

As mentioned in the introduction, different approaches exist for the determination of allowed revenues. Each approach has advantages and disadvantages and NRAs in the different jurisdictions choose the one which is most suitable for the local conditions. The focus of the Framework Guidelines is transmission tariff structures; they do not aim at addressing determination of allowed revenues.

In entry-exit zones with more than one TSO the costs incurred by one TSO may need to be recovered from interconnection points owned by another TSO. This issue will become more relevant if cross-national entry-exit zones are established. Following the discussions on a target model for the European gas market, cross-national entry-exit zones may indeed be implemented in the future. The work on tariff structures may also need to address the issues arising from such cross-national entry-exit zones.

The annual regulated tariff shall be used as a reference to determine reserve prices in auctions for firm, interruptible and backhaul capacity for the various short and long-term products. The Framework Guidelines on harmonised transmission tariff structures could define how to determine these regulated tariffs. (Part II chapter 1).

The issue of over- and under-recovery of regulated costs due to auction revenues, including the definition of the clearing price in auctions is discussed also in this document. (Part II chapters 3 and 4).

Question 5: What are your views on the proposed scope and application regarding:

-Entry and exit points

-Determination of the annual reference price

-Mechanisms to deal with over- and under-recovery of allowed revenues and the definition of the clearing price?

Please justify your answer.

Question 6: Regarding the issue of compensation payments between TSOs within cross-national entry-exit zones, do you consider that:

i. No harmonisation is required.

ii. The rules establishing compensation payments should be harmonised at EU level.

iii. Guidelines of good practice on the issue would suffice. Please provide guidelines suggestions.

iv. Other option: _____ . Please provide justification.

v. I don't know.

PART II: Policy options

The issues and objectives presented above shall translate into concrete proposals. In the next sections of the document, a few “policy options” are presented regarding the different aspects of tariffication methodologies. More analysis on these options will be carried out during the Framework Guideline development process. Tariff methodology is a combination of several choices made at the consecutive steps of tariff calculation, as described below. Some of the choices/options shall be compatible, notably cost recovery consistent with options chosen before:

1. **Determination of the allowed revenue:** tariffs are built on allowed revenues, which cover capital and operational expenditures. The allowed revenue for each TSO is considered as given, as it is determined by the competent NRA. Its determination hence is not in the scope of the ACER work on tariffs, which focuses on structural aspects.
2. **A cost allocation methodology shall be applied that ensures a non-discriminatory split between domestic and interconnection points.** The Framework Guideline is indeed meant to focus on the interconnection between market zones; if discrimination is at stake, the scope can be potentially enlarged, on certain aspects. The implementation of a cost allocation methodology implies the application of a cost concept (either marginal costs or actual costs incurred) as well as the allocation of the costs to the relevant entry and exit points (see Section 1 below).
3. **Determination of reserve prices:** reserve prices are the minimum prices for booking capacity products. In general, the reserve prices should be as close as possible to “the cost of use” of the interconnection points and send relevant signals to the shippers. The main issue to be addressed is the relative pricing of products with different durations (see Section 2 below).
4. **Definition of the payable price for auctions:** auction price evolution may differ substantially, especially for long term bookings, depending on how this price is determined. Either it remains flat in current currency terms or it is floating, indexed by inflation or determined as a premium upon the reserve price. (See Section 3 below).
5. **Revenue split between TSOs:** auction revenues have to be shared between adjacent TSOs and, between TSOs belonging to the same entry-exit zone if relevant. As explained in Section 2.2 of Part I, the revenue split could be addressed at a later stage.
6. **Recovery of allowed revenues:** unintended gaps between allowed costs/revenues and actual revenues in one tariff period have to be covered by ex-post mechanisms, either by using a regulatory account, which adapts regulated tariffs in subsequent tariff periods, or by using other specific charges like a “commodity charge” (see Section 4 below.)

1. Regulated tariffs: determination of a reference price

According to the CAM Framework Guidelines and network code, auctions are going to be the standard capacity allocation procedure in the EU. Reserve prices will be the base price in these auctions, and effectively be the regulated tariffs for the different categories of capacity products.

The calculation of reserve prices requires the definition of a *reference cost basis*, which is allocated to each interconnection point. As a basic rule, the sum of revenues at all entry and exit points should amount to the total allowed revenues for TSOs, while reducing as much as possible cross subsidies. Thus, in systems where TSOs' revenues are determined having regard to their total costs, any decision to increase/decrease tariffs at one point leads to a decrease/increase of tariffs at others.

The cost allocation methodology hence plays a very important role. ACER proposes to define a reference price for the annual product, which corresponds to a regulated tariff determined on an annual accounting basis aimed at covering costs, while taking into account the assumptions on capacity bookings. Reserve prices for different kinds of products shall therefore be determined according to this proposal.

1.1. Concepts for the determination of the reference price

Section 3.2 of Part I sets out objectives for gas transmission tariff structures. When setting the reference price, these objectives may not all be achievable simultaneously. Two cost concepts are currently used.

1.1.1. Option 1 – Long Run Marginal Cost

Under this cost concept, the reference price is set at the long-run marginal cost (LRMC) of transporting gas at peak conditions. The objective is to have a reference price reflecting the cost of providing an additional unit of capacity. However, LRMC-based pricing/charging does not guarantee that TSOs' allowed revenues are recovered, as it is not directly related to costs of developing the network. If strictly applied, it may result in negative charges at some entry or exit points. To avoid this, and to ensure that allowed revenues are collected, the general level of charges may be adjusted to avoid negative pricing, while maintaining the same relativity between entry and exit points as indicated by the LRMC approach. Other charging arrangements can be put in place to manage TSOs' over or under-recovery of revenues, as described in Section 4 (Part II).

1.1.2. Option 2 – Actual Costs Incurred

Under this cost concept, the reference price is calculated on the basis of the regulated asset base and it reflects the actual costs incurred, based on CAPEX and OPEX. The approach consists of either calculating tariffs on the basis of costs associated with individual entry/exit points, when possible, or allocating the allowed revenues to be collected through tariffs to the various entry and exit points following a specific methodology.

Question 7: Do you agree that reserve prices shall be based on reference prices as described above?

Question 8: Which option would you find appropriate to determine the reference price? Please justify your answer.

Question 9: Regarding the cost concepts, do you consider that:

- i. No harmonisation is required.**
- ii. The rules should be harmonised, along the following lines:**
_____ . **Please provide justification.**
- iii. Guidelines of good practice would suffice, along the following line:**
_____ . **Please provide justification.**
- iv. Other option:** _____ . **Please provide justification.**
- v. I don't know.**

Question 10: Could two different cost concepts be applied on the two sides of an interconnection point without hindering cross-border trade? Please justify your answer.

1.2. Cost allocation methodology

As a general principle, tariff methodologies set tariff levels for each entry and exit point and the total allowed revenues have to be recovered according to the sum of revenues collected at each entry and exit point. As explained above, calculating a reference price for entry and exit points consists of:

- giving each point a “weight” to determine the share of the allowed revenue allocated to each point; or
- calculating their associated cost reference, if tariff methodologies are based on marginal costs for instance. The tariff methodology should allow determination of the total amount of revenue which has to be collected from cross-border entry and exit points (versus domestic points), as well as individually per point. The methodology for allocating allowed revenues from cross-border and domestic points could be harmonised across Europe or determined at a more local level depending on the advantages and disadvantages of each approach. Either way, different cost allocation methods can be in place, and used either to harmonise across the European Union or to be applied on a local basis and adapted to specific situations.

Such approaches are for example the:

- **Individual cost-based approach:** cost references for entry and exit points are calculated based on infrastructure value. When assets are used both for cross-border and domestic purposes, a non-discriminatory rule shall be used to split costs between the two types of uses and users, for instance, based on a pro-rata rule.

- **Matrix Cost methodology:** the entry and exit regulated tariff at cross-border interconnection points and at domestic points are calculated as to minimise the difference between network charges paid by agents and the costs computed for the different entry-exit paths. Path costs would then form a matrix with as many rows as exit points and as many columns as entry points. Entry-exit tariffs are calculated by minimising the sum of the squares of the differences between the cost index of every path and the sum of the corresponding entry and exit charges.
- **Distance to the virtual point:** the “virtual point” (reference node/theoretical location) is determined through the minimisation of the distance to entry/exit points weighted by respective transmission capacities. The costs are then allocated to the different entry/exit points based on the distance to the virtual point. This methodology results in different reserve prices for different interconnection points and thereby can provide for locational signals.
- **Equalisation approach:** for every point, the average individual cost is applied and the allowed revenue is divided by the total capacity sold at all entry and exit points of a system. This methodology results in the same regulated tariff for all the points.
- **Determination of cross-border and domestic target revenues based on LRMC:** this approach uses the same methodology as option 1 for setting the reference price (Section 1.1.1) to calculate LRMC for all cross-border and domestic entry and exit points. The TSOs total allowed revenues are then split into two ‘target revenue’ pots – one for cross-border and one for domestic – by pro-rating according to the LRMCs.

Throughout Europe, gas transmission systems have very different characteristics which can justify applying various cost allocation methodologies. Rules may be better addressed through Guidelines of good practice to allow that the applied cost allocation methodologies are **transparent, non-discriminatory** and **effectively contribute to market integration**. **Simplicity** could be considered as well an objective, when such guidelines are raised.

Question 11: Regarding the issue of cost allocation, do you consider that:

- i. No harmonisation is required.***
- ii. Methodologies for allocating a TSO’s costs between cross-border and domestic usage should be harmonised across Europe.***
- iii. Methodologies for allocating a TSO’s costs between cross-border and domestic usage should be established on a more local basis, in combination with guidelines of good practice.***
- iv. Are there any other ways of allocating the TSO’s costs in a harmonised or local way which should be considered, focusing on the allocation of costs between cross-border and domestic usage?***
- v. If cost allocation methodologies are to be set on a local basis, do you agree with the criteria set out above for assessing the methodologies?***

Question 12: Do you consider potential cross-subsidies as a concern in relation to the coexistence of different cost allocation methodologies?

Please provide justification.

2. Reserve price structure

The Framework Guidelines and the draft network code on CAM determine auctions to be the standard capacity allocation mechanism at interconnection points. Several capacity products of various durations, from within-day to annual ones, will be offered at auctions across the EU. It is therefore necessary to define the appropriate structure of tariffs, in particular on the reserve price structure. Revenue recovery and market design, and securing cost recovery, including CAPEX, should be taken into consideration so that reserve prices contribute to effective market integration, and do not frustrate the efficient use of infrastructure, cross-border gas trade and competition.

As previously explained, reserve prices shall be established according to a reference price. The purpose of this section is to give an overview of the potential options for deviating from the reference price for different firm capacity products. The impact of these will be analysed in more detail and consulted on in due course.

Establishing the right relationship between reserve prices for short- and long-term capacity services remains a key feature as discussed throughout the previous sections.

2.1. Reserve prices for firm long-term capacity services

ACER approach consists in setting reserve prices for long-term capacity services at the reference price determined on an annual accounting basis as defined in Section 1 of Part II.

2.2. Reserve prices for firm short-term standard capacity products

2.2.1. Option 1: Pricing short-term products proportionally to the yearly reference price

Under this option, all durations of capacity services (quarterly, monthly, daily, within-day) are priced proportionately to the tariff derived on an annual accounting basis (i.e. the yearly reference price). Thus, the reserve price of the quarterly capacity is one quarter of the yearly reference tariff, and the reserve price of the daily capacity product is equal to 1/365 of the yearly reference price.

2.2.2. Option 2: Pricing at short-run marginal cost level

Under this option quarterly and monthly products are priced proportionately to the yearly reference price, as under option 1 above. The reserve price for daily and within-day capacity is set at the estimate of the short-run marginal cost (SRMC) of providing capacity. This is likely to be lower than the LRMC, or even zero, since the capacity would already be in place when it comes to day-ahead or within-day allocation. The short-term reserve price is likely to be a common value for all interconnection points in one network.

2.2.3. Option 3: Pricing with multipliers lower than one for short-term products

Under this option quarterly and monthly products are priced proportionately to the yearly reference price, as in option 1 above. The reserve price for day-ahead and within-day capacity is set by applying multipliers lower than one. As a result, options 2 and 3 might be similar, but due to different underlying rationales.

2.2.4. Option 4: Pricing with multipliers higher than one for short-term products¹⁰

Under this approach, multipliers higher than one are applied to a tariff determined from an annual accounting basis, in order to determine the reserve prices for firm standard capacity products. The calculation of the multipliers follows two principles:

- the shorter the term of the standard product, the higher the multiplier;
- revenues associated with annual peak flow requirements, from a set of standard capacity products should, as far as practically possible, on aggregate, equal the revenues from non-profiled (flat) longer capacity bookings.

2.3. Seasonal factors

Seasonal factors can be applied either to option 1 in section 2.2 (Part II), if reserve prices are equal for all the products on average, or to options 3 and 4 in section 2.2 (Part II) (with discounts or multipliers being applied), also when reserve prices are considered on an average basis.

Reserve prices for short-term products are calculated using seasonality factors applied to the regulated tariff. The purpose is to have reserve prices increasing proportionally to the rate of use of the infrastructure, i.e. high when flow probability is high and low in seasons of low flows. The objective is twofold: providing incentives to shippers to use capacity efficiently and reducing the negative impact profiled capacity bookings may have on revenue. This means that reserve prices can be either higher or lower than the regulated tariff.

¹⁰ ENTSOG's approach as presented in the draft NC CAM

Question 13: Regarding the issue of reserve prices for short term products, do you consider that:

- i. No harmonisation is required.**
- ii. The rules should be harmonised, along the following lines:
_____ . Please provide justification.**
- iii. Guidelines of good practice would suffice, along the following line :
_____ . Please provide justification.**
- iv. Other option: _____ . Please provide justification.**
- v. I don't know.**

Question 14: What are your views on the proposed policy options? Would you suggest other options? Please provide your reasons.

Question 15: What are in your view the advantages/disadvantages of each of the options?

Question 16: Should seasonal factors be applied?

2.4. Reserve prices for interruptible and non-physical backhaul capacity

2.4.1. Option 1: Pricing interruptible/ non-physical backhaul capacity services at a discount in relation to the corresponding firm capacity service

Under this option the reserve price for an interruptible/ non-physical backhaul capacity service shall be priced at a discount, which reflects adequately the risk of interruption. A variant of this option envisages that different classes of interruption are used to reflect the different risk of interruption for each class.

2.4.2. Option 2: Pricing interruptible/ non-physical backhaul capacity services at zero

Under this option the reserve price for an interruptible/ non-physical backhaul capacity service shall be priced at zero. The outcome of the auction will determine the market value of the interruptible/ non-physical backhaul capacity service and the perceived risk of interruption. Thus, the value of a given interruptible/ non-physical backhaul capacity service is fully determined by the market. The information published by TSOs on planned and actual interruption of interruptible capacity shall be the basis for network users to appropriately value the interruptible/ non-physical backhaul capacity service.

2.4.3. Option 3: Pricing interruptible/ non-physical backhaul capacity services to corresponding firm capacity services with ex-post price reductions

Under this option the reserve price for an interruptible/ non-physical backhaul capacity service shall be priced at the same level as the corresponding firm capacity service. The affected network users shall receive an ex-post price reduction according to the extent of the interruption.

Question 17: Regarding the issue of reserve prices for interruptible and non-physical backhaul capacity, do you consider that:

- i. No harmonisation is required.**
- ii. The rules should be harmonised, along the following lines:
_____ . Please provide justification.**
- iii. Guidelines of good practice would suffice, along the following line:
_____ . Please provide justification.**
- iv. Other option: _____ . Please provide justification.**
- v. I don't know.**

3. Definition of the payable price

With auctions becoming the standard capacity allocation mechanism, a definition for the price to be paid by the successful bidders at the time of use of the capacity is necessary. The clearing price of the auction consists of the reserve price (regulated tariff) and, in case of demand higher than supply, the auction premium. It has to be noted that the regulated tariff may change over time. Especially where the time gap between the booking and the use of the capacity is substantial, it may be necessary to amend the payable price according to changes in the regulated tariff and/or inflation.

3.1. Option 1: Regulated tariff plus fixed auction premium

Under this option, the price payable determined in an auction is composed of a variable regulated tariff (reserve price) and an auction premium. The regulated tariff may be subject to adjustments in following regulatory periods to reflect various changes that impact TSO's allowed revenues, such as efficiency gains, network depreciation, inflation, investments, etc. Under this option, all network users take part in any positive or negative adjustments to ensure the recovery of the allowed revenues. It has to be noted that the final price payable for a longer term capacity service in the future is less predictable for shippers at the time of allocation. (Secondary markets may play a role and allow shippers to sell over the capacities they have valued differently in the first place.)

3.2. Option 2: Regulated tariff plus auction premium indexed to inflation

This option is equal to option 1, but differs regarding the auction premium. Under this option the auction premium is indexed to inflation.

3.3. Option 3: Clearing price indexed to inflation

Under this option the price payable is the clearing price determined in an auction adjusted on an annual basis taking into account inflation. Under this option all network users take part in the necessary adjustments regarding inflation. This option provides more certainty to shippers on the future development of the price payable for a longer term capacity services. Additional mechanisms might be necessary to ensure recovery of allowed revenues.

3.4. Option 4: Clearing price not indexed to inflation

Under this option the price payable is the clearing price of the auction. This price is fixed for the duration of the capacity service and not subject to adjustments. Shippers have total visibility on the future price payable for a longer term capacity service. However, additional mechanisms might be necessary to ensure recovery of allowed revenues.

Question 18: Would you suggest other options?

Question 19: What are your views on the proposed policy options? Would you prefer one option over the other? To what extent can this preferred option be uniformly applied? Please explain.

Question 20: Do you consider that different approaches could be applied for one bundled capacity product?

4. Recovery of allowed revenues

In any tariff approach, there is a potential for (unintended) difference between actual and expected revenues. Auctions as a standard capacity allocation mechanism can reduce the predictability of revenues, depending on the determination of the regulated tariff. The design of arrangements to deal with the resultant under- or over-recovery is therefore a key issue in the harmonisation of tariff structures. As auctions are supposed to reveal any scarcity of capacity, i.e. where demand for capacity is higher than the amount of capacity offered, under-recovery may become an issue, when there is no congestion and the regulated tariff does not reflect average costs. Generally, the majority of allowed revenue should be recovered through the standard capacity allocation mechanism. Several options are proposed below presenting mechanisms for recovery of the allowed revenues.

4.1. Option 1: Recovery of allowed revenues through a regulatory account

When the regulated tariff is calculated on the basis of historic and anticipated use of the interconnection point, and reflects average costs, revenues are secured if all the capacity is sold. In this case, the need for ex-post adjustments is minimised.

For this case, a regulatory account may assure that unintended differences of actual revenues as compared to allowed revenues are accounted for in the following tariff periods. Specifically, for each year, the actual revenues of the TSO are compared to the allowed revenues. Unintended shortfalls as well as surpluses are introduced into the regulatory account and integrated into future allowed revenues.

The regulatory account offers security for the TSO regarding the recovery of its allowed revenues and enhances tariff stability as extra revenues in one year may be balanced out by shortfalls in the following year.

4.2. Option 2: Recovery of allowed revenues on flows

Under this option, a forecast is made for the revenues and total flows through the system for the year based on capacity charges. If there is a forecasted under-recovery, for example if tariffs paid or capacity sold is lower than required, the amount would be divided by the expected total flows to give an ex-ante commodity charge. Each period (e.g. month) shippers will pay the commodity charge on each unit of gas they flow in that period.

As this is an ex-ante charge, it is unlikely that the total allowed revenue will be exactly recovered in the end by the combination of the auction revenue and commodity charge. Therefore any actual ex-post unintended over- or under-recovery at the end of the year can be subtracted from or added to the allowed revenues in the following year.

4.3. Option 3: Recovery of allowed revenues on capacity

This is generally equal to option 2, except that instead of levying the 'revenue-recovery charge' on flows, it will be levied on the sold capacity.

Question 21: Regarding the issue of recovery of allowed revenues, do you consider that:

- i. No harmonisation is required.**
- ii. The rules establishing this relation should be harmonised at EU level. Please provide harmonisation suggestions.**
- iii. Guidelines of good practice on the issue would suffice. Please provide guideline suggestions.**
- iv. Other option: _____ . Please provide justification.**
- v. I don't know.**

Question 22: Should there be a cap on the percentage of revenues to be recovered through a commodity charge? If so, then please provide proposals for how this could work in practice.

We also invite any further suggestion you may have concerning the Framework Guidelines on harmonised transmission tariff structures relating to issues which are either not considered in the scoping document or mentioned but not considered for further analysis. Please reason your answer.

5. Summary of the policy options

Policy area	Options
Regulated tariffs: the determination of a reference price	Option 1: Long Run Marginal Cost concept
	Option 2: Actual Costs Incurred concept
Reserve price structure for firm capacity products	Option 1: Pricing short-term products proportionally to the yearly reference price
	Option 2: Pricing at short-run marginal cost level
	Option 3: Pricing short-term products at a discount to the yearly reference price
	Option 4: Pricing with multipliers higher than one for short-term products
	Option 5: Seasonal reserve prices
Reserve prices for interruptible and non-physical backhaul capacity products	Option 1: Pricing interruptible/ non-physical backhaul capacity services at a discount in relation to the corresponding firm capacity service
	Option 2: Pricing interruptible/ non-physical backhaul capacity services at zero
	Option 3: Pricing interruptible/ non-physical backhaul capacity services at the same level as the corresponding firm capacity services with ex-post price reductions
Recovery of allowed revenues	Option 1: Recovery of allowed revenues through a regulatory account
	Option 2: Recovery of allowed revenues on flows
	Option 3: Recovery of allowed revenues on capacity
Definition of the payable price	Option 1: Regulated tariff plus fixed auction premium
	Option 2: Regulated tariff plus auction premium indexed to inflation
	Option 3: Clearing price indexed to inflation
	Option 4: Clearing price not indexed to inflation

ANNEXES

Definitions

	Definition
Efficient gas trade/trading	A transaction or transactions leading to a market result where (wholesale) gas prices in adjacent markets fully align as a consequence of price arbitrage possible for most/ all products.
Allowed revenue	Amount of money set or approved by the NRA that a TSO is allowed to recover within a defined period of time for providing the regulated service.
Clearing price	With regard to an auction means an auction in which all successful bids shall be payable at an identical price which is equal to the price of the lowest successful bid resulting from a given auction.
Contractual pancaking	The adding-up of transaction costs of multiple capacity booking transactions at several IPs.
Price pancaking	The adding-up of the capacity charges of multiple capacity bookings at several IPs.
Matrix approach	A methodology for calculating entry and exit capacity reserve prices at cross-border interconnection points and at domestic points minimising the difference between network charges paid by various agents including the costs computed for the different entry-exit paths that may be involved.
Reserve price	Minimum eligible floor price in the auction, being equal to the regulated tariff.
Regulated tariff	Either the tariff as calculated using the methodology set and/or approved by the NRA, or the tariff set and/or approved by the NRA, or both. The regulated tariff is derived from the reference price.
Reference price	Price which sets the reserve price for the firm long-term reserve price for an annual product taking into account the forecasted capacity booking behaviour and is used as the basis for setting other reserve prices such as products of shorter duration, short-term capacity and interruptible capacity.
Regulatory period	Period during which a tariff structure is valid. At the end of a regulatory period, the methodology is assessed and may be adjusted to be more efficient.
Regulatory account	Account aggregating over and under-recoveries on an annual basis aimed at filling the gaps between actual and allowed revenues.
Flows	Volumes of gas nominated at entry and exit points.
Revenue recovery	Recuperation of the allowed revenue determined by the regulatory framework and covering costs and remuneration of transmission system operators.

Abbreviations

Abbreviation	Definition
TSO	Transmission System Operator
DSO	Distribution System Operator
ENTSOG	European Network of Transmission System Operators for Gas
FG	Framework Guideline
NC	Network Code
CAM	Capacity allocation mechanism
IIA	Initial Impact Assessment
NRA	National Regulatory Authority
IP	Interconnection point
LRMC	Long-run marginal cost
SRMC	Short-run marginal cost
VP	Virtual point