EUROPEAN
COMMISSION

Brussels, 16.3.2017
SWD(2017) 107 final

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

COMMISSION REGULATION (EU) .../... of XXX establishing a Network Code on Harmonised Transmission Tariff Structures for Gas and

COMMISSION REGULATION (EU) .../...of XXX establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems and repealing Commission Regulation (EU) No 984/2013

{C(2017) 1657 final}
{C(2017) 1660 final}
{SWD(2017) 106 final}

1 Contents

1 INTRODUCTION

Europe is facing increasing competition from rapidly growing economies around the globe. Competitive energy prices for European companies will be crucial in keeping competitive advantages. In Europe, natural gas is used as primary fuel in almost all Member States covering ~25% of primary energy consumption. It is thus essential to ensure this commodity reaches consumers at the best possible price. Research however shows that the total potential annual net welfare losses (on the wholesale level) due to the current lack of market integration amounted to up to 1.3 billion euros in 2014[1].

The European Union (EU) has committed itself to completing the internal market in gas by building integrated and interconnected markets that allow all market players to compete on a level playing field thereby creating a sustainable framework for security of supply. On 24 October 2014 the European Council noted "the fundamental importance of a fully functioning and connected internal energy market. Recalling the March 2014 conclusions on its completion, the European Council stressed that all efforts must be mobilised to achieve this objective as a matter of urgency". In its February 2015 "Energy Union Strategy" [2] the European Commission reiterated that the full implementation of the Third Energy Package[3] and the rapid adoption and implementation of respective Network Codes (NCs) and Guidelines are a precondition for the creation of that Energy Union[4].

Improving competition in natural gas, which is a network industry, hinges primarily on granting access to infrastructure to all network users[5] in a transparent and non-discriminatory way, which also relates to the way transmission tariffs are set by Transmission System Operators (TSOs). Since it is usually not economical to duplicate gas transport infrastructure – in particular in the case of pipelines within a given transmission system – rules for non-discriminatory third party access are a key element of market functioning.

Several steps have been taken towards the improvement of the EU gas market. The Third Energy Package foresees the introduction of harmonised technical rules at EU level and subsequently the Commission has already adopted a number of gas network rules on congestion management, capacity allocation, balancing as well as interoperability and data exchange[6].

EU-wide NCs are introduced by the Third Energy Package, specifically in Article 6, 7, 8 and 23 of Regulation (EC) No 715/2009 on conditions for access to the natural gas transmission networks (Gas Regulation)[7], with the objective to set, in specific areas, detailed rules on the coordinated technical or commercial operation of gas and electricity transmission networks. Network codes are still adopted under the Comitology procedure[8] in the form of an EU Regulation and supplement the Gas Regulation which they form an integral part of. Transmission tariffs are the fees TSOs charge to transport gas within the EU high-pressure gas network. Historically the share of transmission has been 5-10% of the commodity costs. In

[1] ACER MMR 2015 assessed the potential net welfare gains that could have been captured in 2014 by optimising unused cross-border capacities by exploiting wholesale spreads between markets, http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_Market_Monitoring_Report_2015.pdf

[2] "A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy", COM (2015) 80 final.

[3] The Third Energy Package is the name given to a suite of 3 regulations and 2 directives adopted in 2009 which set out the latest general regulatory framework for the EU electricity and gas sectors.

[4] See page 9 of COM (2015)80 final.

[5] E.g. incumbent and new entrant suppliers, traders and large industrial customers.

[6] See below section 3.1 and for more detail Annex 5.

[7] http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1436532289808&uri=CELEX:32009R0715

[8] According to the Regulatory Procedure with Scrutiny which has so far not been aligned with the Lisbon Treaty.

recent years however gas demand has substantially fallen in the EU[9] and this, together with falling gas prices[10], has led to effectively a doubling of the relative cost of transmission to well over 10% of the commodity price. In addition to that, gas transmission and gas infrastructure development is to a very large extent 70-75% a cross border activity, both factors calling for an in depth study on "rules for harmonised tariff structures" as called for by the Gas Regulation.

Addressing the issues of transmission tariff structures for gas (TAR) across EU Member States and the allocation of incremental gas transmission capacity (INCR, i.e. capacity that has to be added to the system[11]) are therefore important steps in creating an EU regulatory framework that is necessary to achieve the market integration the EU has targeted. Such further technical rules at European level are called for in the Third Energy Package legislation and are necessary because tariff calculation methodologies remain largely non-transparent and the resulting tariffs are often difficult for network users to discern and compare. Similarly, the lack of a clear and harmonised regulatory framework defining when and how market based investment into cross-border gas transmission infrastructure may be triggered by network users has produced inefficient processes and outcomes. Both issues are crucial in the context of developing an integrated EU gas market.

To balance the dual objective of presenting key issues while also addressing technical elements this impact assessment consists of a non-technical main part and technical annexes setting out the relevant details.

The present impact assessment considers the impacts of the following problem areas in the context of tarification: i) how TSOs' revenues are split between various products; ii) how the tariffs are calculated and adjusted; and iii) what processes are employed to calculate tariffs and which information needs to be made available to customers and network users. This impact assessment also has regard to stakeholders' comments raised vis-à-vis the broader charging logic currently used in the EU gas transmission sector.

The TAR NC and INCR proposals focus, respectively, on improving access to gas transmission systems via more transparent, predictable and less discriminatory transmission tariff structures and a new process of testing for and allocating new infrastructure according to market principles.

2 PROCEDURE

1.1 Identification

(1) Lead DG: DG ENER

(2) Associated DGs and services: SG, LS, DG CLIMA, DG COMP, DG GROW, DG EMPL, DG ECFIN, DG ENV, DG RTD and JRC.

(3) Agenda planning/WP references: 2014/ENER/022 and 2014/ENER/023

[9] From around 500 billion cubic meters (bcm) to 409 bcm in 2014.

[10] The quoted price of gas at e.g. the largest EU marketplace (the Dutch TTF hub) fell from over EUR 20/MWh to EUR 13/MWh in March 2016.

[11] The Capacity Allocation Mechanisms Network Code focused on allocation procedures for existing capacity. It was however clear from the outset that similar harmonised rules would also be necessary in case capacity demand at a given interconnection point was larger than the existing capacity. Such capacity can either be an increase of existing capacity at an existing interconnection point, typically achieved by additional compression, or the creation of entirely new interconnection points e.g. via a new large-scale multi-country pipeline project.

1.2 Organization and timing

1.2.1 Drafting process

As with the other network codes, in the process of developing the harmonised rules on TAR and INCR there have been numerous and extensive consultations, workshops and studies, aimed at understanding the nature and the extent of the problem and the possible benefits and drawbacks of the various options. Since June 2012 an intensive study and a set of consultations have been conducted by the European Commission (EC), the Agency for the Cooperation of Energy Regulators (ACER) and the European Network of Transmission System Operators for Gas (ENTSOG)[12].

The aim of the impact assessment is to examine the various approaches to tackling the complex and nationally determined matter of transmission tarification and investment in incremental capacity.

In short, three main stakeholders – the Commission, the representative bodies of regulators (ACER[13]) and network operators (ENTSOG[14]) – each carry out respective phases of the network code development work. Details on the drafting process can be found in Annex 1 while more information on the legal basis is included in section 3.3.

Contrary to other network codes, in the case of the TAR NC, ACER did not provide a recommendation to the Commission to adopt the text as proposed by ENTSOG. As ACER has already adopted harmonising Framework Guidelines on Tariffs in February 2013, its refusal to endorse the ENTSOG proposal cannot be construed as a general move against further harmonisation but it was a signal that national regulatory authorities (NRAs) preferred to keep their autonomy particularly in relation to certain elements of tariff setting[15], which the ENTSOG proposal suggested to limit. This factor will be considered when assessing the options at hand.

1.2.2 Impact Assessment

The impact assessment has been prepared by DG Energy with input from ACER and ENTSOG in their respective roles as authors of the Framework Guidelines (FGs)[16], Guidance Paper[17], the TAR NC and the amendment to the CAM NC. DG Energy also received contributions from an Inter-service Steering Group where representatives from the following Directorates General and Services were invited: the SG, LS, DG CLIMA, DG COMP, DG GROW, DG EMPL, DG ECFIN, DG ENV, DG RTD and JRC.

The Impact Assessment takes into account recommendations received from the Regulatory Scrutiny Board.

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[12] The respective documents can be downloaded under the following links:
http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Pages/Harmonised-transmission-tariff-structures.aspx
http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Documents/Justification%20document%20Policy%20Options%20for%20Harmonised%20Transmission%20Tariff%20Structures.pdf
http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Pages/Incremental-Capacity.aspx
http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Documents/Impact%20assessment%20of%20policy%20options%20on%20incremental%20capacity%20for%20EU%20gas%20transmission.pdf

[13] Agency for the Cooperation of Energy Regulators, a Commission Agency established by Regulation (EC) No. 713/2009.

[14] European Network of Transmission System Operators for Gas.

[15] Particularly tariff methodologies.

[16] ACER developed the Framework Guidelines for the TAR NC.

[17] ACER developed a Guidance Paper for INCR, i.e. for the amendment of the CAM NC on incremental and new capacity.

1.3 Consultation and expertise

In the development process ACER has undertaken a number of public consultations including on their impact assessment. ENTSOG organised a number of public workshops, established working groups with stakeholders and conducted a number of public consultations which included an impact assessment of the harmonisation of the tariff setting year[18].

In addition, the proposed measures and their impacts were discussed in the "Madrid Forum", the EU regulatory forum where national governments, the Commission, NRAs, TSOs, gas traders, consumers, network users, and gas exchanges debate current regulatory issues in the gas sector. Furthermore, DG Energy has organised various meetings with Member State representatives to discuss the NCs and their impacts in the course of its development. Details on the numerous consultations, workshops and studies can be found in Annex 1.

1.4 External expertise

External expertise was used at all stages in the preparation of the TAR NC and INCR. In 2009, before launching the process, DG Energy commissioned a study with regard to problems that gas companies encounter in trading across borders due to the respective rules on gas network tariffs[19] (KEMA report I), which was followed in 2013 by a study on entry-exit regimes in gas (KEMA report II) [20]. Furthermore, in 2011 the Commission financed a study of "THINK" on EU Involvement in Electricity and Natural Gas Transmission Grid Tarification[21]. Those studies fed into the initial policy and problem identification discussions.

Furthermore, ACER has prepared a Justification Document for the policy options it has taken as regards the tariff Framework Guidelines[22] and a study which provided an impact assessment of the policy options on Incremental Capacity for EU gas transmission[23]. ACER was also assisted by an appointed expert group of stakeholders[24]. ENTSOG has drafted supporting documents, an impact assessment of the harmonisation of the tariff setting year and provided data from the stakeholder support process which included the feedback from traders, producers, suppliers, end users, storage operators and a number of trade associations[25]. Finally, in 2015 DG Energy commissioned a study on the impact assessment for rules on harmonised transmission tariff structures for gas and allocation of new gas transmission capacity[26]. Annex 4 provides details of the analytical concepts and models used in the assessments as the basis for the considerations of the impact assessment.

[18] The respective documents can be downloaded under the following links:
http://www.entsog.eu/publications/tariffs; http://www.entsog.eu/publications/incremental-capacity

[19] KEMA Report, Study on Methodologies for Gas Transmission Network Tariffs and Gas Balancing fees in Europe, Tender No: TREN/C2/240-241-2008, submitted to the European Commission, Directorate-General Energy and Transport, December 2009 (hereafter: "report by KEMA").

[20] http://ec.europa.eu/energy/en/studies?field_associated_topic_tid=42

[21] Study for the Commission by "THINK": EU Involvement in Electricity and Natural Gas Transmission Grid Tarification, January 2012, http://www.eui.eu/Projects/THINK/Research/Topic6.aspx

[22] http://www.acer.europa.eu/gas/framework%20guidelines_and_network%20codes/documents/justification%20document%20policy%20options%20for%20harmonised%20transmission%20tariff%20structures.pdf

[23] http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Documents/Impact%20assessment%20of%20policy%20options%20on%20incremental%20capacity%20for%20EU%20gas%20transmission.pdf

[24] http://www.acer.europa.eu/The_agency/Organisation/Expert_Groups/EG_on_Harmonised_Gas_Tariff_Structures/Pages/default.aspx

[25] http://www.entsog.eu/publications/tariffs ; http://www.entsog.eu/publications/incremental-capacity

[26] http://ec.europa.eu/energy/en/studies?field_associated_topic_tid=42

3 PROBLEM DESCRIPTION[27]

1.5 Context of the problem

In the EU, natural gas is mostly an imported energy source which reaches the EU either via pipelines or LNG-shipments. The EU's gas import dependency is over 65 % and will likely grow further in view of depleting domestic production[28]. As set out above, the relative share of transmission tariffs in the final price of gas has dramatically increased recently[29] from 5-10 % of the natural gas prices paid by final industrial consumers to well over 10%. Thus with such higher relative share their level and structure has even a larger impact on the competitive position of customers, on gas trade in general and on infrastructure investments[30]. The implementation of the Third Energy Package and the EU-wide network code will further liberalise European gas markets and create stronger market integration resulting in an increase in cross-border trade. There is also a significant cross-border dimension as, based on 2014 gas production, consumption, import and export data, at least 70-75% of the gas consumed in Europe crosses national borders at least once, i.e. is imported from other Member States or third countries[31].

To transport gas through the network – including across national borders – to consumers, shippers have to book transport capacity with "unbundled" transmission system operators[32] which must comply with regulated third-party access (TPA) rules and those on tariffs and are overseen by regulatory authorities (NRAs). There are high-level European rules laid down in the Gas Directive[33] and the Gas Regulation, while – as prescribed by the Gas Regulation – the more detailed rules aimed at harmonising the technical and operational aspects of the transmission of natural gas are being laid down in network codes[34]. Rules on tarification and incremental capacity are not yet set out in any such technical EU-level rules but only at national level.

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[27] Several shippers have pointed to the need for a fundamental redesign of the EU gas transmission tariffication structure in the course of developing the draft TAR NC. They argued that it is in particular long-term capacity bookings (partly excessive in view of declining demand) that are sustaining the convergence in hub prices in North-West Europe which situation will however end once those bookings run out. Their proposal was at first a reset of such contracts or alternatively a new tariffication framework – akin to that in electricity – where there is effectively only congestion-based charging at interconnection points (with system costs recovered at other system points). Annex 12 briefly describes the issue. However, this Impact Assessment does not deal with the matter in detail because the proposal means a fundamental redesign of the EU gas transmission structure which would require an amendment of the Gas Regulation and is thus not a Comitology procedure involving network codes which are the subject of this paper.

[28] For further summary information on the import dependency and structure of the EU gas market see Annex 8.

[29] This is due both to lower demand and prices while TSO revenues remained stable (due largely to guarantee returns through regulatory contracts).

[30] Study of THINK on EU Involvement in Electricity and Natural Gas Transmission Grid Tarification, page 1 (see footnote 18).

[31] EC own estimate based on 2014 market data.

[32] Unbundling is the effective separation of generation and supply and transmission activities of vertically integrated utilities.

[33] Directive 2009/73/EC concerning common rules for the internal market in gas, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0094:0136:en:PDF

[34] In August 2012 *rules to reduce congestion in European gas transmission pipelines* (Commission Decision on CMP guidelines; OJ L 231, 28.8.2012, p. 16–20, http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32012D0490) were adopted aiming to reduce contractual congestion in gas pipelines. They require companies to make use of their reserved capacity or risk losing it. Unused capacity is placed back on the market.

In October 2013 the Commission Regulation (EU) No 984/2013 establishing the *Network Code on Capacity Allocation Mechanisms* (CAM NC, OJ L 273, 15.10.2013, p. 5–17, http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32013R0984) in gas transmission systems was adopted which requires gas grid operators to use harmonised auctions and products when selling existing transmission capacity and giving access to pipelines. Additionally the NC CAM foresees the concept of bundling and virtual interconnection points by which

In addition to the aforementioned, the Gas Directive and Gas Regulation introduced fundamental new market logic: a move away from the rigid, physical "point-to-point"[35] system consisting of fixed routes and exclusive (monopolistic) supply relationships, albeit with more easily discernible costs. The new paradigm in the EU gas sector is the "entry-exit" system which allows shippers to access capacity across the entire network with a view to allowing the creation of a competitive market. This entry-exit system, which provides producers and shippers with access to routes, trading points and ultimately customers is consequently much more complex and makes it more difficult to discern a strictly cost-based tariff. In an entry-exit system shippers are not entitled to any particular set of gas molecules, but to contractually determined amounts and qualities of gas and it is up to the TSO to arrange for the most optimal flows within the gas transmission network. Annex 9 provides more detail on the entry-exit system.

The rules concerning transmission tariffs and the allocation of capacities are mainly in the Recitals (7, 10, 11 and 19), Article 13 and Article 16 of the Gas Regulation, which specifically deal with conditions for access to Europe's transmission grids and the already adopted Congestion Management Procedures (CMP) guidelines and the CAM NC. The TAR NC and INCR proposals are a means towards implementing these rules. An overview of what is laid down in the Gas Regulation with regard to TAR and INCR can be found in Annex 5.

The Gas Regulation in particular lays down high level criteria for the tariffs to the gas networks. In Article 13 of the Gas Regulation it is established that:

"tariffs, or the methodologies used to calculate them, shall be transparent, take into account the need for system integrity and its improvement and 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. Tariffs, or the methodologies to calculate them, shall be applied in a non-discriminatory manner."

In summary, the legislation sets out that tariffs should be transparent, cost-reflective and non-discriminatory. In lieu of harmonised EU-level rules these high level tariff setting criteria are transformed into more specific national rules in different ways in the EU, allowing national specificities to be taken into account. This is mainly due to the differences in the size, relevance and role of the national gas markets[36] as well as to the architecture, size and conditions of the national gas transmission systems[37] in the different Member States of the EU. Given these objective differences in the national transmission systems, Member States historically developed different national tariff systems. The heterogeneity of the different elements of the national tariff regimes is described in detail in Chapter 5 under the Baseline Scenario as well in Annex 6.

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entry and exit points between systems are combined to allow more efficient shipping of gas between the hubs of entry-exit zones.

In March 2014 the Commission Regulation (EU) No 312/2014 establishing a *Network Code on Gas Balancing of Transmission Networks* (NC BAL, OJ L 91, 27.3.2014, p. 15–35) was adopted which requires the establishment and development of balancing regimes based on the short term gas markets creating an economically efficient system to balance gas transmission networks. The essence of that Code is the full implementation of the entry-exit system concept and short term trading at virtual trading points in every market area.

In April 2015 the Commission Regulation (EU) 2015/703 establishing a *Network Code on Interoperability of Gas Transmission systems* (NC IO, OJ L 113, 1.5.2015, p. 13–26, http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1430734293842&uri=OJ:JOL_2015_113_R_0003) was adopted which will facilitate the exchange of gas between different transmission networks. It sets out operational rules such as standards for interconnection agreements between transmission system operators (TSOs), on gas quality and odourisation, and harmonises units and data exchange procedures.

[35] A physical network point is typically a cross-border interconnection point, connecting adjacent systems, or connecting production, LNG, storage or downstream consumption (distribution) systems to the transmission system.

[36] E.g. whether a Member State is net gas producer or net gas consumer.

[37] E.g. a system which was design to supply domestic customers or to transit gas through the country.

To provide an overall context for the TAR and INCR policy initiatives, Annex 5 gives an overview of the gas network codes and describes the interrelation between the current proposals and the already existing market rules.

1.6 Nature and extent of the problem

Transmission tariffs at network points vary across the EU. The tariff level at a given interconnection point (IP) is a function of the regulated revenues the TSO is allowed to collect, technical factors[38], and the tariff structure determining the proportion of the regulated revenue payable at each point on the network taking also into account different kind of transport capacity products.

This impact assessment provides a largely qualitative overview of the problems related to the way transmission tariff systems are designed and implemented today across the EU as the lack of transparency in the current transmission tariff system does not enable gathering reliable quantitative evidence. One of the expected outcomes of the present proposals will thus precisely be to increase the transparency and comparability of tariff setting methodologies and the tariffs, thus allowing broader quantification.

Specific complaints and discussions that have come to the attention of DG Energy encompass a range of issues. These include in Ireland a claim that the revised tariff structure for entry/exit to the transmission system, as implemented by the independent National Regulatory Authority with effect from 1 October 2015, is disadvantageous to one proposed developer; Portugal questioning the differences between cross-border and domestic exit tariffs in Spain; discussions between Italian and Austrian national regulatory authorities on the cost allocation methodology applied to the Austrian entry-exit system and the calculation of tariffs for conditional capacity at the French entry point Oltingue in the framework of the open season procedure[39] for the development of South-North gas interconnection capacity[40]. Particularly high exit tariffs in Central and South-Eastern European countries in particular with the purpose of commercially disabling the flow of domestic gas across borders or making transit flows comparatively more expensive to domestic flows are also relevant in this context. This is a sign of national tarification structures that are currently divergent in the way they interpret and implement the provisions of the Gas Regulation which in turn is an impediment to the further development of the internal market.

There is a general perception of discriminatory tariff regimes by stakeholders, which became apparent through their responses to the public consultations. Almost half of the respondents to the ENTSOG stakeholder consultation of 2014 called for more transparency of the tarification systems.

Market players operating in regulated segments such as gas transmission have no influence on tariffs levied on them. Therefore it is essential to ensure that these tariffs are developed based on the same procedure and logic across the EU to avoid that Member States favour specific customer groups against others, thus harming the internal market. For example the use of tariffs which are differentiated for particular consumer groups can be discriminatory and effectively create a barrier to entry. In some Member States tariffs are differentiated based on the maximum capacity of the connection or by the annual consumed volumes. Such tariffs may be

[38] Factors such as the geographical and topological characteristics of the network, the extension of the system, the terrain, climate, and general macro-economic conditions affecting investment costs; the initial investment cost, the age of the network, and the depreciation regime; NRA/TSO tariff-setting methodologies and TSO cost allocation strategies and rules or demand and supply characteristics.

[39] Open Season is a procedure – used in a variety of forms – as a way of providing new infrastructure. Generally the process consists of an open assessment of market demand for a specific proposal and a subsequent phase of capacity allocation.

[40] Reverse flow from the Passo Gries Interconnection Point to Oltingue Interconnection Point.

discriminatory against smaller network users and could pose a barrier to market entry[41].

Therefore, in an ideal situation, stakeholders i) know and understand why they are charged certain tariffs and ii) trust that these tariffs are the most appropriate to fulfil the objectives set out in EU legislation. That in turn shall lead to the most appropriate allocation among market players of the cost of operating the EU's gas transmission network which is in the range of EUR 10 bn. While today, before having implemented the steps set out in these proposals, we cannot quantify how much of this overall cost is not allocated correctly, we are aware of the significant apprehension – due to their immediate concerns over transparency – of market players of being on the losing end of the current tarification procedures. Improving upon those is thus already of significant value to ensure that the EU gas market can function efficiently. In addition, lack of transparency and consistency in tariff setting is seen as a major challenge to implementing cross-border mergers of entry-exit zones, a key element of the Gas Target Model[42] for developing a better functioning EU gas market.

According to the broad consultations carried out throughout the development process, the main difficulties energy companies face with regard to tariffs they are paying to get access to cross-border transmission capacity are related to the lack of transparency, adequate consultation, consistency, predictability and objectivity of tariffs. These translate into a sub-optimal functioning of the market and constitute barriers to cross-border trade of gas in the EU.

The main problems related to the current national transmission tarification regimes and the systems existing for investing into incremental capacity, can be grouped under the following main areas:

- Lack of transparency of the existing regimes (tariff setting process and data publication);
- Discrimination of different groups of network users;
- Suboptimal, not market-based process to offer incremental capacity.

These are not exclusive – the transparency issues for instance have an influence on the others. With the general lack of transparency on tariff structures today it is not possible to conclude whether the resulting tariffs meet the general principle of objectivity (cost-reflectivity, non-discrimination, no cross-subsidies) enshrined in the Gas Regulation.

The above mentioned problems and their reasons are explained in more detail in the specific sections under problem identification and in the related annexes.

1.6.1 Lack of transparency of the existing tariff systems

Transparent tariff structures and regulatory processes as well as predictable tariffs are crucial for a well-functioning, competitive market. They allow for a predictable environment which facilitates and reinforces network users' commitment. However, 12 traders (33% of all respondents) signalled in the ENTSOG 2014 consultation that their ability to define a booking strategy is currently limited by the lack of access to crucial information.

The current regulatory framework leaves a significant margin of discretion to the national level for defining tariff structures. The origins of these diverse structures are varied, and potentially justifiably related to factors such as the maturity of the national gas system, supply and demand characteristics, or topological differences. Thus it is crucial that justification is provided via higher transparency and more consultative processes to instil confidence in the system. Besides this heterogeneity, the lack of transparency and consultation makes it difficult to get to a common footing on concepts and definitions and makes it hard for market participants to

[41] Report by KEMA, see footnote 18.

[42] The principles considered as the Gas Target Model were set out in the CEER Vision for a European Gas Target Model, in December 2011 and were updated in the ACER document on European Gas Target Model Review and Update, published in January 2015.

"predict" tariffs or compare them.

By way of example in almost all Member States shippers booking capacity don't know the price of this capacity ahead of the auction where they buy the capacity. Shippers are currently not only complaining that not enough transparency is provided when tariff structures are defined but also about the limited visibility on how the tariff levels might evolve in the following period as in most of the Member States the calculation of the allowed revenues of the TSOs is not published. Network users hence do not always know the tariffs they are expected to pay when bidding for transmission capacity.

It is crucial that TSOs and NRAs provide network users with relevant information in order that they can understand and compare tariffs and thereby optimise their market behaviour. However, existing publication requirements on tariff structures vary between Members States, provide limited information and their timing is not aligned with other relevant time plans setting the framework for trading gas across Europe.

1.6.2 Possible discrimination of different groups of network users

From a network user's perspective, tariffs should reflect the cost incurred in providing the specific transmission service in such a way that discrimination between users are minimized. In the context of the tariff setting mechanisms, avoiding or minimising discrimination means avoiding situations where the cost of certain investments which benefit a specific group of network users, is pushed to another group of network users. The most common example is transit shippers paying higher tariffs for investments that benefit domestic consumers (or vice versa).

Examples of specific problems are questionable tariff setting practices possibly differentiating in a discriminatory manner between different sources of gas (domestic production, pipeline import and LNG), preventing or making particularly expensive the export of domestic gas, favouring domestic consumers over transit consumers and vice versa in several Member States. Different tariff can apply to shippers booking longer or shorter term capacity products or between cross-border/transit and domestic bookings.

Exceedingly high cross-border exit tariffs have for instance been identified in the strategically important Central and South Eastern European gas regions. This is one of the regulatory barriers to cross-border trade and market integration which needs to be resolved in parallel with putting in place the necessary infrastructure to ensure that such tariffs don't neutralise the commercial viability of gas coming from new, diverse sources to the region.

1.6.3 Suboptimal, non-market based process to offer incremental capacity

The problems related to incremental capacity concern the investment decision of pipeline operators and the sharing of the volume risk of that investment. In particular with regard to pipeline projects spanning over different Members States, the allocation of risks requires common principles in order to provide a sound decision making process for cross-border pipeline projects. The absence of a clear and stable regulatory framework for decisions on new pipeline investments creates an obstacle to the efficient investment into infrastructure.

By way of example, almost all large-scale cross-border gas transmission infrastructure in the EU has been developed under an exemption regime that, albeit subject to certain conditions, allows for the elimination or limitation of third-party access. The exemption approach – set out as an alternative in the Gas Directive – has thus effectively become the norm with the result that projects are built in a way largely curtailing the application of the fundamental principles on third-party access, unbundling and tariffication. The INCR proposal thus aims at establishing a sound system for developing (complex) cross-border capacity in case there is market demand for it in a regulated framework allowing those three key principle to apply.

Similarly to tariff setting, rules for the allocation of new or incremental capacity greatly vary across the EU. As mentioned above, the CAM NC harmonised only the rules for existing capacity. However, it was clear that sound rules for offering and allocating new and incremental capacity in case there is market demand needs to be established across the EU. In addition, coordination between TSOs and national regulators needs to be improved leading to efficiency gains in the process of offering and allocating such capacity.

Having a consistent approach for existing and future transmission capacity remains an important request from stakeholders. This was clearly voiced also during the preparation of the CAM NC and the Gas Target Model. It has been always recognised that incremental capacity[43] needed to be addressed in a compatible manner with existing capacity.

The need for increased coordination between TSOs and NRAs regarding cross-border (and cross-TSO) investments and projects is widely acknowledged and was already identified years ago. European energy regulators grouped in ERGEG published already in 2007 a non-binding Guideline of Good Practice with regard to the so called "open season procedures" for infrastructure investments. The guideline of good practice aimed at voluntary harmonisation of the relevant national rules, meaning also that there is still no legally binding procedure to solicit the offer of incremental capacity across borders.

1.7 Subsidiarity and the varying situation of Member States

1.7.1 Necessity of EU action and EU added-value

In the Third Energy Package it was explicitly foreseen by the legislator to further complement the rules by more technical market design and network operation provisions. This includes also more detailed EU regulation on TAR and INCR in the form of binding network codes. Even though there are principles laid down in the Gas Regulation aiming at realising non-discriminatory capacity allocation procedures and tariffs by all TSOs, these high-level principles do not describe the technical details needed to put such mechanisms and tariffs in place. The reason is that the European legislator expects more detailed rules on capacity allocation and harmonised transmission tariff structures to be laid down in the form of network codes according to Article 8(6)(g) and 8(6)(k) of the Gas Regulation[44].

Network codes are – according to Article 6(11) of the Gas Regulation – measures designed to amend non-essential elements of the Gas Regulation by supplementing it.

The Commission's initiative to adopt a TAR NC and INCR is fully in line with the principle of subsidiarity as it only sets the minimum degree of harmonisation to be met to achieve non-discriminatory and transparent network access conditions necessary for an internal market in natural gas, which may then be applied in the light of differences between national gas systems. Article 13(2) Gas Regulation already foresees that TSOs and NRAs should actively pursue the convergence of tariff structures.

[43] I.e. possible future increase in technical capacity or possible new capacity created where none currently exists.
[44] Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005.

4 OBJECTIVES

This chapter describes the general objectives and based on them defines the specific objectives. The operational objectives, as they are specific to the analysed options, are outlined in Chapter 7, following the identification of the preferred option. Annex 10 provides an objective tree to provide greater clarity of the different layers of defined objectives.

1.8 General objectives

The general objective is to create the necessary framework for TAR and INCR rules to achieve the objective of a well-functioning, efficient and open internal gas market. This objective is enhancing the following general EU Treaty goals:

- to establish a functioning internal market in gas, in the spirit of solidarity between the Member States (Article 3(3) TEU; Article 194(1) TFEU);
- to ensure security of energy supply in the Union (Article 194(1)(b) TFEU);
- to promote the interconnection of energy networks (Article 194 (1)(d) TFEU).

1.9 Specific objectives

The specific objectives of European rules on TAR and INCR are aiming at facilitating trade and competition through a well-functioning and transparent wholesale market through:

- improving transparency in the gas market;
- ensuring a level playing field for network users and thereby ensuring cost-reflective transmission tariffs; and
- providing incentives for investments and maintaining or creating interoperability for transmission networks.

The specific objectives should be achieved through identifying the most relevant parameters of national tariff setting approaches for establishing harmonised rules and establishing the right, most efficient degree of harmonisation of each parameter, taking into account inter alia political feasibility.

5 POLICY OPTIONS

This Chapter introduces the policy options considered for the development of the TAR NC and INCR proposals. To tackle the issue identified in Chapter 3 the following options will be assessed in further detail:

- **Option 1:** no further EU action (*baseline scenario*)
- **Option 2:** Basic level of harmonisation
- **Option 3:** Advanced level of harmonisation

In the development of the current impact assessment for TAR and INCR the most important parameters were identified based on their relevance for the national transmission tariff setting systems and for cross-border gas trade.

- Provide and enhance transparency of the tariff setting process and data publication:
  - determination of the TSOs' allowed revenue (i.e. the maximum level of revenues set or approved by the NRA that a TSO is expected to obtain within a defined time period for providing the regulated services; it is the basis for the overall tariff level);
  - network users' access to relevant information (relevant are e.g. tariffs, calculation of allowed revenues, reserve prices for auctions and the timing of their publication);
- Ensure a level playing field for the different groups of network users:
  - reference price (value of a capacity product with one year duration for each entry and exit point; forms the basis of the capacity tariffs); relevant are the choice of the reference price methodology to calculate the reference price, the entry-exit split (i.e. the extent to which TSOs' revenue is allocated to entry points or exit points), the used approach in a multi-TSO entry-exit system (i.e. a system where more than one TSO is active), discounts applied to the transmission tariffs to inject into or withdraw gas from storage facilities and secondary adjustments to the tariffs;
  - tariffs for different transmission capacity products (i.e. for short-term and interruptible capacity[45] products);
  - payable price (i.e. decision between the "floating price" approach where the shipper pays the transmission tariff determined for the year of use of the capacity and the "fix price" approach where the shipper pays the transmission tariff determined at the time of buying the capacity)
- Ensure optimal, market-based processes to offer incremental capacity:
  - Stable and predictable procedure for offering incremental capacity (which ensures economically efficient investment in a timely fashion at all IPs and the sharing of the volume risk among investors, shippers and consumers).

Annex 11 provides a description of these cross-border relevant parameters of the transmission tariff setting.

[45] Interruptible capacity means gas transmission capacity that may be interrupted by the transmission system operator in accordance with the conditions stipulated in the transport contract (i.e. not fix capacity).

1.10 Option 1: Baseline scenario - No further EU action

This policy option does not foresee any further rules on TAR or INCR beyond the basic principles enshrined in the Gas Regulation. However, the baseline scenario is regarded in a dynamic manner, taking into account developments, much of which is due to – beyond the Third Energy Package rules – other initiatives launched in the context of market rules harmonisation (e.g. effects emanating from the CMP Guidelines and CAM NC).

With the implementation and improved enforcement of the existing network codes in gas a big step towards the completion of the internal market for gas can be made, but with no further rules on TAR and INCR essential elements of the overall regulatory framework would remain addressed only at national level. Under this approach national schemes would continue focusing on national specifics and may fall short when it comes to cross-border trade and cross-border aspects of TAR and INCR[46]. As ACER could not provide a recommendation on the ENTSOG proposal for the TAR NC, it is highly unlikely that such rules would grow in the absence of legally binding rules over the foreseeable future.

The proper implementation of already existing European-wide network codes would be hindered if aspects of transmission tarification and incremental capacity would not be addressed at the same level as the relevant rules for capacity allocation and congestion management.

A detailed overview of the baseline scenario is provided in Annex 6. The information gathered from NRAs and TSOs reflects the high level of heterogeneity of measures and rules applied in the Member States[47]. This section gives a description of the baseline scenario with regard to the key parameters identified.

1.10.1 Transparency of transmission tariff setting

One of the parameters with relevance for the visibility and predictability of transmission tariffs is the TSO's allowed revenue. To determine this allowed revenue for the TSOs each national regulator applies its national standards in its Member State, with major differences especially with regard to the valuation of investments, depreciation and the decision on an appropriate rate of return[48]. Most EU Member States apply a revenue cap approach (19 out of 26), two apply a mixed approach while others use revenue cap, price cap or cost-plus regimes.

Policy option 1, i.e. the baseline scenario, would keep this situation of different national approaches in place.

The baseline scenario would also keep the status quo as regards network users' ability to access information relevant for defining their market behaviour. Stakeholders also called for reference prices published before auctions to be binding and not only indicative (40%, see Annex 2).

National publication requirements and their implementation as well as the timing of the publication of relevant information vary among Member States. In addition, the information available for network users is limited. While TSOs and NRAs publish tariffs and some details of the calculation of allowed revenues, many TSOs do not publish sufficient detail to allow shippers to understand how the reference price at each entry and exit point was derived[49].

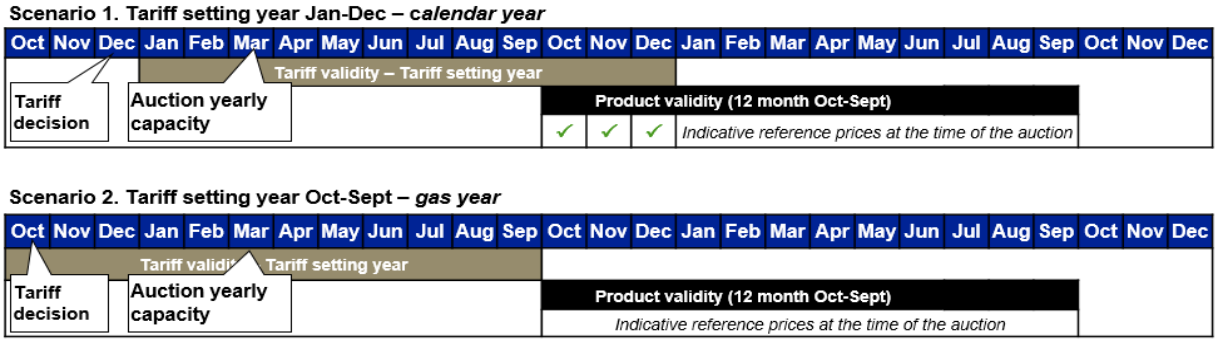
In addition, the regulatory period and the lead time between the tariff setting respectively its publication and its applicability differ among Member States (with regard to the tariff setting

[46] Given the fact that ACER could not provide a recommendation on the ENTSOG proposal for TAR NC, it is highly unlikely that such rules would grow in the absence of legally binding rules over the foreseeable future.
[47] Finland and Estonia are exempted from Regulation (EC) No 715/2009.
[48] For further details see Report by KEMA (see footnote 18), in particular the Annex with country fiches and THINK study (see footnote 20).
[49] Brattle Group's Impact Assessment for the Framework Guidelines on Harmonised transmission tariff structures, 6 August 2012, p. 29.

and its applicability between minimum 1 year and maximum 5 years). The tariff setting year is set in most Member States annually, in most cases within a multi-year regulatory period. However, the start of the tariff setting year varies substantially (four different practices have been observed in the Member States).

Furthermore, due to the current practice of publishing the transmission tariffs, network users are not always guaranteed information on the reserve prices for the yearly transmission capacity before its auction takes places. The timing of the annual auction of the yearly capacity product is defined in the CAM NC as the first Monday of March each year. Currently, the timing of publishing transmission tariffs is not aligned with the auction timing (as shown in Figure 1). This means that shippers have to determine their booking strategy with regard to booking yearly transmission and also short-term transmission capacity products without knowing the respective tariffs.

Figure 1: Tariff setting years



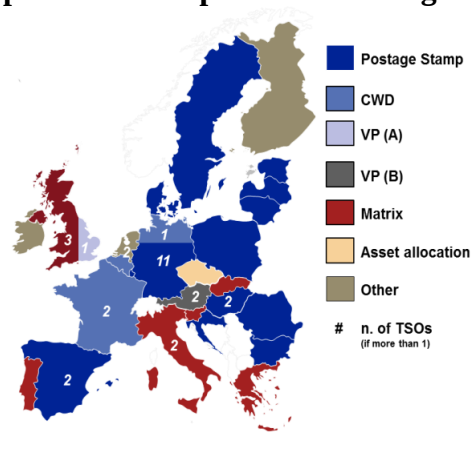
Source: EC Impact Assessment study

1.10.2 Ensuring a level playing field for network users

It is currently up to the TSOs and the NRA in each Member State to strike a balance between transparency, stability and a level playing field for upstream sources on the one hand and cost-reflectivity and minimization of discrimination on the other hand. This leads to different balances, translated into different choices over cost allocation methodologies. The baseline scenario would keep the current situation of a large variety of reference price methodologies used in the EU to determine how much revenue a TSO is able to collect from a specific entry or exit point. This variety in reference price methodologies leads to different level of cost-reflectivity and discrimination between network users

The most often used methodologies are the postage stamp, matrix and capacity weighted distance methodologies. Other methodologies reported included virtual point, matrix, asset allocation or postalised charging regime at domestic exit points. Annex 9 provides further details of these reference price methodologies and the map in Figure 2 reflects the differences across the EU.

Figure 2: Map of reference price methodologies across EU



Source: EC impact assessment study (CWD: capacity weighted distance; VP: virtual point)

But not only do the reference price methodologies differ among Member States but also the inputs used for the methodologies[50] and the determinations of the input parameters themselves[51], which would remain in place under policy option 1.

The baseline scenario foresees maintaining the current situation also as regards the entry-exit split (i.e. the extent to which the TSO's revenue is allocated to entry or exit points), where the majority of EU Member States apply an entry-exit tariff model with charges at both entry and exit points (20 out of 22). However, there is a great variation in the split between revenues recovered at both points.

Under the baseline scenario the current framework would prevail without any specific rules in place for tarification in multi-TSO entry-exit zones, i.e. for the way of determining tariffs when more than one transmission system operator is active in an entry-exit system. In such zones TSOs currently apply the reference price methodologies separately.

There are multi-TSO entry-exit systems in place e.g. in Germany, UK, Austria and, with cross-border mergers it is expected that their number will grow. The Commission is fully supporting such mergers as a way of enhancing market size and market liquidity, allowing for fostering competition[52]. However, cross-border mergers have not happened so far (irrespective of some minor projects[53]) –as set out above – largely due to the difficulty of reconciling the tarification issues.

If in an entry-exit system the gas storage is handled as a regular chargeable point, which is the case in many Member States, storage users may pay up to two times to have gas transported in the system. This is because network users in any case pay an entry fee when entering an entry-exit system and an exit fee when exiting it (to another system or to deliver gas to the end-customer). In addition, users of storage facilities are in most Member States required to pay an additional exit fee when injecting gas into storage (i.e. exiting the system to the storage) and then an additional entry fee when withdrawing from storage (i.e. entering the system again from the storage). In order to take into account the benefits that storage facilities may bring to the

[50] Some use only capacity or distance as an input, others use a network model and gas flow predictions.
[51] Some use so-called airline approach (straight distance between two points) to determine distance different from the physical pipeline path. For the capacity input parameter some use technical capacity while others use the booked capacity.
[52] The current entry-exit zones (or market areas), which are largely national in scope, may not always be optimal from the point of view of creating market liquidity. In some cases it may be beneficial to merge two or more entry-exit zones to create a larger entry-exit zone which is capable of creating a liquid gas market.
[53] For example the BeLux project, i.e. as of 1 October 2015 Creos Luxembourg & Fluxys Belgium have integrated both national H-gas markets; ongoing work on possible Czech-Austrian market integration.

system[54] the majority of Member States (13 out of 20) apply at least a discount in entry or in exit tariffs for storage facilities. However, the used approaches and their rationale are very heterogeneous.

The application of secondary adjustments to the tariffs calculated through the application of the reference price methodology is currently defined at national level and different types of adjustments are applied with different criteria in the Member States (see for more detail Annex 6).

For storage points and secondary adjustments no changes to the current system are foreseen under the baseline scenario and the strong differences between the national systems would remain in place.

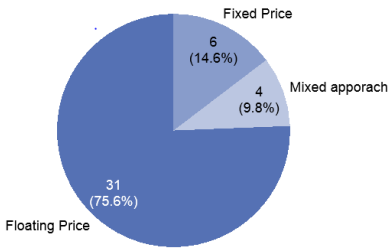
Multipliers are used to calculate the tariffs for capacity products with a shorter duration than a year, based on the tariff of the annual firm transmission capacity product. Currently they are defined at national level and under policy option 1 no coordination or harmonisation of these national approaches is foreseen.

European TSOs do not have a harmonized approach regarding the pricing of interruptible capacity products, including that of non-physical backhaul capacity[55], which is another aspect that is particularly important for cross-border transmission. As shown in Annex 6[56], most EU Member States apply an ex-ante discount (23 TSOs out of 45) while others apply ex-post discount (10 TSOs) to reflect interruptions in the price of interruptible capacity.

Policy option 1 would keep in place differing national approaches for the pricing of interruptible capacity and non-physical backhaul, including with regard to cross-border trade.

The use of the payable price approach is heterogeneous across the EU and this situation would remain under the baseline scenario. Most of the TSOs in the EU (30 out of 45) currently apply a floating payable price approach while a small number of TSOs apply a fixed price approach (6) and some use a mixed approach (4), as shown in Figure 3.

Figure 3: Payable price approach in EU[57]



Source: EC impact assessment study

[54] Natural gas storage facilities add flexibility to the gas system and reduce the overall system costs.
[55] Non-physical backhaul flow is the amount of gas that is nominated to flow in the opposite direction to the physical flow at unidirectional entry/exit points. It can be only provided if there are enough nominations for the gas to flow in the prevalent direction of the physical flow. As such it can be interrupted by the TSO.
[56] See Annex 6 detailing the baseline scenario.
[57] Most of the EU TSOs are currently applying a floating price approach. A fixed approach is used in only 6 cases (Bulgaria, Croatia, Denmark, the Netherlands (BBL), Slovakia, UK (IUK)) while a mixed approach is applied by Net4Gas (CZ), EG Võrguteenus (EE), Gasum Oy (FI) and National Grid (UK).

1.10.3 Process to offer incremental capacity

The current EU legal framework defines some general rules on network planning as well as on capacity allocation of existing capacity. Article 13(2) of the Gas Directive also sets out the general obligation that TSOs "shall build sufficient cross-border capacity to integrate European transmission infrastructure accommodating all economically reasonable and technically feasible demands for capacity and taking into account security of gas supply". However, the interaction between investment decisions/network development and capacity allocation is currently not reflected either in European legislation or national rules and practices differ significantly.

Currently there is a lack of a consistent approach for existing and future transmission capacity. For incremental capacity the applied process and measures in the Member States vary and the current national level approaches for incentives and the specific regulatory frameworks are significantly different. Some national regulatory frameworks foresee approval of investments in incremental capacity without any user commitment, while others are based on open season procedures that require commitments from shippers to purchase capacity (market test) and integrated auctions of existing and incremental capacity. The current national solutions are characterised by significant differences in the incentive structure as well as in regulatory parameters such as permitted returns on investment and depreciation periods.

Under the baseline scenario the situation of heterogeneity of national rules and the lack of coordinated rules for existing and incremental capacity would remain.

1.11 Option 2: Basic level of harmonisation

This policy option provides for a basic level of harmonisation needed in order to overcome the obstacles that prevent the baseline approach from being effective. This option is a combination of harmonised EU rules and guidelines of good practices and would leave scope for a transitional phase and exceptions from harmonised rules if indispensable to address the specific individual situation in certain Member States.

Option 2 provides EU-level harmonisation for the following areas

- Transparency of transmission tariff setting
    - obligation to hold a public consultation and publish comprehensive data and explanations on the applied reference price methodology;
    - obligation on TSOs and NRAs to provide detailed cost data on the determination of the TSO allowed revenue to network users;
    - move of the timing of the annual capacity auction for the yearly capacity products from March to July each year (defined in the CAM NC) with publication of the binding reference prices ahead of the auction;
- Ensuring a level playing field for network users
    - common benchmark reference price methodology (the Capacity Weighted Distance methodology);
    - default entry-exit split of 50-50 (allowing for deviation when justified);
    - Joint application of one reference price methodology by all TSOs active in a multi-TSO entry-exit system (allowing for deviations for a transitional period under specific circumstances);
    - Discount of 50% as default for entry and exit tariffs from and to storage facilities (with the possibility for NRAs to deviate if justified by specific costs);
    - Single range of multipliers for short-term capacity products after a transitional period of 4 years;
    - ex-ante calculation of the probability of interruption reflected in an ex-ante discount for interruptible capacity and non-physical backhaul (while the use of ex-post discount is allowed in non-congested systems);
    - setting the floating price approach as payable price approach (while allowing for

exceptional use of the fixed price approach under a price-cap regime for incremental capacity);

- Process for offering incremental capacity
  - setting out regular demand assessments and a clear procedure for the design phase for investments in incremental capacity (while allowing for the use of an alternative procedure in clearly defined cases of large infrastructure projects);
  - alignment of the timing and process of allocating incremental capacity with the allocation of existing capacity;

Option 2 introduces ACER Guidelines of Good Practice for:

- the principles of determining TSO's allowed revenues;
- the description of a benchmark reference (capacity weighted distance) price methodology;

Option 2 introduces ACER benchmark of national practices of the determination of TSO's allowed revenues (including regarding their appropriateness to increase transparency of the existing practices as well as understanding of the best practices and how best they can be applied).

This section further details the key parameters under the basic level of harmonisation option.

1.11.1 Transparency of transmission tariff setting

Policy option 2 foresees that ACER adopts Guidelines of Good Practice with regard to principles for the determination of the allowed revenues, including the regulated asset base and the appropriate rates-of-returns. Furthermore it foresees that ACER, based on its competences according to Regulation (EC) 713/2009, benchmarks national practices and formulates an opinion about their appropriateness[58] to increase transparency of the existing practices as well as understanding of the best practices and how best they can be applied.

With regard to relevant information provided to network users Option 2 foresees the obligation to hold a public consultation where comprehensive data and explanations on the applied reference price methodology[59] as well as a simulation tool is provided. Furthermore, this option foresees that the annual capacity auction in the CAM NC is moved from March to July each year and that binding reference prices are published in advance of that auction. Finally, this option foresees that detailed cost data[60] on the determination of the allowed revenue of the TSOs are provided to network users.

1.11.2 Ensuring a level playing field for network users

Option 2 introduces a general benchmark reference price methodology (in the form of the Capacity Weighted Distance approach) developed by the TSO or NRA. This means that the reference price methodology used in the Member State can be defined at the national level and has to be benchmarked against the general benchmark reference price methodology. This will increase transparency and understanding for the choice of the respective reference price methodology. Further, it would foresee that ACER adopts and develops on an on-going basis Guidelines of Good Practice with regard to a description of a limited number of reference price methodologies, setting out under which circumstances which methodology should be applied and what specific inputs should be used.

The basic level harmonisation option foresees a default entry-exit split of 50-50, whereby a

[58] This policy option was recommended by THINK in its study on EU Involvement in Electricity and Natural Gas Transmission Grid Tarification, see p.16 and 19.

[59] Including an explanation of the choices and all inputs used and adjustments made.

[60] Such as efficiency targets, CAPEX, information on re-evaluation of assets, depreciation periods and amounts, OPEX, parameters used to determine the Rate of Return.

deviation would be possible under the criteria that it is justified based on cost drivers and it better fulfils the objective to minimise discrimination between network users and prevents differences between allowed and obtained revenues.

The option also foresees that one and the same reference price methodology is applied jointly[61] by all TSOs operating together an entry-exit system within one Member State. Deviations from the joint methodology for the multi-TSO entry-exit zones within one Member State would be allowed for a transitional period and under specific circumstances such as the merger of entry-exit systems.

Option 2 allows for a certain adjustment of tariffs from and to storages in case needed to foster competition, security of supply and tariff stability. It foresees a default 50% discount on the tariff for entry and exit points from and to storage facilities. National regulatory authorities could however deviate from the 50% in case it is justified due to specific costs caused by the connection of storages to the transmission system.

With regard to mitigating measures, this option foresees that the NRA has the possibility to apply the outcome of the reference price methodology and secondary adjustments less strictly in case of major tariff increases at specific IPs by having a transitional period during which tariffs are smoothly adjusted. It also foresees a grandfathering of contracts with fixed transmission tariffs which have been concluded before the publication of TAR NC in order to protect the legitimate expectations of the contracting parties that the tariffs of those contracts wouldn't change.

As regards tariffs for short-term transmission capacity products, Option 2 envisages convergence in multipliers over the mid-term. Specifically, in order to provide a balance between the short and long-term interests the proposal suggest curbing the higher (outlier) multipliers employed today and bring them within respective ranges for product groups.

Thus a single range for multipliers option foresees that after a transitional period of 4 years multipliers should fall within the range of 1 and 1.5. In the transitional period multipliers up to 3 might be applied for daily and within-day products. Furthermore, the transitional period would be prolonged or even fixed in case the evaluation report of ACER shows that lowering multipliers is expected to have detrimental effects.

Policy option 2 foresees that the pricing of interruptible capacity and non-physical backhaul capacity is based on the same principles. Furthermore, it also foresees an ex-ante calculation of the probability of interruption which is then reflected in an ex-ante discount. However, the possibility of ex-post discounts shall be left open to the extent the NRA agrees with the TSO's assessment that the calculation of interruption probabilities is to arbitrary and thus potentially market distorting.

Option 2 further foresees that in principle the floating price approach should be used. However, a fixed price approach might be exceptionally applied where a price-cap regime is in place or for the pricing of incremental capacity. Furthermore, existing contracts with a fixed price would be grandfathered.

1.11.3 Process for offering incremental capacity

Regarding incremental capacity, the basic level harmonisation option foresees an obligation for TSOs to carry out an assessment of demand at interconnection points (at least) every two years

[61] This means that the allowed revenues of all TSOs operating the entry-exit system should be aggregated. The aggregated revenue is then shared among all of the entry and exit points through a joint reference price methodology. As, under this new arrangement, it is not guaranteed that every TSO collects its allowed revenue from the entry and exit points it operators, there is a need for an inter-TSO compensation mechanism run by the NRA/NRAs.

which shall be the bases of their offer of incremental capacity. A clear procedure for the design phase for new investments including a public consultation is determined. It is foreseen that the incremental capacity is in principle allocated at the same time and in the same way as existing capacity (annual auctions). However, under specific circumstances[62] the NRAs can – based on a proposal by the TSOs – decide on alternative capacity allocation mechanisms (open season). Finally, the option foresees that an incremental capacity project should go ahead if the economic test which will be based on a financial threshold comparing investment costs with the value of user commitments has a positive outcome. For further details on the process for incremental capacity projects please see Annex 7.

This means a harmonisation of the economic test and the allocation of the incremental capacity at European level under this policy option while the procedures for the alternative capacity allocation mechanisms are not harmonised at European level.

1.12 Option 3: Advanced level of harmonisation

Policy option 3 comprises an advanced level of harmonisation going beyond the basic level harmonisation proposed under Option 2. This option introduces EU-level harmonised rules in the analysed areas leaving no scope for a transitional phase or exemptions from harmonised rules which could address the specific individual situation in certain Member States.

Option 3 envisages EU-level harmonisation for the following parameters:

- Transparency of transmission tariff setting
    - harmonised EU rules for the used approaches and input parameters for the determination of TSO's allowed revenues (including the regulated asset base and the appropriate rates-of-returns);
    - obligation on TSOs and NRAs to provide detailed cost data on the determination of the allowed revenue of the TSOs to network users;
    - obligation to hold a public consultation and publish comprehensive data and explanations on the applied reference price methodology;
    - move of the timing of the annual capacity auction for the yearly capacity production from March to July each year (defined in the CAM NC) with publication of the binding reference prices ahead of the auction;
    - harmonisation of the tariff setting year with the gas year (October-September) for which the annual transmission capacity is offered;
- Ensuring a level playing field for network users
    - application of a single reference price methodology across the EU using a 50:50 entry-exit split and not allowing for any adjustments, discounts or mitigating measures to tariffs after the application of the reference price methodology;
    - joint application of one and the same reference price methodology by all TSOs operating together an entry-exit system (without exceptions);
    - application of a low fixed multiplier for all short-term capacity products across the EU (without transitional period or exceptions); setting of the reserve price for all interruptible capacity, including non-physical backhaul, at marginal costs (determined of tariffs through the outcome of the auctions);
    - harmonisation of the payable price approach at EU-level (allowing either only for floating or only for fixed price approach);

[62] Such circumstances are e.g. clear market request (during the demand assessment or the public consultation) for so-called conditional bids and reasonable suggestion that the auction will fail; unless alternative allocation methodologies are offered. Conditional are the bids which involve more than two entry-exit zones or span a number of different yearly capacity products at an IP and are proven by TSOs not to distort competition or the internal gas market.

- Process for offering incremental capacity
    - offer of incremental transmission capacity together with the respective available capacity in the annual yearly capacity auction as set out in the CAM NC with no exceptions allowed. Harmonisation of all parameters for the economic test.

1.13 Comparison of the approaches under the different options

The table below allows for a quick comparison of the different approaches foreseen under the three different options.

Table 1: Comparison of the approaches foreseen under the three different options

Areas / Options	**Option 1: Baseline scenario**	**Option 2: Basic level of harmonisation**	**Option 3: Advanced level of harmonisation**
Determination of TSO allowed revenue	No harmonisation of the different regimes currently applied in the EU MS.	ACER Guidelines of Good Practice and ACER benchmark of national practices.	Harmonised EU-level rules for the used approaches and input parameters for the determination of TSO's allowed revenues.
Reference price methodologies			
Choice of reference price methodology	No harmonisation of the variety of different methodologies currently applied in the EU MS.	Common benchmark reference price methodology and ACER Guidelines of Good Practice	Establishment of an EU-wide, harmonised, single reference price methodology.
Entry-exit split	No harmonisation of the great variation of different approaches currently used in the MS.	Default entry-exit split of 50-50 (deviation possible)	EU-wide harmonisation: 50:50 entry-exit split.
Multi-TSO entry-exit systems	No harmonisation of the different regimes currently applied in some MS. No EU-level approach to tackle the issues.	Obligation to use one and the same reference price methodology jointly by all TSOs operating the entry-exit system (deviation possible).	Obligation to use one and the same reference price methodology jointly by all TSOs operating the entry-exit system.
Storage points, secondary adjustments and mitigating measures	No harmonisation of the current heterogeneous situation across Europe or the variety of used approaches and their rationale.	50% discount as default with deviation possible	Harmonised EU-level approach: no adjustments or mitigating measures allowed after application of reference price methodology.
Tariffs for different transmission capacity products			
Short-term transmission capacity products	Keeping the status quo. No harmonisation at EU-level.	Single range for multipliers after transitional period	Immediate application of a low fixed multiplier for all short-term capacity products across the EU without exemption.

Interruptible capacity and non-physical backhaul	Maintaining different, non-harmonised application of ex-ante, ex-post or mixed approaches in the MS.	Same principles for interruptible and non-physical backhaul. Ex-ante calculation of interruption probability reflected in ex-ante discount.	Harmonised EU-level approach: reserve price for all interruptible capacity products (including non-physical backhaul) set at the marginal cost.
Network users` access to relevant information	Maintaining a system of limited information availability and large variety of regulatory and tariff setting periods in the MS, non-aligned with the timing of the annual auctions for yearly capacity.	Information publication and consultation obligations. Data provision obligation on determining the TSO allowed revenue. Annual capacity auction for yearly capacity is moved in CAM NC from March to July.	On top of the modalities foreseen in Option 2 EU-level harmonisation of the tariff setting year.
Payable price approach	Keeping the status quo of applying floating or fixed or mixed payable price approach in the MS.	Floating price approach with possibility of fixed price approach for certain cases.	EU level harmonisation: use of a single approach.
Incremental capacity	Maintaining inconsistency approaches to existing and incremental capacity as well as varying national processes, incentives and regulatory frameworks for incremental capacity.	Regular demand assessment by TSOs, clear procedure for design phase. Allocation with existing capacity. NRAs can decide to use alternative approach under certain circumstances.	Offer of incremental capacity under CAM NC regime, i.e. together with existing capacity. In addition, EU-level harmonisation of all parameters of the economic test.

6 ASSESSMENT OF THE IMPACTS OF THE VARIOUS POLICY OPTIONS

This chapter analyses the main impacts of the three policy options set out in Chapter 5. While the economic impacts are of diverse aspects and therefore described separately for each policy option, the social and economic impacts are summarised later on in a horizontal manner for all policy options. Further, Annex 3 provides a description of the possibly affected market participants and an overview of how they are affected.

As it has been the case with other network code proposals in the past, it is very challenging to assess the possible effects of these highly technical proposals on broader policy aspects, such as the expected environmental impacts and the use of different energy mix.

1.14 Impacts of Option 1: Baseline scenario – No further EU action

1.14.1 Analysis of impacts of Option 1

Market rules for gas transmission networks are very complex and technical. This in itself would likely inhibit or at the very least significantly prolong and render unsuccessful any attempt to organically improve TAR and INCR rules across the EU and in particular address the cross-border impediments. The fact that the high-level rules on the issues – set out in the Gas Regulation – have essentially been in place for 7 years now without much progress is a case in point. Furthermore, according to ACER's Market Monitoring Report from 2012[63], the European perspective is not a priority among Member States when setting transmission charges. This was also illustrated when ACER could not adopt a recommendation to the Commission on the ENTSOG proposals for the TAR NC for adoption in the Comitology process.

For the internal market to materialise, the current patchwork of national decision-making would require changes in the technical rules in many Member States that would have to result in compatible systems across national borders. Thus a high degree of cross-border coordination would be needed which – experience has shown over the years – is difficult to achieve without an EU-framework.

Under policy option 1 Member States can keep their diverting national approaches in all analysed areas. Therefore there would be no costs for Member States for adapting to a new system.

As regards the administrative burden, Option 1 is easiest to implement, as it does not introduce additional, specific rules. Whilst this may at the outset be perceived as being less onerous than to implement harmonised arrangements, it may also create significant inefficiencies in policy development and require more efforts in the cross-border coordination of NRAs and TSOs, with uncertain outcome.

Network users active in more than one Member State need to build up substantial knowledge about different rules applied in each Member State. This is more challenging for new entrants and small competitors and can hamper cross-border trade and as such competition. Moreover, this situation increases complexity and acts as a barrier to the efficient use and development of gas infrastructures between Member States.

[63] ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2012, November 2013, http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER%20Market%20Monitoring%20Report%202013.pdf

In addition, given the lack of transparency and comparability is it also difficult to see whether the national tariff setting approaches ensure cost-reflectivity. However, when tariffs do not reflect system costs or are not fully transparent in terms of tariff predictability, an inefficient use of the transmission network may arise and it may act as a disincentive for market-based investments.

Sub-optimal gas trades and investments in the gas infrastructure and higher prices due to less efficient market structure may have negative effects on the competitiveness of the European industry.

Moreover, further integration of the gas markets has a significant potential to contribute to GDP growth and hence also to job creation. The Single Market Integration Report[64] states that the GDP share of the energy sector in the EU has been increasing since 2000 and has exceeded 2.5% in recent years. It also states that this indicator does not fully reflect the importance of the energy sector in the economy, which provides critical production inputs for all other sectors, thus contributing significantly to their cost competitiveness.

Not only NRAs and the Commission called for rules on TAR and INCR but also gas traders and network users, including customers. They do not support the baseline scenario as it is not addressing the perceived problems. Further details on the outcome of the public consultations by ACER and ENTSOG are provided in Annex 1 and 2.

The sections below provide details on the impact of Option 1 for the analysed tariff setting parameters in order to assess how far they are contributing to the policy objectives.

1.14.2 Contribution of Option 1 to the policy objectives

1.14.2.1 Impact of Option 1 on the transparency of transmission tariff setting

Business as usual would mean keeping in place the current system in which each NRA applies its national standards when determining TSO allowed revenues in its Member State. Differences of approaches in calculating the allowed or target revenues are not necessarily problematic where they derive from an objective and transparent methodology which ensures that only the efficient costs of a TSO are included in the revenue; and which prevents double charging for assets when the imputed lifetime of the assets has expired. However, inconsistent methodologies[65] across the EU results in more complexity for cross-border investments in pipeline infrastructure.

While some information on tariffs and on the calculation of allowed revenues is published by TSOs and NRAs, it is not sufficiently detailed and therefore shippers are not in the position to understand how the reference price at each entry and exit point was derived[66].

In addition, low levels of transparency and tariff predictability due to different national publication requirements make it difficult for network users to estimate how tariffs might evolve. This can limit network users' commitment on long-term products with potential impact on network investments. Moreover, the lack of transparency reduces network users' ability to assess whether tariffs are sufficiently cost-reflective. Furthermore, due to the current practice of publishing the transmission tariffs, network users are not always guaranteed information on the reserve prices for the yearly transmission capacity before its auction takes places.

Due to the lack of alignment of the timing of the annual auction for yearly capacity product (as defined in the CAM NC) and of the timing of publishing transmission tariffs in the Member

[64] COM (2012) 752, State of the single market integration 2013 - contribution to Annual Growth Survey 2013.
[65] E.g. one TSO or NRA promoting fixed tariffs while the other promoting floating tariffs.
[66] Brattle Group's Impact Assessment for the Framework Guidelines on Harmonised transmission tariff structures, 6 August 2012, p. 29.

States, shippers have to determine their booking strategy with regard to booking yearly transmission and also short-term transmission capacity products without knowing the respective tariffs. This leads to inefficient booking of transmission capacity in particular as it incentivises rather short-term bookings which then further impacts tariff stability and predictability.

1.14.2.2 Impact of Option 1 on ensuring a level playing field for network users

Under the current systems, the low transparency and substantial differences in the determination and application of reference price methodologies create an obstacle to efficient gas trade. Today the variety in reference price methodologies leads to different level of cost-reflectivity and discrimination among different types of network users. Member States establish different balances, translating into different choices over cost allocation methodologies and therefore effecting cross-border trades.

The current practice, where TSOs apply the reference price methodologies separately in multi-TSO entry-exit systems might cause cross-subsidization among different groups of network users. For example, users of the TSO that has most of its assets in the entry-exit zone might pay substantially different tariffs than the users of the TSO that only has a small share of its assets in the same entry-exit zone, even though both users get the same access to the entry-exit system.

A cross-border merger of entry-exit zones placed in different Member States raises a number of challenges. Applying a joint tariff methodology and an inter-TSO compensation mechanism in the merged entry-exit zone would require a joint decision of the respective NRAs. Some frictions and delays may arise due to lack of coordination and agreement between NRAs about which reference price methodology to apply and what costs to consider, due to the different calculation of TSOs allowed revenues. In particular, the NRA which has to increase tariffs in its country will face difficulties.

High tariffs at injection and withdrawal points from and to gas storage facilities can constitute an important barrier for gas traders to enter a market, in particular in Member States with storage obligations (like Poland, France and the Czech Republic where shippers are obliged to maintain a certain amount of gas in storage in order to secure gas supply[67]). This can distort competition between storages and other flexibility sources. While such payments may be justified depending on the physical location of the storage or its use and consequent systemic effects, generally storages add flexibility to the system and reduce overall costs.

The heterogeneity of secondary adjustments based on different criteria as currently applied in the Member States limits transparency of entry-exit tariffs and the predictability of tariffs for cross-border gas trade. In addition, the lack of transparency and consistency in the application of the adjustments hinders network users from replicating tariffs and following tariff evaluations..

Different approaches in the pricing of short-term capacity products can play a significant role in driving cross-border trade and market integration. Overall, an unbalanced approach on multipliers may lead to different impacts. This includes possible cross-subsidization between network users who already booked annual transmission capacity and those who book short-term transmission capacity products. It can also lead to the loss of long-term investment signals or to the reduction of short-term trading. Where NRAs at each side of an IP apply conflicting multipliers this leads to inefficient cross-border trades.

The absence of a unique pricing methodology that defines prices based on the probability of interruption in the provision of interruptible transmission services might lead to discrimination between different network users and impede further market integration.

[67] For further details on storage obligations see: Study on the role of gas storage in internal market and in ensuring security of supply, prepared by REF4E, Mercados, E-Bridge for DG Energy, July 2015.

Similarly, the lack of a harmonised approach on pricing of another capacity product, the non-physical backhaul capacity, which is interruptible by definition, represents a potential impediment for cross-border trade activities, as cost-reflectivity of non-physical backhaul capacity tariffs is not ensured.

The heterogeneous use of the payable price approach (i.e. of the fixed or floating price approaches) in the Member States may potentially lead to unbalanced allocation of volume risk between network users and TSOs as well as between different types of network users. Thus, different mechanisms and the lack of common approaches to deal with revenue reconciliation and allocation of volume risks may have an adverse impact on tariff level stability, predictability and cross-subsidization between network users.

1.14.2.3 Impact of Option 1 on offering incremental capacity

Policy option 1 maintains the status quo, meaning a voluntary framework for cross-border investments in incremental capacity in the form of the non-binding Guidelines for Good Practice with regard to the so called "open season procedures" for infrastructure investment, developed by the European Regulators Group for Electricity and Gas (ERGEG), developed in 2007[68]. This option does not reflect on the need for an increased coordination need between TSOs and NRAs across borders regarding cross-border investments in order to complete the internal market in gas.

External studies[69] concluded that the observed heterogeneity in general price control mechanisms and instruments used in the MS to promote new investments probably do not hamper investments in national infrastructures without a strong cross-border impact. However, with regard to cross-border investments, the lack of comparability across borders is a problem, as it leads to a lack of investment security and predictability which could make it difficult to attract funds from external investors needed to meet the financing needs. Inconsistent methodologies[70] across the EU results in more complexity for cross-border investments in pipeline infrastructure. The absence of a clear and stable regulatory framework for decisions on new pipeline investments creates an obstacle to the efficient investment into infrastructure.

Keeping the status quo under option 1 means also keeping two different, not aligned approaches for existing and for incremental capacity. While rules on existing capacity are laid down in Regulation 984/2013 establishing the CAM NC, EU-level rules on incremental capacity are not available. The currently possible voluntary cooperation among TSOs and NRAs requires disproportionally more coordination efforts, especially in cross-border dimension, with uncertain outcome.

1.15 Impacts of Option 2: Basic level of harmonisation

1.15.1 Analysis of impacts of Option 2

By improving the transparency, consistency, predictability and objectivity of tariffs and by providing a sound regulatory framework for market based decisions on new pipeline investments Option 2 is expected to improve cross-border trade, contribute to avoiding discrimination among different groups of network users and lead to more efficient and market-

[68] The precursor to ACER was the European Regulators Group for Electricity and Gas (ERGEG), which was set up by a European Commission decision in November 2003 (Decision of November 11 2003, 2003/796/EC). With ACER fully operational (since March 2011), ERGEG was dissolved by the Commission, with effect from 1 July 2011. ERGEG Guidelines for Good Practice on Open Season Procedures (GGPOS), 21 May 2007.

[67] KEMA I and THINK.

[70] E.g. one TSO or NRA promoting fixed tariffs while the other promoting floating tariffs.

based investments in gas infrastructure, leading to a potential net benefit of 230 million €[71]. With gas being able to flow to where it is most needed, security of supply will increase, wholesale prices will become more competitive and social welfare gains will be realized.

Policy option 2 foresees EU-level harmonisation for a number of analysed parameters where most of the Member States would need to adjust their national systems (e.g. for the use of multipliers to determine the tariff of short-term capacity products) while they would be allowed to make use of transitional periods and exceptions. At the same time, under Option 2 there are significant areas where Member State can maintain their national approaches (determination of TSO's allowed revenue, reference price methodology) while they would be obliged to ensure greater transparency and comparability of their methodologies through benchmarking and publication requirements.

There is added administrative burden and related costs for Member State authorities and for TSOs to comply with EU-level market provisions under Option 2. National regulatory authorities for example would need to provide a benchmark of their reference price methodology or TSOs would be obliged to publish comprehensive data and explanation on the applied reference price methodology. However, the costs of the policy tools proposed under this option will be limited. While some measures could entail higher costs and added administrative burden compared to Option 1, these will still be limited as Option 2 is introducing a flexible approach, allowing taking into account market specificities under clearly defined circumstances.

The double objective of the selected measures is to achieve broader impacts on market integration, while achieving both market liquidity and the convergence of wholesale prices. The impacts under policy Option 2 can be, thus, defined in terms of more liquid markets and cross-border competition and consequently lower gas prices. However, tangible benefits through lower wholesale prices are also conditioned to the existence of effective competition on the retail market, as well as to the extent of government interference in the price setting, for example through taxes or by means of price regulation. According to an external study undertaken in the course of the development of the TAR framework guideline, the expected benefit of the measures proposed under Option 2 could amount to around 250 million € whereby the expected costs – due to increased administrative burden – were estimated to be not more than 20 million €.

Transaction costs for shippers are expected to drop due to the harmonisation of certain processes across the EU. This will be a clear advantage for shippers and traders active in cross-border trade.

Improving the functioning of gas markets contributes overall to the attractiveness of gas compared to other fuels (e.g. coal). Market liquidity and convergence of wholesale prices might contribute to lowering gas prices for SMEs and consumers if retail regulation seizes the benefits of positive developments on wholesale markets. The mitigation measures foreseen under Option 2 safeguard the legitimate interest of market players.

Offering incremental capacity through auctions means a simplification of rules for shippers already using auctions for existing capacity and fosters the broader application of innovative electronic booking platforms. Higher volumes of gas auctioned on the same booking platforms lower the costs of using such platforms for the individual market players.

In order to further analyse the contribution of Option 2 to the policy objectives, the sections

[71] See page 67 of Brattle Group's Impact Assessment for the Framework Guidelines on Harmonised transmission tariff structures – 6 August 2012
http://www.acer.europa.eu/Media/Events/Public%20Workshop%20on%20FG%20on%20Harmonised%20Transmission%20Tariff%20Structures%20for%20Gas/Document%20Library/1/06%2008%202012_Brattle%20Draft%20FG%20tariffs%20IA%20report%20-%20Tables%20included%20v2.pdf

below provide details about the impact with regard to the different parameters.

1.15.2 Contribution of Option 2 to the policy objectives

1.15.2.1 Impact of Option 2 on the transparency of transmission tariff setting

The ACER Guidelines of Good Practice on principles for the determination of allowed TSO revenues and the benchmarking of national practices will improve the transparency and cross-country comparability of tariff regimes and therefore foster market driven investments. Furthermore, having an agreed and co-coordinated conceptual view on which costs of a TSO can be considered efficient will improve the trust of network users that they only pay the necessary charges for transmitting the gas and give them an opportunity to challenge tariffs in case they consider they are unduly burdened or paying for assets twice.

The results of the public consultation showed that most respondents agreed that well-timed and appropriate information about the determination of the allowed revenue, the reference price methodology and tariff setting is needed in advance of capacity auctions in order to optimise their booking strategies. Furthermore, almost 50% of respondents in the final ENTSOG consultation[72] stated that, not only the binding reference price but also a "sensitivity analysis" enabling network users to estimate the possible evolution of tariffs needs to be published.

Information provision is a key stepping stone for the development of an integrated and harmonised EU gas market. Option 2 implements a system which provides crucial, well-timed and appropriate information to network users allowing them to make informed decisions on their booking of transmission capacity. This is crucial to foster cross-border trade and efficient investment signals for the gas infrastructure. The publication of binding reference prices prior to capacity auctions will give network users the chance to benchmark different gas routes and transmission products. The transparency on the determination of the allowed revenues will help ensuring trust, the comparability of systems and that only efficiently incurred costs are included in the TSO's revenue. The measures proposed under this option therefore do not only contribute to providing a level playing field for network users but are also key to ensure efficient usage and development of the gas infrastructure.

1.15.2.2 Impact of Option 2 on ensuring a level playing field for network users

The choice of reference price methodology has distributional effects among network users of an entry-exit system as the level of charges may increase at some entry and exit points, while it may decrease at others[73]. Close to 50% of stakeholders in the ENTSOG consultation (29% shippers, 11% storage operators and 7% traders) find the current situation with a high level of optionality of the choice of a reference price methodology unacceptable (see Annex 2).

As the tariff level at a given entry or exit point is a function of several factors, the extent of these changes will vary depending on the choices made with regard to the reference price methodology for each entry-exit system, as well as local circumstances and possible mitigating measures. It is important therefore that NRAs and TSOs explain clearly the chosen methodology and how that complies with the general objectives of ensuring cost-reflectivity and avoiding discrimination to the extent possible. Annex 9 provides more analysis of the different results of the methodologies.

[72] See details in Annex 2.

[73] The choice of reference price methodology has no effect on the revenues TSOs are allowed to recover. Distribution System Operators are in principle affected only indirectly and marginally by any change in the gas transportation tariff. In countries like Germany, where transmission charges at points between the TSO and DSO are included in the distribution charges, the costs are rolled over to the user of the distribution system, so the DSO is not affected directly.

Establishing a common benchmark reference price methodology in combination with an ACER Guidelines of Good Practice has the advantage that the common understanding on the application of methodologies and their inputs could evolve more organically and would be much more flexible with regard to changes. While this approach does not provide a legally binding methodological framework it does ensure – via the benchmark model methodology – a degree of comparability of tariffs and tariff structures that are currently missing. I It also goes along with the request of all involved stakeholders, including shippers and gas consumers, to take incremental steps in adjusting the EU tarification system in the gas sector. In addition, the increased transparency and comparability due to the possibility of benchmarking the methodologies is expected to contribute to providing more predictability and stability of tariffs thereby providing a stable regulatory framework for the development of competition in the gas wholesale market.

A 50:50 entry-exit split, as proposed in Option 2, is the best solution in order to strike a fair balance when sharing the cost burden between the different type of network users in a common case, where the amount of entry and exit capacity are equal. This approach shares the burden equally and still allows allocating revenues with regard to its destination in the system[74].

However, Option 2 also allows for deviation from the 50-50 split if the alternative split is justified based on cost drivers and if it fulfils better the objectives of minimising cross-subsidies between network users and preventing differences between allowed and obtained revenues. For example, an entry-exit split of 0/100 can make sense where there is no transit of gas like the Swedish system which is closely attached to the Danish system and only receives gas or where the TSO not only provides for transmission but also regional distribution.

In an entry-exit system ownership structures are invisible to the shippers and TSOs have to agree jointly on the most efficient gas flow. Therefore, the joint application of the reference price methodology in the multi-TSO entry-exit zones within one Member State will improve competition as it ensures a level playing field between different network users by preventing cross-subsidies between network users of different TSOs and reducing complexity and difficulties of co-ordination among NRAs. In particular this option avoids giving a competitive advantage to gas traders that have concluded long-term contracts with a TSO at congested IPs for lower tariffs (to access the entry-exit system) than the other TSOs offer in the same entry-exit system. In addition, due to the possibility to deviate during the transitional period, NRAs can agree to the separate application of the reference price methodology where it is considered necessary for incentivizing the merger of entry-exit systems or to accommodate differences in investment policies or in the determination of allowed revenues. In addition to its impacts on discrimination and cross-subsidisation of different groups of network users, this option also increases transparency and stability of the tariffs as publication requirements and the revenue reconciliation will be fulfilled at the level of the entry-exit zone[75].

Option 2 sets a 50% discount as default for the tariffs to and from storage facilities. This approach allows for recognising the special features of storage and its beneficial impact on the gas network as well as the fact that currently in numerous Member States network users are discouraged from using storage facilities due to the double charging[76] of the gas flow. However, such double-charging may be entirely justified from a system cost point of view. The positive

[74] Since in an entry-exit system it is not possible to identify the exact costs caused by individual network users, the allocation of charges to entry and exit points ensures that all network users are contributing to the costs of the system they are benefitting from, while the split impacts what type of network user pays more (the logic of the entry-exit system is further explained in Annex 9).

[75] A case study on the impact this would have in Germany is provided in Annex N of the ACER Justification document.

[76] At the entry/exit to the system and at the entry/exit to storage facilities.

impact of Option 2 in this regard is that the burden of proof when factoring in benefits and costs of storage is clearly located by the NRAs and TSOs (providing the necessary data). The discount is set at 50% and the specific costs or benefits that the storage causes in the system, such as connection and compression, are added or extracted.

Adopting common tariff rules applicable to storage entry and exit points is expected to significantly contribute to storages having the same level playing field in cross-border competition that an internal market should enable. Option 2, by acknowledging both the benefits (including the value of storage for security of supply) and the possible additional system costs of storage, triggers an essential assessment that allows keeping the necessary existing storage facilities in operation. Moreover, tariffs should provide a level playing field for storage facilities on short-term and long-term flexibility markets i.e. balancing and security of supply.

When it comes to the tariffs for different transmission capacity products it has to be considered that the gas transmission system is designed to handle flows during peak conditions. On average it is therefore only partially used, while it creates permanent costs for the provision of daily peak demand capacity. Multipliers applied to calculate the reference price of short-term capacity products allow charging system users contributing to the peak consumptions the equivalent of the costs created by their respective daily capacities. Whereby a low level of multipliers encourages users to adjust their bookings according to their commodity flow, high multipliers will have the opposite effect of incentivising to book longer term, annual transmission capacity.

If there is no congestion in the transmission network (structural lack of congestion may be the new typical situation in Europe) a low level of multipliers would lead to cross-subsidization between users with long-term annual capacity contracts and users being able to profile short-term. If the IP is not congested, any multiplier equal or lower than 1 will give shippers a clear signal to book capacity on a daily basis leading to potential tariff instability and cross-subsidy.

On the other hand, too high multipliers may hamper short-term trading and may limit market liquidity, including flexible cross-border transactions, by pushing shippers to buy upfront flat annual capacity and reducing their possibility to optimise their portfolios. Therefore, a careful balance must be struck relative to the level of multipliers.

Even though allowing for a differentiated range of multipliers has positive impacts in fostering short-term trading among EU Member States, the absence of a floor to 1 allows for potential cross-subsidization between long- and short-term contracts. Therefore implementing a single range of multipliers better answers stakeholders' concerns by setting a cap of 1.5 for quarterly and monthly products and a cap of 3 for daily and within-day capacity products as well as a floor of 1 for all short-term capacity products, for a transitional period. Following this transitional period the range of multipliers will be adjusted to 1-1.5 for all capacity products.

Stakeholders raised concerns that the formula for setting discounts for interruptible capacity on a combined ex-ante and ex-post basis could incentivise TSOs to deliberately underestimate the probability of interruption. In addition, a combined discount can lower transparency[77]. A significant part of the respondents raised concerns also about the pricing of interruptible capacity by a pure ex-post discount as it transfers the financial risk solely to the shippers. Option 2, by setting the ex-ante calculation of interruption probability (and subsequent ex ante discount) as the main rule, complemented by an ex post discount applicable in non-congested networks, takes steps to harmonize current approaches while leaving room to apply national specificities . In addition it aligns the pricing of interruptible and non-physical backhaul capacity. Thereby, Option 2 has the positive impact of providing simplification, tariff predictability and transparency and facilitates market integration.

[77] More detail on the outcome of the ENTSOG stakeholder support process is provided in Annex 1 and 2.

The outcome of the consultations showed that while ACER supported a pure floating tariff approach, 44% of the stakeholders, mainly shippers, have asked for the possibility to have also a fixed price regime, in addition to the floating tariffs, in order to reduce their exposure to tariff fluctuations[78]. Option 2 reflects both demands.

The most significant impact of the choice of the payable price approach is the way in which those different approaches share between network users the exposure to the risk of future increases in allowed revenues and/or the risk of future revenue under/over recovery. Under the floating payable price, this risk is shared evenly between all network users[79]. The floating payable price incentivises shippers to book short-term capacity products, whereby they bear price risk but no volume risk. Under the fixed payable price approach, users who book capacity in advance are protected from changes to the reference price between the time of booking and the time of use, and therefore do not have their charges scaled to meet changes in allowed revenues of the reconciliation of the regulatory account. In fixed price regimes short-term bookings and long-term bookings involve different risks. Shippers with short-term bookings bear price risks but no volume risk and vice versa for shippers with long-term bookings. In networks where allowed revenues grew significantly over time, the uneven protection of network users could undermine competition if higher charges are concentrated on future users or those booking shorter term.

Option 2 proposes to apply floating tariffs as a general rule and thereby distribute risks evenly among all network users. Depending on how far and by how much capacity is booked ahead of the year of use, and depending on average changes in allowed revenues, over time, the fixed payable price has therefore the potential to lead to a significant rebalancing of charges between existing and future network users[80].

Fixed prices may however be allowed for specific cases under clearly set circumstances, namely in price cap regimes as well as where it is necessary to stimulate investment. This will allow striking a balance between different aims, namely to create a level playing field for network users by avoiding cross-subsidies, supporting an effective bundled capacity regime (as defined in the CAM NC) and incentivising efficient investment in infrastructure as needed for the development of incremental capacity.

1.15.2.3 Impact of Option 2 on offering incremental capacity

Policy option 2 proposes the simultaneous offering of existing and incremental capacity through auctions as foreseen in the CAM NC. This will lead to a single price for the same product and

[78] In particular, the stakeholders in favour of the introduction of the fixed approach are DEPA/GAS SUPPLY DIVISION, E.ON, EDF, EDF Trading, Edison, EFET, ENEL, Energie-Nederland, Energy UK, ENI, Eurelectric, GasTerra BV, Gazprom, IOGP, SSE, Statoil and Vattenfall. An example is reported by GasTerra BV (Shipper – EU): GasTerra considers it crucial for shippers "to have the right to fix the payable price and thus manage the costs of their (long-term) capacity portfolio. GasTerra supports that a floating payable price will be used as the default method to set the payable price. The consequence is that all shippers, whatever their booking strategies are, will be exposed to tariff variations due to under- or over-recovery or changes in the allowed TSO revenue." Source: ENTSOG refined draft TAR NC non-confidential responses to consultation in a form stakeholder support process, 28 November 2014, http://www.entsog.eu/public/uploads/files/publications/Tariffs/2014/TAR0435_141121_SSP%20Responses%20per%20Question.pdf

[79] The payable price is determined by the underlying reference price methodology, and the reference price of the capacity sold in the following years is adjusted to meet allowed revenues or to ensure reconciliation of the regulatory account.

[80] Furthermore, if the fixed price approach is linked to commodity charges for under recovery this approach may introduce severe cases of cross-subsidisation between different kinds of network users such as shippers (gas traders) and industrial consumers. As the main cost driver of transmission costs is the peak capacity it does not seem to be justified that an industrial consumer with a flat load profile would be more exposed to the over/under recovery risk through the commodity charge than a gas trader.

thereby contribute to avoiding discrimination and increasing transparency. It will also encourage efficient, market driven investment in incremental capacity. Integration and harmonisation of the offers would also reduce the effort required from shippers for bidding and as such their administrative costs.

Option 2 however also recognises that for cases of capacity demand extending across more than two entry-exit systems or the existence of demand that requires large and complex investment would, due to its complexity, require an alternative allocation mechanism. In such cases, which are often investment projects driven by so-called anchor shippers[81] (the auction procedure as defined in the CAM NC would likely not be appropriate, as it cannot accommodate the specificities of bigger and/or more complex pipeline projects. Such specificities may relate e.g. to the needed flexibility with regard to setting the parameters of the economic test as well as the mechanisms by which such anchor shippers can be allocated capacity across the route and time horizon they require it. On the other side of the balance the option also foresees a clear quota of 20% in order to ensure that while enabling the anchor shipper to book the capacity it demands any foreclosure of such a new pipeline is prevented. Therefore, Option 2 preserves the flexibility associated with the alternative procedure proposed (i.e. open seasons) and thus maximise the potential to have a successful process that is compatible with the regime for existing capacity.

1.16 Impacts of Option 3: Advanced level of harmonisation

1.16.1 Analysis of impacts of Option 3

Policy option 3 would provide an advanced level of harmonisation through detailed and specific European rules for the parameters analysed in this impact assessment. This would entail setting up fully harmonised rules and making decisions with regard to trade-offs between policy objectives on the European level thereby leaving very limited room for national choices or derogations. Option 3 differs from the baseline scenario and from Option 2 in that it envisages going further and faster in harmonisation of TAR and INCR measures.

Deeper harmonisation foreseen under Option 3, while having certain potential for efficiency gains, also involves very complex procedural alignments within Member States. This additional administrative burden has non-negligible effects both in terms of timing and actual costs. By way of example the application of a single reference price methodology across the EU would mean a significant change at least in 12 Member States the specific beneficial effect of which has not been clearly demonstrated in our analysis.

The section below further analyses the economic impacts of Option 3 for the identified parameters, in a detailed manner.

1.16.2 Contribution of Option 3 to the policy objectives

1.16.2.1 Impact of Option 3 on the transparency of transmission tariff setting

Even though this option would provide full cross-country comparability without exemptions and delay, this option might fail to take into account the specificities of different Member States in particular with regard to risks TSOs are facing regarding their investments. Currently there is no justification for an EU-wide harmonisation of the regulation of TSO revenues. ACER, ENTSOG, NRAs and TSOs clearly stated that they currently do not see the need for such an approach. Market participants never asked for a harmonised approach in the public consultation but rather insisted on having sufficient transparency of the cost components.

Option 3 goes a step further than Option 2 by harmonising the tariff setting period to October-September (gas year) across all EU Member States and therefore would make it easier for

[81] These are e.g. producer shippers without which the project would in all likelihood not materialize.

network users to follow and predict changes of the tariff levels across the EU. However, this option comes with some costs for TSOs and potentially also DSOs and NRAs. For a large majority of TSOs, the tariff year is currently aligned with the accounting year (see Annex 6 for a detailed overview of countries and the applicable tariff years). Therefore this option would create additional costs and difficulty with the annual closing of accounts related to different accounting year and the resulting regulatory reconciliation. Changes in the tariff setting year raise also additional costs for adjusting the legal and regulatory framework. DSOs could also be impacted by the harmonisation if the change of tariff setting period for TSOs as this could lead to a misalignment with the tariff setting period for DSOs and the electricity networks. Even though this option has the benefit of facilitating further the predictability and comparability of tariffs across the EU, the positive effect would not outweigh the costs in particular as a similar result can be achieved with the less costly Option 2. Also stakeholders have demonstrated limited appetite for the harmonisation of the tariff setting year in the consultations conducted by ENTSOG[82]for the impact assessment.

1.16.2.2 Impact of Option 3 on ensuring level playing field for network users

With regard to the choice of the reference price methodology, analysis performed in the context of the impact assessment did not provide conclusive evidence that a unique methodology, as foreseen under Option 3, may fit well in all circumstances. The series of consultations have also not resulted in a clear majority of market players demanding a fully harmonised tariff structure.

While converging the structures onto a single methodology such as the Postage Stamp or the Capacity Weighted Distance, methodologies may have several advantages in terms of transparency and predictability. However, this would also have severe disadvantages. For example, Postage Stamp is a highly simplified approach and its use as the only methodology would have negative impacts on cost-reflectivity, investment signals and on the incentives for efficient use of the transmission system.

With regard to the entry-exit split Option 3 goes beyond Option 2 as it does not foresee any room for deviations to take into account national specificities when allocating the tariffs to exit and entry points.

ACER, ENTSOG, NRAs and TSOs expressed the shared view that a "one-size fits all" approach is not considered appropriate as it might fail to take into account specificities of different entry-exit systems. In terms of subsidiarity, such harmonisation of the tariff structures into a single methodology has currently not yet been proven to deliver the added benefit to overcome particularly the subsidiarity element of fully removing the Member States' prerogative on designing tariff structures (that are fully in line with the objectives of the Gas Regulation).

Differing from Option 2, this option does not foresee a deviation from the joint application of one and the same reference price methodology by all TSOs operating together an entry-exit system. On this issue the benefits would be the same as described under Option 2.

However, as this option lacks the possibility of deviation, NRAs would not be able to allow the separate application of the reference price methodology in those situations where it is considered needed in order to incentivise the merger of entry-exit systems or to accommodate differences due to different investment policies or determination of allowed revenues.

Option 3 provides for EU-level harmonisation without leaving room for deviations for entry and exit tariffs for storage facilities. While this approach would have a positive impact on transparency and predictability it lacks flexibility which might hamper the competitiveness of storages and thereby undermine also security of supply.

[82] Impact Assessment: Harmonisation of the Tariff Setting Year, 7 November 2014.

Not allowing for secondary adjustments under Option 3 might also cause problems with regard to under-recovery when certain input parameters such as technical capacity are used. In case of pipe-to-pipe competition, secondary adjustments such as benchmarking can be necessary in order to maintain a competitive level of tariffs compared to another route. Otherwise a risk of cross-subsidization and stranded costs occurs. Finally, this approach would not allow to mitigate any substantial tariff increases, nor the grandfathering of fixed price contracts which would be harmful for network users with long-term capacity contracts and might have detrimental impact on cross-border trade as the business scenario for shippers might change dramatically in one go.

By setting a fixed multiplier instead of allowing a band under Option 3, predictability and simplification of tariffs will be enhanced. However, these benefits do not seem to outweighed potential drawbacks. Even though a fully harmonised approach with a unique fixed multiplier may simplify the current situation between Member States, a bandwidth can be useful in order for the NRA to be able to react to specific circumstances at the respective IPs. NRAs may in some circumstances favour long-term stability and the promotion of investment by setting higher multipliers, while in other circumstances favour trades and cross-border competition by lowering multipliers depending on their expectations for congestion at IPs, the interest to encourage short-term trading and price arbitrage and their willingness to accept some risk of revenue under-recovery at the IP.

Option 3 foresees an aligned approach, namely the reserve price set at the marginal cost for all interruptible capacity products, including for non-physical backhaul. Thereby, Option 3 has the positive impact of providing simplification, transparency and predictability. In addition, the main benefit of a zero reserve price for interruptible capacity could be giving the TSO the incentive to offer firm capacity long-term and only offer interruptible capacity in the shorter term, where the probability of interruption can be estimated better. This would also allow for alignment with specific rules of the CMP Guidelines[83].

However, in case the TSO would continue to offer interruptible capacity for a longer duration than day-ahead, this option could lead to cross-subsidies at non-congested routes as network users who booked interruptible capacity would be able to flow gas with no probability of interruption and would not contribute to the cost recovery. In addition, it does not appear that all TSOs are equipped to undertake the necessary calculations on interruption probability or oversubscription potential meaning that the zero reserve price could be favouring a smaller group of shippers. Therefore, the benefits of Option 3 compared to Option 2 are not significant enough to outweigh the disadvantages.

With regard to the payable price approach, Option 3 foresees the application of only one approach without exemptions which as such would ensure a consistent price approach across IPs and provide a more predictable framework. However, as already outlined when assessing the impact under Option 2, the different price approaches deliver differently on the objectives of facilitating competition and fostering efficient and market based investments. While the floating price approach ensures a level playing field between different types of network users by charging the same tariff for the same product to everybody, the fixed price approach ensures the willingness of shippers to commit long-term in order to underpin market-based investments. By only allowing the application of the one or the other the benefit is greater predictability but the cost is that flexibility is lost to apply a fixed price where needed in order to facilitate investments.

[83] During the consultation process conducted by ENTSOG, few stakeholders have raised the possibility to set default zero reserve price in all auctions for interruptible capacity in order to ensure a proper implementation of the oversubscription and buy back mechanism as requested by the CMP guidelines. The CMP guidelines foresee that the TSOs should rather sell firm transmission capacity products instead of interruptible ones by applying an oversubscription and buy back mechanism.

The results of the public consultations showed that while a harmonised floating payable price approach has been strongly supported by ACER, many stakeholders, among them TSOs, asked for a mandatory fixed approach as well. There was thus an understanding to have both the floating and the fixed pricing regime for long-term capacity products.

1.16.2.3 Impact of Option 3 on offering incremental capacity

Although applying the CAM NC auctions to all incremental capacity projects as proposed under Option 3 is an overall beneficial solution, it may not suit all circumstances. In particular it is not an appropriate process for investments into big pipeline projects which involve more than two entry-exit systems and bids requested along several IPs during the allocation procedure or where bids spanning a number of different yearly capacity products at an IP are needed. Rules on INCR will only be beneficial and considered an alternative to the request of an exemption to the rules of the Third Energy Package according to Article 36 Gas Directive if they can also accommodate the specificities of bigger and/or more complex pipeline projects. Furthermore, flexibility with regard to setting the parameters of the economic test are needed also because the different network conditions and development levels in Member States may necessitate a differentiated approach in circumscribing the risks associated with the investments. Option 3 does not provide this alternative solution, which is set out in Option 2.

Still the conclusion of the external studies was that there is neither the need nor the justification for an EU-wide harmonisation of the regulation of TSO revenues for the time being[84].

1.17 Social and environmental impacts

As regards social impacts of the policy options, the baseline scenario, which does not foresee any further harmonisation of EU-wide transmission tariff regimes, may lead to undesired social impacts that follow from the scenario of the economic impact of Option 1. A decreased competitiveness of EU industries resulting from potentially sub-optimal gas trades and higher prices, due to less efficient market structure, may have negative effects on the European industry and thus on the labour market. If Option 1 is chosen, no impacts on job rights, job equality or job health and safety or fundamental rights are expected.

Policy options 2 and 3 are not expected to have direct social impacts when implemented. Indirect impacts however may arise. The proposed measures under Options 2 and 3 aim at enhancing market liquidity, market integration and the convergence of wholesale gas prices. The social impacts can be, thus, defined indirectly in terms of more liquid markets and cross-border competition and consequently lower gas prices. However, tangible benefits through lower wholesale gas prices are linked to the existence of effective competition on the retail market, as well as to the extent of government interference in the price setting, for example through taxes or by means of price regulation. No significant impacts on job right, job equality or job health and safety or fundamental rights are expected.

Option 1 is not expected to have direct environmental impacts while indirect impacts may occur. Not fostering further the internal gas market could have indirect negative impacts. For instance, the price of natural gas relative to coal has a serious impact on the choice of the fuel for electricity generation and this is linked to the CO2 emission levels in Europe[85]. However, the

[84] KEMA I and THINK.

[85] Higher natural gas than coal prices have favoured the latter in terms of merit order in electricity generation. In the last three years gas consumption in electricity generation has dropped significantly due to price competition from low coal prices. UK: -43% in 2012 and -8% in 2013; Italy: -13% in 2012 and -17% in 2013; Spain: -22% in 2012 and -28% in 2013; EU: -11% in 2014 with a total consumption of 410 bcm. Consumption in 2013 was 460 bcm while in 2010 it was 530 bcm (source: Italian Power Exchange, GME).

size and importance of environmental impacts are difficult to assess, as they will not only depend on the level of gas prices but also on the relative difference between the price of gas and that of other sources, in particular coal.

The implementation of Option 2 or 3 is not expected to have direct environmental impacts. However, the measures proposed under these policy options would foster transparency, cross-border trade, market integration and competition and thus enhance the competitiveness of gas compared to other energy sources. This could mitigate environmental impacts. In a low-carbon economy, a higher use of natural gas replacing more polluting energy sources, may contribute to a positive environmental impact. In addition, a more transparent and competitive landscape can reduce inefficiency and waste in fuel gas given the more efficient allocation of gas flows within the system.

7 COMPARISON OF THE OPTIONS

1.18 Comparing the policy options

Taking into account the impacts of the policy options and the assessment presented in Chapter 6, this section compares the different options against the baseline scenario For the purpose of the comparison the following criteria is applied:

- Effectiveness: the options proposed should first and foremost be effective in improving transparency and predictability of the frameworks of setting transmission tariffs and offering incremental capacity as well as in avoiding undue discrimination of different network user groups.
- Efficiency: assessing the extent to which objectives can be achieved at the least costs (benefits vs. costs).
- Consistency with other policies: the proposed measures should facilitate and foster the implementation of the Third Energy Package and the network codes;
- Political feasibility and proportionality.

In view of the current lack of general understanding and visibility on tariffs even smaller changes will have material impact. It is clear, that transparency will be one of the largest improvements and that is precisely what has been demanded by stakeholders of all types and from all regions of Europe.

While there are indeed flexibilities set out in the proposals, they by no means negate the beneficial impact we expect from the application of this network code.

Table 2 provides a comparison of the policy options with regard to the impact assessment criteria. Table 3 compares the three options based on their effectiveness, efficiency and coherence with other policies.

Table 2: Scores of the various options on the impact assessment criteria

		Option 1: No further EU action	Option 2: Basic level harmonisation	Option 3: Advanced level harmonisation
Economic criteria	Facilitate competition	**0**	++	++
	Facilitate market based investment	**0**	++	+
	Administrative burden	**-/0**	**0**	**0/-**
Public consultation support		-	+	-

Table 3: Comparison of the policy options in terms of their effectiveness, efficiency and coherence of responding to specific criteria

Specific objective	**Option 1**	**Option 2**	**Option 3**
Improve transparency in the gas market (by providing access to necessary information with regard to the predictability of tariffs and investments).	-	++	++
Ensuring a level playing field for network users and thereby ensuring cost-reflective transmission tariffs	-	++	+
Provide incentive for investments and maintain or create interoperability for transmission networks	**0**	++	+
Facilitate trade and competition through a well-functioning and transparent wholesale market	-	++	++

The implementation of the Third Energy Package will, in itself, not solve the problems outlined in Chapter 3. TAR and INCR rules adopted at national level could only contribute to the integration of the European gas market if sufficiently coordinated. Without introducing additional measures this option does not aim at solving the identified problems and therefore is likely to further create problems for the Commission's policy objective to fully integrate EU gas markets. Option 1 would not foster the liquidity of the European gas market and therefore hinder the development of competitive energy prices, which is essential in maintaining the competitiveness of Europe's industries, in particular in Member States where currently there are not many actors trading gas at the virtual trading point. The Commission services doubt that the necessary coordination can be fully achieved on a voluntary basis as these measures are highly technical. The experience shows that in case of contentious issues, opposing national models and approaches, even between adjacent Member States, may not be resolved easily or could be resolved only over a lengthy period of time. The resulting barriers to cross-border trade would significantly hamper the integration of European gas markets.

As Option 1 does not contribute to achieving the policy options it cannot be considered effective and consequently it is also not efficient. Furthermore, given the obligation on the Commission in the Third Energy Package (Art. 6 of the Gas Regulation) to further complement the rules by

more technical market design and market operation rules, this “do nothing” option is not legally feasible and therefore it is not coherent with other policies. In addition, as this option was not supported by Member States, ACER, ENTSOG and market participants in the public consultations, it is also not politically feasible.

As detailed in section 5.3 Option 3 can significantly contribute to solving the problems identified. However, through introducing EU-level harmonisation for a number of parameters, it limits Member States’ discretion when defining their tarification systems and is hence neither proportionate nor likely to be politically acceptable. This option would bring a significant change of the tarification regime in most of the Members States, without allowing for taking into account national specificities or providing transitional periods. In this sense, while Option scores similarly good as Option 2 when comparing their effectiveness, efficiency and coherence of responding to the specific criteria (Table 3), by fully harmonising all parameters it does not allow for taking into account (through exceptions or transitional periods) specific national circumstances and therefore cannot ensure cost-reflectivity of transmission tariffs to the extent as Option 2 does.

Option 3 provides for a number of measures that are effective. However, they generally imply relevant additional administrative burden and costs and therefore Option 3 is less efficient than Option 2. While this option is consistent, to a certain extent, with other policies, it does not preserve flexibility for taking into account specific circumstances in the Member States.

In addition, this option was not supported by Member States, NRAs or market participants in the public consultations. Even though there is general support by stakeholders to harmonise the rules for TSOs with regard to transparency, rules on incremental capacity and certain aspects of the tariff structures, stakeholders are concerned that for certain aspects a flexible regulatory framework might be needed for reasons related to market characteristics and network topology. Introducing identical rules for the reference price methodologies, payable price approach and economic test for incremental capacity could be beneficial with regard to the predictability, comparability and transparency of the regulatory framework. However, it might also lead to unintended consequences with regard to fostering cross-border trade and promoting efficient and market based investments.

Option 2 offers a balanced, feasible solution by going beyond Option 1 in proposing harmonised EU-level rules for a number of areas relevant for national tariff setting and for offering incremental capacity. At the same time it does not go as far in terms of harmonisation at EU-level as Option 3 by leaving discretion with the Member States for some areas, allowing for them to take into account national specificities where deemed necessary (e.g. keeping national autonomy with regard to TSOs' revenues). It also introduces transitional periods and exceptions to enable a better and feasible transition towards a more harmonised tarification regime in Europe and ultimately towards a more harmonised European internal gas market. Option 2 also considers a more flexible approach by tasking ACER with developing Guidelines of Good Practice on certain aspects of gas transmission tariffs setting. Compared to the other options, Option 2 provides the most benefits by facilitating competition and market based investments through a well-functioning and transparent wholesale market while putting a limited additional administrative burden on the participants of the European gas market.

Option 2 is effective in contributing to the achievements of the policy objectives in the most efficient way by introducing limited burdens and costs and is consistent with other policies. Option 2 was fully supported in the public consultations and is in line with the requirements of the market participants. Furthermore, it is also follows and builds upon the draft network code submitted by ENTSOG to the Commission, which in turn is based on the framework guideline developed by ACER.

The Commission was naturally very closely following all discussions and proposals surrounding the development of the TAR NC and INCR proposals. The Commission proposal provides a

sensitive, balanced solution by further developing the ENTSOG network code proposal in a few crucial points. These amendments were introduced to fully and efficiently address the problems identified, specifically with the view to ensuring that Member States' and market participants' support can be ensured.

The above issues have been key points raised by stakeholders vis-á-vis the final ENTSOG proposal. As the Commission closely followed the development of the network code and the related discussions throughout the process, it can be ensured that the introduced changes can secure Member States' and stakeholders' support for the Commission's proposal.

1.19 The preferred policy option

The Commission services propose to pursue Option 2, thereby submitting the TAR NC and the amendment of the CAM NC to address incremental capacity for treatment by the Gas Committee in the context of the Comitology procedure. It was explicitly foreseen by the legislator in the Third Energy Package that the rules had to be further complemented by more technical market design and network operation rules. In order to achieve the political target of the completion of the internal gas market, a purely national development was not considered sufficient.

Option 2 strikes the balance between costs and benefits and the level of harmonisation needed in order to ensure competition and market based investments. Such a balanced approach will have a positive impact on the liquidity of European gas markets. It furthermore addresses all the core issues identified in the problem identification which can be addressed under the legal base of network codes whereby only non-essential elements of the Gas Regulation can be further harmonised. Investments in energy infrastructure are capital-intensive projects that require stable and predictable regulatory conditions. By enhancing transparency on the composition of network tariffs and providing a stable and clear framework to trigger market based investment, Option 2 is expected to foster necessary investments in an efficient and market-based way. Finally, the measures proposed under Option 2 support the functioning of entry-exit systems as well as the measures of the already adopted CMP guidelines and CAM NC.

The Commission's proposal reflects on the fact, that ACER did not provide a recommendation on the ENTSOG network code proposal to the Commission. This is mainly due to the fact that many national regulatory authorities represented in the ACER Board of Regulators[86], preferred to keep their autonomy in relation to tariff methodologies which the ENTSOG proposal suggested to limit. Therefore, the Commission (DG Energy) introduced amendments in the text on a few crucial aspects to ensure that the final proposal efficiently addresses the identified problems. This covers in particular the i) introduction of additional transparency provisions; ii) a better amalgamation of the subsidiarity principle of allowing Member States to design tariff methodologies and the EU objective of making those more transparent, predictable and objective; iii) a reinforced possibility to "shelter" captive customers from the costs of new infrastructure built on the demand of shippers; and iv) rules allowing for faster implementation of the legislation at hand.

The key objective of the initiative is to increase transparency and predictability of the tariff regimes in the EU gas markets. In implementing Option 2, NRAs and TSOs will put procedures in place that will allow market players to get a better insight into tariff developments. In addition, the foreseen benchmarking of tariffs and the obligation to justify – compared to the benchmark – the methodology ultimately employed, will allow NRAs and TSOs to inform market players about their reasoning.

[86] An ACER recommendation under Art.6 of the Gas Regulation requires a positive opinion of the ACER Board of Regulators, see Article 15 of Regulation (EC) No 713/2009.

1.20 Operational objectives

The operational objectives of European rules on TAR and INCR are to:

- set out clear and transparent rules on how the tariffs for transmission capacity are determined in an entry-exit system;
- establish a transparent and reasonably predictable regulatory framework for setting short-term tariffs (with the aim of ensuring that the tariff levels for short-term transmission capacity strikes the balance between facilitating short-term trading and long-term commitments needed for market based investments);
- create a stable regulatory framework avoiding substantial tariff fluctuations;
- introduce publication and consultation requirements to enable network users to forecast transmission tariffs to a reasonable extent;
- create a regulatory framework avoiding undue discrimination;
- set a common approach to payable price at interconnection points (with the aim of fostering tariff predictability and creating a level playing field for all users and enabling TSOs' cost recoverability at the same time);
- establish a clear and stable regulatory framework for decisions on new pipeline investments;
- align the process and timing of the allocation of incremental capacity with that of existing capacity.

8 MONITORING AND EVALUATION

The 3rd Package tasks ACER and ENTSOG with the monitoring of the implementation of network codes, while enforcement clearly remains with the Commission. ACER, ENTSOG and the Commission have produced and will continue to produce reports, assessing the progress made in terms of achieving the internal market for gas and the implementation of network codes.

In particular, Article 9(1) of the Gas Regulation tasks ACER with the monitoring of all the network codes and Guidelines. ACER is also responsible to assess the effect of codes in facilitating market integration, as well as on non-discrimination, effective competition and the efficient functioning of the market. In cooperation with ENTSOG, ACER also undertakes the monitoring of the implementation of the network codes. The monitoring of the "early implementation" of the network codes (e.g. the CAM NC Roadmap) has been taking place already. ACER is currently further developing its methodologies, including the indicators, for the monitoring of the implementation of the network codes in their binding phase. ACER will continue to provide reports on the monitoring and evaluation of the policies provided for in the Third Energy Package, including network codes. In addition, the Third Energy Package tasks ACER with monitoring the internal markets for electricity and gas. To this purpose, ACER undertakes an overall monitoring of the development of the European gas markets and publishes its findings and recommendations in its annual market monitoring report[87].

The Commission publishes an annual progress report on the internal energy market for

[87] ACER annual market monitoring reports:
http://www.acer.europa.eu/Electricity/Market%20monitoring/Pages/default.aspx

electricity and gas, and the implementation of EU law[88]. The report for 2014 found that energy market integration has already delivered many positive results. In particular, the report concluded that cross-border trade in gas between EU Member States has increased and that gas pipelines are also being used more efficiently thanks to common rules on the use of gas networks.

Given the complexities identified in this impact assessment report specific to the issues of the TAR NC and INCR it is also useful to consider the identification of possible indicators that can allow for an assessment of the effectiveness of the proposed measures.

The key objective of the initiative is to enhance transparency and predictability of tariff methodologies. The use of a benchmark cost allocation methodology (capacity weighted distance) will oblige all NRAs and TSOs to calculate this benchmark as well as provide an explanation for the deviation therefrom in the case another methodology is chosen. This will, together with the broad transparency provisions included in the proposals – provide a robust indicator and effective means of assessing tariffs across Europe. In implementing these proposals, NRAs and TSOs will put in place procedures allowing market players to have a better insight into the tariff development and allow them to better inform the market about the reasoning behind decisions regarding tariffs.

Different indicators can help measuring effectiveness, depending on the specific objective of a given measure. Such indicators can be transparency related, for example transparency of the used methodology; or market related, for example statistics on cross-border trade and the booking of storage facilities or the satisfaction of customers, measured for example through consultations. These indicators can also be directly related to tariffs, for example tariff evolution, the evolution of revenue recovery (i.e. the amount of revenue the TSO earns on the basis of calculated tariffs versus the shortfall or surplus) or the size of the regulatory account or the literal network code implementation in the Member States.

For a more detailed assessment of the implementation and the effectiveness of the proposed measures, ACER, supported by ENTSOG, will undertake a regular monitoring exercise, as is the case for all applicable European network code. ACER and ENTSOG are best placed to define the most relevant indicators, gather and analyse the data and assess the functioning of the network codes in place.

9 ABBREVIATIONS

ACER	Agency for the Cooperation of Energy Regulators
BAL	Balancing in Gas Transmission Networks
CAM	Capacity Allocation Mechanism
CEER	Council of European Energy Regulators
CMP	Congestion Management Procedures
CWD	Capacity Weighted Distance
DSO	Distribution System Operator
E/E	Entry-exit
EFET	European Federation of Energy Traders

[88] The full report is available under the following link: http://ec.europa.eu/energy/en/topics/markets-and-consumers/single-market-progress-report

ENTSOG	European Network of Transmission System Operators for Gas
ERGEG	European Regulatory Group for Electricity and Gas
INCR	Incremental (new build) gas transmission capacity
IP	Interconnection Point
ITC	Inter-TSO Compensation
FG	Framework Guideline
NC	Network Code
NRA	National Regulatory Authority
TAR	Transmission tariff structures for gas
TPA	Third party access
TSO	Transmission System Operator
TYNDP	Ten Year Network Development Plan
VTP	Virtual Trading Point

10 GLOSSARY

- **Entry/exit split** – in most Member States this is an ex-ante assessment of the proportion of the transmission services revenue (which makes up the largest share of the allowed revenue) to be recovered from entry charges and the proportion to be recovered from exit charges. In some Member States the entry/exit split is determined as an output of the cost allocation methodology.
- **Firm services** – these are services offered by the transmission system operator in relation to firm capacity
- **Interruptible services** – these are services offered by the transmission system operator in relation to interruptible capacity
- **Long-term capacity products** – these are capacity products with a duration of one year or more
- **Multiplier** – this is a factor to calculate reserve prices for non-yearly standard capacity products applied to the proportional yearly reference price, before the application of a seasonal factor. Multipliers can be used to incentivise short or long term capacity bookings or to optimise efficient revenue recovery, promoting an efficient use of the system.
- **Payable price** – this is the price to be paid, at the time of use, by the network user to the TSO, for the reservation of the transmission capacity. The payable price may be subject to reference price changes relative to the prevailing price at the time of capacity booking. Where auctions are used to allocate transmission capacity, the payable price may also include premium bid in excess of the reference price.
- **Reference price** – this is the primary output of the reference price methodology. This is the value of a capacity product with a duration of one year for each entry and exit point calculated after the application of the reference price methodology. Under most reference price methodologies, reference prices include the application of 'secondary adjustments' such as equalisation or benchmarking. Reference prices form the basis of the capacity tariffs levied on entry and exit capacity.
- **Reference price methodology** – the methodology applied to the part of the transmission services revenue to be recovered from capacity-based transmission tariffs with the aim of deriving reference prices.
- **Reserve price** – where auctions are used, the reference price is used as the reserve price for the annual capacity product and the basis for setting the reserve prices for capacity products of shorter duration and for interruptible capacity. Where auctions are not used to allocate capacity the reference price is used as the regulated price for the annual capacity product.
- **Revenue reconciliation mechanism**[89] – this is the method by which any under/over recovery of collected revenues relative to allowed revenues is reconciled.
- **Seasonal factor** – this is the factor that is applied to reserve prices in order to facilitate the efficient utilisation of the infrastructure in different seasons of the year**.** Seasonal factors can be applied to promote efficient capacity utilisation at times of peak demand.
- **Secondary adjustments** – is a method which can be applied after the application of the primary reference price methodology providing a reference price (the price for a capacity product for firm capacity with a duration of one year which is applicable at entry and exit points and used to set capacity-based transmission tariffs).

[89] In price cap systems, no revenue recovery mechanism is used and the volume risk is borne by the TSOs.

- **Short term capacity products** – these are capacity products with a duration of less than one year (monthly, quarterly, daily and within-day).
- **Tariff setting period** – this is the period of time over which a given tariff will apply. In most Member States tariffs are set annually, but in some Member States tariffs are determined at the start of the regulatory period for up to four years. Due to the materiality of transmission charges, advance notice on changes to the level of tariffs is important to network users.
- **Transmission tariff** – means the charges collected from network users for the provision of transmission services that are capacity- or commodity-based.
- **Virtual trading point** – The full implementation of entry-exit systems requires the establishment of virtual trading points (VTPs) where the rights to entry-paid gas can be transferred between market participants. The goal is for inputs and offtakes to be balanced at a single VTP in each individual entry-exit system.

11 LIST OF ANNEXES

Annex 1: Procedural information: TAR NC and INCR development process

Annex 2: Stakeholder consultation: Summary of stakeholder feedback conducted by ENTSOG in the stakeholder support process in November 2014

Annex 3: Who is affected and how

Annex 4: Analytical models (models used in ACER and ENTSOG assessment documents)

Annex 5: Context details

Annex 6: Overview of baseline scenario

Annex 7: Process for incremental capacity projects

Annex 8: Average gas transmission tariffs EU-27 borders in 2013

Annex 9: Technical elements of the tariff regimes supporting the problem identification chapter

Annex 10: Objective tree

Annex 11: Description of the relevant transmission tariff setting parameters

Annex 12: Commercial interplay of tariffs and spreads at IPs

ANNEX 1 – PROCEDURAL INFORMATION: TAR NC AND INCR DEVELOPMENT PROCESS

The areas which should be covered by network codes are listed in Article 8(6) of Regulation (EC) No 715/2009, including the topic of rules regarding harmonised transmission tariff structures in gas. The Commission establishes per decision each year a priority list for the development of network codes and guidelines for the subsequent year and beyond. The market consultation of the draft priority lists of the last years confirmed the need to develop rules on harmonised transmission tariff structures in gas[90].

As laid down in Article 6, for the development of a network code, the Commission invites ACER to develop a non-binding framework guideline (FG) within a period of six months. If the Commission considers that the framework guideline contributes to non-discrimination, effective competition and the efficient functioning of the market it shall request ENTSOG to submit a network code – which is in line with the relevant framework guideline – to ACER within a reasonable time not exceeding one year. After submission of the network code by ENTSOG, ACER has to provide a reasoned opinion on whether the network code is in line with the framework guideline on which basis ENTSOG – in the light of the opinion of the Agency – may resubmit the network code. Once ACER is satisfied that this is the case, it shall submit the network code to the Commission and may recommend its adoption. In case ACER is not in a position to provide a recommendation to the Commission the Commission, having the right of legislative initiative, may nevertheless still submit the developed network code or an amendment thereto to Comitology.

Key dates in the NC TAR and INCR development process were:

September 2011-May 2012	- In September 2011, ACER was invited to scope a project with the aim of harmonising gas transmission tariff structures within the EU. Within the scoping process ACER carried out a public consultation on scope and main policy options for Framework Guidelines on harmonised transmission tariff structures (TAR FG) from February to March 2012[91].
June 2012	- Based on the outcome of the scoping exercise the European Commission invited ACER to draft TAR FG. The invitation included a request to consider the issues related to incremental capacity (INCR).
August 2012	- Publication of the Impact Assessment Study for the TAR FG by Brattle Group[92].
September –	- ACER published the Initial Impact Assessment for the TAR FG[93].

[90] The Commission decisions on the priority lists are available: https://ec.europa.eu/energy/en/topics/markets-and-consumers/wholesale-market/gas-network-codes

[91] Evaluation of responses: http://www.entsog.eu/public/uploads/files/publications/Tariffs/2013/ACER%20Public%20Consultation%20on%20the%20Draft%20Framework%20Guideline%20on%20Harmonised%20transmission%20tariff%20structures.pdf

[92] http://www.acer.europa.eu/media/events/public%20workshop%20on%20fg%20on%20harmonised%20transmission%20tariff%20structures%20for%20gas/document%20library/1/120917_draft%20iia_framework%20guidelines%20on%20tariff%20structures_final%20draft%20for%20consultation.pdf

November 2012	- ACER carried out a consultation process on (i) Questionnaire for the Draft Framework Guideline on Harmonised Gas Transmission Tariff Structures and (ii) Draft Framework Guidelines on rules regarding Harmonised Gas Transmission Tariff Structures[94].
October 2012	- 22nd Meeting of the European Gas Regulatory Forum (Madrid): Invitation for regulators to develop, in close cooperation with stakeholders, the blueprint on how "new build" capacity at interconnection points can be integrated into an EU-wide market-based approach.
January 2013	- ACER hosted a workshop on the TAR FG initial draft.
February 2013	- ACER organised the Open House event on the TAR FG and published submissions prepared by stakeholders[95]. - Publication of the impact assessment on harmonised rules for INCR by Frontier Economics. - ACER submitted the TAR FG to the European Commission.
March 2013	- The European Commission raised concerns on the TAR FG with regard to the degree of harmonisation of the cost allocation methodologies and the determination of the reference price chapter and suggested amendments of the provisions on transparency, mitigating measures and definition. - ACER requested a postponement of the deadline until November 2013 (granted in June 2013).
April 2013	- ACER published the evaluation of responses of the public consultation (September-November 2012) and of the Open House[96]. - ACER published the draft TAR FG on 16 April 2013.
May 2013	- Publication of the CEER Blueprint on rules for INCR.
July 2013	- ACER takes over the further development of the rules on INCR process from CEER.
July 2013 – September 2013	- ACER consultation process on chapter 3 of TAR FG on reference price methodologies[97].
August 2013	- ACER held a Q&A session on the TAR FG.

93

http://www.acer.europa.eu/media/events/public%20workshop%20on%20fg%20on%20harmonised%20transmission%20tariff%20structures%20for%20gas/document%20library/1/120917_draft%20iia_framework%20guidelines%20on%20tariff%20structures_final%20draft%20for%20consultation.pdf

[94] Responses to public consultation: http://www.acer.europa.eu/Official_documents/Public_consultations/PC_2012_G_14_responses/Forms/AllItems.aspx?&&p_SortBehavior=0&p_FileLeafRef=GRTGaz%20response.pdf&&PageFirstRow=1&&View={D3A9A2DA-B995-4455-8B73-D61C2C7CD89A}

[95] Submissions to "Open House": http://www.acer.europa.eu/Media/Events/Open_House_Gas_Tariff/default.aspx

[96] Evaluation of responses http://www.entsog.eu/public/uploads/files/publications/Tariffs/2013/ACER%20Public%20Consultation%20on%20the%20Draft%20Framework%20Guideline%20on%20Harmonised%20transmission%20tariff%20structures.pdf

[97] Responses available under 'Main documents' section under nr 7 http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Pages/Harmonised-transmission-tariff-structures.aspx

September 2013	- ACER hosted a workshop on the TAR FG.
October 2013	- 24th Meeting of the European Gas Regulatory Forum (Madrid): Presentations by ENSTOG and ACER on the TAR FG and rules on INCR.
November 2013	- ACER published the evaluation of responses of the public consultation (July-September 2013)[98]. - ACER published a revised draft of the TAR FG, submitted to the European Commission.
December 2013	- ACER published a Guidance to ENTSOG on the development of amendment proposals to the Network Code on Capacity Allocation Mechanisms on the matter of incremental and new capacity, taking into account the interactions between tariffs (under the framework guideline process) and incremental capacity. - The European Commission invited ENTSOG to draft a Network Code on Tariff Structures in Gas Transmission Networks (TAR NC). - The European Commission invited ENTSOG to draft an amendment proposal to the Capacity Allocation Mechanisms Network Code (CAM NC) with regard to rules on INCR. - ENTSOG hosted the kick-off meeting on the TAR NC that included presentations from ENTSOG, ACER and key stakeholders.
January 2014	- ENTSOG published the Launch Documentation on the TAR NC and INCR and opened a public consultation process for the Project Plan[99, 100]. - ENTSOG hosted the kick-off meeting on INCR that included presentations from ENTSOG, ACER and key stakeholders. - Final ENTSOG Project Plan for TAR NC and INCR. - Informal Member States Meeting on i.a. TAR NC and INCR hosted by the European Commission.
February 2014	- ENTSOG hosted Stakeholder Joint Working Session 1 and 2 on INCR. - ENTSOG hosted Stakeholder Joint Working Session 1 and 2 on TAR NC.
March 2014	- ACER published the Assessment of Policy Options - Justification document for the TAR FG.

[98] Evaluation of responses http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Documents/EoR_Draft%20Tariff%20FG_final.pdf

[99] Responses to public consultation http://www.entsog.eu/public/uploads/files/publications/Tariffs/2013/TAR207-14_140122_Responses%20to%20consultation%20on%20Draft%20TAR%20NC%20PP.pdf

[100] Responses to public consultation http://www.entsog.eu/public/uploads/files/publications/incrementalcapacity/INC00113-14_143001_Responses%20to%20consultation%20on%20draft%20PP%20for%20the%20Incremental%20Proposal_Contact%20details.pdf

	- ENTSOG hosted Stakeholder Joint Working Session 3 and 4 on INCR. - ENTSOG hosted Stakeholder Joint Working Session 3 and 4 on TAR NC. - ENTSOG hosted Stakeholder Joint Working Session 5 on INCR.
April 2014	- ENTSOG hosted Stakeholder Joint Working Session 5 on TAR NC.
	- ENTSOG published the initial draft TAR NC and the supporting document for public consultation[101].
May 2014	- ENTSOG published the initial draft amendment of the CAM NC (INCR) and the supporting document for public consultation[102].
	- 25th Meeting of the European Gas Regulatory Forum (Madrid): Presentations by ENSTOG and ACER on TAR NC and INCR.
June 2014	- ENTSOG hosted a consultation workshop on the TAR NC and INCR.
July 2014	- Informal Member States Meeting on i.a. TAR NC and INCR hosted by the European Commission.
	- ENTSOG published a report on the public consultation on TAR NC (May 2014)[103].
September 2014	- ENTSOG published a report on the public consultation on INCRE (May 2014)[104].
	- ENTSOG hosted a refinement workshop on the TAR NC and INCR.
October 2014	- 26th Meeting of the European Gas Regulatory Forum (Madrid): Presentations by ENSTOG and ACER on TAR NC and INCR.
	- ENTSOG published for the TAR NC and for INCR refined drafts, a comparison of initial and refined draft of the TAR NC and an Analysis of Decisions document.
November 2014	- ENTSOG launched the stakeholder support process (SSP) on TAR NC and INCR.
	- ENTSOG published the impact assessment for the tariff setting year. - Informal Member States Meeting on i.a. TAR NC and INCR hosted by the European Commission.
	- ENTSOG published a report on the stakeholder support process (SSP) for the TAR NC of November 2014[105].
December 2014	- ENTSOG submitted the draft TAR NC along with supporting documentation (i.a. the Accompanying Document for TAR NC)

[101] Responses to public consultation http://www.entsog.eu/public/uploads/files/publications/Tariffs/2014/TAR334-14_Initial%20Draft%20TAR%20NC%20Non-Confidential%20Responses%20to%20Consultation_Reader%20Friendly%20Format.pdf

[102] http://www.entsog.eu/publications/incremental-capacity#CONSULTATION-ON-DRAFT-INCREMENTAL-PROPOSAL

[103] Public consultation report http://www.entsog.eu/public/uploads/files/publications/Tariffs/2014/TAR0335_140911_Consultation%20Response%20Report_Summary_250914_AK.pdf

[104] http://www.entsog.eu/publications/incremental-capacity#CONSULTATION-ON-DRAFT-INCREMENTAL-PROPOSAL

[105] SSP Report http://www.entsog.eu/public/uploads/files/publications/Tariffs/2014/TAR0440_141217_SSP%20Report_final_for%20publication.pdf

	for ACER's Reasoned Opinion. - ENTSOG submitted the draft amendment to the CAM NC with regard to INCR along with supporting documentation (i.a. the Accompanying Document for INCR) for ACER's Reasoned Opinion. ENTSOG also published a comparison between refined and the submitted TAR NC[106].
February 2015	- ACER launched a public consultation on the revised ENTSOG proposal for the Amendment Proposal to CAM NC for INCR[107]. - ACER adopted the Reasoned Opinion on the TAR NC.
March 2015	- Informal Member States Meeting on i.a. TAR NC and INCR hosted by the European Commission.
April 2015	- 27th Meeting of the European Gas Regulatory Forum (Madrid): Presentations by ENSTOG and ACER on TAR NC and INCR.
June 2015	- Informal Member States Meeting on i.a. TAR NC and INCR hosted by the European Commission. - ACER published the evaluation of responses to the public consultation on INCR (February 2015)[108].
July 2015	- ACER launched a (second) public consultation on the suggested amendments to CAM NC including the revised ENTSOG proposal on INCR and a change of the default auction calendar[109]. - ENTSOG re-submitted the TAR NC to ACER along with the Explanatory Document. - ACER published the evaluation of responses to the public consultation on amendments to CAM NC on INCR of July 2015[110].
October 2015	- ACER submitted its recommendation to the Commission on amending the CAM NC[111]. - ACER decided not to provide a Recommendation to the Commission on the TAR NC.

[106] http://www.entosg.eu/publications/tariffs/#TAR-NC-SUBMITTED-TO-ACER

[107] Responses http://www.acer.europa.eu/Official_documents/Public_consultations/PC_2015_G_02_responses/Forms/AllItems.aspx

[108] Evaluation of responses http://www.acer.europa.eu/Official_documents/Public_consultations/PC_2015_G_05_responses/20150713_EoR_PC_on_revised_ENTSOG_proposal_on_Incremental_Capacity.pdf

[109] Responses http://www.acer.europa.eu/Official_documents/Public_consultations/PC_2015_G_05_responses/Forms/AllItems.aspx

[110] http://www.acer.europa.eu/Official_documents/Public_consultations/Pages/PC_2015_G_05.aspx

[111] http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Recommendations/ACER%20Recommendation%2004-2015.pdf

STAKEHOLDERS

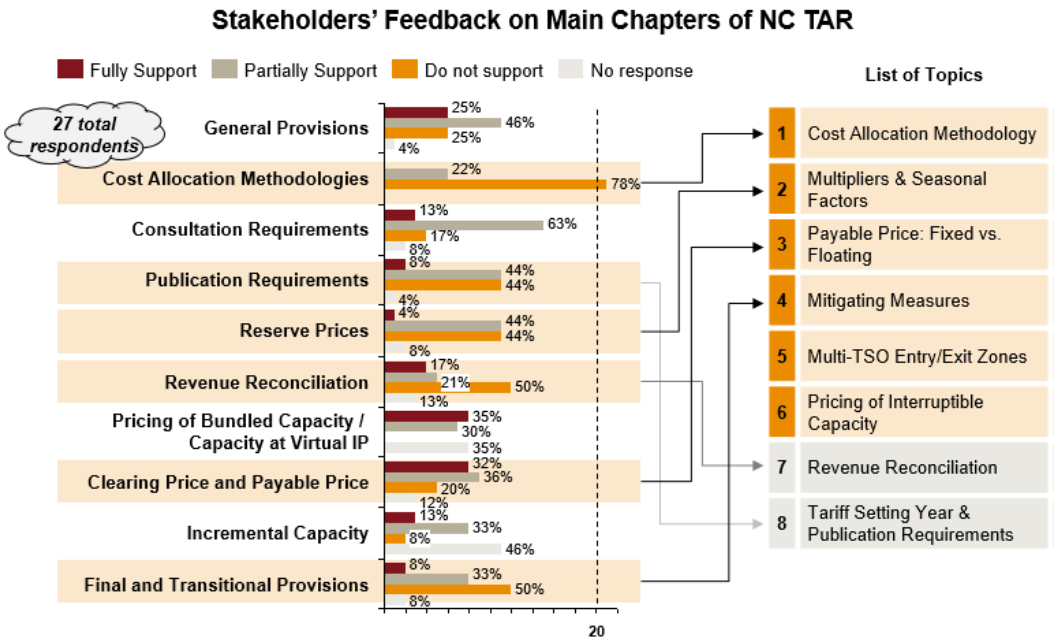
The following parties have participated in one or more of the consultations:

- AEP, Association, UK
- AFG, Association, France
- AGGM Austrian Gas Grid Management AG, TSO, Austria
- Anigas, Association, Italy
- BBL, TSO, the Netherlands
- BDEW, Association, Germany
- Bord Gais Energy Ltd, Energy Company, Ireland
- BP, Energy Company, UK
- Centrica Storage, SSO, UK
- Centrica, Energy Company, UK
- CEZ, Energy Company, Czech Rep.
- DEPA, Energy Company, Greece
- E.ON Gas Storage, SSO, Germany
- E.ON Group, Energy Company, Germany
- E.ON Sweden, Energy Company, Sweden
- EconGas GmbH, Energy Company, Austria
- EDF SA, Energy Company, France
- EDF Trading, Energy Company, France
- Edison, Energy Company, Italy
- EDP, Energy Company, Portugal
- EFET, Association, Belgium
- Enagas, TSO, Spain
- EnBW, Energy Company, Germany
- ENEL, Energy Company, Italy
- Energie Nederland, Association, the Netherlands
- Energy Community, International Organization
- Energy UK, Association, UK
- ENGIE, Energy company France
- ENI, Energy company, Italy
- ENTSOG, Association, Belgium
- GDF Suez Infrastructures, Energy Company, France
- German Chemical Industry Association, Association, Germany
- GSE, Association, Belgium
- GEODE, Association, Germany
- GRT Gaz, TSO, France
- Gasunie Deutschland Transport Services GmbH
- Handen, Energy Company, Poland
- Hungarian Gas Tranzit Ltd., TSO, Hungary
- Hungarian Gas Storage Ltd., SSO, Hungary
- Inter-regies, Association, Belgium
- IFIEC, Association, Belgium
- Interconnector, TSO, UK
- Hungarian Gas Storage Ltd., SSO, Hungary
- IOGP, Association of Oil and Gas producers, Belgium
- Initiative Erdgasspeicher e.V (INES), Association, Germany
- JP Morgan, Energy Company, UK
- Mercuria, Energy Company, Int'l
- Mutual Energy Ltd, TSO, UK
- National Grid, TSO, UK
- Net4Gas, TSO, Czech Rep.
- PGNIG, Energy Company, Poland
- PRISMA, Capacity Booking Platform, Germany
- Open Grid Europe, TSO, Germany
- OGP Europe, Association, Belgium
- OMV Petrom, Energy Company, Romania
- Reganosa, TSO, Spain
- REN, TSO, Portugal
- RWE Gas Storage
- RWE S&T, Energy Company, Germany
- Sedigas, Association, Spain

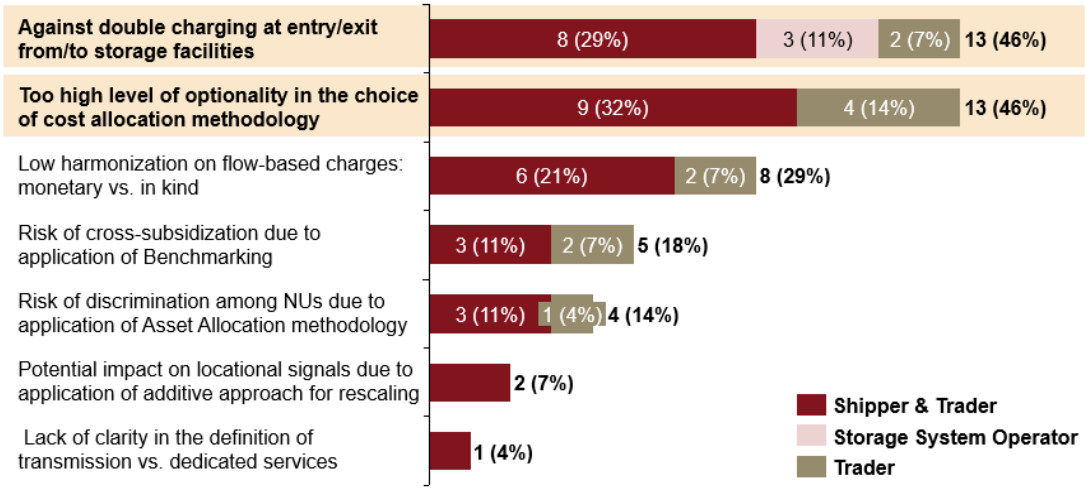
- ESB Energy International, Energy Eompany, Ireland
- Eurelectric, Association, Belgium
- Eurogas, Association, Belgium
- Europex, Association, Belgium
- Eustream, TSO, Slovakia
- EWE Group, Energy Companies, Germany
- Exxon Mobil, the Netherlands
- FGSZ, TSO, Hungary
- Galp Energia, Energy Company, Portugal
- Gas Forum, Association, UK
- Gas Natural Fenosa, Energy Company, Spain
- Gas Storage Netherlands, SSO, the Netherlands
- Gascade, TSO, Germany
- GasTerra, Energy Company, the Netherlands
- Gaz-System, TSO, Poland
- Gazprom M&T, Energy Trading Company United Kingdom
- Shannon LNG, LSO, Ireland
- Shell Energy Europe, Energy Company, UK
- Sorgenia, Energy Company, Italy
- SSE, Energy Company, UK
- SSE Hornsea Ltd, SSO, UK
- Statoil, Energy Company Norway
- Storengy, SSO, France
- Taqa (Gasoplag), Association of storage operators, the Netherlands
- Thyssengas, Energy Company, Germany
- Uprigaz, Association, France
- Vattenfall, Producer, the Netherlands
- Vayu Limited, Energy Company, Ireland
- Union Fenosa Gas, Energy Company, Spain
- Vereinigung der Saarländischen Unternehmensverbände e.V., Association, Germany
- VIK, Association, Germany

ANNEX 2 – STAKEHOLDER CONSULTATION: SUMMARY OF STAKEHOLDER FEEDBACK CONDUCTED BY ENTSOG IN THE STAKEHOLDER SUPPORT PROCESS IN NOVEMBER 2014

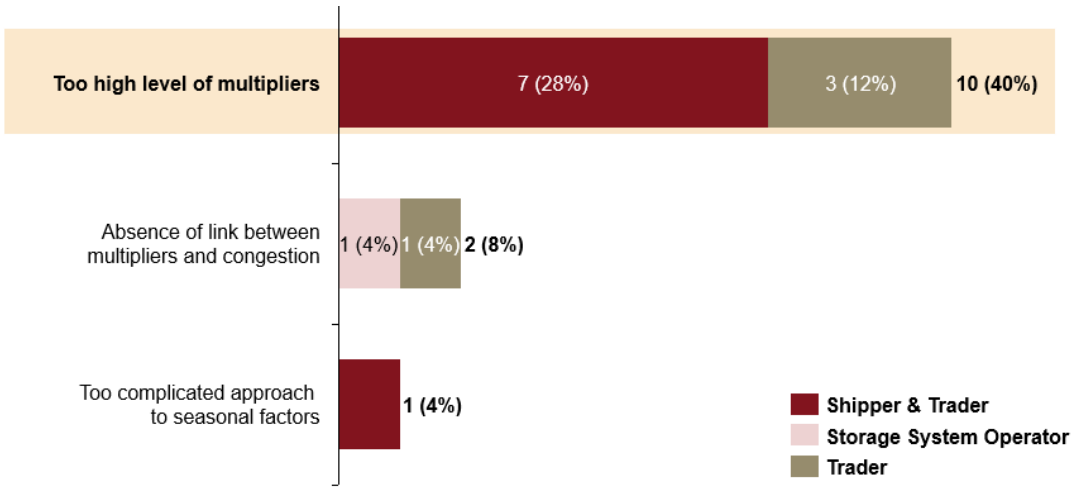
Feedbacks from stakeholders contributed to delineate several alternative options. A summary of these feedbacks is provided as follows.



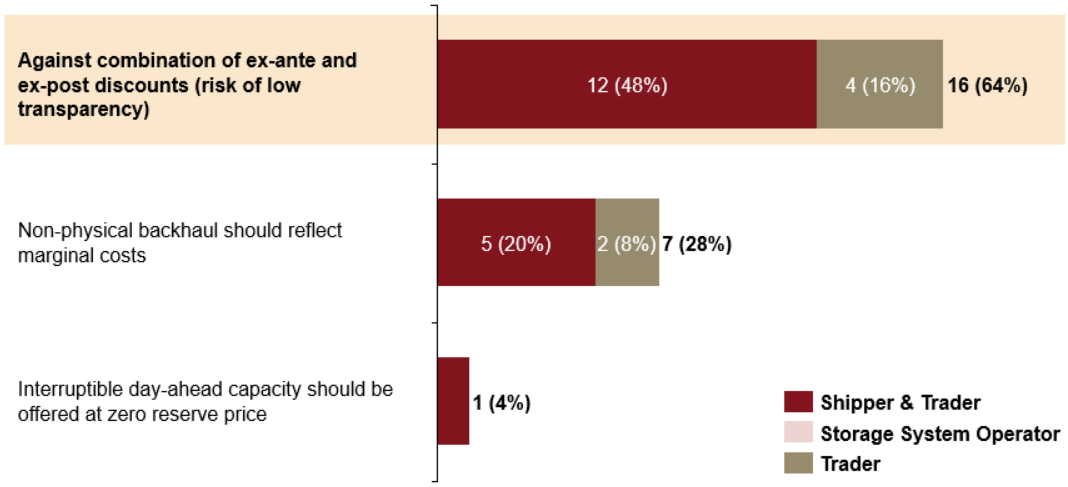
Reference price methodology



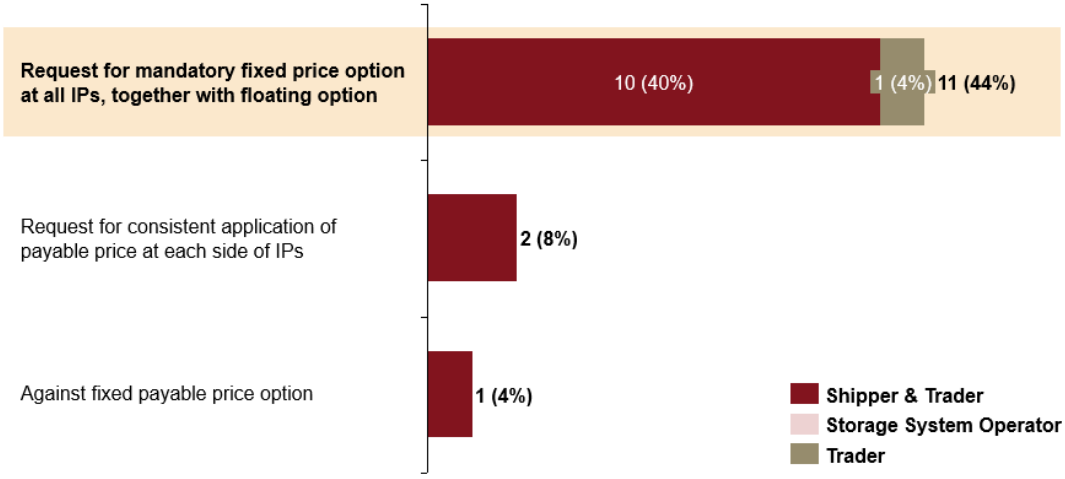
Multipliers and seasonal factors



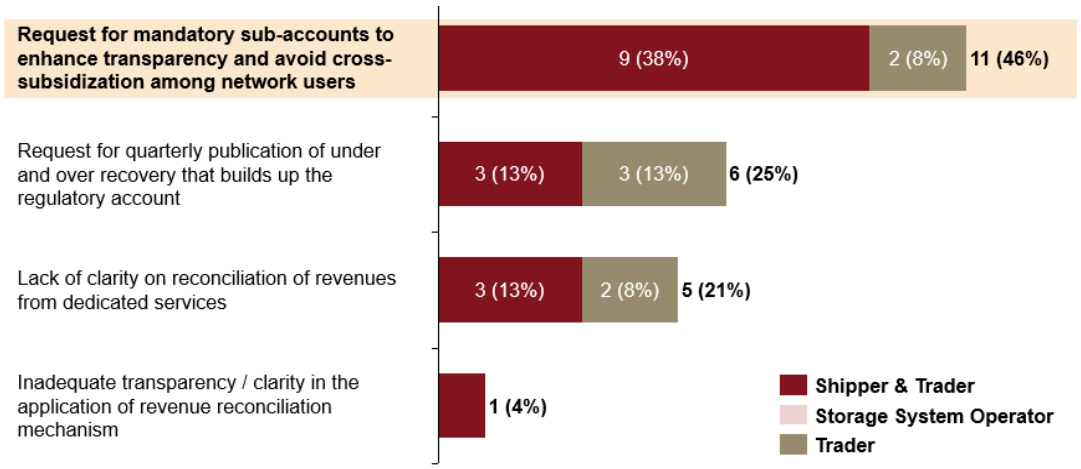
Pricing of interruptible capacity



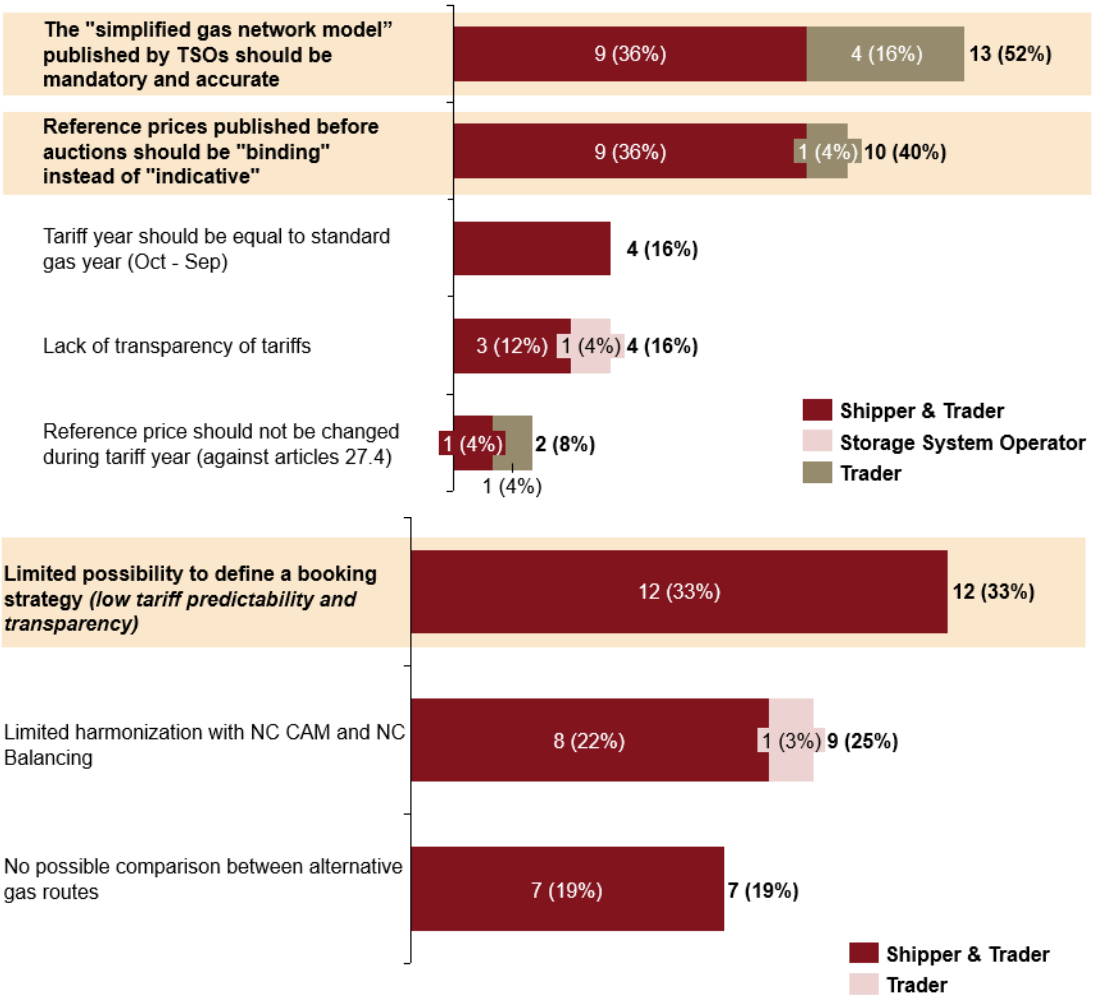
Payable price: fixed vs. floating



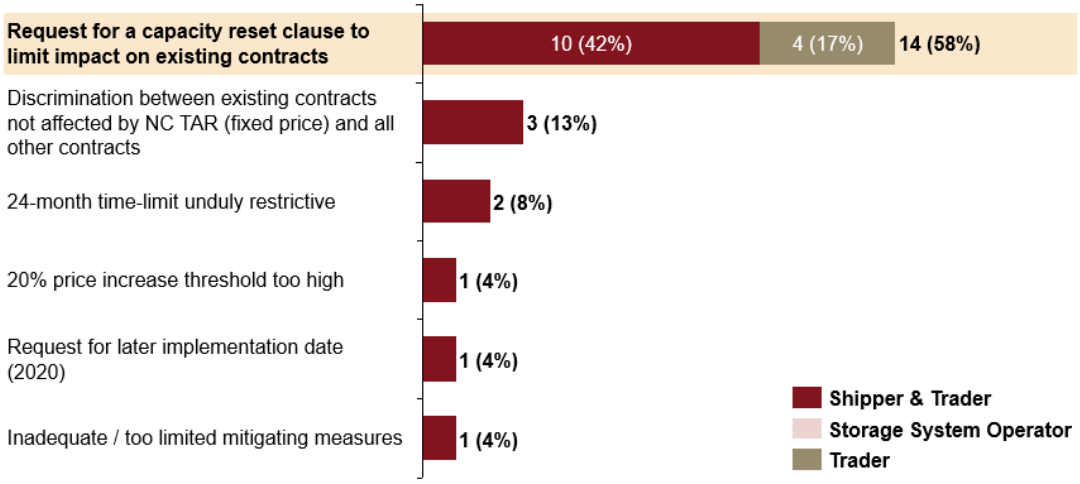
Revenue reconciliation mechanism



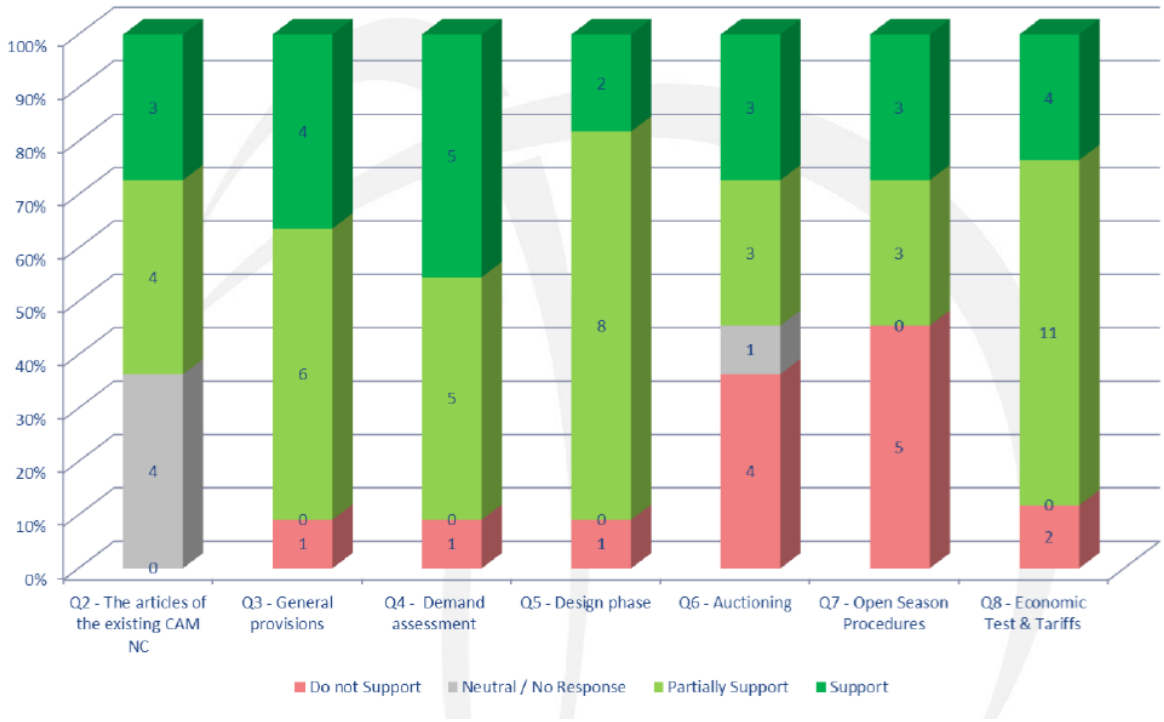
Network users access to relevant information



Mitigating measure



Incremental capacity



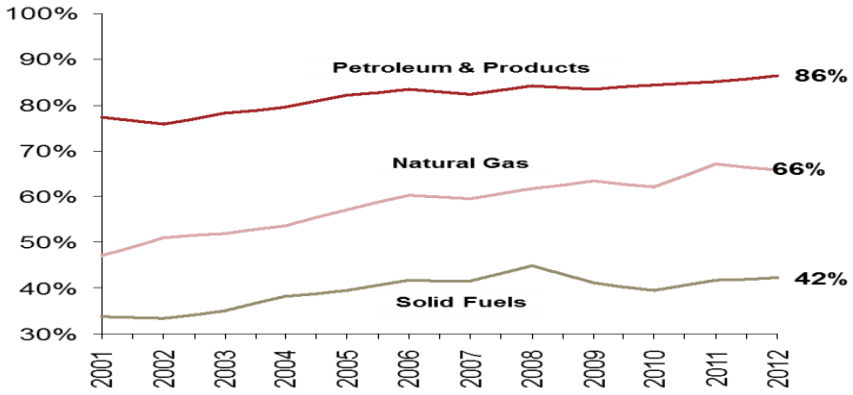
Structure of Gas Industry in EU and import dependency

In general, the natural gas sector in the EU is made up of the following players:

i) Transmission System Operators ("TSOs") who own and operate the high-pressure gas network;
ii) Distribution System Operators ("DSOs") who own and operate the low-pressure networks;
iii) shippers or network users, who transport gas through the networks and act on the wholesale level (Shippers can be producers/importers active on the upstream part of the gas market bringing the gas from the production sites to the demand centres, incumbent gas market players as well as new entrants or, from another perspective, can be supplying final customers or be trading on the wholesale market or a combination of both);
iv) traders who do not necessarily take physical ownership of the gas but use the various market places to take positions in different products thereby increasing market liquidity;
v) suppliers who are active on the retail segments of the market; and
vi) customers (industrial, commercial and household), who are active on different levels of the value chain depending on their size and consumption.

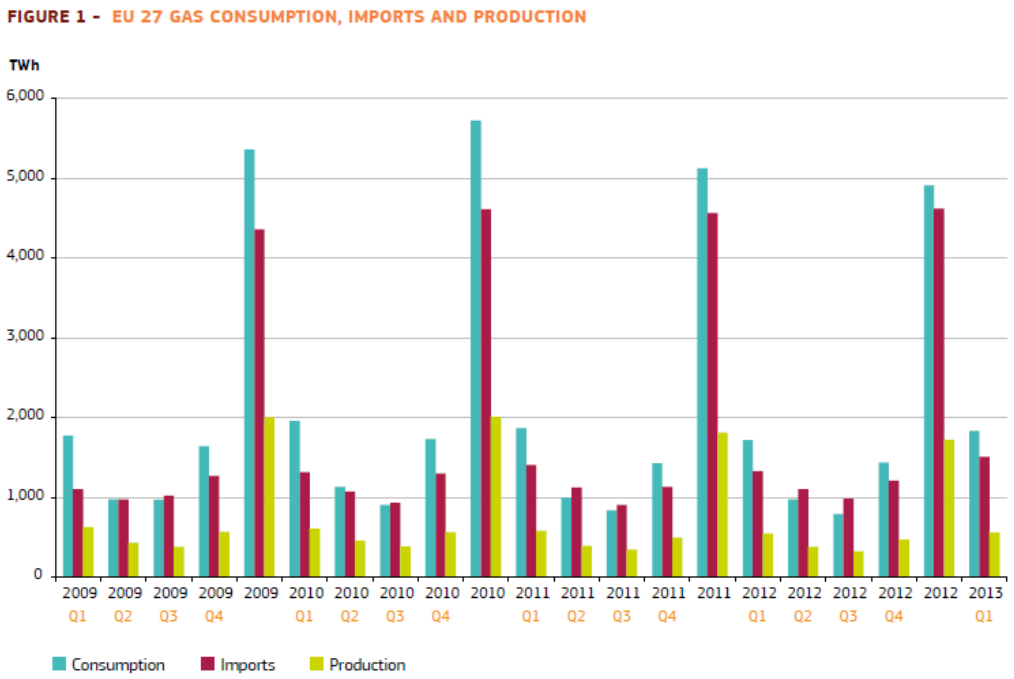
Figure 1: The gas value chain, Source: Galp Energia

Figure 2: EU-28 Trend of energy import dependency - Net imports as % of total fuel consumption[112]



[112] Source: EU Energy in Figures - Statistical Pocketbook 2014 based on elaboration of Eurostat data of May 2014.

Figure 3: EU-27 gas consumption, imports and production, Q1 2009-Q1 2013



ANNEX 3 – WHO IS AFFECTED AND HOW

This annex analyses the impacts of Options 2 and 3, based on Chapter 6 of the impact assessment report. Both options foresee putting in place European wide network codes for the harmonisation of specific elements of the gas transmission tariff regimes in the Member States. The main difference between them is in the level of proposed harmonisation and the means. While Option 2 foresees a basic level harmonisation, Option 3 proposes an advanced level of harmonisation as detailed in Chapter 5.

Affected party	Role in the system	How are they affected?
Member States	Relevant Member State authorities	**Member State** authorities would be affected where legislative proposals are foreseen as the MS authorities are responsible for the implementation and enforcement of the network codes which supplement and form an integral part of the Gas Regulation.
National regulatory authorities (NRAs)	National regulatory authorities fix or approve the terms and conditions for connection and access to national networks, including	With measures harmonising national tarification systems once the network code is applicable NRAs' autonomy with

Affected party	Role in the system	How are they affected?
	transmission and distribution tariffs (or their methodologies) and access to cross-border infrastructures, including the procedures for the allocation of capacity and congestion management. NRAs are also responsible for monitoring and enforcement at national level. At EU-level they are coordinating through ACER.	regard to tariff setting methodologies would be limited by the network code[113]. Under Option 2 NRAs would be obliged to develop the benchmark price reference methodology.
Transmission System Operators (TSOs)	Transmission system operators (TSOs) are the companies who own and operate the high-presser gas networks. As transmission networks are natural monopolies, they are subject to regulation. TSOs are operating, maintaining and developing – under economic conditions – secure, reliable and efficient transmission facilities to ensure an open market. They shall refrain from discriminating between system users and build sufficient cross-border capacity to integrate European transmission infrastructure. At EU level they are coordinating through the European Network of Transmission System Operators for Gas (ENTSOG).	TSOs will be neutral towards more harmonised tariff structures. They are affected by obligations for publication of tariff related information, which might mean additional administrative burden for them.
Distribution System Operators (DSOs)	Distribution System Operators (DSOs) are the companies who own and operate the low-pressure gas networks.	They are not addressed under the network codes. In some cases possible indirect effects (mostly through TSO-DSO interface) have to be considered.
Shippers / Network Users	Gas shippers/network users transport gas through the networks and act on the wholesale level. Shippers can be producers/importers active on the upstream part of the gas market brining the gas from the production sites to the demand centres, incumbent gas market players as well as new entrants or, from another perspective, can be supplying final customers or be trading on the wholesale market or a combination of both. They buy the right to use the transmission network for a certain price and under certain conditions. The services acquired can be entry and/or exit capacity in the gas transmission network or access to the virtual point.	Shippers / network users would benefit most from enhanced transparency, comparability and predictability of tariff regimes. It would also support them in optimising their market behaviour, both with relevance to (cross-border) trade and investments. Decreasing the occurrence of possible undue discrimination of different group of network users would impact different groups of network users in different ways while on the long-term it would contribute to fair treatment of all network users.
Suppliers	Suppliers are active in the retail segment of	

[113] The necessity for rules regarding harmonised transmission tariff structures was however already recognised in the Gas Regulation 715/2009.

Affected party	Role in the system	How are they affected?
	the market and supply gas to end consumers. A supplier must also act as a shipper, in order to physically deliver the gas to the end consumer.	
Operators of gas storage facilities	Storage system operators operate and maintain - under economic conditions - secure, reliable and efficient storage facilities and offer third party access services on a non-discriminatory and transparent basis to all storage users requesting access to storage.	
End consumer	End consumer is a party which procures natural gas for its own use.	Customers are beneficial of the proposed measures. They would benefit from overall lower prices of natural gas through more liquidity and cross-border trade.

ANNEX 4 – ANALYTICAL MODELS USED IN ACER AND ENTSOG ASSESSMENT DOCUMENTS

This annex provides a summary of the models used in the assessments elaborated in the ACER impact assessment study for the Framework Guidelines on harmonised transmission tariff structures by The Brattle Group and in the ENTSOG supporting document prepared to accompany the draft network code. While the findings of these documents as concerns their context forms the bases for the current impact assessment report, its analytical approach is briefly described in this annex.

The Impact Assessment study for the Framework Guidelines on Harmonised transmission tariff structures, delivered by the Brattle Group in August 2012[114] follows the structure and key analytical steps set out in the European Commission's Impact Assessment methodology. In this sense, the study looks at the following main questions:

1. What are the policy objectives?
2. What is the problem, or problems that the proposals are trying to address?
3. What are the policy options?
4. What are the likely economic, social and environmental impacts?
5. How do the options compare?

To reflect the overall context, the study took into account the effect of relevant developments in the EU gas market rules and regulations which could have a bearing on the analysis (especially on other relevant network codes and guidelines). The bases for defining policy objectives was the objectives derived from the Gas Regulation (Regulation (EC) No 715/2009 on conditions for access to the natural gas transmission networks). The study also discussed the trade-offs between the identified policy objectives. In the problem identification section the focus was on issues which result from differences in tariff methodologies between TSOs, and which could have an adverse effect on the policy objectives identified. The chapter on policy options included also a business as usual scenario, which was used as bases for comparison when assessing the impacts of the policy options. The impact assessment chapter looked at a range of wide criteria (ability to solve problems associated

[114] The Brattle Group. Impact Assessment for the Framework Guidelines on Harmonised transmission tariff structures, 6 August 2012, http://www.acer.europa.eu/media/events/public%20workshop%20on%20fg%20on%20harmonised%20transmission%20tariff%20structures%20for%20gas/document%20library/1/120917_draft%20iia_framework%20guidelines%20on%20tariff%20structures_final%20draft%20for%20consultation.pdf

with the policy area, feasibility and cost, risk, proportionality and subsidiarity) and also at the costs and benefits of the policy options. The study relies on information provided by national regulatory authorities and by ACER.

Based on this Brattle study as well as on the outcome of market consultations ACER developed an Initial Impact Assessment[115] for consultation, which followed to a large extent the methodology applied in the Brattle study.

During the development of the network code, ENTSOG published a supporting document for public consultation (in May 2014)[116] to accompany the initial draft network code. This document follows the structure of the initial network code. For each topic, ENTSOG builds on the content and the policy options of the ACER framework guideline. Each section includes the questions for public consultation with detailed explanations and examples for the specific topics included in the assessment based on information from TSOs. The ENTSOG document also explains where and how the draft network code deviates from the ACER Framework Guidelines. This ENTSOG public consultation paper relies on information as gathered from Transmission System Operators.

[115] Framework Guidelines on Harmonised transmission tariff structures (for European natural gas networks). (Initial) Impact Assessment. DFGT-2012-G-00X, 17 September 2012, http://www.acer.europa.eu/media/events/public%20workshop%20on%20fg%20on%20harmonised%20transmission%20tariff%20structures%20for%20gas/document%20library/1/120917_draft%20iia_framework%20guidelines%20on%20tariff%20structures_final%20draft%20for%20consultation.pdf

[116] ENTSOG Supporting Document for Public Consultation on Initial Draft Network Code on Harmonised Transmission Tariff Structures for Gas, 28 May 2014, http://www.entsog.eu/public/uploads/files/publications/Tariffs/2014/TAR300-14_Initial%20Draft%20TAR%20NC%20Supporting%20Document_for%20consultation.pdf

ANNEX 5 – CONTEXT DETAILS

Principles laid down in the Gas Regulation with regard to TAR and INCR

Table 4: Current EU involvement regarding the tarification of natural gas transmission infrastructure

Form	Rules regarding:	Details
Definition of general underlying principles	Tariffs for network access	R715/2009, Art 13(1): "... shall be transparent, take into account need for system integrity and its improvement and reflect the actual costs incurred, insofar as such costs correspond to those of an efficient and structurally comparable network operator, whilst including an appropriate return on investments, and, where appropriate, taking account of the benchmarking of tariffs [...] ... shall be applied in a non-discriminatory manner [...] ... tariffs may also be determined through market-based arrangements, such as auctions [...] ... 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"
	Capacity products offered	R715/2009, Art. 14(1): TSOs shall provide both firm and interruptible TPA; both short- and long-term services R715/2009, Art. 14(2): Transport contracts signed with non-standard start dates or a shorter duration than a standard annual transport contract shall not result in arbitrarily higher or lower tariffs
	Voluntary guidelines of good practice	E.g. on use of exemptions, balancing, or open season procedures [Developed by NRAs (through CEER and ERGEG) to assist in practical implementation of principles set out in legislation; NRAs monitor and report on MS's compliance]
Harmonization with respect to the choice of regulatory instruments	Decoupled entry-exit system	R715/2009, Art. 13(1): "Tariffs for network users shall be non-discriminatory and set separately for every entry point into or exit point out of the transmission system [...] By 3 September 2011, the MS shall ensure that, after a transitional period, network charges shall not be calculated on the basis of contract paths"
	Exemptions for major new infrastructures from tariff control	D2009/73/EC, Art. 36: Major new infrastructures (interconnectors, LNG, gas storage facilities) may be exempted for a defined period of time from tariff control through NRAs (as well as from other provisions, not directly related to tarification, see above)
EU instrument	- / -	

Source: THINK study

Gas Regulation:

Recital (7) stresses the need to specify the criteria according to which tariffs for access to the network are determined, in order to ensure that they fully comply with the principle of non-discrimination and the needs of a well-functioning internal market.

Recitals (10) and (11) stress the need for a common minimum set of third party services whilst acknowledging that at present there are obstacles to the sale of gas on equal terms.

Recital (19) states that in order to enhance competition through liquid wholesale markets for gas, it is vital that gas can be traded independently of its location in the system. The only way to do this is to give network users the freedom to book entry and exit capacity independently, thereby creating gas transport through zones instead of along contractual paths. [...] Tariffs should not be dependent on the transport route. The tariff set for one or more entry points should therefore not be related to the tariff set for one or more exit points, and vice versa.

Article 13 of the Gas Regulation sets out various high level requirements in relation to gas TAR, in particular it states that:

- Cost-allocation mechanisms and rate setting methodology regarding entry points and exit points shall be approved by the NRAs.
- Tariffs for network users shall be non-discriminatory and set separately for every entry point into or exit point out of the transmission system.
- Tariffs, or the methodologies used to calculate them shall be transparent, take into account the need for system integrity and its improvement and reflect the actual costs incurred, insofar as such costs correspond to those of an efficient and structurally comparable network operator and are transparent.
- Tariffs shall include an appropriate return on investments, and, where appropriate, take account of the benchmarking of tariffs by the NRAs.
- Member States may decide that tariffs may also be determined through market-based arrangements, such as auctions, provided that such arrangements and the revenues arising therefrom are approved by NRA.
- 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.
- By 3 September 2011, the Member States shall ensure that, after a transitional period, network charges shall not be calculated on the basis of contract paths.
- Where differences in tariff structures would hamper trade across transmission systems, TSOs shall, in close cooperation with the relevant NRA, actively pursue convergence of tariff structures.

Article 16 of the Gas Regulation sets out high level principles in relation to the allocation of capacity, in particular it states that:

- CAMs shall provide economic signals for the efficient and maximum use of technical capacity shall facilitate investment in new infrastructure and facilitate cross-border exchanges in natural gas.
- CAMs shall be compatible with the market mechanisms including spot markets and trading hubs, while being flexible and capable of adapting to evolving market circumstances.
- TSOs shall regularly assess market demand for new investment. When planning new investment, TSOs shall assess market demand and take into account security of supply.

Article 18 of the Gas Regulation sets out high level principles in relation to transparency requirements concerning TSOs, in particular it states that:

- In order to ensure transparent, objective and non-discriminatory tariffs and facilitate efficient utilisation of the gas network, TSOs or NRAs shall publish reasonably and sufficiently detailed information on tariff derivation, methodology and structure.

Overview on gas network codes

European-wide network codes (NCs) are – according to Article 6(11) of the Gas Regulation – measures designed to amend non-essential elements of the Gas Regulation by supplementing it.

The areas where NCs shall be developed are covered in Article 8(6) of the Gas Regulation, including rules regarding harmonised transmission tariff structures, which is the basis for the TAR proposal and partly for the INCR proposal. The list includes also rules on capacity allocation, which is partly the basis for the INCR proposal as it covers not only the tarification issues with regard to incremental capacity but also rules on its allocation.

The process of developing framework guidelines and NCs, as designed in the Third Energy Packages foresees the involvement of the Commission, ACER, ENTSOG and all affected stakeholders (for more details on the network code process see Annex 1). The proposals on the TAR NC and the INCR, subject to this impact assessment, are the fifth and sixth initiatives in the context of harmonising market rules in the EU gas sector (in addition there are 11 network codes in the electricity sector adopted or under finalisation). Previous NCs in gas have addressed issues relating to balancing, system operation and capacity allocation.

As regard further gas NCs, the Commission regularly establishes an annual priority list identifying the areas to be included in the development of network codes, after consulting the market (as set out in Article 6(1) of the Gas Regulation). The priority list for 2016[117] does not define new areas to be developed as network codes in gas for the near future[118].

The current proposals serve the purpose of implementing the Third Energy Package by formulating technical rules on transmission tariffs and new capacity as they are essential elements ensuring its unified application throughout the EU.

Interrelation of the TAR NC and INCR proposal with other European network codes

There is a strong interrelation between the already existing Capacity Allocation Mechanisms Network Code[119] (CAM NC) and Congestion Management Procedures (CMP) Guidelines and the areas of transmission tarification and incremental capacity. The TAR NC and INCR aim to complement the already adopted NCs and guidelines by dealing with the tariff structures and also with the allocation procedure of incremental capacity. This should ensure consistency in the architecture of the NCs implementing the Third Energy Package.

The mechanism according to which existing capacity is provided for and allocated was the central issue in the already adopted Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems CAM NC. This network code lays down rules to ensure that gas grid operators use harmonised auctions when selling access to pipelines. These auctions sell the same product at the same time and according to the same rules across the EU. This network code applies as of 1 November 2015.

[117] Commission implementing decision (EU) 2015/1960 of 29 October 2015 on the establishment of the annual priority list for 2016 for the development of network codes and guidelines. L284/187.
[118] In the public consultation for the 2016 priority list the majority of stakeholders supported the prioritisation of the work which already started and emphasised the importance of a proper and well-coordinated implementation of adopted network codes. In order to be able to integrate the CEN standard on H-gas quality into the NC on interoperability and data exchange its amendment was introduced into the gas annual priority list for 2016.
[119] The CAM NC applies as of 1 November 2015.

There are two main aspects of the existing CAM NC which have to be addressed in the TAR NC. The CAM NC requires TSOs to sell all cross-border transmission services for each time interval are allocated via harmonised auctions. These auctions sell the same EU-wide standardised capacity products at the same time and according to the same rules across the EU. The auctions for different transmission capacity products require the setting of a reserve price (tariff), as a base price. The rules on how to determine these reserve prices will be set out in the TAR NC. Moreover, under the CAM NC, rather than sell cross-border transmission capacity at individual entry and exit points, TSOs have to bundle capacity at all the border points into a single product which also needs to be reflected in the tariff structure.

Likewise, the existing Congestion Management Procedures (CMP) Guidelines have aspects which have to be reflected in the tariff structure. The CMP Guidelines require shippers to make use of their reserved capacity or risk losing it. Unused capacity is placed back on the market. Further, TSOs need to implement an oversubscription and buy back mechanism in order to offer additional capacity on a firm basis instead of offering interruptible capacity. All these procedures have tariff relevance which will be set out in the TAR NC.

As regards rules for incremental capacity, the initial scope of the CAM NC was deliberately restricted to rules on existing capacity in order to speed up the development process. However, it was always recognised by all involved parties that incremental capacity needed to be addressed, which is what the INCR is designed to do.

ANNEX 6 – OVERVIEW OF BASELINE SCENARIO

Strategy& and PwC issued two tailored questionnaires to both European NRAs (through ACER) and TSOs (through ENTSOG) in order to build a detailed description of the baseline scenario on the current tariff regime and methodology applied in each country, including any analysis of the existing institutional and regulatory limitations and peculiarities.

Assumptions

- Finland and Estonia are exempted from Regulation (EC) No 715/2009;
- A single questionnaire has been collected for Premier Transmission Limited and for Belfast Gas Transmission for the scope of this work, as they are assumed to be the same entity;
- BBL has been associated to NL;
- Hungarian TSO Magyar Gas Transit has not been considered
- No response was received from the TSOs of Latvia, Luxembourg, Lithuania and Reganosa of Spain.

Reference price methodology:

Choice of the reference price methodology

Table 1: Reference price methodology adopted by EU TSOs[120]

Country	# of TSOs	Primary reference price methodology					
		P. Stamp	Virtual Point	CWD	Matrix	Asset Alloc.	Other
Austria	2		✓(2)				
Belgium	1			✓			
Bulgaria	1	✓					
Croatia	1	✓					
Czech Republic	1					✓	
Denmark	1	✓					
Estonia	1	✓					
Finland	1						✓
France	2			✓(2)			
Germany	12	✓(11)		✓(Ontras)			
Greece	1				✓		
Hungary	2	✓(2)					
Ireland	1						✓

[120] A single questionnaire has been collected for Premier Transmission Limited and for Belfast Gas Transmission for the scope of this work, as they are assumed to be the same entity; one questionnaire has been collected for Hungary. No response was received from the TSOs of Latvia, Luxembourg, Lithuania and Reganosa of Spain.
Other Reference price methodology: **Gasum Oy (FI):** deregulation from EU's 3rd energy package; **Gaslink (IE):** postalised charging regime at domestic exit points; **Gasuine Transport Services (NL):** based on distance, primarily visible in the exit tariffs; **BBL (NL):** exempted from tariff and revenue regulation.

Country	# of TSOs	Primary reference price methodology					
		P. Stamp	Virtual Point	CWD	Matrix	Asset Alloc.	Other
Italy	2				✓(2)		
Latvia	1	✓					
Lithuania	1	✓					
Luxembourg	1	✓					
Netherlands	2						✓(2)
Poland	1	✓					
Portugal	1				✓		
Romania	1	✓					
Slovakia	1				✓		
Slovenia	1				✓		
Spain	2	✓(2)					
Sweden	1	✓					
UK	4	✓(3)	✓(NatGrid)				
TOTAL	46	28	3	4	6	1	4

Entry/ Exit split

The majority of EU Member States apply an entry/exit tariff model. Only Bulgaria, Estonia, Finland and Latvia are currently using a different approach.

Table 2: Entry-exit split in the Member States

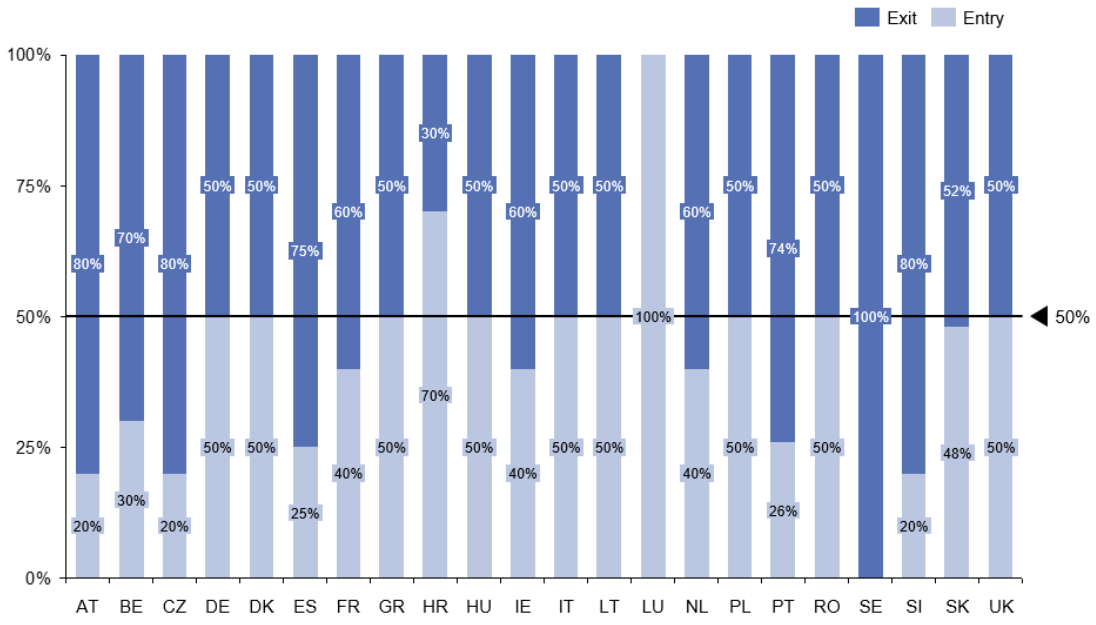


Table 3: Number of entry-exit zones and the tariff model applied in the Member States

Country	# of E/E zones	Tariff Model	
		Entry-Exit	Other
Austria	1	✓	
Belgium	2	✓	
Bulgaria	NA (1 in progress)		✓(Commodity charge in Exit)
Croatia	1	✓	
Czech Rep.	1	✓	
Denmark	1	✓	
Estonia	NA (only exit zones)		✓(Common tariff only in Exit)
Finland	NA		✓
France	3	✓	
Germany	2	✓	
Greece	3	✓	
Hungary	1	✓	
Ireland	1	✓	
Italy	1	✓	
Latvia	NA		✓
Lithuania	1	✓	
Luxembourg	1	✓	
Netherlands	1	✓	
Poland	3	✓	
Portugal	1	✓	
Romania	1	✓	
Slovakia	1	✓	
Slovenia	1	✓	
Spain	1	✓	
Sweden	1	✓	
UK	1	✓	
TOTAL	-	22	4

The majority of European Member States (20 out of 22) apply charges at both entry and exit points. However, there is a great variation in the split between revenues recovered at both points. 9 countries apply a 50/50 split, 11 rely more on exit points while the remaining 2 countries apply a 100%/0% (Luxembourg) and 0%/100% (Sweden) respectively. As a general trend, it could be noted that 21 out of 22 countries recover half or more of the revenue from exit points, in particular higher percentages of exit split can be found in transit countries.

Secondary adjustment

The application of the secondary adjustment is currently defined at national level and different types of adjustment are applied.

Table 4: Application of secondary adjustments per Member States

Country	Application of Secondary Adjustments	
	Typology	Comments
Austria	**Equalization**	
Belgium	**Equalization**	Embedded in the reference price methodology
Bulgaria	***Envisaged***	Rescaling; Equalization
Croatia	-	
Czech Rep.	**Rescaling + Equalization**	
Denmark	**Not specified**	The approved cost methodology is not limited to a specific time period and it is very broad; tariff adjustment within the methodology may take place and do not necessarily require specific approval
Estonia	-	Not applied
Finland	-	Not applied
France	**Equalization**	Equalization, in order to foster the hub liquidity and the competition between the shippers
Germany	**Not specified**	The reference price methodology is not specified, thus is not possible to say if an adjustment is done after the application of the reference price methodology or if the adjustment is still part of the reference price methodology
Greece	**Not specified**	A % of the cost of one exit zone can be passed to another zone according to i) the cost of assets of that exit zone servicing another exit zone and ii) the quantity of gas transmitted through an exit zone but servicing another exit zone.
Hungary	**Not specified**	To incentivize the entry tariff of storage and for technical reasons the entry of domestic production is lower than the import tariff
Ireland	**Not specified**	Standard inflation (HICP), WACC review mechanism
Italy	**Rescaling**	In order to meet allowed revenues
Latvia	-	
Lithuania	-	
Luxembourg	-	
Netherlands	**Benchmarking**	A 5% deviation is allowed up or down per entry/exit, in the end the allowed revenues should add up to the same amount and tariff benchmark in case of competition (latter has not been used)
Poland		
Portugal	**Equalization/ Rescaling**	Entry tariff for IPs with Spain and LNG terminal are equalized and only the entry price from the Storage facility remains different Regarding the exits, although the reference price methodology gives different capacity exit prices for 8 regional zones a common average value is adopted. Besides this, the rescaling is applied in order to achieve the AR
Romania	**Not specified**	The NRA has the possibility to make any necessary adjustments to tariffs in case that major errors have been discovered or in case of a negative impact to final customers or gas market.
Slovakia	-	Not applied
Slovenia	-	Not applied
Spain	**Equalization**	Tariffs from all entry points into the transmission network are equalized. There is an integrated exit tariff from the transmission and distribution network which is charged at exit points from the distribution network. At exit IPs tariffs are equalized
Sweden	**Equalization**	If justified some specific costs can equalized among the network users

Country	Application of Secondary Adjustments	
	Typology	Comments
UK	**Rescaling**	Commodity charges are used to meet shortfall between entry capacity sales revenue and allowed revenue. Exit Capacity is subject to rescaling to eliminate under- or over-recovery

Multi-TSO entry-exit zone

Table 5: Inter-TSO compensation

Country	Inter-TSO compensation and market evolution	
	ITC mechanism	Comments
Austria	✓	An inter-TSO-compensation is set to cover the allowed cost of all the TSOs on the basis of the fixed booking situation
Belgium	*Under discussion*	The Belgian/Luxembourger IP will disappeared in the future, a cooperation is being discussed between the 2 TSOs
Germany	*Envisaged*	In 2016, Germany plans to establish an ITC
Italy	✓	There is one and the same methodology per E/E zone but there are several TSOs, therefore the ITC aims at re-distributing revenues according to allowed revenues
Luxembourg	*Under discussion*	The Belgian/Luxembourger IP will disappeared in the future, a cooperation is being discussed between the 2 TSOs
Spain	✓	No inter-TSO compensation mechanism, but the "Settlement process" has a similar objective.

Storage entry/exit tariffs

In order to take into account the benefits that storage facilities may bring into the system most of the Member States (13 out 20) currently apply at least a discount in entry or in exit tariffs for storage facilities. However, approaches to discounts and their rationale are very heterogeneous. In Denmark, Spain and Sweden both entry and exit tariffs from/to storage facility are free of charge while in the Czech Republic, Romania and Slovakia no discount is envisaged.

Table 6: Application of storage discounts per Member States

Country	Storage Discount (Storage E/E= Discount * E/E tariff)	
	From Storage to Network	From Network to Storage
Austria	**Free of charge**	**Highly discounted**
Belgium	**No discount**	**Free of charge**
Bulgaria	**70%**	**70%**
Croatia	**No discount**	**90%**
Czech Rep.	**No general discount applied**	**No general discount applied**
Denmark	**Free of charge**	**Free of charge**
France	**85%**	**85%**
Germany	**No discount applied by most of TSOs**	**No discount applied by most of TSOs**
Hungary	**-**	**-**
Ireland	**No discount on capacity change**	**No discount on capacity change**
Italy	**Applied when costs are allocated to each pipeline**	**Applied when costs are allocated to each pipeline**

	(14%)	(14%)
Latvia	-	-
Netherlands	25%	25%
Poland	80%	80%
Portugal	No discount	Free of charge
Romania	No discount	No discount
Slovakia	No discount	No discount
Spain	Free of charge	Free of charge
Sweden	Free of charge	Free of charge
UK	No discount on capacity charge, free of charge from commodity charge	No discount on capacity charge, free of charge from commodity charge
Estonia	No storage facility	
Finland		
Greece		
Lithuania		
Luxembourg		
Slovenia		

Multipliers and seasonal factors

The figures below show the situation in 2013 for monthly multiplier. The arithmetic average across summer months is 1.29, across winter months is 1.98 while across the whole year is 1.64.

Figure 2: Monthly Multipliers in 2013 (April-Sept.) – Seasonal factors included (if any)

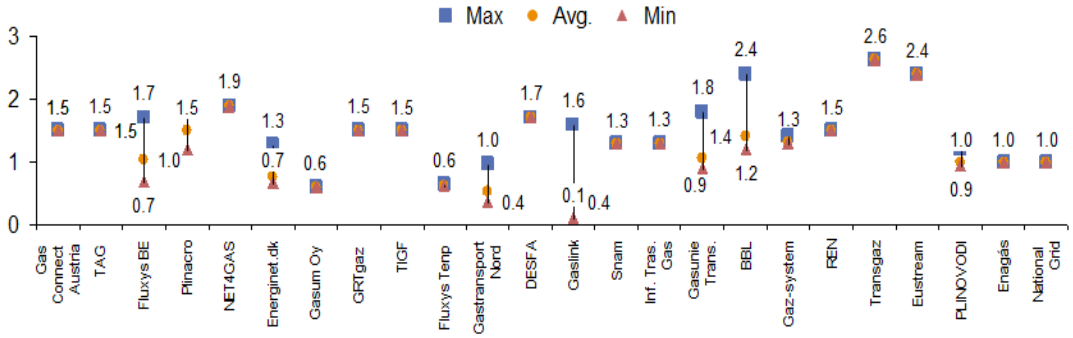
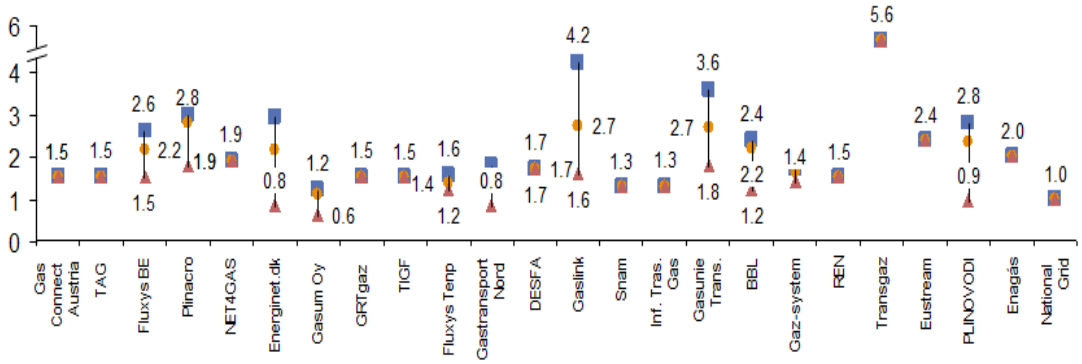


Figure 3: Monthly Multipliers in 2013 (Oct.-March) – Seasonal factors included (if any)



For daily multipliers, the arithmetic average across summer months is 1.9, across winter months is 3.1 while across the whole year is 2.47.

Figure 4: Daily Multipliers in 2013 (April-Sept.) – Seasonal factors included (if any)

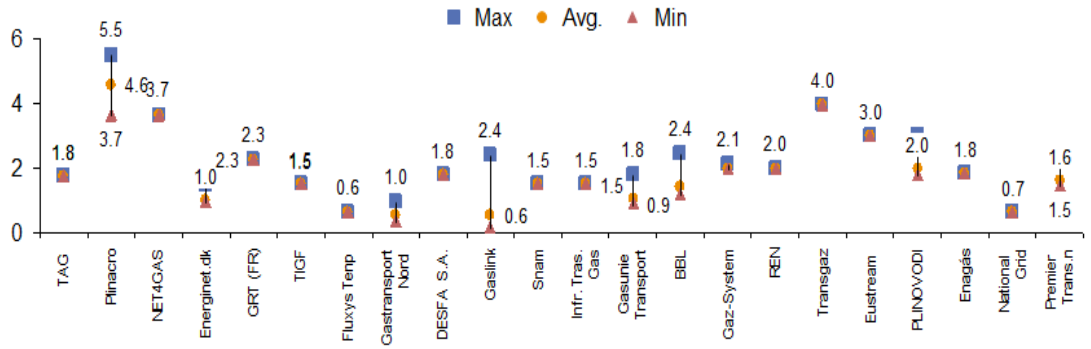
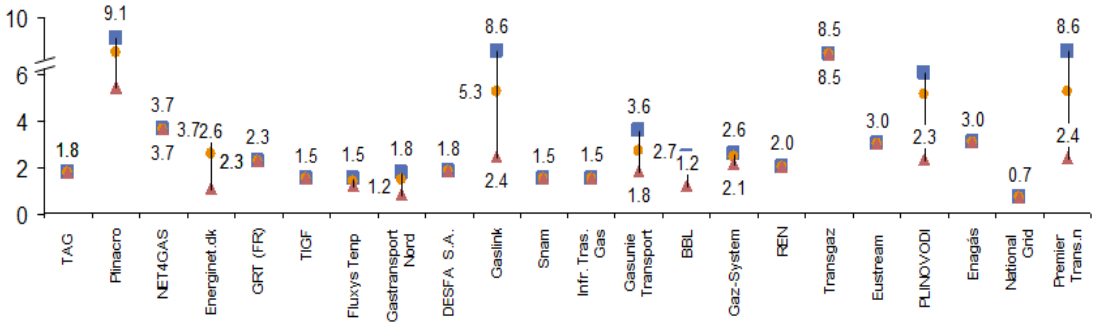


Figure 5: Daily Multipliers in 2013 (Oct.-March) – Seasonal factors included (if any)



Payable price: fixed vs. floating

Most of the EU TSOs (30 out of 45) are currently applying a floating payable price approach. A fixed approach is used in 6 cases while a mixed approach is applied in the Czech Republic, Estonia, Finland and the UK (National Grid). No such definition is applicable in Estonia and Sweden.

Table 7: Payable price approach in the Member States

Country	Payable price approach			Missing TSOs
	Floating	Fixed	Mixed	
Austria	✓(2)			
Belgium	✓			
Bulgaria		✓		
Croatia		✓		
Czech Rep.			✓	

Denmark		✓		
Estonia			✓	
Finland			✓	
France	✓(2)			
Germany	✓(12)			
Greece	✓			
Hungary	✓(2)			
Ireland	✓			
Italy	✓(2)			
Latvia				**1 (Latvijas Gaze)**
Lithuania				**1 (AB Amber Grid)**
Luxembourg				**1 (Creos)**
Netherlands	✓(GTS)	✓(BBL)		
Poland	✓			
Portugal	✓			
Romania	✓			
Slovakia		✓		
Slovenia	✓			
Spain	✓(Enagas)			**1 (Reganosa)**
Sweden				**Not applicable**
UK	✓(2xPremier Transp.)	✓(IUK)	✓(National Grid)	
TOTAL	**31**	**6**	**4**	**4 (5)**

Pricing of interruptible capacity

Most EU Member States apply an ex-ante discount (23 TSOs out of 45). 10 TSOs are currently applying an ex-post discount. Finland and Ireland do not provide interruptible capacity while no such definition is applicable in Estonia and Sweden.

Table 8: Approach to interruptible capacity and discounts applied in the Member States

Country	Approach to Interruptible Capacity		Discount applied
	Ex ante discount	Ex post discount	
Austria		✓(2)	-
Belgium	✓		20% interruptible capacity Level 1, 40% "interruptible capacity Level N
Bulgaria		✓	-
Croatia		✓	-
Czech Rep		✓	-
Denmark	✓		Ellund Exit: 10%, Dragør Entry: 5%, Dragør Exit: 5%
Estonia	No interruptible capacity		-
Finland	No interruptible capacity		-
France	✓(2)		50%
Germany	✓(12)		Vary according to the TSOs (Min ~10% - Max ~40%)
Greece	✓		50%
Hungary	-		-
Ireland	No interruptible capacity		-
Italy	✓(2)		10% interruptible capacity level 1 20% interruptible capacity level 2
Latvia	-		
Lithuania	-		
Luxembourg	-		
Netherlands	✓(2)		30%
Poland		✓	-
Portugal	✓		28%
Romania		✓	-

Slovakia		✓	-
Slovenia		· ✓·	-
Spain	✓(Enagas)		50%
Sweden	Not applicable		
UK	✓(National Grid)		100% (only interruptible product sold is daily capacity)

Revenue reconciliation mechanism

Most EU Member States (19 out of 26) apply a revenue cap approach in terms of revenue reconciliation. Italy and Poland are the only countries where a mixed approach is currently in place while Portugal uses a revenue cap approach based on economic incentives. Lithuania and Slovakia apply a price cap regime while Bulgaria and Latvia a cost-plus (under review).

Table 9: Price control mechanisms in the Member States

Country	Price Control Mechanism			# of years over which rev. reconciliation is spread
	Revenue Cap	Price Cap	Other	
Austria	✓			4
Belgium	✓			No fixed period
Bulgaria			✓(Cost plus)	-
Croatia	✓			4
Czech Rep			✓(Mixed approach Revenue-Price cap)	1
Denmark	✓			1-3
Estonia	✓			Not applicable
Finland	✓			7
France	✓			4
Germany	✓			5
Greece	✓			3
Hungary	✓			-
Ireland	✓			1

Italy			✓(Mixed approach Revenue-Price cap)	4
Latvia			✓(Cost plus)	-
Lithuania		✓		-
Luxembourg	✓			-
Netherlands	✓			1(time lag t+2)
Poland			✓(Cost plus)	-
Portugal	✓(Econ. incentives)			2
Romania	✓			1
Slovakia		✓		-
Slovenia	✓			3
Spain	✓			1-5
Sweden	✓			4
UK	✓			2
Total	19	2	5	-

Publication requirements

The regulatory period and the lead time between tariff setting/publication and its applicability differ among EU Member States. For the former there is a minimum of 1 year and a maximum of 5 years while for the latter a minimum of 1 week and a maximum of 24 weeks.

Table 9: Public availability of reserve prices and lead times in the Member States

Country	Public availability of reserve prices	Lead time between tariff setting and its applicability
Austria	✓	~ 14 weeks
Belgium	✓	2 weeks
Bulgaria	✓	Min 1 week
Croatia	✓	2 weeks
Czech Rep.	✓	~ 4/5 weeks
Denmark	✓	~8/10 weeks
Estonia	✓	4-12 weeks

Finland	✓	**-**
France	✓	**8 weeks**
Germany	✓	**10 weeks**
Greece	✓	**24 weeks**
Hungary	✓	**2 weeks**
Ireland	✓	**4 weeks**
Italy	✓	**4 weeks**
Latvia	✓	**4 weeks**
Lithuania	✓	**4 weeks**
Luxembourg	✓	**~ 8 weeks**
Netherlands	✓	**~2 weeks**
Poland	✓	**2-6 weeks**
Portugal	✓	**2 weeks**
Romania	✓	***No fixed lead time***
Slovakia	✓	**18 weeks**
Slovenia	✓	**4-6 weeks**
Spain	✓	***No fixed lead time***
Sweden	✓	**2 weeks**
UK	✓	**8 weeks**

Tariff setting year

In most Member States, tariffs are set annually, although mostly within a multi-year regulatory period. Yet, the start of the tariff setting year varies substantially. According to the table below, four choices have been observed in EU Member States:

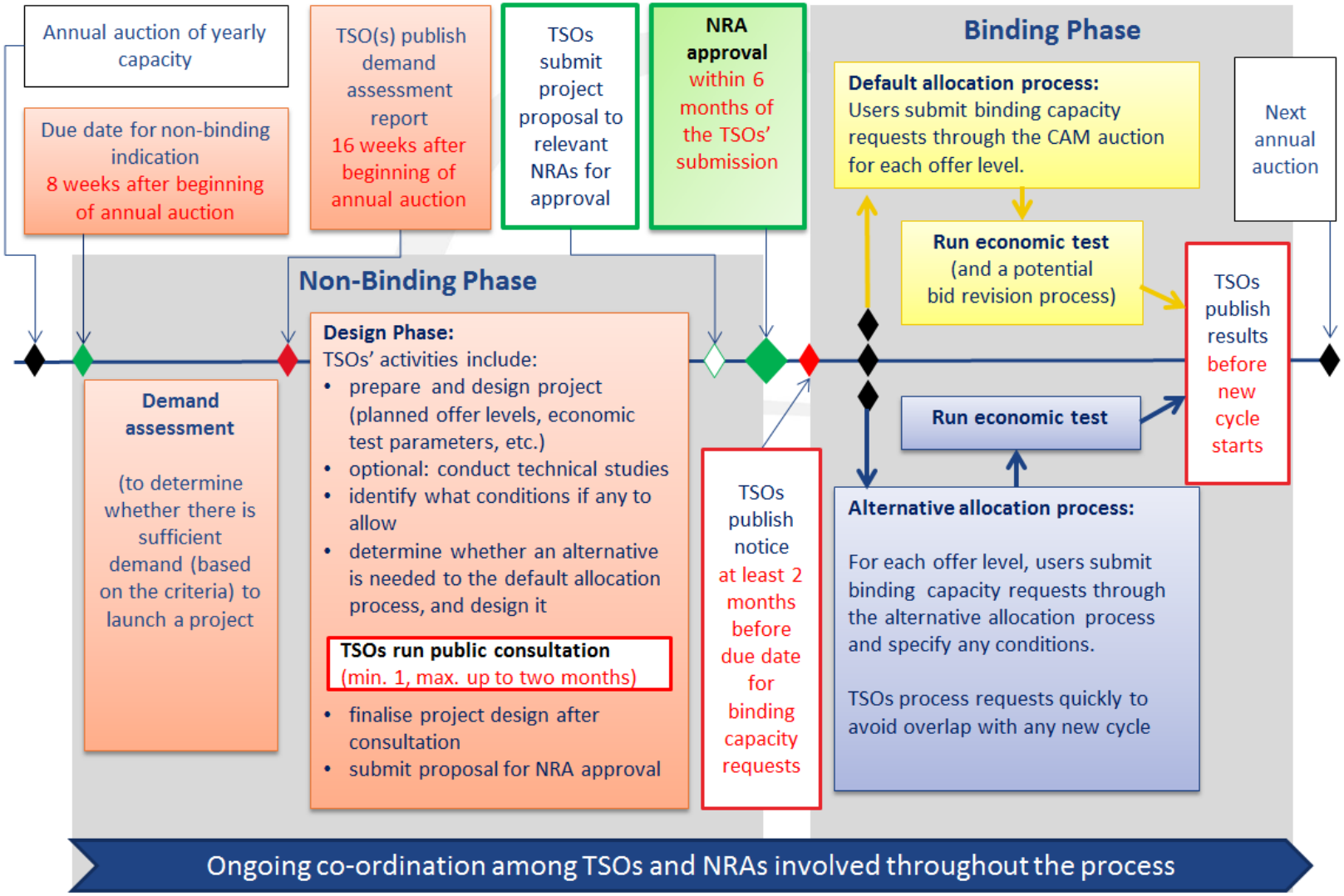
- 1 January until 31 December *(solar year)* (14 out of 26);
- 1 October until 30 September (*gas year)* (6 out of 26);
- 1 July until 30 June (1 out of 26);
- 1 April until 31 March (1 out of 26);
- For Estonia, Finland and Poland no information has been collected, in Latvia this is currently under review.

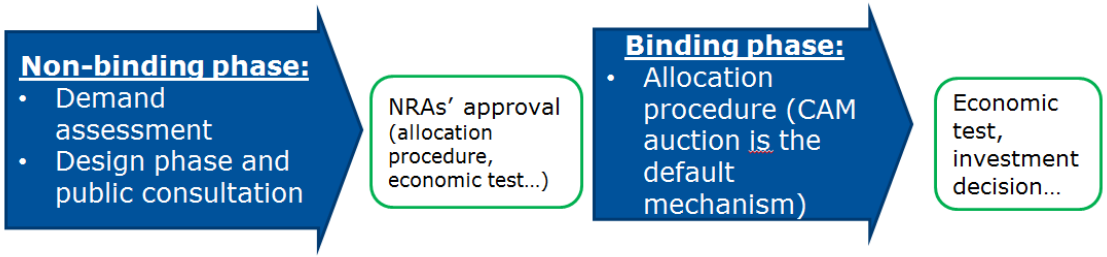
Table 10: Tariff setting year in the Member States

Country	Tariff Setting Year	
	Tariff setting year	Tariff validity
Austria	**Jan – Dec**	**4 years**
Belgium	**Jan – Dec**	**4 years**
Bulgaria	**Jan – Dec**	**No fixed period**
Croatia	**Jan – Dec**	**3 years (until 2016)**
Czech Rep.	**Jan – Dec**	**1 year**
Denmark	**Oct – Sept**	**1 year**
Estonia	**Not defined**	**No fixed period**
Finland	**-**	**-**
France	**Apr – March**	**1 year**
Germany	**Jan – Dec**	**1 year**
Greece	**Jan – Dec**	**4 years**
Hungary	**Oct – Sept**	**-**
Ireland	**Oct – Sept**	**5 years**

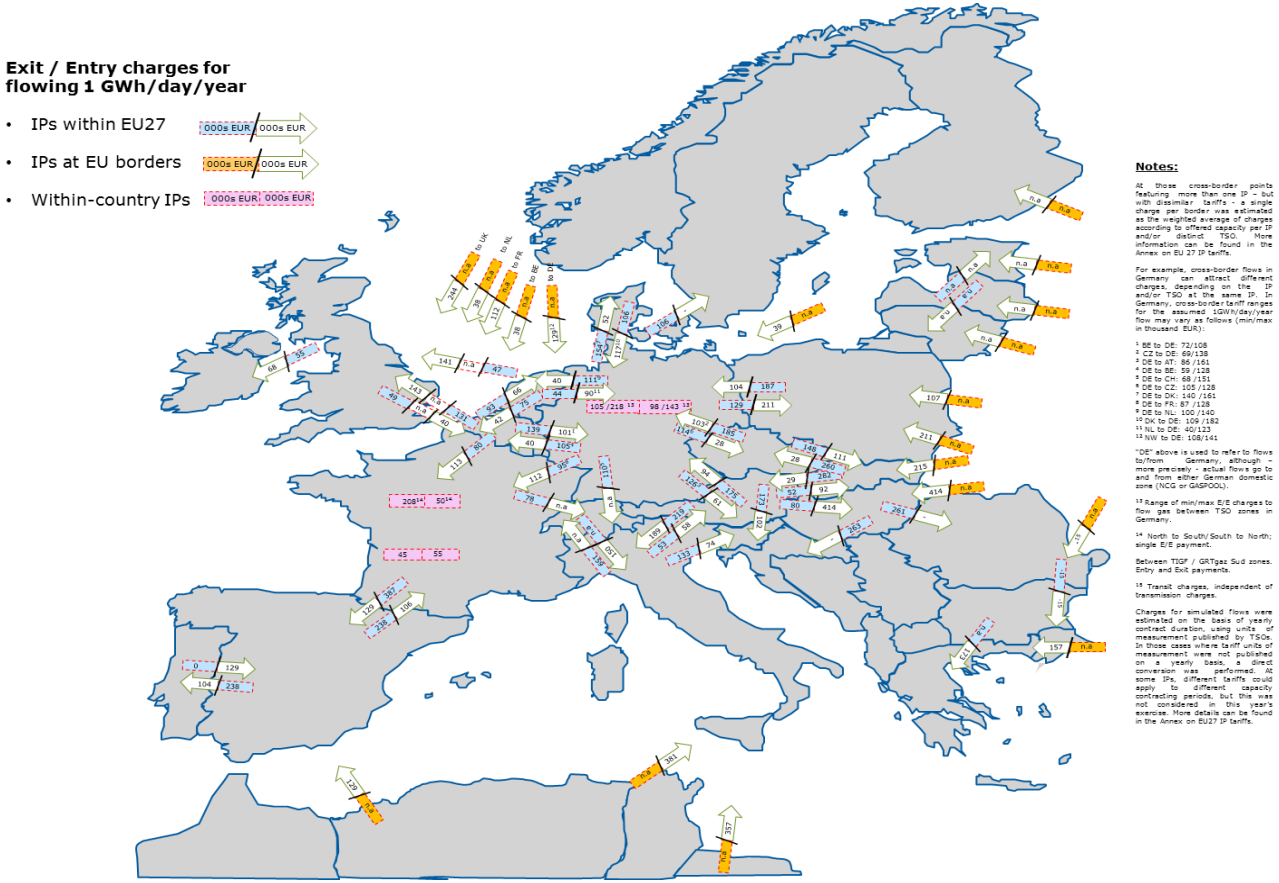
Italy	**Jan – Dec**	**1 year**
Latvia	**Under review**	**-**
Lithuania	**Jan – Dec (until 2016)**	**5 years**
Luxembourg	**Jan – Dec**	**1 year**
Netherlands	**Jan – Dec**	**1 year**
Poland	**Not defined (current: Jan – Dec)**	**1 year**
Portugal	**July – June**	**1 year**
Romania	**Oct – Sept**	**1 year**
Slovakia	**Jan – Dec**	**5 years**
Slovenia	**Jan – Dec (until 2016)**	**3 years**
Spain	**Jan – Dec**	**1 year**
Sweden	**Oct – Sept**	**-**
UK	**Oct – Sept**	**1 year**

ANNEX 7 – PROCESS FOR INCREMENTAL CAPACITY PROJECTS


Annual auction of yearly capacity
Due date for non-binding indication
8 weeks after beginning of annual auction
TSO(s) publish demand assessment report
16 weeks after beginning of annual auction
TSOs submit project proposal to relevant NRAs for approval
NRA approval
within 6 months of the TSOs' submission
Binding Phase
Default allocation process:
Users submit binding capacity requests through the CAM auction for each offer level.
Next annual auction
Run economic test
(and a potential bid revision process)
TSOs publish results
before new cycle starts
Non-Binding Phase
Demand assessment
(to determine whether there is sufficient demand (based on the criteria) to launch a project
Design Phase:
TSOs' activities include:
• prepare and design project (planned offer levels, economic test parameters, etc.)
• optional: conduct technical studies
• identify what conditions if any to allow
• determine whether an alternative is needed to the default allocation process, and design it
TSOs run public consultation
(min. 1, max. up to two months)
• finalise project design after consultation
• submit proposal for NRA approval
TSOs publish notice
at least 2 months before due date for binding capacity requests
Run economic test
Alternative allocation process:
For each offer level, users submit binding capacity requests through the alternative allocation process and specify any conditions.
TSOs process requests quickly to avoid overlap with any new cycle
Ongoing co-ordination among TSOs and NRAs involved throughout the process


Non-binding phase:
• Demand assessment
• Design phase and public consultation
NRAs' approval (allocation procedure, economic test…)
Binding phase:
• Allocation procedure (CAM auction is the default mechanism)
Economic test, investment decision…

ANNEX 8 – AVERAGE GAS TRANSMISSION TARIFFS EU-27 BORDERS IN 2013[121]



[121] Source: ACER 2012 Market Monitoring Report, page 194; Simulation of cross-border charges for flowing 1 GWh/day/year by Entry/Exit IP, based on published 2013 tariffs (in thousand euros).

ANNEX 9 – TECHNICAL ELEMENTS OF THE TARIFF REGIMES

This annex:

- Describes the reference price methodologies mentioned in the current impact assessment report to provide more direct information for the readers as well as their advantages and disadvantages;
- Provides further details on tariffs for short-term capacity products as well as on the payable price approach;
- Provides information on entry-exit systems.

Reference price methodologies

There are currently several different reference price methodologies in Europe, such as:

- Postage stamp: it foresees the same reference price at all entry and exit points. It is the simplest reference price methodology and although it guarantees stable and predictable tariffs, it is the least cost-reflective, since it imposes the same reference price at all entry (or exit) points without considering the actual distance travelled by the gas;
- Capacity Weighted Distance (CWD): it is based on the principle that the reference price mat each entry (or exit) point should be set considering the contribution of that point to the total cost of the system. The "weight" of each entry (or exit) point is measured by its capacity-weighted distance from all exit (or entry) points;
- Virtual Point Based: it is similar to the CWD, however the "weight" of each entry (or exit) point is calculated according to the distance of that point from a focal virtual point of the network. This virtual point can be either calculated mathematically (VP – A) or it can be determined geographically (VP – B);
- Matrix: This reference price methodology is based on the principle that the reference price at each entry (or exit) point should reflect the actual investment costs of the TSO. This methodology is based on the concept of cost-reflectiveness and aims to minimise the error of cost representation with respect to a path-based tariff and its cost drivers;
- Asset Allocation: this methodology foresees the allocation assets' cost to groups of homogeneous network users, such as domestic vs. transit users. It is based on the principle that the risk of insufficient booking of technical capacities cannot be borne by resident network users. This issue is crucial for instance for transit countries. Therefore this methodology allows applying a price cap regime on the part of the assets solely used for transit and a revenue cap regime with regard to the remaining assets. However, after applying that split, a reference price methodology as described above (postage stamp or matrix) still needs to be applied. Therefore, the asset allocation methodology is rather a hybrid and not a full-fledged reference price methodology.

Different methodologies produce different results at entry and exit points as shown in the Figure 4 below.

Figure 4: Different reference price methodologies and their results at entry and exit points

€/y/Sm3/d (2013)		BAU	Post. Stamp	CWD-A	CWD-B	VP - A	VP - B	Matrix	Max Up	% from BAU	Max Down	% from BAU	Booked capacity (M m3/d)	Impact M €
TSO A	Avg. Entry	1,60	1,60	1,60	1,83	1,60	1,74	1,60	0,23	14%	0,00	0%	252	58
	Avg. Exit Cross-Border	0,90	1,82	1,16	1,01	0,00	0,22	0,15	0,92	102%	-0,90	-100%	183	169
	Avg. Exit Domestic	1,92	1,82	1,90	1,64	2,02	1,83	2,00	0,10	5%	-0,28	-15%	19,6	2

The differences in entry-exit tariffs are due to different levels of cost-reflectivity. Each methodology arrives to a different compromise in terms of cost reflectivity, transparency (in terms of ease of understanding) and ease of implementation which is shown in Figure 5 below.

Figure 5: Reference Price Methodologies - Pros & Cons

	Postage Stamp	CWD	VP Based	Matrix
+	• Clear and easy to understand for network users in order to replicate tariff • Easy to apply for TSOs • Provide good tariff stability over the years and visibility for network users	• Clear and easy to understand for network users in order to replicate tariff • Easy to apply for TSOs • Cost reflective (key cost drivers: capacity and distance)	• Provides locational signals which could lead to expansion of certain points • Cost reflective (variant A with incremental cost) • Incremental costs can be taken into account	• Highly cost reflective since it includes the key cost drivers in tariff calculation • Provides strong locational signals • Incremental costs can be taken into account
-	• Less cost reflective • Cost differences for different kind of pipelines may not be embedded in the methodology • Does not provide locational signals for further system development and/or	• Tariff stability over the years and across different E/E points may be undermined depending on the capacity used (loss of locational signal and tariff instability) • Cost differences for different kinds of	• Very complex modelling to implement for TSOs and to replicate for network users • Expansion constant, annuitisation factor and secondary adjustments are needed to calculate	• The complexity depends on the number of Entries (columns) and Exits (rows) that the Matrix requires • Solution may not be appropriate to all network systems • Results and thus

	Postage Stamp	CWD	VP Based	Matrix
	efficient use of the system	pipelines may not be embedded in the methodology	tariffs in Variant A. • Results and thus tariffs are very sensitive to flow pattern changes	tariffs are very sensitive to flow patterns changes

Tariffs for short-term transmission capacity products – multipliers

For transmission capacity products of a duration shorter than a year, or even shorter (quarterly, monthly, daily products) as well as for alternative capacity products or interruptible ones, the tariffs are generally set proportionately to the tariff of the annual firm transport capacity products, applying some coefficients, called multipliers.

Payable price – floating and fix price approaches

Allowed revenues can be recovered through capacity and commodity charges, both reflecting the costs triggered by the amount of transmission capacity which wasn't booked by shippers. A *floating price* is therefore generally used under revenue cap regimes where the TSOs are protected from taking the volume risk by applying a capacity charge. As such a floating price regime affects the ability of network users to predict the tariffs of transmission capacity products to be paid at the time of use and limits network users' ability to commit to the long-term bookings.

In a fixed price approach only an over and under recovery mechanism through a commodity charge can be applied. Therefore, two cases need to be distinguished; one where a pure fixed price approach is applied with no over and under recovery mechanism (so called price cap regime) or one where fixed capacity tariffs are combined with an over and under recovery mechanisms, through a commodity charge.

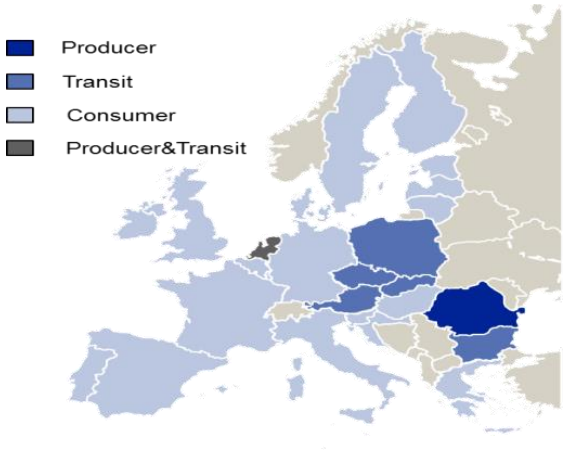
In a fixed price approach which is combined with a commodity charge the volume risk is borne by the network users but paid through different means. Since commodity charges are dependent on the actual use of the system, revenues collected from commodity charges are exposed to volume risk itself. Furthermore, commodity charges are only recovered when shippers use the system and might therefore create an additional burden on cross-border trade and shift the burden of covering the volume risk towards network users with high load factors – such as industrial consumers – which in turn subsidize capacity bookings for network users with different usage profiles[122].

The pure *fixed price approach* fosters long-term commitments and protects network users

[122] Case study on fixed and floating tariffs on pages 52-53.
http://www.acer.europa.eu/gas/framework%20guidelines_and_network%20codes/documents/justification%20document%20policy%20options%20for%20harmonised%20transmission%20tariff%20structures.pdf

who booked capacity in advance from variations in the tariffs and allocates the remaining volume risk with regard to the non-booked transmission capacity to the TSOs, introducing a risk of under-recovery[123]. However, such network users are taking away a direct share of the volume risk from the remaining network users. The extent to which the volume risk is allocated to TSOs varies according to the level of booked transmission capacity. In networks where allowed revenues are subject to significant changes over time, the *fixed price* approach may, notwithstanding potential benefits of spreading volume risk, nevertheless cause discrimination and undermine competition among network users who pay a different price for the same capacity product booked in a different timeframe. However, this approach might be needed in case of big pipeline projects which pass through so called "transit" countries (e.g. Slovakia, Czech Republic) where it would be undue that the volume risk of that pipeline is borne by the captive costumers (i.e. domestic customers) of that Member State. The figure below illustrates whether Member States are net producers, consumers or transit countries.

Country typology



Source: EC impact assessment study

Entry-exit system

Regulation (EC) No. 715/2009 (in particular Recital 19 and Article 13) specifies the fundamental characteristics of an entry-exit system. While the fundamental characteristics of an entry-exit are defined therein, the systems implemented in the Member States differ from each other. In order to have a reference point from which the different systems could be described and compared the "Study on Entry-Exit Regimes in Gas"[124] defined a "full" entry-exit system, which is characterised by the following features:

- Entry and exit capacities: network users can contract entry and exit capacity separately.
- Free allocation of capacities: entry and exit capacities are generally freely allocable. This means that gas brought into the system at any entry point can be made available for off-take at any exit point within the system on a fully independent basis. Each exit point can be supplied from any entry point without any restrictions.

[123] Assuming that no revenue recovery mechanism through application of a commodity charge is applied.
[124] Report by KEMA (see footnote 18).

- Virtual trading point: a "full" entry-exit system needs to be equipped with a so-called virtual trading point where gas can be traded independently of its location. The virtual trading point offers the users the possibility to bilaterally transfer title of gas and/or swap imbalances between network users.
- Distribution level included: in a "full" entry-exit system, the distribution level is included in the sense that transmission and distribution network operators take care of capacity and connection related issues at their interconnection points (city gate). Network users do only book exit capacity on the network level where the final exit takes place. Imbalances between injections and withdrawals (taking into account the transactions at the virtual point) are aggregated across all entry and exit points in a network user's portfolio, regardless of the network level.

Since in an entry-exit system it is not possible to identify the destination of the gas at the entry points, allocating revenues at entry points ensures that all users are charged for using the system independently from where the gas is handed over, thus ensuring that all network users are paying a fair share for the system they are benefitting from. Allocating charges to the exit points enables charging according to the destination of the gas. Therefore the entry-exit split impacts what type of network user pays more. For example shippers trading at the wholesale market and only handing over gas at the so called Virtual Trading Point (VTP) will only pay the entry tariff, therefore they would benefit from a low entry split. Furthermore, a low entry split combined with a low usage of cross-border exit capacity might lead to the effect that more revenues have to be borne by the domestic costumers (mainly end consumers) of the entry-exit system.

The figure below (Figure 6) shows the impact various entry-exit splits can have on the tariff level in particular with regard to cross-border and domestic network users[125]. The significant distributional effects of modifying entry-exit splits are also shown in the case studies of the ACER Justification document[126].

Figure 6: Impact of E/E split on tariffs

			% of costs allocated to entry									
			90%		75%		50%		25%		10%	
			cross-border route	domestic route	cross-border route	domestic route	cross-border route	domestic route	cross-border route	domestic route	cross-border route	domestic route
Capacity booked	[1]	Assumed	1	1	1	1	1	1	1	1	1	1
Costs:												
Total	[2]	Assumed	10	5	10	5	10	5	10	5	10	5
% allocated to entry	[3]	Assumed	90%	90%	75%	75%	50%	50%	25%	25%	10%	10%
% allocated to exit	[4]	Assumed	10%	10%	25%	25%	50%	50%	75%	75%	90%	90%
Allocated to entry	[5]	[2]x[3]	9.0	4.5	7.5	3.8	5.0	2.5	2.5	1.3	1.0	0.5
Allocated to exit	[6]	[4]x[2]	1.0	0.5	2.5	1.3	5.0	2.5	7.5	3.8	9.0	4.5
Entry tariff	[7]	See note	6.75	6.75	5.6	5.6	3.8	3.8	1.9	1.9	0.8	0.8
Exit tariff	[8]	[6]/[1]	1.0	0.5	2.5	1.3	5.0	2.5	7.5	3.8	9.0	4.5
Total tariff	[9]	[7]+[8]	**7.75**		**8.1**		**8.8**		**9.4**		**9.8**	

Notes and sources:
[7]: Sum of [5] for domestic and cross-border routes divided by the sum of [1] for domestic and cross-border routes.

Source: Brattle

[125] For further details on the calculation and underlying assumption see p.16 Brattle study.

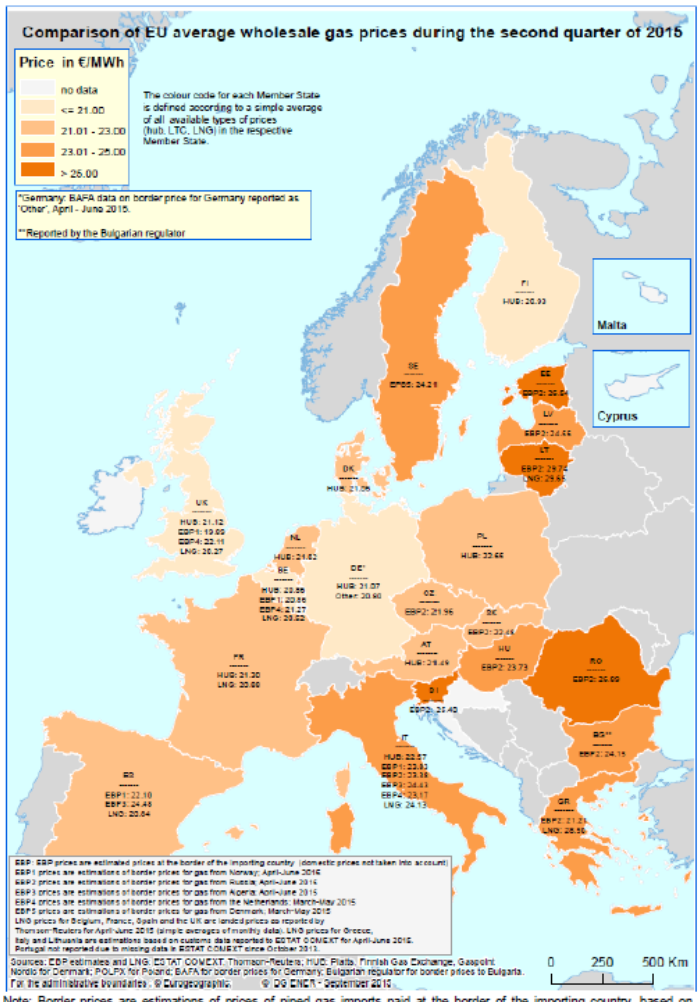
[126] Case study performed by MEKH – Hungarian NRA, included in ACER Assessment of Policy Options, Justification document for Framework Guidelines on rules regarding Harmonised Transmission Tariff structures, 31 March 2014. The calculation is based on July 2012 charges and the applied booked capacity data relate to the entire 2012/2013 gas year.

Relevance of cross-border trade

A key contributing factor of the development of gas hubs and gas-to-gas competition is the diversity of gas contracts available in the EU. As the map below shows (Figure 7), this diversity is important, because markets with access to multiple sources of gas and competitive trading arrangements (e.g. North-West Europe, UK) have benefitted from lower prices in recent years. By contrast, Eastern European countries that depend predominantly on a single source of supply have paid relatively higher prices. EU Member States with well-developed trading systems have not only enjoyed the benefit of greater price stability they also benefit from a higher level of security of supply.

While the measures related to TAR and INCR alone cannot solve the situation shown in the map, the improvement and harmonisation of those rules will significantly foster cross-border trade and competition in Europe.

Figure 7: Average wholesale gas prices in the second quarter of 2015

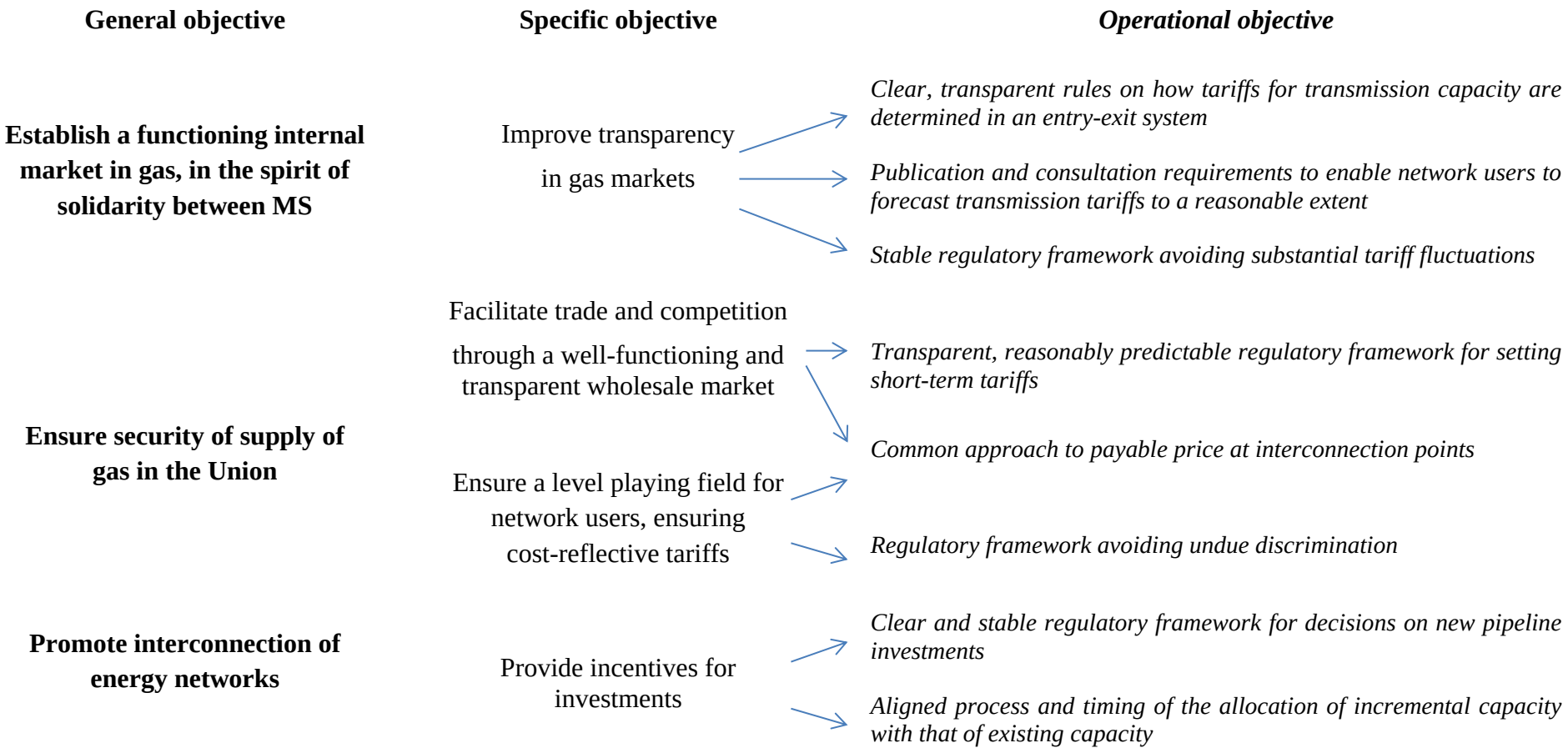


Note: Border prices are estimations of prices of piped gas imports paid at the border of the importing country, based on information collected by customs agencies, and are deemed to be representative of long-term gas contracts.

Source: DG ENER

ANNEX 10 – OBJECTIVE TREE

This annex establishes an objective tree to illustrate the different layers of objectives set out in Chapter 4 of the impact assessment report. The general objectives have an overall relevance for all listed specific objectives. The specific objectives also have relevance for more than one operational objectives and the main links are shown in the table below with the arrows.



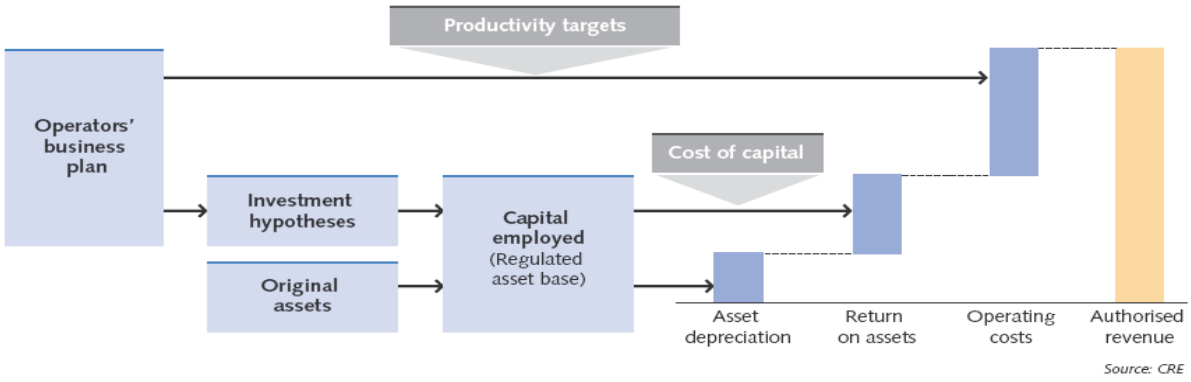
ANNEX 11 – DESCRIPTION OF THE RELEVANT TRANSMISSION TARIFF SETTING PARAMETERS

In the development of the current impact assessment for TAR and INCR the most important parameters were identified based on their relevance for the national transmission tariff setting systems and for cross-border gas trade. For the purpose of developing the policy options the possible harmonisation of these parameters were considered, as described in Chapter 5. This section provides an explanation of these parameters.

Determination of the TSOs allowed revenue

The overall tariff level stems from the allowed or target revenue, understood as the maximum level of revenues set or approved by the NRA that a TSO is expected to obtain within a defined period of time for providing the regulated service. National legal and regulatory frameworks define the main categories of costs to be taken into account by the regulator. These costs include operating costs and capital costs (composed of depreciation of equipment and return on fixed capital). The calculation of these two cost components is based on the Regulated Asset Base (RAB), which may take into account the investment projections of the operators. The composition of the allowed revenue is described in Figure 8.

Figure 8: Composition of the allowed revenue



Source: ACERs Assessment of policy options

The level of transparency, predictability and stability of the allowed revenue calculation methodologies plays an important role for cross-border investment security.

Reference price methodologies

The reference price is the value of a capacity product with one year duration for each entry and exit point. They form the basis of capacity tariffs levied on entry and exit capacity and can be calculated using different methodologies.

We further look into the different aspects of the reference price methodology below. Differences across-borders of the reference price methodology and its aspects has a strong influence on the overall stability and predictability of tariffs and therefore on cross-border trade.

Choice of reference price methodology

In the entry-exit system, which was introduced in the Third Energy Package in 2009, transmission costs are no longer associated to one specific route but many paths are possible

as entry and exit capacities can be booked separately, and shippers can provide gas from/to any entry/exit point. In this system it is the TSO who decides about the most efficient gas flow inside the entry-exit system.

Under the current entry-exit model it is therefore not possible to track typical gas flows caused by shippers using specific entry and exit points (which was the case in the previous point-to-point environment). Therefore true cost reflectivity, based on costs caused by the shipper, is difficult to achieve. In order to achieve and ensure a reasonable level of cost reflectivity, transmission tariff structures are based on a reference price methodology using specific cost-drivers. TSOs and NRAs have to strike a balance between transparency, stability and a level playing field for upstream sources on the one hand; and cost-reflectivity and minimisation of cross-subsidies on the other hand.

The choice and application of the reference price methodology influences the overall stability and predictability of the tariffs and the balance between cross-subsidy and cost-reflectivity, thereby favouring certain groups of system users.

Entry-exit split

The entry-exit split describes the extent to which the TSOs' revenue is allocated to entry points or exit points.

Multi-TSO entry-exit systems

This is a system where more than one transmission system operator is active in an e entry-exit system.

Storage discounts and secondary adjustments

Discounts can be applied either to the entry or the exit tariffs of market participants injecting gas to or withdrawing it from storage facilities.

Tariff regimes include also adjustments to the reference price, after the application of the reference price methodology.

Tariffs for different transmission capacity products

The Capacity Allocation Mechanism Network Code, which applies from 1 November 2015, introduced a set of harmonised capacity products, which can be distinguished on the basis of their duration (yearly, quarterly, monthly, daily and within-day) or of their quality (mainly firm or interruptible). This section provides a description of the tariffs for short-term and interruptible capacity products.

Different approaches in the pricing of short-term and interruptible capacity products can play a significant role in driving cross-border trade and market integration.

Tariffs for short-term transmission capacity products

The tariffs for annual firm transmission capacity products are based on the reference price calculated through the reference price methodology. In case of transmission capacity products of shorter duration or of different quality such as alternative capacity products or interruptible ones, the tariffs are generally set proportionately to the tariff of the annual firm transport capacity products, applying some coefficients, called multipliers.

A network is designed to handle flows during peak conditions. However, under average conditions, it is only partially used. Multipliers applied to tariffs for shorter term capacity products allow charging system users contributing to the peak consumptions comparatively more than system users with a flat consumption profile. In using multipliers, NRAs and TSOs must strike a balance between an efficient use of the system and revenue recovery. Low multipliers encourage users to profile their bookings according to their needs, while high multipliers have them increase their longer term bookings (yearly and beyond). Put differently, low multipliers promote flexible bookings and spur trading while they also shift a larger segment of system costs to customers with flat bookings. Higher multipliers achieve the opposite effects. Different levels of multipliers have different advantages and disadvantages.

Tariffs for interruptible capacity and non-physical backhaul

Interruptible capacity is transmission capacity that may be interrupted by the TSO in accordance with the conditions stipulated in the transport contract. Forecasted interruptible capacity is often an input parameter for the cost allocation methodology.

According to Article 14 of the Gas Regulation, the price of interruptible capacity should reflect the probability of interruption and should thus be lower than the reserve price of firm standard capacity products (transmission capacity contractually guaranteed as uninterruptible by the TSO) with equivalent duration.

Generally, the price of interruptible capacity is defined applying a discount to the reference price of firm capacity products to reflect the probability of interruption in the provision of transmission services.

Non-physical backhaul flow is the amount of gas that is nominated to flow in the opposite direction to the physical flow at unidirectional entry/exit points. It can be only provided if there are enough nominations for the gas to flow in the prevalent direction of the physical flow. As such it can be interrupted by the TSO.

Network users' access to relevant information

Transparent tariff structures, predictable tariffs and the timing of the availability of relevant information are crucial to allow market participants to trade inside an entry-exit system and across it. Relevant information covers e.g. tariffs, calculation of allowed revenues, reserve prices for auctions of transmission capacity.

Payable price

The issue of the payable price relates to the question whether the shipper is supposed to pay the transmission tariff determined for the year of use of the transmission capacity ("floating price approach") or the tariff that was determined at the time of booking of the transmission capacity ("fixed price approach"). The choice between floating or fixed payable price approaches at IPs is connected to the problem of revenue reconciliation and allocation of volume risk between network users and TSOs. A floating price regime affects the ability of network users to predict the tariffs of transmission capacity products to be paid at the time of use and limits their ability to commit to long-term bookings. While a pure fixed price approach fosters long-tern commitments and protects network users who booked capacity in advance from variations in the tariffs, in networks where allowed revenues are subject to

significant changes over time it causes discrimination and undermines competition among network users who pay a different price for the same capacity product booked in a different timeframe. Annex 9 provides a more detailed description of the floating and the fixed price regimes and their impacts.

Incremental capacity

Ensuring the development of competitive markets and security of supply relies on sufficient transmission capacity being in place across the EU. In this context it is important to ensure that the investments made are efficient and that they promote competition, cross-border trade and security of supply whilst minimising the risk of assets becoming stranded.

As a general principle, investments are made when, among other things, demand for capacity from market players demonstrates a clear need for additional infrastructure and when sufficient financial security is provided from subscriptions. Three key questions must be answered in a coherent way:

- When and how to decide to offer new transmission capacity to the market, taking into account market based (e.g. user demand) and non-market based (e.g. security of supply or market integration) objectives?
- When and how to decide to invest?
- Who pays for the investments and takes on the risk and/or benefits?

The challenge consists of ensuring economically efficient investment in a timely fashion at all IPs and of sharing the volume risk among shippers, consumers and investors.

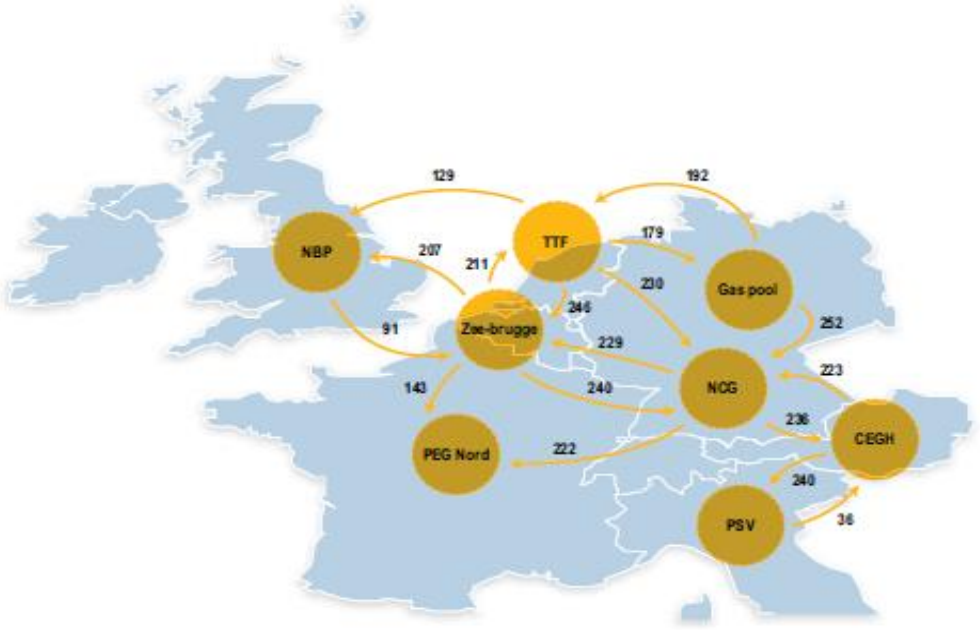
ANNEX 12 - COMMERCIAL INTERPLAY OF TARIFFS AND SPREADS AT IPS

Converging (reducing) hub prices are an objective in achieving market integration particularly to increase upstream competition in the EU gas market for the benefit of EU consumers. Nevertheless, gas, like oil and refined products needs to be transported to market largely from import points/terminals and often across large parts of the EU which results in transportation services being rendered and corresponding tariffs being added before reaching the target market[127]. Such transport services, performed by regulated TSOs, are compensated through the regulated revenues of TSOs. Tariffs in the EU are currently charged at system entry points, consumption exit points as well as cross-border points. The current system of capacity bookings (including at cross-border IPs), and with it TSO revenues, is still largely supported by long-term bookings which enables prices at hubs to be priced at marginal cost[128]. Figure 9 shows that on average wholesale market price spreads were lower than transmission costs between those hubs on over half of the days in 2013.

[127] KEMA/REKK gas tariff study for DG Energy of 2009, section 3.2.1.4 setting out the notion of tariff pancaking, https://ec.europa.eu/energy/sites/ener/files/documents/2009_12_gas_transmission_and_balancing.pdf

[128] If bookings are made for at least a year, or even several years ahead, they can be regarded as sunk cost and capacity may be priced marginally on the day-ahead. Arguably, if bookings were made solely on a day-ahead basis, in view of the commodity price spreads, it is unlikely that hub spreads would go below the transport costs between two hubs.

Figure 9: Number of days in 2013 during which wholesale market day-ahead price spreads fell below transmission tariffs in the EU



Source: ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2013

Market players looking to build a supply portfolio in a given market will in all likelihood not ship their gas from other markets if the commodity price spread is not high enough to cover the shipping costs. This may have the effect of alternative gas sources not entering the market and therefore not providing the competitive pressure, particularly in illiquid or less liquid markets[129].

Therefore many shippers with long-term capacity contracts stated during various consultations that, in the future, measures aimed at mitigating the impact of such changes on existing long-term contracts should be introduced as otherwise shippers with long-term contract would have a competitive disadvantage compared to new entrants and network users that have more flexibility in booking transmission capacity. In particular, a one-off capacity reset clause[130] or alternatively a stop loss clause[131] have been requested during the public

[129] E.g. due to the fact that the entry-exit system is rather small or where the system is only linked to one supply source.

[130] The possibility for any network user to step out of any transmission capacity contract concluded with a TSO at IPs at a specified date before the application of the NC TAR.

[131] The on-going possibility for any network user to step out of any transmission capacity contract concluded with a TSO at IPs in whole or in part, if the tariff increases by more than 30% in real terms over a three year period preceding the date of termination.

consultation process by 58% of respondents (42% shippers and 17% traders)[132] as well as in the Madrid Forum[133].

Changes foreseen in capacity management and booking behaviour are likely to affect this and with it hub price spreads but the specific interplay will need to be examined. The Commission services are of the view that this interplay between transportation and trading activity poses pertinent questions in an EU gas system where long-term bookings are likely to be replaced at least to some extent by short or mid-term bookings this matter. This issue however affects the overall tarification system (including how and where charging takes places) which is not subject to assessment in this comitology process.

[132] Among the consulted stakeholders E.ON, EDF, EDF Trading, Edison, EFET, Eurogas, ENI.

[133] See letter sent by EFET, Eurogas, Eurelectric and IOGP to the 25th Madrid Forum https://ec.europa.eu/energy/en/madrid-forum-previous-meetings