Framework Guidelines on

Harmonised transmission tariff structures

(for European natural gas networks)

(Initial) Impact Assessment

DFGT-2012-G-00X

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Disclaimer:

This is a draft IIA, drafted for consultation together with draft FG Tariffs, with Energy Industry as key readers. Certain issues such as Mergers of entry-exit zones, Incremental capacity and Locational signals are not specifically included in the draft FG, however they are taken into account in consultation questions and in a form of initial analysis in this draft IIA. Moreover, consultation outcomes will contribute to key comparison of preferred option(s) in the future final IIA, as well as additional interviews with experts on any missing or changed national information will contribute to quality of the final IIA.

In addition, please note that Implementation period has not yet been assessed, see chapter 7.3.

ACER
Agency for the Cooperation of Energy Regulators

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1. Procedural issues and consultation of interested parties

In its first recital, the Gas Directive[1] states that "*the internal market in natural gas, (…) aims to deliver real choice for all consumers of the European Union, be they citizens or businesses, new business opportunities and more cross-border trade, so as to achieve efficiency gains, competitive prices, and higher standards of service, and to contribute to security of supply and sustainability.*" Choice for the consumers and competitive pricing are the key objectives of the Third package[2], and the framework guidelines and network codes should contribute to the achievement of these objectives. The Third package promotes deeper harmonisation when regulatory gaps represent obstacles to the achievement of the internal market by various means, including the adoption of European network codes in several areas[3]. Any means employed to deliver greater harmonisation should aim at solving concrete issues, and thus needs to be justified by a clear diagnosis as well as an impact assessment for the proposed solutions.

Producing guidelines on tariffs follows the development of framework guidelines and network codes in other areas designed to facilitate market integration. The Agency for the Cooperation of Energy Regulators (ACER) adopted two framework guidelines in 2011, on capacity allocation mechanisms (CAM) and balancing and a third one – on Interoperability Rules – was adopted in 2012. The European Network of Transmission System Operators (ENTSOG) has published the network code on CAM on 6 March 2012 and is developing the network code on Balancing.

The internal gas market can be described as a combination of complementary markets affecting the different aspects of the gas supply chain, including access to infrastructures and commodity trading, where liquidity development represents a key objective. Behind this concept, actual industry mechanisms have to be addressed, in particular to balance short (i.e. short-term trading), medium and long term (i.e. security of supply) aspects of the gas markets to ensure the establishment of an "efficient market". In summary, short term allows for a sound allocation of gas flows within the system, mid-term facilitates a proper combination of available gas sources and long term supports investment and the development of new gas sources.

In this perspective, transmission tariffs have a key role to play. The scope of a framework guideline on harmonised transmission tariff structures has to be consistent with other framework guidelines and network codes and cover tariff issues having a cross-border dimension, and issues affecting all entry-exit points to prevent possible discrimination between cross-border and domestic points.

In the context of the implementation of the European legislation, in particular the network codes on CAM and balancing and the guidelines on congestion management procedures (CMP), the initial impact assessment (IIA) shall evaluate the effect of the options for tariff structures. As mentioned also in recent EC decision[4], and shared by ACER draft proposals for the framework guidelines and network codes should be accompanied by the relevant Impact Assessment outlining the main policy options and underpinning by their cost-benefit analysis. The Impact Assessment should furthermore be subject to a separate public consultation.

[1] Directive 73/2009/EC

[2] See http://ec.europa.eu/energy/gas_electricity/legislation/third_legislative_package_en.htm

[3] See Regulation (EC) 715/2009.

[4] See http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:192:0032:0034:EN:PDF

- **Process and consultations**

On 8th February 2012, the Agency for Cooperation of Energy Regulators (ACER) launched a public consultation on the Scope and main policy options for Framework Guidelines on Harmonised transmission tariff structures for the European Gas Transmission Network. The public consultation lasted six weeks and closed on 26th March 2012. The consultation on the Scope and main policy options for Framework Guidelines on Harmonised transmission tariff structures resulted in an Evaluation of Responses document, where a total of 38 responses were analysed, out of which one was confidential. This evaluation will be published online.

- **Consultation and expertise**

The Framework Guidelines will be publicly consulted. The deadline for submitting the final Framework Guidelines - as set by the Commission in its invitation letter - is 31 December 2012.The Third Energy Package envisages the development of European network codes in different areas. ENTSOG will be responsible for drafting cross-border network codes based on the principles and objectives set out in the Framework Guidelines to be prepared by the Agency for the Cooperation of Energy Regulators (ACER) in consultation with network users.

External expertise.

Ad hoc Expert Group on Harmonised Gas Tariff Structures. In line with positive preceding experience with other Framework Guidelines, ACER has decided to set up an informal "Ad hoc" group of experts on harmonised gas tariff structures. The goal of this group will be to provide expert support to ACER during the development of the Framework Guideline on Harmonised Gas Tariff Structures. Such a group, consisting of 11 experts and 3 observers was established in February 2012. The minutes are published online.

Studies. ACER work on tariffs will also build on the THINK study, published in January 2012, and on the study on Methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe (KEMA study) commissioned and published by the European Commission in December 2009. These studies highlight differences between national transmission tariff structures in the EU that could result in barriers to trade.

Consultancy. The report of a consultant The Brattle Group was used for the purposes of IIA in 2012, aiming to evaluate the policy options for gas transmission tariff structures. In this report we shall refer to that report, where ACER makes use of that analysis. The report is to be published and will be attached as an Annex to this report.

2. Problem identification

2.1. Background and overview of the regulatory framework

The development of framework guidelines on tariff structures is in the context of the implementation of Third package provisions and, especially, the network code on CAM.

2.2. General tariff issues for the achievement of the internal gas market

In February 2011, the European Council reaffirmed that the internal EU gas market should be achieved by 2014. Until now, the European gas market has developed as a combination of national systems with their own regulation – leading to 25 distinct gas markets[5]. This often results in regulatory gaps hindering gas flows across the borders. The development of network codes in various areas aims at solving this problem. The issue of market integration is increasingly important both in terms of competition and security of supply. Nowadays, the EU imports more than 60% of its gas needs and is getting more and more dependent on imports due to diminishing indigenous gas production. As a result, the interdependence between Member States in terms of gas supplies is growing. The co-operation between national regulatory frameworks is thus increasing, in particular in the area of third party access tariffs to the transmission infrastructure. As the tariffs set in one country can have an impact on access regimes in adjacent countries, the issues related to the tariffs structure need to be considered in the context of the integration of gas markets across the European Union. In developing a framework guideline on tariff structures harmonisation, a special attention has to be put on elements hampering cross-border access to transmission networks such as, for instance, inconsistent capacity products on both sides of borders in terms of product design, contract duration, allocation procedures and timing as well as tariff setting.

Having considered the global context of EU gas policies on tariff methodologies, we now present the problem areas – as described further which can in principle be identified with regards to the current implementation of tariff structures and to the possible effects of the introduction of auctions as standard capacity allocation mechanisms.

Lack of transparency

ACER agrees to the description of Brattle group, see p.29, which describes distortions as follows:

“Much progress has been made on this issue of transparency since the start of the liberalisation of the gas market. The initial objectives with respect to transparency were to do with the publication of tariffs, so that at least price discrimination could be avoided – that is, the TSO cannot charge different users different prices for the same service depending on their willingness to pay.

However, 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. One notable exception is NGG, which makes available a detailed model that allows shippers to understand how NGG derives tariffs for each point. Most TSOs do not provide this level of detail. Among other things, this lack of transparency makes it difficult for the network users to assess whether tariffs are sufficiently cost-reflective.

[5] Malta and Cyprus are not considered here due to current absence of high pressure gas transmission networks.

Network users may also find it difficult to estimate how transportation tariffs might evolve in the future, and how network congestion is expected to develop over time. This could make it difficult for network users to plan investments which are partially dependent on future tariffs, or to make long-term commitments to capacity. While users could attempt to make their own tariff forecasts, the TSO is in a unique position to make a forecast because it has an overview of all the technical constraints of the system, and also has access to capacity booking data for all users."

Problems with cost allocation

Cost allocation is a key aspect of tariff setting and market integration. The general principle of a tariff methodology is to allocate the amount of costs (or revenues) to be recovered on an annual basis to the different entry and exit points where the revenues are collected. Cost allocation is a key when addressing the issues of economic incentives for the users of the transmission system and of non-discrimination between domestic and cross-border uses of networks. It can be considered as the corner stone of tariff setting methodologies, which have been summarised as follows in the Brattle report, see p. 10,

1. *"First, the NRA determines the TSO's allowed revenue. This is usually determined by a combination of depreciation, return on capital and operating costs;*
2. *A forecast is made for capacity/throughput demand for each entry and exit point over the regulatory period and also in some cases the distance that the gas will travel;*
3. *The costs that must be recovered from each entry and exit point is then determined. We refer to the process of allocating costs that must be recovered from groups of entry and exit points as cost allocation;*
4. *Finally, the reference price at each entry and exit point is determined. Often, this is done simply by dividing the costs allocated to that point by the expected demand at that point (or group of points)[6]".*

"There are a great many ways to perform cost allocation in step 3 above. These different approaches can produce very different reference prices even for the same set of allowed costs and forecast demand. The main scope for differences at step 3 is:

i) *whether costs are allocated with respect to long-run marginal costs (LRMC)[7] or historical costs;*
ii) *how costs are allocated between domestic and cross-border routes;*
iii) *how the costs are divided between entry and exit points; and*
iv) *how the costs are allocated between capacity and commodity components of a tariff.*

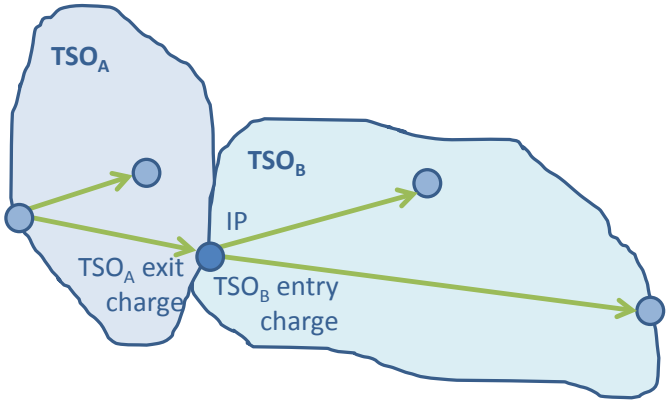
Different approaches for any one of these components can result in tariffs that differ for reasons that do not reflect underlying costs or congestion, but instead reflect different choices regarding the cost allocation methodologies (see p.10)."

As Brattle report points out, see p. 14: *"different pricing policies at a single IP (or VIP) can lead to other inefficiencies. As Brattle points out, see p. 18:* "suppose that on one side of an IP was TSO A

6 Please note that some text is left out here for brevity; this quote consists of two parts of text from the Brattle report, not one.

7 Allocating costs with respect to LRMC describes the process by which the allowed costs are allocated among routes in relation to the level of congestion along the routes. For instance, a route that is more congested will be allocated more of the allowed costs than a less congested route.

and on the other TSO B. The total charge that the shipper faces from going from A to B is the exit charge of TSO A at the IP and the entry charge of TSO B. Suppose that TSO B tries to adopt a reference price which is in line with the costs that the IP entry point imposes on the system. But TSO A has a policy of allocating a large percentage of costs to IP exit points, so the total IP tariff is higher than a cost reflective charge".



ACER further agrees with Brattles point, see p. 19. *According to Brattle, p.20, another situation in which this type of potential problem may arise is when the same tariff applies to all IP exit points. In other words, when the costs allocated to IP exit points are socialised among the IP exit points. In this scenario, an exit point that had lower costs than average would have a tariff that is above its costs". [..] "In this scenario, an exit point that had lower costs than average would have a tariff that is above its costs."*

Allocating costs between domestic and cross-border routes

As Brattle report points out, see p. 16: "s*everal parties have indicated their concern regarding the use of different cost allocation methodologies between domestic and cross-border entry and exit points. The main concerns are that the some methodologies might result in excessive cross-subsidies between cross-border and domestic routes,*[8] *and might distort competition and reduce liquidity.*[9]Distortion of long term cross-border capacity bookings resulting from different cost allocation methods in different member states: As Brattle assert, see p. 9, *"Differences between cost allocation approaches among alternative routes could lead shippers to make decisions which minimize costs for themselves, but do not minimise the costs for the EU network as a whole.*

LRMC[10] versus historical costs as cost allocation methodologies

The use of LRMC instead of historical costs for cost allocation reveals a different objective in terms of incentives for system users. Since the principle of historical costs consists in allocating each point a cost corresponding to the cost of injecting/withdrawing gas at that point, LRMC relates to the impact any additional flow would have on the system at a global level. If an additional flow

[8] The THINK report describes cross-subsidisation when all entry points and all exit points are set the same (see THINK report, p. 45). However cross-subsidies could also occur in other cases.

[9] See for example KEMA/REKK report, p. 92.

[10] Long run marginal cost (LRMC) is the cost of producing an increment in output when capacity can be altered. Incremental cost (and correspondingly long run average incremental cost, LRAIC) is frequently used in practice instead of marginal cost, when referring to the cost of an increment of use sustained over a long period. Strictly speaking, marginal costs are the additional cost for an infinitely small change of demand, whereas incremental cost relate to changes of a specific size. Since it is practically impossible to determine the real "marginal cost" of a gas network, all methods basically rely on some kind of incremental cost as a proxy for marginal cost.

"helps" the system, that can lead to proposing negative tariffs at that point. The purpose is to push shippers to use, in priority, the points which help minimising the cost of transporting gas.

In the two cases mentioned above, different methodologies are applied to the pre-defined allowed revenue. As Brattle report points out, see p. 11, *"the same pot of allowed revenues would produce a different set of reference tariffs if LRMC were used as the basis for cost allocation instead of historical costs".[….]* In sum, LRMC approach focuses mainly on promoting an efficient use of the system while historical costs tends to promote cost reflectivity. Please note that we also discuss the use of LRMC/actual costs in section on problems related to "Barriers to investment" at the end of this Chapter.

Cost allocation between entries and exits

Various approaches are possible for breaking down the costs within the system and the Brattle report illustrates the variety of options developed at a national level. Identifying total volumes to be collected from entries on the one hand and exits on the other is an important option which has been promoted in ACER work on the tariff framework guideline. The choices in terms of allocation of costs between entry and exit points determine part of the flexibility one has in allocating costs to various routes in gas systems. As a result, ACER considers that adjustments aimed at avoiding cross subsidies between domestic and cross border uses will be a priori dealt with at the level of exit points.

The discussion on the need for harmonisation relates to the consequences of different pricing policies at a single IP (or VIP) with focus on the inefficiencies they can lead to. The design of cost allocation methods may result in an inefficient utilisation of the existing infrastructure. As reflected in the analysis of national tariff transmission structures prepared by CEER in 2011 (updated by ACER in 2012) and in the THINK study, different practices exist among Member States concerning the weight of distance in transmission tariffs and the breakdown of the allowed revenues between entry and exit points or between the cross-border and the domestic network.

Even if consistent at a national level, differences between methodologies can lead to inconsistencies at an IP level *in terms of cost reflectivity as well as incentives for shippers to use the various routes. In turn, different approaches may distort competition between various routes within the EU.* In addition, if the tariff policy of a neighbour system reduces the attractiveness of an IP, it can translate into a lower use by shippers than expected and, thus, problems of revenue recovery. These issues are further developed in the Brattle report. One of the main recommendation of the THINK study is a certain degree of harmonization in order to ensure that the breakdown of costs among grid users and among entry and exit points is as far as possible in line with the principle of cost-reflectiveness and with the minimisation of cross-subsidies between national end users and long distance transportation.

In sum, different cost allocation methods in different member states can distort long term cross-border capacity bookings when leading shippers to make decisions which minimize costs for themselves, but do not minimise the costs for the EU network as a whole. As stated in the Brattle report, a lack of harmonisation may lead to inefficiencies because shippers may chose a more congested route because it appears to be cheaper than a less congested route. This may lead to distorted investment decisions because routes that in a harmonized world would have spare capacity become congested.

The issue of cost allocation is determining in terms of potential cross subsidies between cross-border and domestic uses of gas systems. One of the key objectives of framework guidelines is to eliminate undue obstacles to cross-border trade; prices paid for cross-border gas transport should therefore not exceed corresponding costs. A proper articulation between entry/exit split and cross-border/domestic split could help achieving tariff systems without cross-subsidies between domestic and cross-border users; however, a proper level of harmonisation of the allocation methodologies is required to avoid distortions such as excessive tariffs at IPs when splits between entries and exits are different in the two adjacent countries. The Brattle report underlines that stakeholders

have particularly voiced their concern regarding risks of excessive cross-subsidies between cross-border and domestic routes[11] which might distort competition and reduce liquidity[12]. Having the same treatment for cross-border and domestic flows may not completely solve this problem, however.

Discrimination between different network users and cost-reflectivity

Discrimination is a key problem to be addressed by regulation: ensuring that all the actors are treated in a fair way is a basic requirement for competition development. Discrimination results from differences of treatment resulting in distortions between market players. In fact, plainly defined, discrimination is 'charging different prices to different Network Users for the identical gas transmission service'. The complexity with the concept of discrimination is that it is directly dependent on how fairness is defined. As an illustration, charging different prices for the same products when sourced at different points in time may be considered either discriminatory or non-discriminatory if one considers that the differences in terms of information and context justify different prices. This is an important debate regarding the organisation of several successive auctions on a same product like long term capacity products as they are defined in the CAM network code.

Problems of discrimination in tariff structures

Tariffs can lead to distortions of different natures including an unfair treatment of some market players compared to others, if overcharged for a given service sold at the same time for instance, or if the tariff structure leads to cross subsidies between different categories of users.

Tariffs can lead to geographical discriminations, for instance between shippers supplying gas via different entry points of the system (which may or may not be justified on the basis of costs imposed on the system), or discriminating neighbouring customers by overcharging for capacity bought at the same time for the same exit points (however in a pay-as-bid auction the difference in prices may be justified on the basis of different valuations of capacity by the shippers).Cross subsidies between cross-border and domestic network usages is an important aspect of potential discrimination. The general principle is that consumers pay for the full cost of their supplies; over or under-charging tariffs at the borders would translate in a cross subsidy from downstream to upstream customers or vice-versa.

Tariffs, in addition, can lead to (risk of) timing discriminations. In particular, the timing discrimination issue occurs if a Network user needs to pay a different price depending on the contracting moment for a similar product[13].

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[11] The THINK report describes cross-subsidisation when all entry points and all exit points are set the same (see THINK report, p. 45). However cross-subsidies could also occur in other cases. Another cost allocation problem, related to potential cross-subsidy, could be the one related to the provision of subsidies for the development of certain infrastructures by public support, which influences level playing field with infrastructures, which do not receive such public support funds.

[12] See for example KEMA/REKK report, p. 92.

[13] This e.g. relates to the potential problem of finding tariff mechanisms that guarantee non-discriminatory pricing of the products depending on the timing of the capacity contracting which will set an adequate framework for new investments in gas transmission. Shippers contracting capacity are using a unique product, independently of the fact that this capacity was existing capacity or incremental one at the time of the contracting. This issue relates to the issue of incremental capacity as developed in chapter 5.10 and policy options on payable price, as developed in chapter 5.8.

Problems related to cost reflectivity in entry-exit zones

Cost reflectivity is a key principle of tariff setting, as stated in the Regulation 715/2009 and fully cost reflective tariffs can be considered non-discriminatory when eliminating cross-subsidies. There is a debate on the interpretation of this principle, whether the cost reflectivity principle should be applied on an aggregated or individual level. If cost-reflective for each entry/exit point and capacity product, tariffs would allow coverage of the costs at a global level. The benefit from cost-reflective tariffs would also be that cross-subsidies between different categories of users or consumers would be eliminated. However, individual cost reflectivity is impossible to achieve for several reasons. One first key reason is the nature itself of Entry/Exit systems whereby there are no more tariffs per route, which makes it difficult to be entirely cost-reflective[14]. Other reasons why individual cost reflectivity is impossible to achieve include the infrastructures used for different purposes, different levels of depreciation, uncertainty on the level of use of pipelines, etc. In any tariff system, due to the architecture of transmission systems, a certain level of cost socialisation is applied, either because meshed networks do not allow for a perfect individual cost allocation or because a full cost reflectivity would not be sustainable. The principle of entry/exit tariffs consists in finding a balance between the cost reflectivity principles being applied on an aggregated or individual level.

Recovery of allowed revenues[15] and cost coverage

The regulation of access to transmission systems is based on the principle of cost coverage, including the remuneration of TSOs, summarised under the concept of allowed revenue. Charges paid by the various users of the system are supposed to cover the allowed revenues at least on an aggregated level. However, two models have been developed in Europe, revenue regulation or price regulation. The Brattle report explains that, see p.10, that: "t*he key difference is that under revenue regulation, if the volumes are more or less than anticipated when the price was set then future tariffs will be adjusted so that the TSO obtains its allowed revenues – no more and no less. Under price regulation, the TSO accepts a volume risk, so that it will earn less than projected if volumes are lower than expected. In return, the TSO may earn a higher cost of capital than a similar TSO with revenue regulation. Both systems are equally valid, but revenue regulation creates the additional issue of how to recover revenues that were not recovered in a previous period".*

Problems with the coverage of revenue shortfalls

ACER agrees with the description used by the Brattle group, which describes recovery problems as follows, see p.21:

"In a tariff system with revenue regulation, tariffs for capacity are set so that when considering the expected purchases of capacity, TSOs will recover their allowed revenues. However, actual purchases of capacity can differ from expectations and so the TSOs might actually recover more or less than their allowed revenue over time. Some mechanism is required to ensure that a shortfall in

[14] A TSO expert suggested e.g. that in the numerical examples of the Brattle report, it is always assumed that the cost per route is known. However according to the TSO expert this is not always the case. In most cases, only the total cost of the high pressure network is known.

[15] In this chapter discussion on cost recovery when speaking of costs, we mean also "revenues'. As we define "revenues" as "the costs (including the remuneration of TSOs)" for the purpose of draft FG. In fact, in the draft FG we only use terminology of 'revenue recovery', not of 'cost recovery'.

revenue can be made up or excess revenues returned to network users. The mechanism chosen can further accentuate any departure from cost-reflectivity in the tariff system.

One mechanism for dealing with under or over-recovery of revenues would be to recover any shortfall in revenues from capacity charges at the entry or exit point at which the shortfall occurred by increasing the tariff at the entry or exit point. Similarly for over-recovery, the tariff at the entry or exit point would be reduced to offset the over-recovery. In this way, the cost allocated to the entry or exit point would be recovered by capacity booked at the entry/exit point. However, one concern with this approach is that if there has been under-recovery at a particular entry point, the tariff at that entry point would be increased in subsequent years which could lead to a reduction in capacity and further under-recovery." An alternative is for the TSO to recover revenue pro rata from all entry and exit points through a general uplift on the reference or payable price, but recovering costs that were not recovered at one entry or exit point from other entry or exit points could reduce cost reflectivity.

Differences in capacity/commodity split

The dominant approach in the EU has been that the majority of the allowed revenues are recovered through capacity selling, namely via tariffs paid by shippers when they book some capacity. However, an alternative for covering costs is to levy a separate charge on flows or capacity bookings. The THINK study notes that correcting under-recovery of TSO revenues via a commodity charge "causes additional distortions in natural gas trade since the commodity charge does not reflect any short-run marginal cost of system operation."[16] Similarly, if shippers observe an increased price they have to pay for capacity compared to the price the capacity was allocated at, as a result of floating payable price mechanism, the shippers may reduce their long-term bookings.

As explained in the Brattle report, see p. 17, TSOs generally recover their allowed costs through a mixture of capacity and commodity charges. Sometimes large differences in the split between capacity and commodity charges exist in MSs, and this is another mechanism by which differences between cost allocations methodologies may lead to distortions between flows since differences in the capacity/commodity split will in effect create different tariffs for different types of user.

In sum, capacity/commodity splits can lead to lack of cost-reflectivity. The tariffs may not be sufficiently cost-reflective, if the commodity element of the tariff departs too far from the actual variable costs of the system. This could lead to inefficiencies. For example, a system user may have bought capacity, but decide not to flow gas cross-border if the commodity charge is more than the value of the cross-border trade. However, it would have been efficient to make the trade if its value is greater than the variable cost of transporting the gas.

Cost recovery problems related to short term capacity prices

Another aspect of cost recovery relates to pricing methodologies for various kinds of products. For instance, with regards to the pricing of short-term capacities, the THINK study puts into balance the benefits and drawbacks of high reserve prices for short term products. If the reserve price is too high compared to long term products, it would impede traders to participate in short-term trade and those with long-term capacity may not use it if they benefit more from keeping the price differential between markets which could maintain higher prices in importing countries and so disadvantage consumers there. However, if it is too low compared to long term products, cost recovery cannot be ensured and under recovery has to be corrected by additional mechanism notably because of a

[16] THINK report, p.45.

potential shift from the long term towards short term bookings and the possibility to profile capacity bookings with the introduction of short-term products at interconnection points resulting from CAM. The THINK study recommends here that the work on tariffs should be fostered and the design of potential revenue under-recovery mechanisms that do not "distort grid users' behaviour in the market". In this perspective, the level of potential congestion at IPs is an important parameter to address due to the impact it has on shipper capacity booking strategies. The higher the risk of not getting the capacity which is needed, the higher is the incentive to book long term.

Tariff evolution as a potential barrier

The network code on capacity allocation foresees the development of capacity products which can be bought up to 15 years before use. Considering that transmission services are paid for by the users when used (on a monthly or quarterly basis for instance), prices applied when capacity is allocated are different than when capacity is actually used[17]. The longer the time between allocation and use, the higher is the potential for difference. The differences may have various explanations: inflation, increase (or decrease) of costs or allowed revenues, evolution of system's structure (merger of balancing zones for instance), etc.

Problems related to tariff evolution: the evolution of tariffs can have some drawbacks in terms of stability and impact on cross-border trade. Two kinds of problems can be identified:

- Tariff stability: if tariff variations are too high, whatever the reasons are, this would be damaging for users, introducing some uncertainty about their cost structure. If variations are different on alternative routes, that could lead to distortions of competition[18].
- Inconsistent variations on both sides of a border: when bundled capacity products are implemented, if too different, the evolution of tariffs on both sides of the border could lead to a lack of transparency and some distortions in terms of the value of capacity. This would be particularly true if a country recovers costs via capacity tariffs while the adjacent one uses a commodity charge.

Barriers to competition

The establishment of a competitive internal gas market aims at developing choice for consumers which, in turn, corresponds to increasing the liberty of market players when developing their business. The internal gas market has to facilitate competition between various gases sources by reducing the obstacles to trade that could be considered illegitimate and by ensuring that gas flows to Europe. Transmission capacity is a scarce resource that should be (made) available when needed by market participants, in the short, medium or long run. The pricing of transmission capacity needs to take the above concerns into account.

High premium on short-term products can result in an inefficient short-term gas trade where gaps between wholesale gas prices in adjacent markets are higher than transmission costs in the absence of physical congestion. In this respect, high premium on short-term products or excessive prices for backhaul capacity are often considered as generating inefficiency and representing a barrier to competition, in the particular in case of contractual congestion on longer term products

[17] Depending on the way 'payable' price is construed.

[18] Please note that – according to a TSO expert due to some Member States legal systems - a "step-out" right for the shippers is foreseen in some contracts between shippers and TSOs if tariffs would increase more than x% in the future. E.g. according to the expert this could concern some German TSO contracts.

and where a shipper holding long-term capacity does not use the capacity to gain from the price differentials. In case of congestion, high prices on short term products create barriers to entry since they do not allow new entrants to get capacity at a fair price compared to shippers already holding some capacity. Furthermore, those holding long-term capacity may chose not to use this to flow gas even if there is a price-differential if the price reduction in the importing country is detrimental to their overall business. This could restrict competition in the importing country.

One of the general principles of market integration in the EU is to avoid distortions; this principle is important as far as the achievement of the internal competitive gas market is concerned. Distortion is a complex concept which refers to an efficient operation of the system. In terms of tariffs, distortions relate to different treatments resulting in an undue competitive advantage for some market players or to biased economic signals leading to undesirable behaviour. ACER should aim at minimising these distortions, ensuring where possible that tariffs send economic signals to shippers which lead to minimising either discrimination or undesirable effects (such as, for instance, hindering short-term trade or leading to highly unpredictable cost recovery).

In this context, transmission capacity has to be allocated to market players according to procedures and prices which reflect a balance between facilitating short-term gas trading on one hand and providing long-term signals for covering costs and promoting efficient investments on the other.

The KEMA report found that high premiums applied to short term capacities do not seem to reasonably reflect the costs and the market value of the corresponding product. High premium on short-term products can result in an inefficient short-term gas trade where gaps between wholesale gas prices in adjacent markets are higher than transmission costs in the absence of physical congestion. In this respect, high premium on short-term products or excessive prices for backhaul capacity are often considered as generating inefficiency and representing a barrier to competition, in particular in case of contractual congestion on longer term products.

Distortions for short-term cross-border trading

As explained in the Brattle report[19], "with congestion – that is, where demand for capacity exceeds supply – it is likely that short-term prices resulting from auctions will exceed the reserve price, and may approximate or exceed the long-term price. The issue with the pricing of short-term capacity arises when there is no congestion, and the reserve price determines the price of capacity. If the methodology for setting short-term capacity reserve prices is not harmonized, one could regard the different patterns of cross-border trade that emerge as a result of tariff decisions as 'distorted', relative to a situation in which all networks harmonised their decisions regarding short-term pricing.

For short-term capacity, cost-reflective tariffs could mean basing the tariffs on the short-run marginal costs that short-term trades impose on the network. In most cases, absent congestion, this would mean a tariff at or close to zero. Alternatively, cost-reflective could mean long-term average costs of the system (as could be used to set the annual regulated price). Setting the short-term tariff, including any commodity charge, as SRMC rather than LTAC would present many more trading opportunities. However, a lack of harmonisation on short-term pricing may simply represent different choices regarding a complex trade-off, rather than an avoidable distortion of the market.

Only a small number of TSOs price short-term capacity at SRMC. Many TSOs have reported pricing of day-ahead capacity at somewhere in the range of 0.9 to 13.4 times the pro-rated price of annual capacity. The question is really then whether these high prices for short-term capacity are

[19] See the Brattle report page 23

preventing short-term trades that would otherwise occur. In addition, different pricing levels could also be distorting short-term flows. A trader in Germany with spare spot gas could sell at the TTF, Zeebrugge or CEGH spot markets but the trader's decision of where to sell the gas could be affected by the multipliers applied to short-term entry capacity in the relevant countries." […] "Selling short-term capacity at a discount can also create cost-recovery issues. For example, the THINK study reports on the experience in the UK where setting the reserve price at a discount relative to long-term capacity has seen longer term capacity bookings being replaced by short-term bookings with an associated increase in the commodity charges.[20]Since in GB short-term capacity is sold at a discount to the current annual reference price, a shift to short-term booking is generally associated with revenue under-recovery at the entry points, which must be compensated by a higher commodity (£/MWh) charge[21]. Hence, a decrease in the percentage of allowed revenue recovered by capacity charges in GB is indicative of a revenue under-recovery problem". However, this represents a complex trade off over how to recover allowed revenues rather than an avoidable distortion to the market which is easily resolved.[22]

A similar experience has also been reported for Germany.[23] Currently in Germany the reserve price for day-ahead capacity auctions is set to zero. However, the German transportation capacity platform TRAC-X would like the regulator to set an above zero reserve price. TRAC-X has reported that for the majority of short-term capacity the price does not rise above the zero reserve price. In April 2012, only 7% of day-ahead capacity was priced above zero. Network users are moving away from long-term capacity and are instead obtaining capacity on a daily basis for free. TRAC-X expects this flight to short-term to get worse in the future as parties who continue to purchase long-term capacity will be at a disadvantage. TRAC-X also recognizes the loss in investment signals as short-term capacity purchases replace long-term purchases. TRAC-X has also reported that the minimum price for other auctions will need to be increased in order to compensate for the losses.

Apart from the effects of the economic crisis, the Security of Supply Regulation could create a more structural lack of congestion, since gas networks should be sized to deal with peak demand even in the event of an outage.[24] An absence of congestion could be the default condition for IPs in the EU, which would mean that it would be difficult to recover costs with a zero reserve price for short-term capacity." Note, however, the draft FG does not propose using a zero reserve price as a harmonised mechanism."

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[20] The THINK report, p. 45. However, Ofgem (for example) disagreed with this assessment, and noted that shippers face much more complex trade-offs than the size of the short-term discount. Short-term capacity prices are not necessarily cheaper than long-term capacity prices because purchases of long-term capacity pay the price at the time of purchase (i.e. the price is not indexed to inflation). Therefore although today short-term capacity is purchased at a discount to current long-term prices, the short-term prices may not be lower than long-term prices at the time of purchase. For instance, long-term prices back in 2003 when 15-year capacity auctions began are lower than the current prices for day-ahead capacity at some points in GB. At the time of booking long-term capacity, the shipper would need to decide whether it thought short-term capacity in the future would be cheaper than existing prices for long-term capacity.

[21] Ofgem notes that there may be other factors which contribute to increased under recovery and higher commodity charges. This includes the fixed payable price regime and the excess of capacity available over peak demand.

[22] However, it must be also noted that Ofgem recently rejected a proposal to remove the short-term discount because it did not consider it would better achieve the charging methodology objectives of avoiding undue discrimination and promoting competition and efficiency, indicating that they do not perceive a problem with short-term discounts. See Ofgem document "Modification Proposal NTS GCM 'Removal of NTS Daily Entry Capacity Reserve Price Discounts'", 30 July 2010.

[23] European Spot Gas Markets, 01/06/2012, p. 1&9.

[24] Regulation (EU) No 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of gas supply, Article 6.

Pricing of non-physical backhaul capacity and interruptible products

ACER agrees with the description of The Brattle Group, especially as we note that high backhaul (and interruptible) prices can act as barrier to competition between neighbouring markets.

Brattle describes potential issues as follows, see p. 26: "*Article 14 (1) (b) of the Gas Regulation clearly sets out that the price of interruptible capacity should "reflect the probability of interruption". […] Differences could arise from the way in which the probability of interruption is calculated and also whether the discount will be applied when the tariffs are set or whether it will apply retroactively after interruptions have occurred, via a refund. The fundamental problem with respect to the pricing of interruptible capacity is a potential lack of cost reflectivity, which could lead to a less an efficient use of the network and could undermine cross-border trade. Currently, a number of TSOs price interruptible capacity by applying a discount to the firm capacity price that represents the probability of interruption".* However, the discounts vary widely mainly arising from use of different methodologies.

Concerning backhaul capacity, the THINK study showed a lack of consistency in the pricing of interruptible capacity and backhaul capacity, and an inconsistency in the availability of the latter.[25] The two products are closely linked, because a backhaul product is by definition interruptible, since it requires a forward flow nomination to occur. Without the forward flow nomination – which is outside of the TSOs control – the TSO cannot program a non-physical backhaul flow.

The Brattle report concludes that "*Backhaul flows create two types of savings. They can postpone the need for network expansion by relieving congestion in the direction of the physical flow. The postponement of costs creates a positive present-value saving. Second, backhaul flows have a more immediate effect of saving non-variable costs by reducing flows.[26] Non-physical backhaul capacity can also enhance cross-border trade by providing players with access to markets that they otherwise would not have. Market players can take advantage of arbitrage opportunities which will improve liquidity and help develop competition. However, the benefits provided by backhaul capacity will be lost or attenuated if the capacity is priced inappropriately.[27][28]*

In its study on Methodologies for Gas Transmission Networks, KEMA/REKK reported that backhaul capacity prices that are well above 'costs' would prevent efficient arbitrage between neighbouring

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[25] See THINK report, p. 40.

[26] A TSO expert noted that he would disagree with this particular point, and would rather expect that Backhaul can save variable cost (i.e. compression).

[27] TSO expert asserted that while Brattle report assumes that backhaul flow can postpone the need for network expansion, this is usually not the case. Indeed, the network is dimensioned on the basis of flow scenarios. And in some (realistic) scenarios, direct flows are not offset by backhaul flows.

As a matter of logic however, if forward flow decreases due to backhaul, investment needs must reduce.

Another expert elaborated that Backhaul product can be considered as a supplementary product that necessitates the existence of forward capacity (primary product). In this case, the price of the backhaul product should cover at least the incremental costs incurred by the network provider to offer such products. It may however, also bear some portion of the existing costs to provide the forwards capacity. If there are incremental benefits, e.g. savings in variable costs due to provision of backhaul capacity, the cost allocated to the backhaul product will need to be netted. Benefits from postponing investments may also be considered, however they should be studied and determined in the context of the specific case. In addition, another TSO expert asserted that as the backhaul product is dependent on forward flow the pricing should include an element above the costs, which could go to reducing the tariff in future years for forward flow shippers.

[30] Please note that Incremental Capacity is defined as 'new capacity at an existing Interconnection Point (IP)'.

markets and may contribute to a sub-optimal use of the network.[29] *Inappropriate pricing of backhauls could also distort flows in neighbouring networks as it can inhibit trades that could occur in the presence of appropriate backhaul pricing.*

One potential problem with not harmonising backhaul pricing is that inappropriate pricing of backhauls in one Member State may inhibit the use of backhaul in other Member States. A backhaul route could span several Member States, in which case the pricing in each Member State would affect the take-up of the backhaul" by making it too expensive and, hence less attractive to the shipper and sufficient for the user to decide against performing the backhaul transaction.

Different treatment of gas storage tariffs

ACER agrees to description of Brattle group, as differential pricing philosophies can act as a barrier to competition between gas storage sites in different countries which can supply the same market. In addition, ACER notes that in countries with an entry-exit system, the way that tariffs are calculated may result in tariffs paid for transporting gas using storages that are not cost-reflective because tariffs are not allowed to depend on contractual paths. This may typically result in gas storage users paying entry and exit tariffs twice.

Brattle described the potential issues as follows, see p. 28:

> *"TSOs currently differ in their treatment of entry and exit tariffs for gas storage facilities. Gas storage is somewhat different from other entry-exit points, because it is not a net source of demand or supply but rather shifts consumption from one period to another. Suppose that gas must travel some distance from the border to a centre of demand, and that a storage facility is built close to the demand centre. Absent the storage, the TSO will have to size the import pipeline to supply the peak demand. With gas storage, the pipeline can be sized for the average demand, and the storage can make up the differences between the actual and average demand. In this way the storage allows a reduction in the size and cost of the required import pipeline. Some TSOs might set tariffs for storages recognising this special feature, while others may treat it as just another entry and exit point.*
>
> *Differences in the approach to setting storage tariffs could negatively affect two policy objectives. First, it could lead to inefficient investments. Developers will prefer to build storages in market areas which apply a 'special' entry-exit tariff regime for gas storage but this may not be where storage is needed most. As a result, TSOs may need to build larger capacity pipelines because storages would not be attracted to the most efficient locations. However, the effect of tariffs on storage citing decisions must be put into context. Unlike power plants, storage facilities have a more limited choice as to suitable sites, because they need to be built at the site of a salt cavern or depleted gas or oil field.*
>
> *Second, some tariffs for gas storage may not be sufficiently cost-reflective, if they do not recognise the effect that storage has on investments and the cost of the network."*

Barriers to investment in gas transmission

Allowing incremental capacity[30] development has been an important request from stakeholders during the CAM network code development and the discussions on the gas target model. The

[30] Please note that Incremental Capacity is defined as 'new capacity at an existing Interconnection Point (IP)'.

[30] Please note that Incremental Capacity is defined as 'new capacity at an existing Interconnection Point (IP)'.

principle is that shippers should be guaranteed that, if demand and physical requirement of the system justify it, they should benefit from additionally constructed capacity.

Tariffs play an important role in investment procedures: they determine the economics of investment projects in terms of financing costs and risks and send economic signals to potential shippers. In other words, tariffs should allow for covering investment costs but be consistent with shippers' willingness to pay. Ideally, tariffs should be both consistent with costs and value. Since such equivalence is unlikely by definition - and also because the "value" of capacity is different from a shipper to another - tariffs should provide the means to successfully organise investment procedures. This is important for market integration as well as security of supply.

Even though tariff structure harmonization might not directly deal with investment, it should at least allow efficient infrastructure development. It should in particular allow for consistent tariff methodologies for incremental capacity, in terms of tariff information delivered to the market and evolution of tariff on both sides of the IP over time.

Tariff problems regarding investment

Tariffs can be an obstacle to investment if the balance between risk and remuneration is not properly established. Inconsistent approaches at borders might lead to accepting a project on one side while rejecting it on the other.

LRMC versus historical costs as cost allocation methodologies

The use of LRMC instead of historical costs for cost allocation reveals a different objective in terms of incentives for system users. Since the principle of historical costs consists in allocating each point a cost corresponding to the cost of injecting/withdrawing gas at that point, LRMC relates to the impact any additional flow would have on the system at a global level. The purpose is to push shippers to use, in priority, the points which help minimising the cost of transporting gas. LRMC can be used as part of NRA 'toolkit' to ensure that tariffs are not an obstacle to investment[31].

3. Objectives

3.1. Legal basis

Directive 2009/73/EC[32] (hereafter the 'Gas Directive') confers upon the National Regulatory Authorities (NRAs) the power to fix or approve, sufficiently in advance of their entry into force, at least the methodologies used to calculate or establish the terms and conditions for connection and access to national networks, including transmission tariffs. Although no specific tariff structure is foreseen or implied by its provisions, the Gas Directive and Regulation (EC) No 715/2009[33] (hereafter the 'Gas Regulation') provide for certain requirements which need to be complied with in the final tariff or tariff methodology.

[31] One of experts pointed out that the purpose of LRMC is to provide adequate and effective signals to shippers which will support **the optimal use and extension** of gas transport system. Two arguments lead to that assertion: i) LRMC provide indication of the additional costs incurred by the network operator in order to meet additional demand. ii) LRMC should not be necessarily calculated on global system level, they can be calculated also for specific points.

[32] Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, OJ L 211, 14.8.2009, p.94.

[33] 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, OJ L211, 14.8.2009, p. 36.

The Framework Guidelines (=FG) on rules regarding harmonised transmission tariff structures for gas (hereafter the 'Framework Guidelines on Tariffs') aim at providing guidance on the structure and the methodologies for setting gas transmission tariffs to be paid by network users for the transmission services offered at each entry and exit point within the scope of the Framework Guidelines on Tariffs (see section 1.2 of the draft FG). The Framework Guidelines on Tariffs aim at setting clear and objective principles for the development of a Network Code on harmonised transmission tariff structures for gas (hereafter the 'Network Code on Tariffs'), pursuant to Articles 6(2) and 8(6)(k) of the Gas Regulation.

The overall final aim of the Network Code on Tariffs is to lead to gas transmission tariff structures in Europe without discrimination between any type of network users and without any detrimental effects on cross-border trade.

3.2. Scope, general and specific objectives

The Framework Guidelines, leading to the Network code on Tariffs, shall apply to the transmission services offered at all entry and exit points of gas Transmission System Operators (TSOs), irrespective of whether they are physical or virtual. However, certain aspects of these Framework Guidelines only apply to entry and exit points at interconnection points under the scope of the Network Code on capacity allocation mechanisms (hereafter the 'Network Code on CAM')[34].

The overarching objective of these Framework Guidelines on Tariffs and of the Network Code on Tariffs is to lay down clear and objective requirements for harmonising the gas transmission tariff structures across the EU, contributing to non-discrimination and effective competition and the efficient functioning of the market. Through the harmonisation of national tariff structures, they aim to contribute to the internal natural gas market.

In particular, tariffs for access to transmission systems, or the methodologies used to calculate them, shall:

- be transparent;
- take into account the need for system integrity and its improvement;
- be cost-reflective;
- be non-discriminatory;
- facilitate efficient gas trade and competition;
- be set separately for every entry point into, and exit point out of, the transmission system, ensuring that network charges shall not be calculated on the basis of contract paths;
- neither restrict market liquidity, nor distort trade across transmission system borders;
- avoid cross-subsidies amongst network users;
- provide incentives for efficient new investment;
- maintain or create interoperability of transmission networks.

Finally, the pricing of transmission capacity needs to strike a balance between facilitating short-term gas trading, on the one hand, and promoting cost recovery and providing long-term signals for efficient investment, on the other.

[34] See documentation under http://www.entsog.eu/publications/camnetworkcode.html

3.3. **Operational objectives**

In order to achieve sufficiently harmonised tariff structures across EU gas transmission networks the Framework guidelines (and Network Code) have to:

- Address lack of transparency
- Address problems with cost allocation;
- Address risk of discrimination between different network users
- Address problems with recovery of allowed revenues and cost coverage
- Address tariff evolution in cases it is a barrier
- Remove barriers to competition
- Remove barriers to investment in gas transmission

4. ACER's evaluation methodology for the policy options

For each of the identified problem areas that require action, and in relation to the objectives defined in preceding chapters, we describe and assess most suitable solutions and put forward a (set of, at this consultation stage) preferred option(s).

From a high level perspective, options range from maintaining the status quo ("Business as Usual") to detailed legislative requirements for full harmonisation of gas tariff structures aspects. The options in between the two leave some scope for national and regional arrangements, recognising that different areas and problems may need different approaches (partial harmonisation).

The way a certain option is implemented depends on a number of aspects in the policy assessment. To achieve the desired result, different combinations of mechanisms can be considered alongside particular policy options. Impact assessment should underline where a determined mechanism would have a significant role in driving the impact of a policy option.

According to the EC Impact Assessment Guidelines[35], the screening process should consider the main policy options and then eliminate the not-applicable ones immediately.

Moreover, for the policies considered (including "Business as Usual"), it is important to consider all the relevant positive and negative impacts alongside each other, regardless of whether they are expressed in qualitative, quantitative or monetary terms.

ACER's evaluation builds on assessment by Brattle report, and is based on the following 3 key follow-up questions:

- Is there indeed an EU-wide problem and which degree of harmonisation is needed?
- Are policy options proposed by ACER able to meet the objectives as outlined in chapter 3?
- Is the implementation of the options feasible?

It must be noted that, although a quantitative approach is not straightforward at this stage, a differentiated view on all influencing and influenced factors is – where possible, also at this consultation stage - provided. We especially draw your attention to the quantification by Brattle group in their report and invite your reactions during the consultation.

Disclaimer: Please note that for detailed assessment we refer to Brattle report, which is annexed to this report. Please also note that we follow the order of draft FG in chapters, and only discuss in detail topics where we believe assessment is needed. Please note that we assert that Bundled capacity provisions and VIP provisions do not need an assessment. We do not assess topics like Mergers of entry-exit zones, Incremental capacity and Locational signals, described in chapters 5.9; 5.10 and 5.11. Please also note that the current text tries to be very open, to trigger further assessment comments during consultation, and is not yet drafted for final publication with the final FG. Therefore it allows for some occasional inconclusiveness, balanced with overly strong positions and/or too broad, possibly irrelevant, remarks. All of this being is meant to show the debates and invite stakeholders to help ACER with their additions during the consultation.

[35] http://ec.europa.eu/governance/impact/commission_guidelines/commission_guidelines_en.htm

5. Policy options for tariff structures described and initially assessed

ACER has considered Policy options, which are to address the problems and objectives, as outlined in earlier chapters. In line with the key analytical steps set out in the European Commission's Impact Assessment methodology[36] we now describe Business as Usual as a "do nothing option", Policy options which contain some form of EU-wide action(s), followed by preliminary conclusions of our assessment topic by topic. As we make use of the Brattle report we shall – for brevity – refer to it, where necessary. Please note that in the final IIA we shall present the final preferred options set as well (current chapter 6).

Main policy options, addressing problems and objectives, that are discussed in chapters 2 and 3, concern:

- Transparency (in draft FG is part of a chapter)
- Determination and allocation of costs to the different entry and exit points.
- Recovery of revenues
- Reserve prices for various situations
- Payable price
- Effects of entry/exit zone mergers on tariff structures[37]
- Incremental capacity[38]
- Usage of locational signals[39]

5.1. Increasing Transparency Requirements

Baseline scenario: No policy changes/business as usual

Current transparency approaches differ legitimately based on national legal frameworks (e.g. different approaches to roles NRAs/TSO/Other national authorities in setting tariffs; different regulatory periods). Moreover the methodology to calculate tariffs is not always published.

[36] See for example European Commission, Impact Assessment Guidelines, 15 January 2009 SEC (2009) 92.

[37] Please note that this subject is not included in the current draft FG, but is considered in view of EC letter dated 29 June 2012 for purpose of decision on inclusion of any additional tariffs principles in the final FG.

[38] Please note that this subject is not included in the current draft FG, but is considered in view of EC letter dated29 June 2012 for purpose of decision on inclusion of any additional tariffs principles in the final FG.

[39] Please note that this subject is not included in the current draft FG, but is considered in view of EC letter dated 29 June 2012 for purpose of decision on inclusion of any additional tariffs principles in the final FG.

Table**:** current role of the NRAs in setting the tariffs (source: ACER TF national analysis report, May 2012)

Regulatory Agencies	**Roles in setting the tariffs**
ERO (Czech Republic), ERSE (Portugal)	NRA sets the tariffs using a methodology established in regulatory provisions
E-Control (Austria), CREG (Belgium), AEEG (Italy)	NRA approves the methodology or criteria for setting tariffs TSO calculates the tariffs and submits them for NRA approval ex ante
EI (Sweden), DERA (Denmark)	NRA approves the methodology or criteria for setting tariffs TSO calculates the tariffs and submits them for NRA approval ex post*
Ofgem (GB)**	NRA sets the total revenue allowance for the TSO The charging methodology is elaborated by the TSO and submitted to Ofgem for approval
CRE (France), HEO (Hungary), ILR (Luxemburg),	NRA is in charge of setting the tariffs Tariffs are then approved by Ministry
BNetzA (Germany)	NRA determines the allowed revenues based on a regulatory formula set out in the law Tariffs calculated by TSOs based on the revenue cap
CER (Ireland)	NRA sets the total revenue allowance for the TSO and approves methodology for setting tariffs. TSO calculates the tariffs and submits them annually for NRA approval
CNE (Spain)	NRA approves the methodology The Ministry sets the tariffs
NMa (The Netherlands)	TSO calculates the tariffs using a methodology established in regulatory provisions and submits them for NRA approval
RAE (Greece)	The TSO submits to the NRA its proposal regarding tariff methodology and tariffs. The NRA can set the proposal for public consultation. The NRA sets the tariff methodology and the tariffs taking into account the TSO proposal and the results of the public consultation.
SPRK (Latvia)	Tariff calculation methodologies are set by regulator; the tariffs are calculated by the TSO and approved by regulator.
Estonian Competition Authority	normal transmission and distribution tariffs are set by the regulator ex ante, for transit tariffs only an ex post supervision applies
ANRE (Romania)	The regulator ANRE requires special accounting rules, known as regulated accounting evidence (RAE)
Energy Market Authority (Finland)	Tariffs are set by the TSO Gasum based on the approved tariff methodology for the regulatory period.

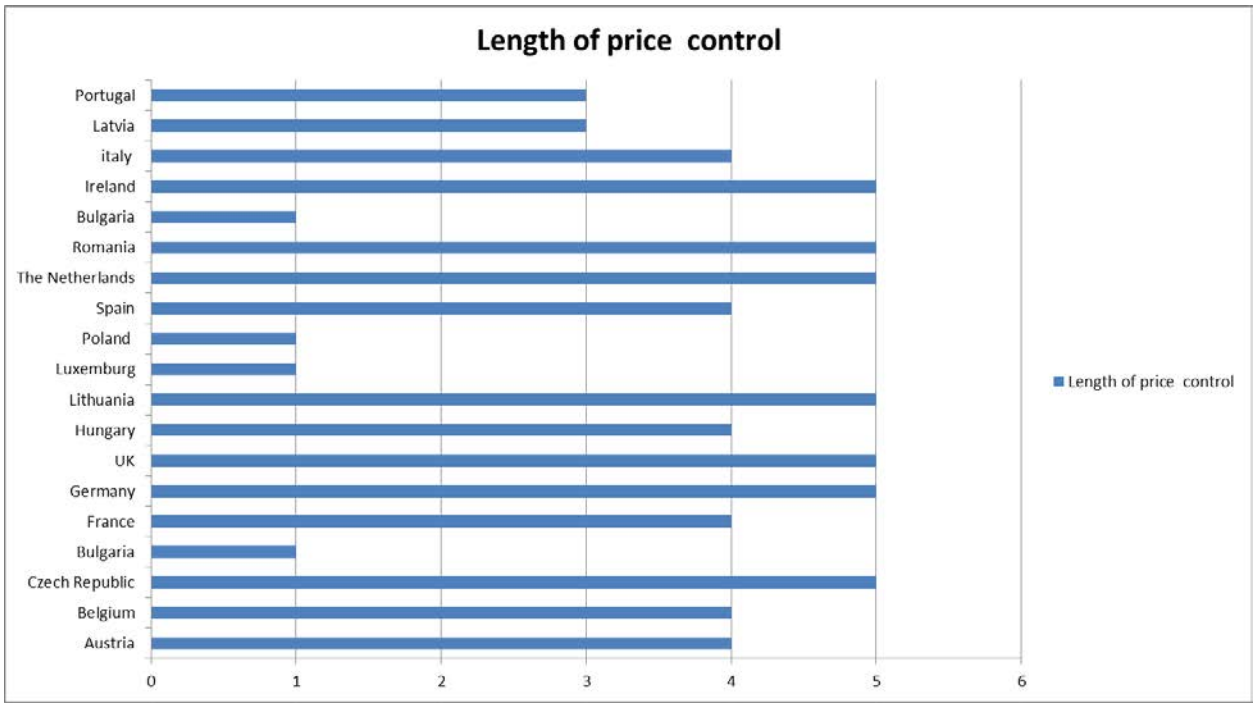
SEWRC (Bulgaria)	Transmission tariffs are derived from a cost based regulatory approach, using rate of return regulation
VKEKK (Lithuania)	Tariff calculation methodologies are set by regulator. NRA sets price cap and the tariffs are calculated by the TSO and approved by regulator.
ERO (Poland)	NRA approves tariffs

The different tasks assigned to the NRAs are likely to be further changing following the implementation of the Third Package into national law.

* The system will change in 2015

**A different regulatory regime applies to the two interconnectors IUK and BBL

Figure. Length of price control periods (regulatory periods) – based on ACER analysis, May 2012.



In addition, in some countries national commercial confidentiality limits publication, in other MS liability for forecasts can play a role. As one of the experts in the expert group asserted, only in GB is a shipper likely to be able to reasonably accurately forecast the tariffs he or she would pay in the near future for capacity charges[40]. That is a very worrying assertion in the view of ACER.

One of the current themes of EU gas market policy is an increased requirement of transparency. It is thus even more worrying that the forthcoming ACER transit report[41] signals that improvement of transparency in Tariffs related to transit within EU is still very much required. We refer you to chapter 7.1 for further elaboration on that specific issue.

[40] Another TSO expert clarified that the commodity charge can vary considerably and within year.

[41] ACER shall present the report at the forthcoming Madrid forum on 2nd of October 2012.

Policy options for transparency

Brattle report considers the following Policy options, see p. 36:

> *"The FG could specify that every TSO must publish sufficient information to allow network users to understand how the reference price or tariff at each entry or exit point was derived from the allowed revenues. The TSO should either publish a numerical model which describes the tariff derivation, or else provide a sufficiently detailed description that user could build such a model. Users should be able to understand the main inputs to the model so that they can independently investigate the effect of changes in key assumptions on the tariffs.*
>
> *TSOs could also publish data that would allow users to understand how tariffs are likely to evolve in future, if the model included a projection of tariffs for the following 5-10 years and highlighted the assumptions on which the forecast tariffs depended. This would likely include expected system flows, details of major capital investments and the expected development of operating costs".*

ACER agrees with Brattle group on need for network users to be able to understand 'how tariffs are likely to evolve in the (near) future'[42]. We shall now consider if increased transparency requirements as presented in chapter 2 of the draft FG are needed.

Initial assessment conclusion on increasing Transparency Requirements

Initial conclusions:

ACER considers – in line with assessment in section 6.9 of the Brattle report, see p. 59 - that for transparency (please see chapter 2 of the draft FG for proposed approach), full EU-wide harmonisation is needed.

Currently – **according to ACER expert group** (see minutes as in Annex) - stakeholders seem to be unable to 'calculate' to full extent tariffs in all Member States. However, in some regimes implementation of entry-exit systems is still on going. We note Experts group' views by saying that stakeholders would be able to make better economic decisions, should they

[42] TSO expert asserted that TSO's and NRA's cannot provide visibility on tariff evolution due to regulation changes, which are e.g. driven by legislation changes, driven by Governments.

In addition, this exercise might involve the (very challenging in more far future) need of demand values forecasting, which can influence the allowed revenues and tariffs being derived from those revenues.

have knowledge of the following in all EU-markets:

i. Tariff calculation and setting: understanding of the calculation methodology principles;

ii. Tariff evolution: understanding of what would trigger a regulatory change[43] (in the near future);

iii. Tariff stability: understanding of the level of uncertainty and volatility on tariff[44].

ACER considers that the approach proposed in the draft FG, fulfils the above criteria as proposed by experts and also meets objectives as outlined in chapter 3 of this IIA, and is feasible in terms of costs and benefits as analysed by Brattle group in section 6.9. ACER notes that degree of certainty on information provided under transparency requirements diminishes with the time horizon Any information provided would be more exact for near future, and less exact for the more distant future.

5.2. Cost allocation and determination of the reference price

Baseline scenario: No policy changes/business as usual

Entry-exit systems and cost allocation

Cost allocation is fundamental to design of entry and exit tariffs, whilst current methods differ widely throughout the EU.

When commercialising transmission capacity, entry and exit tariffs have to be designed in order to ensure that the revenues resulting from the subscriptions at the regulated tariff established ex-ante (before capacity allocations) or at auction price, cover ex-post the allowed revenues. The implementation of auctions as a standard capacity allocation mechanism reduces the predictability of revenues. As auctions are supposed to reveal the scarcity of capacity, under-recovery may become an issue at non-congested points, when the regulated tariff does not reflect the average costs. The dominant approach in the EU has been that the majority of the allowed revenues are recovered through the capacity selling, i.e. via the standard capacity allocation mechanism which would correspond, under an auction regime to the corresponding reserve price. However, under revenue-cap regimes an adequate

[43] As experts asserted ssuch understanding could only be for a reasonable time horizon, as policy and regulations by definition are more difficult to predict in the more distant future.

[44] As a TSO expert asserted it will be hard for shippers to know what the tariffs will be exactly but some NRAs have a mechanism that only allows for a maximum increase year on year which goes some way to giving shippers a measure of stability. It is often difficult for TSOs themselves to predict what the tariffs will be when some of the parameters needed for the changes are, for example, inflation or figures from the close out of previous tariff years.

mechanism has to be designed in order to ensure that the difference between the expected and the realised capacity bookings is fully covered.

If cost-reflective for each entry/exit point and capacity product, tariffs would allow coverage of the costs at a global level if all capacity is sold. The benefit from cost-reflective tariffs would also be that cross-subsidies between different categories of users or consumers would be eliminated. However, individual cost reflectivity is impossible to achieve for several reasons which include the infrastructures used for different purposes, different levels of depreciation, uncertainty on the level of use of pipelines, etc.

As a result, while being a general principle, cost reflectivity is very difficult to implement fully and cost allocation methodologies are currently very different from one country to another[45]. A high level of socialization is often applied to reduce the effects of a strict application of individual cost calculations which could lead, for example, to important price differences between various points.

Following table illustrates the situation visually (NB: it is a 2012 ACER update to table in Brattle report on p. 15, based on data provided by NRAs in August 2012. Note that in the EU-27 table on page 30, which follows after this table, we present some of these countries again, for sake of completeness.):

[45]An important difference - currently not addressed in draft FG – concerns use of LRMC versus actual cost. In the consultation on scope the following was remarked by stakeholders.

Various parties see benefits in options, LRMC and Actual costs, and claim that the choice should be available as different cost concepts suit different national systems, and that the benefits of each of these options still need to be weighed on a case by case basis. ENTSOG in particular considers that the choice of a cost concept should be dependent on each national system.

Among the advantages of the LRMC methodology cited by respondents in Evaluation of Reponses we can count: economic allocative efficiency, locational signals, and the delivery of market signals to promote investments. However, even proponents of LRMC acknowledge that it could be very complex to implement. For example, they cite the lack of a uniform, easily applicable calculation methodology for LRMC, the challenges of its implementation in a cross-border setting, and the problems it causes for cost-recovery if no uplift charge is applied, which could lead to the extensive use of under-recovery mechanisms. The proponents of the actual costs methodology claim that it is more appropriate to secure cost recovery for the TSOs and has the advantage of simplicity, as it is a commonly understood methodology among all TSOs. This is perceived to be very beneficial in a cross-border setting. Its critic(s) claim(s) claims it lacks allocative efficiency, locational signals and is complex for meshed networks.

Considering that several respondents who called for harmonization of cost concepts had also called for the availability of both cost concepts, it is not clear that respondents favouring harmonization are in favour of uniformisation (=i.e.one single method) of cost allocation methods across Europe. This is even clearer given the fact that a large majority considers that both cost concepts can coexist in a bundled product,

Reasons cited for this include that this reflects the current situation in Europe, and that there is no evidence that the use of cross-border exchanges with different cost concepts as is currently taking place in Europe has had any negative effects on trade. However, some proponents of LRMC claim that the use of both cost concepts in a bundled product would distort the locational and allocative signals given by LRMC.

Updated illustrative table: entry/exit costs split in %			
	Data: August 2012.		
	entry	**exits**	**comments**
France	**40**	**60**	
Ireland	**30**	**70**	
Great Britain	**50**	**50**	
Germany	**50**	**50**	This is an approximation, as the actual number is per TSO. Germany has multiple TSOs.
Belgium	**30**	**70**	
Austria			No data, as introduction decision of e/e regime is pending.
Italy	**50**	**50**	
Spain	**25**	**75**	
Poland	**50**	**50**	
Portugal	**26**	**74**	
Netherlands	**40**	**60**	This is an approximation; the split is not set by rules, but is an approach used in practice by TSO.

As the fundamental design of entry-exit system is important, we now present the current Business as Usual situation for key aspects of the 27 MS in setting of tariffs, based on ACER work on EU-27 overview. This study showed that even though the majority of EU countries apply an entry-exit regime at least for domestic trade and supply, there is a considerable variety in the implementation of these systems.

We now present in the table below – based on EU-27 data as provided by NRAs in May 2012 - breakdown of costs between entries and exits, domestic and cross-border network users and conclude by showing how in detail entry-exit tariffs are derived (e.g. based on distance).

Countries	**Entry/Exit costs recovery split in %** *Reference value*		**Comments on Entry/Exit breakdown**	**Comments on Cross Border/Domestic flows**
	Entry	**Exit**		
Austria	-	-	A new Entry/Exit model will be applied beginning with 1/1/2013. The exact tariff calculation and methodology is currently under discussion.	
Belgium	30	70	A new model integrating the domestic transmission and the border-to-border transmission in an Entry/Exit model will be introduced by the 1st of October 2012	
Bulgaria	-	-	Tariffs are not subject to regulation but are freely negotiated bilaterally.	
Czech Republic	21,8	78,2	Fully decoupled and bookable entry/exit system.	Same methodology applied for cross-border and domestic gas flows. Cross-border costs currently account for 59 % of revenues, domestic network costs for 41 %.
Denmark	50	50	Fully decoupled and bookable entry/exit system.	Same methodology applied for cross-border and domestic gas flows.
Estonia	-	-	Transmission network has three entry points and no exit	There has not been made a difference between costs related

			interconnection point. A breakdown of costs between entry and exit IPs has therefore not been made.	to cross-border and domestic networks.
Finland	-	-	All gas is supplied from Russia via a single pipeline; a breakdown of costs between entry and exit IPs has therefore not been made.	There has not been made a difference between costs related to cross-border and domestic networks.
France	40	60	Fully decoupled and bookable entry/exit system. Charges are determined on a case by case analysis in order to reflect costs born at the point.	Transmission tariff applies the same way to cross border and domestic flows. The French system is also based on a distinction between the costs necessary for the reinforcement of the core part of the main transmission grid and those necessary for the creation of additional capacity at interconnection points.
GB	50	50	Fully decoupled and bookable entry/exit system. Certain capacity being allocated to shippers through the use of auctions, therefore the proportion by which costs are recovered is not "fixed" per entry point.	Transmission tariff applies the same way to cross border and domestic flows.
Germany	50	50	Fully decoupled and bookable entry/exit system. The split of costs between the entry-exit points of each TSO is based on the proportion of capacities for that TSO, which may, as a result of the merging of market zones, be different from a 50/50 split.	Transmission tariff applies the same way to cross border and domestic flows.
Greece	-	-	RAE is currently in the process of establishing a new tariff system which is based on an entry-exit model.	Transmission tariffs apply in the same way to both cross border and domestic flows.
Hungary	-	-	Entry and exit capacity can be booked separated. A different methodology is applied for setting the tariffs for cross-border transmission and the tariffs for domestic transmission network.	A different methodology is applied for setting the tariffs for cross-border transmission and the tariffs for domestic transmission network, although both are based on costs specific to the network.
Ireland	30	70	Fully decoupled and bookable entry/exit system. Cross-border gas flows to date have only related to flows from GB to Ireland with no reverse flow. Certain capacity	Transmission tariffs apply in the same way to both cross border and domestic flows. Cross-border costs currently account for 27% of transmission revenues.

			allocated to shippers through the use of auctions.	
Italy	50	50	Fully decoupled and bookable entry/exit system.	Transmission tariff applies the same criteria to cross border and domestic flows. Allowed revenues are split between regional allowed revenues and national allowed revenues. Cross border flows do not require the use of the regional transmission grid.
Latvia	-	-	Entire cost of transmission is being charged to consumers by means of postage stamp tariffs.	
Lithuania	-	-	Entry exit model implementation is going to be applied. Entire cost of transmission is being charged to consumers by means of postage stamp tariffs.	
Luxemburg	-	-	All bookings at the interconnection points are currently entry bookings; exit points on the system are for domestic consumption only.	
Poland	50	50	Tariff system is based on entry-exit model but capacity cannot be booked separately.	Transmission tariff applies the same way to cross border and domestic flows.
Portugal	26	74	Fully decoupled and bookable entry/exit system. Transmission tariffs are determined on the basis of the costs specific to the entry and exit points of the network.	The transmission tariff applies the same way to cross border and domestic flows.
Spain	25	75	The tariff model applied in Spain is the entry-exit model with a single balancing area being uniform for the entire country, and includes not only the transmission cost but the distribution cost also.	There is a transit TPA tariff, which actually (in 2011) gives a 30% of discount over the domestic entry-exit tariffs.
The Netherlands	40	60	Discussions about a new tariff system, including its breakdown between exit and entry and between domestic and interconnection points are postponed due to the court cases about the Methodology discussions. Fully decoupled and bookable entry/exit system. The transmission tariff applies the same way to cross border and domestic flows.	
Sweden	-	-	The Swedish transmission network only has one entry point and no exit interconnection point. A breakdown of costs between entry and exit IPs has therefore not been made.	
Romania	-	-	Regulated postal stamp system for gas transmission. Entry-exit tariff is due to be implemented this year.	

Malta

Malta has currently no wholesale transmission gas system.

Cyprus

Cyprus has currently no wholesale transmission gas system.

Setting entries & exits charges: is the charge calculation for entry and exit points based on distance?

Consideration given to distance	Countries
Distance taken into account	Austria, Belgium, Great Britain Italy, The Netherlands
Distance not taken into account	Czech Republic, Hungary, Ireland, Luxemburg, Portugal, Spain, France, Greece, Estonia, Romania, Finland, Lithuania, Denmark, Poland
Choice left up to the TSO	Germany

Reasons for incorporating distance in the calculation of tariffs:

Austria: Until the 3rd package is implemented, transmission tariffs are calculated on the basis on contracts paths and are therefore distance related

Belgium: Incorporating distance is a way to reflect the underlying costs in the tariffs and therefore to avoid cross-subsidies between network users. In addition, it reduces the risk of pancaking

Great Britain: The charge calculation for entry capacity is based on network users' willingness to pay for capacity at auction but the reserve price is based upon the long run marginal cost which is calculated on the distance.

Methodology for setting the reserve price:

- Calculate the long run marginal cost (LRMC) of transporting gas to and from entry and exit points at peak conditions.
- The LRMC is calculated using the distance from each entry point to a "reference node", and from the "reference node" to each exit point (choice of reference node is arbitrary as the adjustment below ensures an equal split between entry and exit points).
- Adjustments made (1) to maintain 50:50 split between entry and exit (2) to all entry and exit charges to ensure minimum reserve price of 0.0001 p/kWh/day (3) to exit charges to recover 50% of TSO allowed revenues, so that technical capacity x charges = 50% of allowed revenues.

Exit: baseline capacity x charges = 50% allowed TSO revenue

- The Netherlands: Incorporating distance is a way to reflect the underlying cost driver.

Reasons for not incorporating distance in the calculation of tariffs:

Czech Republic: It is not relevant to take distance into account as the transmission pipeline system comprises 3 border delivery stations which are interconnected.

Estonia: It is not relevant because the transmission network is operating as distribution network (no exit).

Denmark: The national transmission system is small and homogeneous and with only one exit zone and insignificant transportation distances.

France: Distance on the main transmission grid is not taken into consideration because CRE intends to propose the same tariffs and services on the main network to all shippers independently from the entry or exit points on the system in order to promote competition. However, a special discount is maintained for sites located near entry points. In addition, the cost on the regional network (medium pressure grid) is allocated with a distance related tariff.

Hungary: It is not relevant because the average transmission distance is too low (around 200 km)

Ireland: The required revenues related to the Moffat and Inch Entry Points are based on the geographical location of relevant assets and therefore distance is implicitly taken into account in the calculation of the entry tariffs. The CER will change the existing entry tariff arrangements in 2014 and it is not expected that distance will explicitly be taken into account. For the postalised exit tariff, distance is specifically excluded by design.

Greece: In the new entry-exit system, which RAE currently examines, a methodology where the required revenues related to the Entry and Exit Points are based on the geographical location of the relevant assets and therefore distance is implicitly taken into account in the calculation of the transmission tariffs. However, shippers will be not charged according to distance but according to the entry/exit bookings.

Romania: There is no distinction made between local vs. cross-border entry/exit points.

Reasons for leaving this choice up to the TSOs:

Germany has a meshed network operated by numerous TSOs that differ by size and structure and the network itself has no predominant flows. Consequently, the respective TSOs apply different calculation methodologies that have to be based on the principle of causation and founded on generally accepted economic methods.

Use of congestion rents

When an auction closes and the clearing price is above the reserve price the difference between the clearing price and the reserve price is known as an auction premium. Auction premiums generally occur where the demand for capacity at a particular point is greater than the capacity available at that point. An auction premium can be an indication of the presence of congestion at a point and can also be referred to as congestion rents. The following paragraph outlines the experience in several European countries with regards to auction

premiums/congestion rents. As auctions are new to many countries it is difficult to assess the level of auction premiums, if any, that have been experienced or will be experienced by TSOs.

GB has experience with the use of congestion rents. Congestion rents (i.e. auction premiums) contribute to the TSO recovering allowed revenues.

Germany has some experience with the use of congestion rents. If the congestion is long-lasting, congestion rents have to be used for the elimination of the congestion or deferred for such measures. If the congestion is temporary, congestion rents are to be used for an increase of capacities or for the reduction of network tariffs.

Spain has some experience with the use of congestion rents.

All premiums (profit) are included in the settlement process, so it is used to pay the remuneration of the regulated activities in gas system in Spain.

France has no experience with the use of congestion rents (auctions have only been used so far to allocate unsold day-ahead capacity for the moment).

Policy options: reference Price Setting for Firm Annual Capacity Products

There are a large number of ways in which target revenues can be allocated to entry and exit points.

The spectrum of Policy Options – according to Brattle report, see p. 31 - to evaluate could include:

1) *"Strict harmonization of tariff methodologies – this would mean that the FG lays out a detailed approach to calculating reference prices, given allowed revenue. The methodology would be set out in a network code and would be mandatory for all EU TSOs. The exact approach could be for example:*

   a) *An individual cost-based approach: cost references for entry and exit points would be calculated based on the estimated costs of infrastructure associated with the entry or exit point. When assets are used both for cross-border and domestic entry and exit points, a non-discriminatory rule would be used to allocate the costs between the two types of uses and users.*

   b) *Matrix Cost methodology: the entry and exit regulated tariff at cross-border interconnection points and at domestic points would be calculated so as to minimise the difference between network charges paid by agents and the estimated costs assigned to the different entry-exit paths. The combination of 'path costs' – being the cost of going from entry point A to exit point B for all combinations of entry and exit points – would be represented in a matrix with as many rows as exit points and as many columns as entry points. The entry-exit tariffs would then be calculated by*

minimising the sum of the squares of the differences between the cost and price (being the sum of the entry and exit tariff – of every path.

c) *Distance to the virtual point: the "virtual point", which is a reference node or theoretical location to which gas travels, would be determined through the minimisation of the distance to entry/exit points weighted by respective transmission capacities. The costs are then allocated to the different entry/exit points based on the distance to the virtual point. This approach is currently applied in Belgium for example.*

d) *Equalisation approach: this is also known as a 'postal' tariff. The TSO simply divides the allowed revenue by the total capacity sold at all entry and exit points of a system to arrive at a single tariff for all entry and exit points.*

e) *Determination of cross-border and domestic target revenues based on LRMC: the reference price is set by calculating the cost of providing an additional unit of capacity – the LRMC – for all cross-border and domestic entry and exit points. The TSOs total allowed revenues, based on historical costs – are then split by pro-rating according to the LRMCs.*

2) *Partial Harmonisation. Instead of strict harmonization, the FG could try and reduce the degree of differentiation in cost allocation between Member States. Partial harmonization could come in two different formats:*

a) *Binding Rules. The FG, and subsequently the network code, would aim to prohibit the most extreme types of cost allocation, for example where there is an effort to push costs to border points which could not easily be justified by an analysis of system use. Alternatively some TSOs/NRAs might be pushing costs the other way, to domestic entry and exit points, so as to lower cross border tariffs. While stopping short of a detailed tariff methodology, the rules could for example lay out practices and principles for cost allocation to entry and exit points that would lead to some degree of harmonization. The binding rules could also lay down guidelines for the maximum acceptable allocation of costs to entry and exit tariffs, by specifying methodologies for allocating costs to different 'cost envelopes' or 'accounting pools'.*

b) *Specify maximum acceptable deviations. Under this approach the FG, and subsequently the network code, would lay out a standardized tariff methodology for calculating reference prices that would be used as a benchmark. The network code*

would then specify that the TSOs chosen tariff methodology should not result in reference prices which deviate by more than XX% from the standard or 'benchmark' methodology.[46] *The value of XX% could be set pragmatically, by first seeing how many tariff as currently set deviate from the proposed benchmark, and then setting XX% to get a trade -off between the amount that tariffs would need to change and the level of harmonisation.*

3) *Harmonisation of the tariffs themselves at an IP, rather than the underlying tariff methodologies. Some experts have noted correctly that, even with the same tariff methodologies, tariffs at other side of an IP will likely differ because allowed revenues will differ. If differences in tariffs are preventing the achievement of the objectives, then harmonising the tariffs, rather than the tariff methodologies, could be one policy option*[47]*.*

The value of a capacity product is derived from the value of transporting gas from one market area to another. A rational shipper should be indifferent between the physical paths used to transport the gas, and so the use of VIPs should not affect pricing. If IPs were physical and not virtual, the value of several IPs connecting the same market areas should still be identical. Capacity between the IPs should be completely fungible – if one of the IPs became congested, the TSOs could simply move gas flow to one of the less congested IPs."

In the current draft FG ACER proposes an option which is broadly in line with idea of partial harmonization under 2 a) above, but is in detail different, e.g. by explicitly defining split of 50:50 between entries and exits in cost allocation.

Initial assessment conclusions on the Reference Price for firm Annual Capacity Products

Initial conclusions:

ACER considers - – in line with assessment in section 6.2 of the Brattle report, p. 39 -that for Cost allocation/setting of Reference Price (please see chapter 2 of the draft FG for proposed approach), EU-wide harmonization is only needed for certain aspects and ranges (i.e. partial harmonization). In line with Brattle report (p. 43) we conclude that:

[46] This concept is based on a proposal by Sergio Ascari of the Florence School of Regulation submitted to the ACER Gas Tariffs Expert Group Meeting on May 4th, 2012.

[47] Please note that for brevity some text has been left out.

The application of the partial harmonisation option is recommended, which is based on a standardised methodology. Each TSO would apply the standardised methodology to determine a set of entry/exit tariffs from which the TSOs actual tariffs could not deviate by more than a certain percentage. That methodology must be as cost reflective as possible, so that the tariffs send appropriate locational signals. *Brattle report (p.43) further suggests that:*

"As a more general point, we [Brattle] consider that the standardised methodology specifies that the capacity/commodity split should approximately reflect fixed and variable costs respectively. This will avoid distorting decisions by capacity holders by ensuring that the marginal price of using capacity reflects the marginal cost of doing so as closely as possible. This is an area where cost-reflectivity is relatively easy to establish, since variable costs can be traced to items such as compressor fuel. Allocations that differ widely from this recommendation would not be cost reflective, and could discourage efficient trading, or encourage trading that is not efficient. For example with a 100% capacity charge system users will not consider the variable costs of their flow requests on the system before making a nomination.[48]*"*

In the current draft FG we developed the idea of partial harmonisation based on a standardised methodology further. We aim for harmonisation of the methodology in each MS, and pay key attention to non-discrimination.

We consider that the same methodology should be applied inside each of the entry-exit zone. We consider the importance of a consistent system for the whole entry-exit zone, providing adequate price signals. We also consider that network costs are mainly fixed and caused by capacity needs; which should make it possible to give almost complete transparency for network users on how to tariffs are calculated. Cost allocation methods need also to take account of cost reflectivity, whilst steering complexity and transaction costs, taking data availability into consideration and various systems topology (=system lay out driven by geography of the country) in the EU, while also minimizing the impact of the changes in the tariff setting system. Therefore, we choose to harmonize only certain key parameters, as mentioning major cost drivers & allocation between entries and exits.

We also consider that in some cases an equalization (uniform) approach might need to be applied at least for domestic exits in order to achieve[49] :

- Prevention of structural irregularities; and
- Maintaining price stability in the zone

We note that we do not expect noticeable demand-response from equalisation (at least, for domestic exit points).

[48] Please note that this quote is being repeated due to its relevance.

[49] See also KEMA study for E-control –December 2011

We specifically consider the '50%-rule impact, as follows:

- Any gas using the transmission system of a jurisdiction pays (metaphorically speaking, as Network User would pay) both the entry and the exit charge[50]. Therefore, if these were set appropriately in line with overall final aim of the FG to achieve non-discrimination between different types of users, the entry/exit split would not matter too much, as gas any Network User in general would end up paying 100% of the costs, irrespective of the split[51]. In this case it would be not obvious that there is a need to harmonise this split in order to promote the internal market;
- However, we are not sure that the entry and, even more, the exit charges can be set appropriately. More specifically, we are not sure that we can completely avoid discrimination (including because there are many objectives in setting tariffs). Therefore, some degree of harmonisation of the entry/exit split may be used to reduce the extent to which discrimination may occur;
- When it comes to discrimination, our main concern is between cross-border/transit, on the one hand, and domestic usage, on the other hand. One way to use the entry/exit split to limit this type of discrimination is to reduce the proportion of costs charged to exit points (where discrimination may occur). This is the reason we are proposing to have entry points to be charged 50% of the costs.
- must note that moving to a 50-50 split will change the current equilibrium between transit and domestic exit points in some countries, resulting in higher or lower tariffs at the entry IPs, after the change. This could – in cases where entry tariffs grow substantially - hamper the cross-border trade. So one has to be careful when making the trade-off between non-discrimination and cross-border trade effects. One could consider a different solution if entry-exit areas were to merge and become regional or EU-wide, as in the case of electricity. In this case, the concerns about competition could prevail and one could need to potentially reconsider charging of the costs on exit points in proportion to entry points. See also elaboration on Entry-Exit Zones Mergers consequences later in this chapter.

ACER also considers (please note the link with elaboration on Locational signals later in this Chapter) that – for storages - specific tariff approaches might be considered.

[50] One must note that the "gas" is indeed paying the 100% entry and exit, however it may be that the payer is not the same Network User, e.g. if the gas is traded on the virtual hub between entry and exit, and then transmission costs for Network User are different if they just pay entry or exit fees.

[51] In situations where NRAs also allocate costs to specific points in the network – as a locational signal - this isn't in all cases true.

5.3. Recovery of revenues

Baseline scenario: No policy changes/business as usual

Recovery of allowed revenues has to be ensured in revenue cap systems[52]. However current methods in the EU differ. Some use a regulatory account and capacity charge adjustment ex-post for this purpose, others, e.g. GB, use commodity charges combined with a regulatory account. Some respondents (see Evaluation of Responses) believe that using commodity charges would introduce market distortions and have a negative impact on cross-border trade, while leading to tariff uncertainty, price volatility, volume risk; others see benefits in such an approach. However GB has measures to dampen volatility and uses commodity charges. Others consider that using a regulatory account and ex-post capacity charge adjustments via the floating payable price mechanism may act as a disincentive to shippers booking long-term if they do not know what price they will pay.

TSOs in EU today generally recover their allowed costs through a mixture of capacity and commodity charges, as discussed in chapter 2.

Hereunder we offer detailed MS-overview to show variety of approached to revenue recovery in EU-27.

Structure of the transmission charging: Ratio between capacity and commodity charge

Type of charges included in the tariffs	Countries
Capacity charge only	Austria, France, Germany, Luxemburg, the Netherlands
Capacity and commodity charges	Belgium, Czech republic, Great Britain, Hungary, Ireland, Italy, Portugal, Spain, Sweden, Denmark

Among countries applying both a capacity charge and a commodity charge, the ratio between capacity and commodity charges is set as follows:

Belgium: about 95 % of the tariff is based on capacity charge and the commodity charge, which covers the actual fuel gas, represents the remaining ~5 %.

Czech Republic: Commodity charge is based on percentage of natural gas flow; it shall

[52] In price cap systems TSO bears a priori volume risk.

ensure the TSO will cover costs related with operation of compressor stations. Remaining part of the transmission charge is allocated into fix part of the tariff (capacity charge).

Denmark: 75% of the revenues are covered by the capacity charge and the remaining 25% by the commodity charge.

Estonia – transmission is charged per 1000m³ transported/contracted volume.

Great Britain: A commodity charge may be levied where an under-recovery of transmission owner entry revenue against the entry target level forecast. Therefore, the commodity charge is dynamic, and is not calculated through the use of a ratio. It is set by the TSO in its charging methodology, according to its remaining allowed revenue status. These can be revisited as frequently as every 6 months (April and October). Any over-recovery on entry is (i) used to offset certain payments from shippers to the TSO (ii) paid back to shippers that have paid the commodity charges during the year

Greece: In the current postage stamp system a 90/10 capacity/commodity split is applied. For the new entry-exit system, which is under RAE's approval, a different capacity/commodity split maybe applied (e.g. 80/20).

Hungary, Sweden: there is no fix ratio between the capacity and commodity charges.

Ireland: 90% of the revenues are recovered by the capacity charge and the remaining, 10% by the commodity charge.

Italy: the capacity charge shall cover capital costs (depreciation and remuneration on invested capital), while the commodity charge shall cover the operating costs. Fuel gas is provided in kind by shippers.

Latvia: Commodity charge only.

Lithuania: No less than 70% of the allowed revenues are recovered by the capacity charge

Poland: Transmission tariff of OGP Gaz System S.A. includes capacity and commodity charges; the ratio is 80/20. The SGT EuRoPol GAZ tariff, which is applicable for the polish part of Jamal Pipeline, includes only capacity charge.

Portugal: 90% of the revenues are recovered by the capacity charge and the remaining 10% by the commodity charge.

Spain: 80% of the revenues are recovered by the capacity charge and the remaining 20% by the commodity charge.

We now describe – as an example – several regimes in more detail which (are about to) apply auctions in the MS; especially with a view to Volume risk with TSO (consider also the link to Payable price chapter):

Recovery of allowed revenues in GB

There is over- and under recovery mechanism in place, called a regulatory account, but it also differs for entries and exits. For entries, at the start of year the TSO calculates ex-ante commodity charge (by forecasting under-recovery and dividing by forecast flows). After application of the commodity charge any remaining under-recovery at the end of the year is resolved through a regulatory account mechanism. For exits, as they have a floating tariff, there is no separate commodity charge. A regulatory account is also for exit since floating charges are set at the start of the year.

It is not possible, that a TSO cannot recover its revenues foreseen in the national regulatory regime, because of the regulatory account in place. For the same reason, in GB for TSO there is no volume risk. **Volume risk is taken by network users at the end, who pay for that.**

Recovery of allowed revenues in Germany

There is over- and under recovery mechanism in place, called a regulatory account.

It is not possible that a TSO cannot recover its revenues foreseen in the national regulatory regime because of the regulatory account in place. **There is no volume risk** as all revenue shortfalls are taken account of in the regulatory account. There is therefore no volume risk because there is a regulatory account. The balance of the regulatory account is included in the allowed revenues of the following regulatory period. If the actual revenues under recover are more than 5 % of the allowed revenues in a given year, then the TSO has the right to adapt his tariffs.

It must be noted that revenues could be affected in general **through efficiency benchmarks,** when a TSO is punished if its performance is not efficient (e.g. if volume transported would be included, however "volume transported" was not a parameter in the last TSO-benchmark).

Recovery of allowed revenues in Spain

In Spain there is no over- and under recovery mechanism in place, because *'settlement'* system is used. The payments made by users are "collected" by the CNE and redistributed to TSOs based on their allowed revenues. The deviations are taken into account in the next year's transmission tariff[53].

[53] As TSO expert explained: "In Spain there is a reconciliation mechanism with inter-payments between all the agents that carry out regulated activities (LNG plants, underground storage, transmission and distribution). This mechanism is handled by the NRA (CNE), which gives payment instructions to the agents."

Recovery of allowed revenues in France.

Unintended gaps between allowed costs/revenues and actual revenues in one tariff period are recovered by using a regulatory account named “Compte de Régularisation des Charges et profits” (CRCP).

The CRCP is a non-accounting fiduciary account provisioned at regular intervals by all or part of the disparities in cost or revenue identified for pre-defined items. The balance of this account is calculated every two years and is reconciled over a four-year period by reducing or increasing the revenues to be recovered through tariffs.

To ensure the mechanism’s financial neutrality, an interest rate equivalent to the risk-free rate defined in the present tariff proposal is applicable to the amounts adopted in the CRCP.

In the present tariff proposal (2009-2013), the cost and revenue items concerned by this mechanism are:

- revenues linked to transportation on the transmission network. Given the system of standardised subscriptions of transmission capacity at the transmission distribution interface points (PITD), the revenues linked to transportation on the downstream transmission network (main and regional network exit points and delivery) are 100 % covered by the CRCP. The same is true for revenues linked to storage facility entry and exit points (capacities which are automatically allocated based on subscriptions with the operators of underground storage facilities). Revenue linked to transportation on the upstream transmission network (other main network points) is covered:
  - 50 % by the CRCP for a discrepancy between the actual revenue and the forecast less than or equal to +/- 10 % of the projected revenue,
  - 100 % by the CRCP for a discrepancy between the actual revenue and the forecast exceeding +/- 10 % of the projected revenue;
- the income from connection to combined cycle - gas turbines (CCGT). This income is 100 % covered by the CRCP;
- capital costs supported by the TSOs. The amount of these costs is 100 % covered by the CRCP;
- the costs linked to propulsion energy (gas and electricity) and the discrepancy between costs and revenues linked to the TSOs’ CO2 quotas. These costs are 80 % covered by the CRCP;
- the costs for GRTgaz and the revenues for TIGF linked to their agreement which allows GRTgaz to use the TIGF network. The amount of these costs is 100 % covered by the CRCP;
- the financial incentives generated by the mechanism for incentive regulation aimed at improving the quality of service for all the indicators concerned so that fines can be paid back to network users if the approved level of service quality is not met, or bonuses can be attributed to TSOs if their performance exceeds their objectives.

If necessary, the efficient and judicious nature of invested costs will be checked when applying the CRCP. Monitoring activity could more specifically check TSO investment costs and the energy costs they incur.

Finally, the results of audits carried out by CRE will be taken into account in the CRCP.

The RPI-X methodology is applied to operational expenditures and thus costs exceeding the OPEX trajectory are born by the TSO (50/50 sharing with the market in case costs are avoided compared to this trajectory).

In addition, some items are only partially covered by the CRCP: revenues linked to transportation on the upstream transmission network, costs linked to propulsion energy.

There is some volume risk. Discrepancies between actual and forecasted subscriptions are covered by the CRCP. As explained above, revenues linked to transportation on the downstream transmission network (main and regional network exit points and delivery) and to storage facility entry and exit points are 100 % covered by the CRCP. However, i**n order to incentivise the TSOs to optimise their capacity and services offered, the revenue linked to transportation on the upstream transmission network (other main network points) is covered:**

- **50 % by the CRCP for a discrepancy between the actual revenue and the forecast less than or equal to +/- 10 % of the projected revenue,**
- **100 % by the CRCP for a discrepancy between the actual revenue and the** forecast exceeding +/- 10 % of the projected revenue.

Hereafter there are the complements on the regulatory account (RA)

On the capacity bookings side:

- On the main network : 50% of the difference between forecast revenue and actual revenue is put in the RA
- On the regional network and connections to storages: 100%

On the costs side (and other revenues than capacity subscription):

- Revenues linked to connections of CCGTS 100% of the difference between forecast revenue and actual revenue is put in the RA
- Capital costs: 100%
- Fuel costs: 80 % the difference between forecast costs and actual costs is put in the RA

These amounts are collected in the RA during two years and then are given back (or collected back) to the market during 4 years.

Simplified example:

Year	Y1	Y2
Forecasted Costs	100	100

Allowed Revenue	100	100
Real Allowed Revenue	110	130
Cumulated Regulatory account	-10	-40

In this example the TSO has earned 40 more than his allowed revenue during Y1 and Y2 so he will have his allowed revenue reduced of 10 during Y3 to Y6

Year	Y3	Y4	Y5	Y6
Forecasted Costs	100	100	100	100
Allowed Revenue	90	90	90	90

In real regulation, the amounts in the RA are remunerated at 4.2% level.

Policy options: a harmonised policy approach for the method of recovery of allowed revenues

Options analysed by Brattle *are, see p. 36:*

"a) Specifying that recovery should be via a commodity charge or a capacity charge, or some combination.
b) Specifying whether cost recovery should be 'broad' so spread over all entry and exit points, or 'narrow' which means cost recovery is focused on the point or perhaps group of points where the under recovery took place."

Brattle report analysed two options for a harmonised policy approach for the method of recovery of allowed revenues. In the current draft FG ACER proposes two options, which are in line with the Brattle option a) as described below. As ACER we also consider in the draft FG that cost recovery should be split in accordance with the cost allocation methodology - under Brattle's report language that would mean 'broad' recovery (see options under b) above). In sum, we propose that the ex-ante calculated tariffs aim to recover completely the allowed revenue. Deviation (between allowed and actual) revenue are tackled ex-post. They are charged to broader group of users using a regulatory account, and may be either incorporated in capacity or commodity charges.

Initial assessment conclusions on revenue recovery methods

Initial conclusions:

Brattle in its analysis advises in chapter 6.7 that revenue recovery should rather be done via capacity charges to minimize trading distortions, we quote for clarity (again) that, see p. 56:

> *"The [Brattle group] suggests that under-recovered revenues should be recovered from a broad group of users – that is all entry and exit points – via uplift on capacity charges. Such a recovery mechanism would avoid distorting cross-border trade and/or creating reference prices at IPs that are not sufficiently cost reflective".*

ACER considers that for Revenue recovery (please see chapter 3 of the draft FG for proposed approach); EU-wide harmonisation is needed. The current tendency is to do it with help of a Regulatory account, via Capacity charge (option 1 in the draft FG). However Option 2, involving commodity charges, is considered as well, contrary to advice of Brattle.
The combination of Regulatory account and Capacity Charge would best address following 2 problems, clarified in Brattle report, see p. 55:

i. *"First, those high levels of under recovery via commodity charges could lead to a variable charge which significantly exceeds actual variable costs. This can lead to inefficiency and a loss of welfare. A capacity holder may opt not to flow gas if faced with a high commodity charge, even if the price difference between two markets exceeds the variable cost of transporting gas. This is inefficient.*
ii. *Second, that some cost recovery mechanisms could create capacity reference prices which are not sufficiently cost reflective. For example, if an attempt was made to always recover the costs of an IP from that IP, in the event of under-booking reference prices at the IP could spiral downwards, leading to further under-booking. The resulting high capacity price would not be sufficiently cost reflective, which could block or distort cross-border flows."*

Another problem with recovering revenues – which was also identified by Brattle report[54] - results from using ex-post capacity charges via the floating price mechanism. This means that users buy long-term capacity without knowing what price they will pay. This may act as a barrier to shippers buying long-term capacity and providing signals for investment. Considering the above we tend to favour this approach, but we have not seen definitive evidence that such an approach is needed in the whole of the EU. This should be shown in the consultation, e.g. GB - situation shows that by having certain incentives for the TSO one can ensure that the above issues are addressed as well, despite using a hybrid approach

[54] The Brattle report discusses the relationship between the payable price and revenue recovery in its section 6.6, point 1.e.

including commodity charges (which is the Option 2 in draft FG).

In GB the TSO recovers 50% of allowed revenues through entry charges and 50% through exit charges. The 50% to be recovered through entry charges is done via the capacity charges users pay for capacity they buy at auction plus the ex-ante commodity charge which users pay on each unit of gas flowed onto the system. The TSO sets the ex-ante commodity charge at the start of the year by forecasting the gap between 50% of total allowed revenues to be recovered through entry charges (this is easier to predict) and the amount of revenue collected through auction (this may be less easy to predict at the start of the year) and dividing it by the forecasted total volume to be flowed onto the system (also less easy to predict). At the end of the year it is unlikely that the ex-ante commodity charge and capacity charges will exactly recover 50% of the total allowed revenues. So there will still be a gap which goes into the regulatory account (this is what we call "K value"). The TSO has to ensure that the amount going into the regulatory account (on both entry and exit) is not more than 4% of allowed revenues in one year (and are penalised if they do so) – therefore there is an incentive on the TSO to make accurate forecasts when setting the ex-ante commodity charge to avoid this penalty charge.

ACER considers not harmonising the exact timing of revenue recovery at the EU-level, in view of the disproportionality of such a measure.

We further refer the reader to chapter 6.7 of the Brattle report.

5.4. Determination of reserve prices for firm capacity products

NB: please note that the auctions reserve price for long term capacity is equal to the reference price.

Baseline scenario: No policy changes/business as usual

A degree of harmonising of the methodologies of setting of reserve prices for short term products border-border is now potentially eminent with EU-wide auctions being rolled-out under the CAM Network code implementation. The setting of this price for TSOs which already use Reserve prices seems to have to comply with two objectives: i) avoidance of "flight towards short term" (ensuring revenues recovery) and ii) "avoidance of capacity hoarding" (being fair for new short-term entrants and shippers booking long term). These objectives are fulfilled using "multipliers" and "seasonal factors". The level of reserve prices is widely seen as critical by all NRAs/stakeholders. However the opinions on appropriate level are widely diverging. Below we quote some experiences, which are already available within the EU:

Great Britain: Discounts applied in the short-term (day-ahead and within-day). The day-ahead capacity reserve price and the within-day capacity reserve price have a 33% discount and 100% discount compared to the long-term, respectively.
France: If capacity is auctioned, then a multiplier above 1 is used: Reserve price = Reference price x 1.8 **Denmark:** A certain percentage (from 5.6% to 24.5%) of the annual reference price depending on month of the year = monthly auction reserve price **Belgium**: A multiplier applies to short term entry capacity. This multiplier varies from 0.7 in the summer to 2.6 in the winter.

Policy options: RESERVE PRICES FOR SHORT-TERM CAPACITY

Brattle report analysed various options for pricing of short-term firm capacity. **In the current draft FG ACER proposes an option which is broadly in line with the Brattle options as described below, allowing for certain flexibility in non-congested markets.**

Options analysed by Brattle *are, see p.33:*

***"Full harmonisation of short-term capacity prices**. The network code would specify the methodology for setting the price of short-term capacity that would be mandatory for all EU TSOs. The TSO at the exit side of the IP and the TSO at the entry side of an IP would have to follow the same approach to setting the short-term capacity, so that the price methodology would be harmonised across the IP. The methodology could be based on a number of possibilities:*

a) Pricing short-term products proportionally to the yearly reference price. Capacity would be priced in direct proportion to the annual capacity with respect to time. For instance, a one day capacity product would be priced at 1/365 of the price of an annual capacity product, and a quarterly product at 1/4. Seasonal factors could also be applied. Seasonal factors should result in the average price across a year for daily capacity being 1/365 multiplied by the annual capacity price, even if daily –capacity prices are sometimes higher or lower than this level at certain times of year.

b) Pricing at the short-run marginal cost level. Reserve price for quarterly and monthly capacity will be priced in proportion to annual capacity as in 1) above, but daily and within-day capacity will be priced at SRMC.

c) Pricing with multipliers lower than one for short-term products. Reserve price for quarterly and monthly capacity will be priced in proportion to annual capacity as in 1) above. Daily and within-day capacity will be priced at annual price multiplied by a multiplier less than one.

Seasonal factors can also be applied. Seasonal factors should result in the average price across all quarterly or monthly products in the year being the same as an annual capacity product.

d) Pricing with multipliers higher than one for short-term products. The shorter the duration of the capacity product the higher the multiplier will be. Seasonal factors can also be applied. Seasonal factors should result in the average price being the same as a flat longer term peak capacity booking.

Application of Binding Rules. *The network code would specify the binding rules that would apply to the price setting of short-term capacity.*

a) The rules could for example lay out under what circumstances zero reserve prices may be appropriate, and when zero reserve prices could lead to cost under-recovery without any offsetting benefits such as increased trade. Similarly, the rules could lay out the maximum prices for short-term capacity.

b) *The rules would apply to both sides of an IP".* For example, if no congestion was expected at an IP, so that a zero reserve price may not be appropriate if revenue recovery is the main objective, the TSO at the exit side of the IP and the TSO at the entry side of an IP would have to follow the same approach to setting the short-term capacity – which could be for example that the short-term price is XX% of the pro-rated annual reference price.

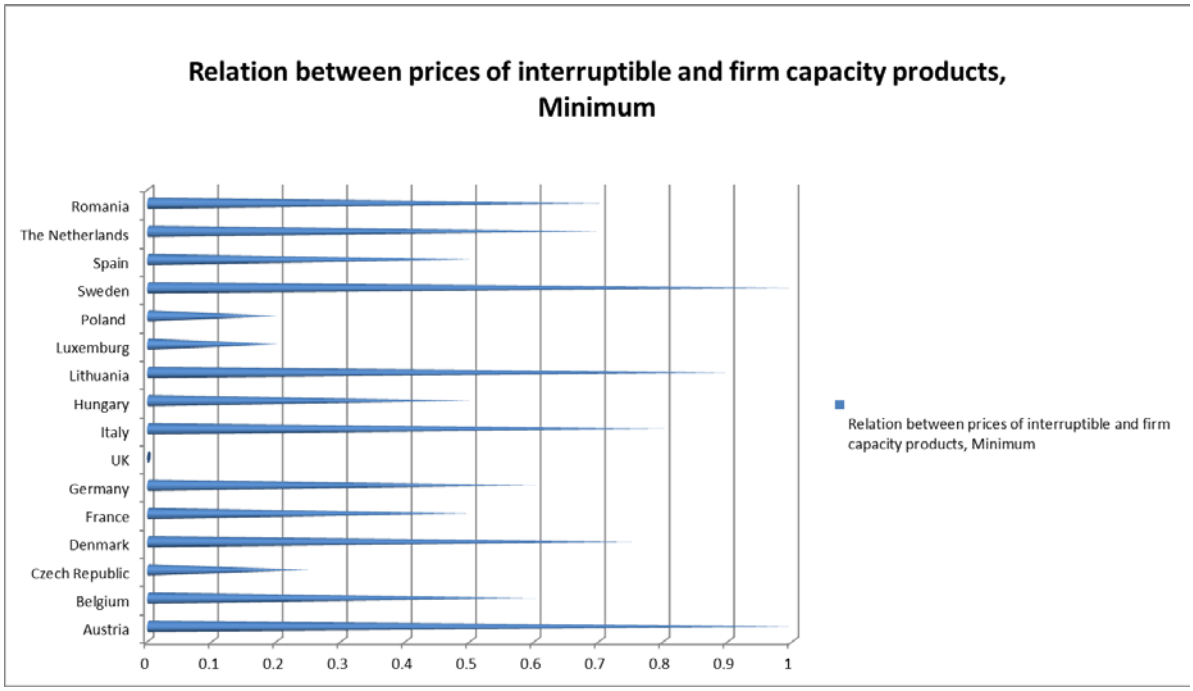
5.5. Reserve prices for Interruptible products (including backhaul)

Interruptible capacity.

Baseline scenario: No policy changes/business as usual

A degree of harmonisation of the methodologies for setting the reserve prices for interruptible products border-border is now potentially eminent with an EU-wide auction roll-out under the CAM Network code implementation. The level of prices for interruptible products is seen as important by all NRAs/stakeholders and is set based on national considerations and EU-law principles. However the opinions on exact appropriate level are widely diverging, as can be seen from the figure below:

Figure. Interruptible versus firm, prices (source: national analysis by ACER, May 2012)



NB: Please note that Sweden & Austria provide ex-post refund; whereas UK's '0' is for daily products; whereas Greece and Ireland will develop Interruptible products during 2012.

Policy options

Brattle report analysed two options for pricing of interruptible capacity. **In the current draft FG ACER proposes an option which is different (!) to the Brattle options as described below.**

Options analysed by Brattle *are, see p. 34:*

1) *"Option 1: Auction with an ex ante discount. Set the reserve price for interruptible capacity to zero and let the auction decide on what the market value for interruptible capacity.*
2) *Option 2: Ex post refunds. Set the reserve price for interruptible capacity to the same price as firm capacity and offer network users refunds when interruptions occur. The refunds could be set by reference to the market price of gas at the time of the interruption, specifically the difference between the price in the upstream market area and the downstream market area, plus an administratively determined bid-offer spread.*

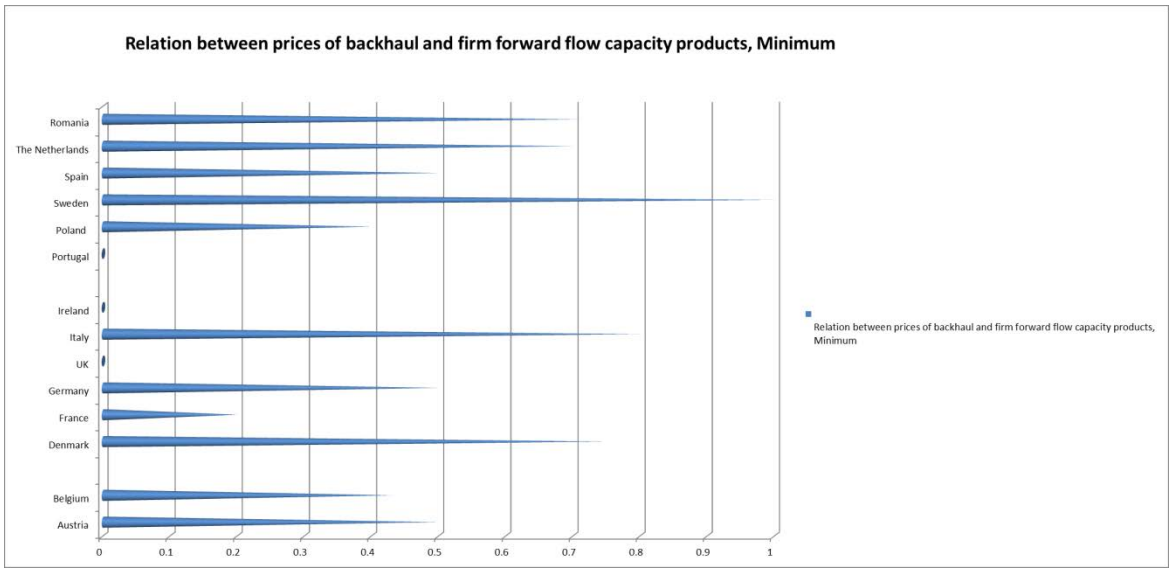
Alternatively, if market prices were not available, the refund could be set by reference to the annual capacity price. In either case the refund would be capped at the original price paid for the interruptible capacity.

Offering network users refunds when interruption occurs would mean TSOs would bear the risk of interruption. If instead the discount is decided in advance as under 1) above, then it is the shippers that bear the risk of actual interruptions being different to forecasts."

Non-physical backhaul

Baseline scenario: No policy changes/business as usual

A degree of harmonisation of the methodologies for setting reserve prices for non-physical backhaul border-border is now potentially eminent with an EU-wide auction roll-out under the CAM Network code implementation. The level of prices for non-physical backhaul is seen as important by all NRAs/stakeholders, especially in view of developing competition by bringing alternative gas trading to emerging EU hubs. That backhaul is routed against the dominant flows in EU. The pricing of that backhaul is now set based on national considerations and EU-law principles. However the opinions on exact appropriate level are widely diverging, as can be seen from the figure below:



NB: please note that in national analysis it appears that the Czech Republic, Greece, Hungary, Italy, Lithuania, Luxemburg, Spain and Sweden were not yet explicitly confronted

with a need to define levels of discount for backhaul. As we can see from above, the current approaches do differ widely.

Policy options

Brattle report analysed four options for pricing of non-physical backhaul capacity. In the current draft FG ACER proposes an option in line with Option 1 of the Brattle options as described below is considered. Options analysed *are, see p. 34:*

1. *"Sell backhaul capacity by auction and set the reserve price to recover only administrative costs.*
2. *As above, but set the reserve price to zero.*
3. *Set the reserve price for backhaul capacity to reflect both the risk of interruption and the estimated cost savings offered by backhauls through avoided variable costs (i.e. a zero commodity charge) and deferred network expansion if applicable.*
4. *Price backhaul in the same way as interruptible capacity. That is, there would be a discount offered according to the probability of interruption using the same methodology as is applied to forward interruptible capacity. For cases where the probability of interruption was very small, this would result in backhaul prices which are just slightly lower than firm forward capacity at the same network point."*

Initial assessment conclusions on **RESERVE PRICES FOR SHORT-TERM CAPACITY and for Interruptible capacity (including backhaul)**

Initial conclusions:

ACER – in line with assessment by Brattle in their reports sections 6.3; 6.4 and 6.5 - **considers that for Short-term Reserve prices for firm products (please see chapter 4.1 of the draft FG for proposed approach), a degree of EU-wide harmonisation is needed, in view of the above assessment. The current tendency is to set certain key parameters, allowing for a tailor-made approach at national level.**

We consider that TSOs and/or NRAs could legitimately apply different policy options for the price of short-term capacity, depending on:

- Their expectations for congestion at the IP;
- The desire to encourage short-term trading and price arbitrage;
- Their willingness to accept some risk of revenue under-recovery at the IP.

The exact level again depends on a policy choice. TSOs and NRAs may wish to encourage more short-term trade and price arbitrage even if this comes at the expense of cost recovery,

and for this reason there could be a legitimate reason to set lower multipliers, including multipliers less than one. For example a TSO with an illiquid market might wish to encourage trading with a neighbouring liquid market by setting a low short-term tariff, even if these means costs at the IP will need to be recovered from other network users.

The question we considered – should the FG set a maximum price for short-term capacity, relative to the annual reference price (which is also called the multiplier concept)?

The reference price for annual capacity in any case sets an implicit limit for the price of short-term capacity (absent congestion). If the multiplier for short-term capacity becomes too high, then users will eventually switch to buying longer term capacity. However, to avoid 'excessive' pricing of short-term capacity, the FG could set some limits.

Therefore – based on analysis of current national situations – we propose '1,5' multiplier as a maximum in the draft FG, realizing that:

- In some MS under-recovery might be faced (which can be recovered via Revenue recovery provisions as proposed in chapter 3 of the draft FG)
- However in general such a multiplier is well suited in view of ACER to stimulate initial auctions under CAM.
- Seasonal factors, allowing for monthly adjustments based on utilisation of pipelines, can be higher than 1.5.

Currently in the MS, the multipliers (and seasonal factors) vary widely (examples of monthly and daily products) as we can conclude from the tables below looking to ratio between normalised monthly price (**1/12 annual firm capacity price)** and actual monthly prices, which show implicitly the level of used in the EU multipliers and seasonal adjustments:

Relation between prices of monthly products and annual products

Countries	**Price of Monthly capacity** **(Reference price = 1/12 annual firm capacity price)**
Austria	Reference price x 2. Monthly coefficient comes closer to 1 as the contract duration (between 1 and 12 months) increases.
Belgium	Reference price x {0.7 to 2.6} depending on season
Czech Republic	Reference price x 1.9 For a 11 months duration contract, the monthly coefficient is of 1.2
Denmark	A certain percentage (from 5.6% to 24.5%) of the annual reference price depending on month of the year = auction reserve price.
France	Reference price x 1.5
GB	Reference price x 1

Germany	Reference price x 1 (on average). As a general rule, the sum of tariffs for shorter-term products may not be higher than the tariff of the corresponding longer term product. Seasonal factors may apply (choice left to TSO).
Greece	Reference price x 2.3 (For 1-90 days coefficient is equal to 2.3, for 91-180 days is 1.85 and for 181-364 days is 1.6).
Hungary	Winter season: For the 1st month: Reference price x 10.8 + additional 10% for each additional month Summer season: For the 1st month: Reference price x 2.4 and additional 5% for each additional month
Ireland	From May to September: reference price x 0.96. The actual monthly multiplier for May to September is 1% for 2012/13. For remaining months: reference price x {1.58 to 4.24} depending on month.
Italy	Reference price x 1.4 For a 3 months duration contract, the monthly coefficient is of 1.2 For a 6 months duration contract, the monthly coefficient is of 1.1
Lithuania	From May to September: reference price x 0.96 For remaining months: reference price x {1.2 to 5.4} depending on month.
Luxemburg	Reference price multiplied by a monthly coefficient. The sum of these coefficient =1
Poland	Reference price x (1,5 – 3,8) depending on month (SGT EuRoPol GAZ tariff and OGP Gaz System tariff)
Spain	From April to September: Reference price 1From October to March: Reference price x 2
The Netherlands	Monthly price = yearly price x multiplier, where: Multiplier for winter months: 0.3 Multiplier for summer months: 0.075 Multiplier other months: 0.15 Please note that these multipliers also reflect seasonal factors.

Relation between prices of daily products and annual products, whereas we look at ratio between normalised daily price (**1/365 annual firm capacity price)** and actual daily prices, which show implicitly the level of used in the EU multipliers and seasonal adjustments:

Countries	**Price of Daily capacity** **(Reference price = 1/365 annual firm capacity price)**
Austria	Reference price x 2
Belgium	Reference price x{0.7 to 2.6} depending on season
Czech Republic	Depending on the duration of the contract
Denmark	A certain percentage (from 0.52 to 1.75) of the reference price of the annual capacity charge.
France	Regulated price=Reference price x 2.3 If auction: Reserve price= Reference price x 1.8
Germany	Reference price x 1 (on average). As a general rule, the sum of tariffs for shorter-term products may not be higher than the tariff of the corresponding longer term product. Seasonal factors may apply (choice left to TSO). Zero reserve price for day-ahead products. However, this is announced to be reconsidered when there is evidence of systematic substitution of contracts.
Greece	Reference price x 2.3
Hungary	During winter: Reference price x 13.4 During summer: Reference price x 6.1
Ireland	From May to September: reference price x 0,125 For remaining months: reference price x {0,125} depending on month.
Italy	No daily product
Lithuania	From May to September: reference price x 1.46 For remaining months: reference price x {1.83 to 10.95} depending on month
Luxemburg	No daily product

The Netherlands	Daily price = monthly price x multiplier, where: Multiplier = 1/15
Poland	Reference price x (2,25 – 5,7) depending on month.
Spain	From April to September: Reference price x 11.8 Rest of year: Reference price x 3

Considering that current practice varies widely and we assume that further study could show that in certain cases this might well be justified, we should consider in final FG if a reset of 1,5 is possible, as rules might apply for many years to come, and the gas market might change.

It is important to note that there may be entirely legitimate reasons as to why multipliers higher than 1.5 are used in some Member States today. Let us take an example of Irish gas market, to illustrate the issue. In the case of Ireland, which has a relatively new and uncongested network, higher multipliers incentivise longer term bookings, to ensure cost recovery. As an alternative one therefore might consider, at least introducing a possibility to review '1, 5' under peer review of multipliers, whereas the NRA should have to clearly justify the reason for higher multipliers.

We also proposed an option for seasonality factors adjustment in the draft FG. We do consider that the calculation of seasonality factors should reflect utility patters of network users, and should (over time) allow for adjustments to demand conditions. We must be aware that there will be varying decisions on that per MS, as countries with e.g. transit flows would see lower seasonal demand patterns, and there will be a link with overall 'appetite' for risk of under-recovery of costs as discussed in the previous paragraph on Multipliers. It is therefore crucial to consider informing neighbours on the intended changes in Reserve prices (including information on Multipliers and Seasonality factors) in a timely manner.

We in addition elaborate on why we assess that an option for seasonal factors is important, and is proposed in the draft FG.

One could argue that for each TSO (with respective NRA) one should be able to establish whether or not to apply seasonal factors separately. Seasonal factors may be considered useful as by applying a seasonal factor this ensures prices will rise and fall in line with the rate of use of the infrastructure, providing incentives to shippers to use capacity efficiently and reducing the negative impact profiled capacity bookings may have on revenues. Where auctions are used and there is congestion it is expected that seasonal adjustment will occur naturally as demand in excess of supply will lead to increased prices. So, one could argue that seasonal factors does not need to be applied when setting reserve prices for congested markets, because seasonal effects will automatically show itself in higher or lower auction prices. However in non-congested markets, that effect will not occur. Congestion occurrence might also vary through the time and per offered products.

Our initial tendency, is therefore to allow for options to establish seasonal factors, based on an EU-wide defined methodology, as proposed in the draft FG, to allow for each TSO (with their

respective NRA) to establish if, and in which circumstances, a seasonal factor is needed.

Please note that ACER also considers that for Interruptible and non-virtual backhaul products, reserve prices should clearly stimulate trading a priori. Especially as the issue of cost recovery is less important here, due to secondary nature of these products being 'selling the same pipe again'[55]. The pipeline is built to meet peak flows in the forward direction and with minimal cost a backhaul service can be provided. This service is dependent on forward flows and so is interruptible in nature and there is no major investment costs associated with providing it. Providing a backhaul service has many benefits to consumers in the country where backhaul flows towards in terms of greater competition and price equalisation with the country receiving the forward flows. On the other hand, we must be careful as too drastic pricing measures might distort flows, and lead to additional costs for the TSOs and, in case of backhaul, to a degree of potential cross-subsidy from existing shippers, to new ones, which potentially must be catered for[56]. Similarly interruptible capacity has very little investment costs since no network assets need to be built to provide this but provides benefits by mitigating capacity hoarding.

5.6. Bundled capacity

Baseline scenario: No policy changes/business as usual

Please refer to experience described under Payable price in section 5.8 (auctions, including bundled products, are in 2012 still not widespread, some work is being done in early implementation of CAM NC in pilots GRI.)
E.g. in Spain and Portugal bundled products will be implemented through a new pilot project between Spain and Portugal (Start 1 October 2012, end 30 September 2013).
Germany has limited experience with pricing of bundled products, because bundling was introduced very recently.

[55] Under the current tariffs regime the above would not be true for France, as the revenue of backhaul products is taken into account in the cost recovery of the TSO.

[56] ACER is looking for cases to illustrate this during consultation. We consider that a reason for proposed pricing of backhaul in draft FG, is namely that capacity is built for peak conditions which would have flow in one direction, therefore pipe is built and with minimal cost a backhaul service can be provided which allows for efficient pricing via price equalisation which benefits consumers where backhaul flows to (as well as the competitive benefits to that country).

In addition, in France/Germany GRTgaz and GRTgaz Deutschland offer bundled monthly products (from PEG North to NCG) and bundled daily products (in both direction). In France/Belgium, GRTgaz and Fluxys offer bundled monthly products (Zeebrugge to PEG North) and bundled daily products (in both directions). All these products are sold at a price which is the sum of the regulated prices on both sides of the IP.

Policy options

ACER considers that 'Bundled capacity product' chapter in draft FG does not require separate assessment, since the method for setting the annual reference price (as discussed in earlier section 5.2) will set entry and exit tariffs, and a bundled product is simply the sum of the relevant entry and exit points. Similarly, the pricing of unbundled entry /exit points would also be determined by the methods in section 5.2.

5.7. Virtual IP (VIP)

Baseline scenario: No policy changes/business as usual

Where two adjoining networks are connected by two or more interconnection points, the CAM network code envisages that TSOs will establish a single virtual interconnection point (VIP). TSO will then sell capacity between the adjoining networks at the VIPs rather than at the individual physical IPs. TSOs will not be expected to establish VIPs if technical characteristics of the interconnecting transmission networks do not allow it or because a VIP would not lead to economic and efficient use of the networks. The CAM network code also specifies that capacity offered at the VIPs should be equal to or higher than the sum of the technical capacities of the interconnection points that the VIP replaces.

There is currently no practical experience in EU with implementation of such a provision.

Policy options

Brattle points out in its report' section 5.1 that VIPs as such do not call for any new problems or solutions as such, independent of the tariff system chosen, see p. 32:

> *Using of VIPs would "mean that the TSOs would offer capacity from one market area to another, but not specify which physical point would be used to transport the gas. In our view the adoption of VIPs does not present any special issues with respect to the reference price for long-term capacity products, or any other aspect of tariff harmonisation. The value of a capacity product is in transporting gas from one market areas to another. A rational shipper should be indifferent between the physical paths used to transport the gas, and so the use of VIPs should not affect pricing. If IPs were*

physical and not virtual, the value of several IPs connecting the same market areas should still be identical. Capacity between the IPs should be completely fungible – if one of the IPs became congested, the TSOs could simply move gas flow to one of the less congested IPs."[57]

ACER considers that 'VIP' chapter in draft FG does not therefore require separate assessment, since the method for setting the annual reference price (as discussed in earlier section 5.2) will set entry and exit tariffs, and a VIP reserve price is simply the sum of the relevant entry and exit points.

5.8. Payable price for long-term capacity

Baseline scenario: No policy changes/business as usual

While it is agreed that long-term capacity will be auctioned, there remain a number of options regarding how the price to be paid (the payable price) for existing cross-border capacity (IPs) will evolve over time. Updates to the payable price are particularly important when the user pays for the capacity a substantial amount of time after buying the capacity.[58] For instance, during a 10 year period the regulated tariff, and the allowed revenues of the TSO, will change due to a new regulatory period for tariffs. The payable price could track changes in the regulated tariff, in which case the capacity buyer bears the price risk. Alternatively the buyer could pay a price fixed set at the time of capacity allocation[59], in which case the TSO, or perhaps other network users, bear the risk that the price will diverge from the allowed revenues.

The issue of what the payable price should be is relevant in a limited number of MSs that introduced auctions early, such as GB. We now discuss some current examples from EU:

Great Britain.

In GB there are 2 different systems for entries sand exits. Payable prices are fixed for entries, so if a shipper booked in 2012 capacity for 2020 for 1 euro, he will pay that amount of 1 euro in 2020. If a shipper booked in 2015 capacity for 1.5 euros, he will pay 1.5 euro in 2020. The difference of the price (1 or 1.5 euros) depends on costs of the system at

[57] Please note that this quote is repeated, for clarity.

[58] This issue becomes much less relevant if capacity is only sold for one or two year durations. For example for a one-year capacity contract, all the alternatives discussed should give roughly the same reference price.

[59] Id est if a user is allocated capacity at auction in 2012 for use in 2020, then the price is fixed in 2012.

the time of allocation. GB is now running long term entry capacity auctions up to 15 years in advance of capacity use. On exit there is a floating payable price, depending on allowed revenues to be recovered – it is more like an administrative charge.

Germany.

In Germany the payable price is not fixed, it is a floating (variable) tariff, consisting of reserve price and auction premium. While the allowed revenues are fixed for the regulatory period over 5 years, reserve prices may change every year as some cost components, for example inflation or volatile costs, are adapted on a yearly basis. Auction premium is fixed for the length of the contract for which the capacity price applies - but it is the smallest part of the entire price.

It is possible that different customers pay a different price for the same capacity product, depending on the point in time when the capacity has been procured in Germany. E.g.: if shipper A booked capacity units today for 2019 at the reserve price and shipper B booked capacity units three years later (in 2015) for 2019 but paid a premium, they will pay different prices. Shipper A will pay the reserve price applicable in 2019 and shipper B will pay the reserve price applicable in 2019 plus the premium.

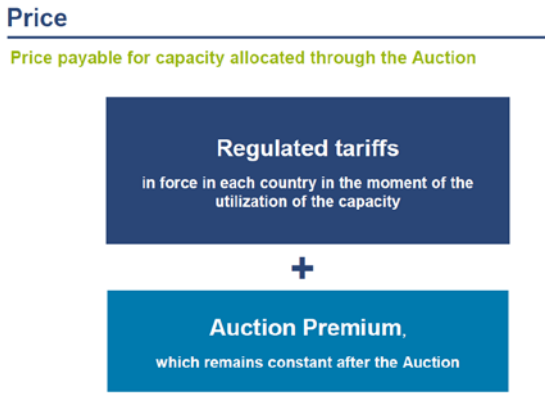
There is no commodity charge, only capacity charges are used.

Spain and Portugal

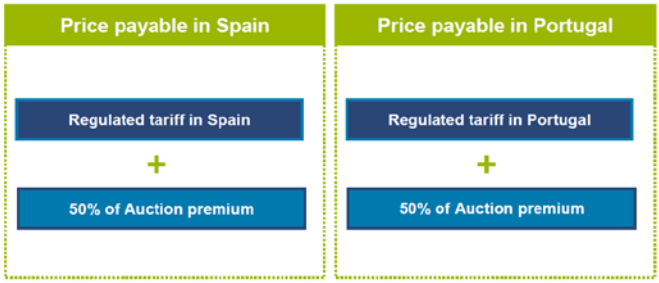
Case of Spain and Portugal

Enagas, the Spanish TSO, and REN, the Portuguese TSO, are implementing, for the first time, a pilot Capacity Allocation Mechanism (CAM) process in the interconnection between Spain and Portugal, consisting of a joint capacity allocation procedure based on the ENTSOG network code and auctions.

Payable price in these auctions will be equal to regulated tariffs and auction premium. I.e. the floating concept of payable price.



The same principle for determination of payable price is used in Spain in Portugal. For these auctions, such joint pricing of the bundled products will be used for the first time.



Payable price experience in France:

Tariffs are floating. E.g.: shipper A booked 15 capacity units in 2011 for flowing in 2015 and shipper B booked 15 capacity units in 1999 also for flowing in 2015. Both shippers pay the same final price for that product.

Tariffs are set for 4 years, with an authorised revenue trajectory determined for this period and an incentive regulation regarding productivity. Tariffs are 100% based on capacity. An update is performed on a yearly basis to adjust the subscriptions and fuel costs forecasts.

Final overall remarks to all countries.

Overall, there is a tension between the predictability of cost for shippers and revenue recovery by TSOs in Payable prices (which are changing over time versus auctioned price). As a solution, the relevant NRAs strive to give a very high level of transparency in tariff setting that could allow shippers to accurately predict future tariffs. However we also note – as discussed in Transparency chapter - shippers claim 'ability to forecast future tariffs' is not always the case at the moment.

Policy options

Brattle report analysed four options, see p. 35. In the current draft FG ACER proposes Option 1 of the options described below, which are:

1) *"Fixed nominal premium:* The payable price consists of a premium on or discount to the reference price, which is fixed in nominal terms for the duration of the contract. While the premium is fixed in nominal terms, the total amount payable will vary according to changes in the regulated reference price". This is the regime used in Germany and Spain/Portugal;
2) *"Fixed real premium:* as above, but the premium or discount is updated for inflation, and so remains constant in real terms. While the premium is fixed in real terms, the total amount payable will vary according to changes in the regulated reference price;"
3) *"Fixed nominal price."* The payable price is fixed in nominal terms at the time of capacity allocation. Note that in this case, the TSO would still need to set a reserve price for the

capacity, and that the reserve price should be related to the reference price. Specifically, so as to ensure revenue recovery the TSO should determine a nominal price which, over the duration of the capacity contract, has the same present value as the expected reference prices over the contract duration. This means that if reference prices are expected to increase in nominal terms over the contract duration, the reserve payable price in the auction would need to be above the year 0 reference prices, to account for the subsequent increases in the reference price. If the reserve payable price was the same as the year 0 reference price, this policy option would be guaranteed to result in revenue under recovery if the reference price was expected to increase in nominal terms, which would clearly be undesirable. This is similar to what is used for GB entry capacity.

4) *"Inflation-indexed clearing price:* The payable price is set as the auction price updated annually for inflation. Again, the payable reserve price may need to be above the year 0 reference price, but the use of inflation-indexation could mean that this is not required. For example if the reference price was expected to stay constant in real terms, the reserve payable price could be the same as the year 0 reference price without creating a structural under-recovery problem."

Initial assessment conclusions for PAYABLE PRICE FOR LONG-TERM CAPACITY

Initial conclusions:

ACER - – in line with assessment by Brattle in their reports section 6.6 - considers that for Payable price (please see chapter 7 of the draft FG for proposed approach) an EU-wide harmonisation is needed, because of the cross-border nature of the issue policy. The decision in the draft FG is to set the payable price, as the sum of the reserve price at the time of use of the capacity and the premium as determined in the auction.

ACER considers that this concept of payable price would mean that those booking capacity in the long-term auctions, years ahead of the capacity use, would benefit from over recovery as prices would float downwards (subject to national decisions). At the same time ACER notes that those booking capacity in the long-term auctions, years ahead of the capacity use, would also pay for the under-recovery (if occurred) as their prices would 'float' upwards.

ACER notes that this floating payable price concept may discourage some bookings of long-term capacity if users are uncertain over the price they will have to pay. For those booking capacity in the short-term auctions, in the year of the capacity use, situation would be different. They would pay any premium + reserve price for daily capacity in that year. That

reserve price would be exactly known and contain no insecurity to those booking in short term[60]. This has been compared by ACER with 'fixed price concept", where with fixed price and a separate capacity charge to recover the allowed revenues, both the shipper buying annual capacity in year T-x and the shipper buying daily capacity in year T (year T = actual year) will face the same additional separate capacity charge to recover allowed revenues. Therefore, in such a case, all users will contribute to any under-recovery.

5.9. Mergers of Entry and Exit Zones

Baseline scenario: No policy changes/business as usual

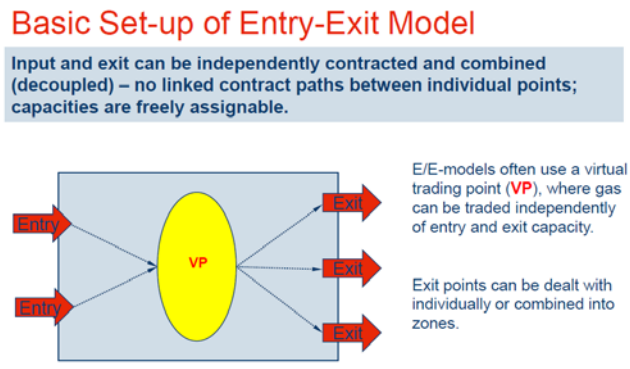
One of the current themes of EU gas market policy is that the current entry-exit zones (or market areas), which are largely national in scope, may not always be optimal from the point of view of creating liquidity. In some cases it may be beneficial to merge two or more entry-exit zones to create a larger entry-exit zone[61] which is capable of creating a liquid gas market.

We now have 28 zones (source: E-control/KEMA study, 2011) in the EU. Some MS are even still implementing the entry-exit zones, e.g. Greece will introduce an entry-exit system in 2013. Currently e.g. Czech Republic/Slovakia/Austria analyse if and how to merge zones[62]. This process is at early stages, however in Germany some experience has been gained within the country.

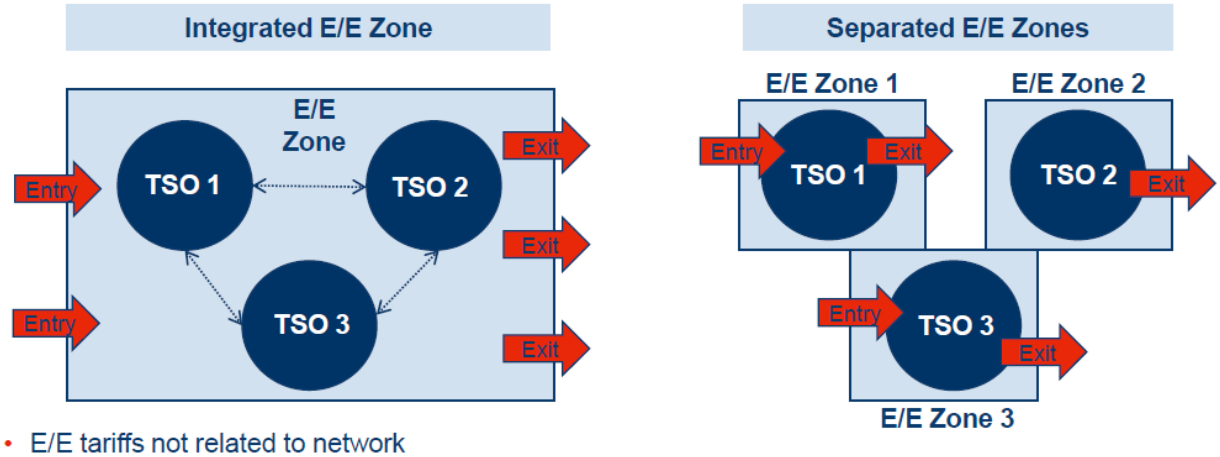
60 We note a link to assessments in Brattle report. It is important to understand that the recommendations in the Brattle report on the payable price relate to existing capacity only. See footnote 61 and start of section 5.5 "there remain a number of options regarding how the price to be paid (the payable price) for existing cross-border capacity (IPs) will evolve over time." Hence at least there should be no consequences for investment. For incremental capacity, fixed nominal or real tariffs approach for payable price could well be beneficial, and therefore this issue will need to be investigated during consultation. See also chapter in this draft IIA on "Incremental capacity".

61 A merger of entry-exit zones could be done in 2 ways: either by creating a "market area" or by creating a "trading region". That's why are neutral in wording here and refer to "larger entry-exit zone".

62 E.g. also Ireland and Northern Ireland (as part of UK) have since 2008 been working on merging of the two separate zones under the Common Arrangements for GAS (CAG) project. In addition, it must be noted that Spain and Portugal are also preparing. Currently, Spain is working on the methodology to set up tariffs. Portugal is reviewing the tariffs code. Harmonization of CAM, CMP and balancing rules apart from the cross border tariffs were listed as the main focus of the harmonization efforts now, while the tariff codes are developed in both countries.



Source: KEMA study on entry-exit zones for E-control (December 2011).



- E/E tariffs not related to network boundaries/ownership
- Integrated cost allocation / tariff setting for the whole market area results in adequate price signals
- Depending on the capacity allocation mechanism, a reconciliation mechanism may be required

- E/E tariffs reflect network boundaries/ ownership
- Cost allocation / tariff setting separately for each network results in fragmented price signals
- No reconciliation mechanism required

Source: KEMA study on entry-exit zones for E-control (December 2011).

In EC letter ACER is invited to consider in IA if the effects of entry-exit zone mergers should be developed in the Network Code on transmission tariff structures. This could address, for instance, the topics of tariff alignment and the disappearance of interconnection points, and the corresponding cross-border tariffs, due to the zone merger'.

Both topics affect the setting of reserve prices at IPs and, more importantly, underlying cost allocation within and between entry-exit zones[63] and may have revenue recovery consequences.

Brattle (see p.37 of version without tables in Annex) considers that no special tariff options are needed:

"A merged entry-exit zone, which will contain two or more TSOs, will of course require that the tariffs recover the allowed revenues of all the TSOs. This will mean that the TSOs will need to develop systems to re-allocate the revenues, since the revenues collected by one TSO on its system is unlikely to match its allowed revenues. However, the principles for the setting of the tariffs within the merged entry-exit zone […] are the same as for other unmerged zones. Therefore it seems that no special rules or treatment is required for the development of tariffs for merged entry-exit zones[64]".

ACER considers that a priori **additional analysis might be needed through consultation before deciding that no EU-wide specific provision in the (Tariff) FG is needed[65],** and therefore drafted following, very initial suggestions on possible Policy options.

63 We also note that it could be argued that cost allocation between entry-exit zones would not be needed, provided that NRAs would price the IPs correctly.

64 Please note that the emphasis/underlining has been added and was not in the original text of the Brattle report.

65 In addition we note that, the harmonization of the general principles, rules to establish methodologies on transmission costs' allocation and tariff´s structure in the EU will make the merger of Entry and Exit zones easier.

In order to achieve the integration of two adjacent markets (balancing zones), it might be necessary to follow several steps prior to integration, among others, addressing the following issues:

- On balancing procedures: Improvement of updated information on balancing positions on both sides; Harmonize nomination procedures and creating balancing points, harmonize balancing services and products.
- On capacity allocation: Allocation of capacity at a virtual interconnection point; Harmonize capacity allocation procedures. Reserving part of the interconnection capacity for short term contracts. Harmonizing capacity reservation arrangements: Long term capacity contracting
- On interoperability: Having the same units, same gas day and gas year in the two balancing zones. Solving gas quality and odorisation differences to avoid distortions in flows. Harmonize interconnection agreements

Policy options for cross-border mergers of ENTRY-EXIT ZONES (Tariff structures)

The final impact assessment should advise, on the basis of a cost-benefit assessment on an overall economic level, which of the options below would be most beneficial development path for specific tariff structure approaches for cross-border mergers of entry-exit systems throughout the EU.

Several options are now discussed for harmonization of cross border gas transmission tariffs between neighbouring countries towards market integration, in case of cross-border entry-exit zone mergers. A feature of all the options is that tariffs at the entry and exit points within the merged entry-exit system shall be eliminated as capacity at these points will no longer be subject to booking procedures by network users.

Policy option A - No special rules or treatment for merged entry-exit zones; however compensation mechanism between TSOs might be needed[66].

In this option, the rules for merged entry-exit zone are harmonized on an EU-level. The principles for the setting of tariffs within the merged entry-exit zone […] are the same as for other unmerged zones. Therefore it seems –as Brattle - that no special rules or treatment is required for the development of tariffs for merged entry-exit zones".

That means that allowed revenues from all TSOs of the merged entry-exit zone will be added and the rules laid down in the Framework Guidelines and Network Code on Tariffs especially regarding cost allocation and determination of the reference price as well as revenue recovery

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and provide users and operators with standard communication procedures and protocols to allow exchange of information.

The elimination of tariffs in the interconnection could be the final step to integrate market areas. The elimination of tariffs require potentially to deal, among others, with problems such as the recovery of revenues in each system, the implementation of TSOs' compensation schemes and the inefficient allocation among agents in different systems.

66 One can also just distinguish Integrated E/E Zones and Separated E/E Zones.

In the first case, one would not need special rules for tariff structures (as these are related to market zones), but one needs mechanisms of coordination and/or compensation between TSOs. In the latter case, we would need special tariff rules that allow TSOs to set tariffs independently and thereby potentially deviating from the rules that have been set out so far (e.g. 50/50 entry/exit cost split) in the draft FG.

will equally apply to the merged entry exit zone. The amount of resulting inter-TSO payments shall be derived from the application of these rules.

Policy option B1: Special rules or treatment for merged entry-exit zones with inter-TSO payments

In this option, the rules for merged entry-exit zones are to be harmonized on a regional level. The entry-exit tariffs would be implemented in the whole system through a unique methodology to be developed at regional level. This methodology shall be subject to agreement between the NRAs concerned and may differ from the rules laid down in the Framework Guidelines and Network Code on Tariffs especially regarding cost allocation and determination of the reference price as well as revenue recovery[67]. This includes only the transmission network, leaving aside the LNG terminals and underground storage facilities.

In this option it is proposed to set a recovery mechanism for the lost revenues of the TSOs through an inter-TSO payment (**see note of pre-caution further)** or a comparable mechanism**.**

One approach may also be that the entry-exit prices are calculated for the e/e-zone based on the sum of allowed revenues of the concerned TSOs. Payments by shippers are then collected by a third party and redistributed to TSOs based on their share of allowed revenues. **Another** approach is that this compensation could be done by calculating the entry and exit transmission tariff prices at the IP and uses them to calculate the amount of revenue loss (which depends on actual IP usage).

Regulated cost recovery would be preserved in each country, independently, though **the tariff calculation methodology would need to be integrated in its principles and details between the involved countries. It should be considered, that the calculation methodology is be agreed jointly by respective NRA's.**

Policy option B2: Special rules or treatment for merged entry-exit zones without inter-TSO payments

This option is similar to Option B1 with 1 key exception. Notably, the recovery of the lost revenues of each TSO at the entry and exit points within the merged entry-exit system

67 We mean that these options potentially do not require harmonisation on EU-level but rather on regional level.

happens through increasing the remaining entry-exit prices of each TSO in the merged entry-exit area accordingly. Under this option, no inter-TSO compensation is carried out[68].

In this option – similar to option B1 above - the rules for merged entry-exit zones are to be harmonized on a regional level. The entry-exit tariffs would be implemented in the whole system through a unique methodology to be developed at regional level. This methodology shall be subject to agreement between the NRAs concerned and may differ from the rules laid down in the Framework Guidelines and Network Code on Tariffs especially regarding cost allocation and determination of the reference price as well as revenue recovery[69]. This includes only the transmission network, leaving aside the LNG terminals and underground storage facilities.

In this option, the recovery of lost revenues from the entry and exit points within the integrated entry-exit system will be done – **in alternative way to option B1 above – by each TSO affected through increasing its remaining entry-exit prices in the merged entry-exit area[70&71].** See note of pre-caution further.

68 However, one could also argue that it is necessary to implement ITC mechanisms also in this case. Otherwise, in hypothetical extreme case, if you would have one single EU entry-exit zone, how the TSO's of the transit countries are going to recover their (lost) revenues?

69 We mean that these options potentially do not require harmonisation on EU-level but rather on regional level.

70 It could be argued that this approach would imply cross subsidies among network users. As in the exporting zone entry price is increased for all the agents, independently if they are going to use the IP or not.

71 In the importing country the revenue loss related to the non-application of the entry prices at the IP could be recovered on the exit prices of the transmission tariff (more precisely, exit points to consumers or distributors).

The revenue loss by the exporting country related to the non-application of the exit prices at the IP could be recovered by scaling up (increasing) the other entry prices of the transmission tariff. In fact, doing that the TSO in the exporting country would collect extra revenues from the agents using its transmission network to supply the importing country. Therefore, the extra revenues collected from agents supplying the national market (by means of scaling up the entry prices) should be discounted to the exit prices affecting consumers in the exporting country. This way, the revenue transfer from the IP to the entry points, would be neutral for the national consumers (in the exporting country).

In this way the users-pay principal is applied, avoiding the need for the adoption of an additional compensation mechanism between the TSO's. Additionally, it would not be determined any transmission tariff at the IP and so its implementation is facilitated. Regulated cost recovery would be preserved in each country, independently.

However, it could be argued that the revenue loss then remains, if a revenue loss at cross-border exits could first be recovered at entries and subsequently be discounted to domestic exits. So further investigation is necessary.

Regulated cost recovery would be preserved in each country, independently, though **the tariff calculation methodology would need to be integrated in its principles and details between the involved countries. It should be considered, that the calculation methodology is being agreed jointly by respective NRA's.**

A note of pre-caution on the inter-TSO Payment scheme[72] (see Option B1 above).

The options discussed are aligned with the Gas Target Model under discussion at the European level, aiming for entry-exit zones integration. In any of the above options, it is critical that 'the entry and exit prices of each zone are properly calculated', whereas it is possible that adjacent NRAs disagree to an extent on which costs are to be included.

[72] In addition, a TSO expert expressed following 2 concerns with the introduction of an inter TSO compensation mechanism for feasibility: i) Do you take a point in time and use the current situation as your benchmark in terms of deciding who should be compensated by whom when the merged zone has been completed? ii) This mechanism is further complicated when you have currency differences.

E.g. a specific, 'no-name basis' example could be as follows:

There might be changes in infrastructure (e.g. LNG terminal) utilization per country as a consequence of entry-exit zone merger, due to shippers arbitrating between 'LNG-access prices' + 'e/e fees' per country. This might be resulting in changes of flow patterns as shippers might choose different routes to supply customers in various countries within the merged zone. This could then consequentially lead to potential change of revenues for TSOs involved in the entry-exit zone merger at one hand, and potential need for new pipeline construction at other hand, which would be accompanied by less use of other existing pipelines. Consequentially, the whole of above would in general, all other issues being equal, increase revenues for one TSO versus decrease in revenues for other TSO. And if this is not part of normal operations risk of a TSO, an ITC-mechanism might need to be considered and developed, e.g. on a specific ad-hoc basis. And if necessary, where no agreement on an ITC-mechanism can be reached, article 7(4) of the Regulation could apply.

We consider, in line with KEMA study 2009 (chapter 5.2, pages 140-142)[73], that an ITC-mechanism could be needed, in case 'the entry and exit prices of each zone are not calculated appropriately because of merely the national EU-borders, affecting cost-reflectivity and cross-border trade. **KEMA suggests that any ITC-mechanism (if needed) would need to be first developed on ad-hoc basis regionally, and not as an EU-wide scheme.**

5.10. **Incremental capacity**

Baseline scenario: No policy changes/business as usual

Introduction.

In EC letter ACER is invited to consider in the Impact Assessment if tariff structure principles for Incremental Capacity should be developed.

Incremental capacity is defined as capacity that is provided (by investment) on top of capacity at an existing IP, by means of various mechanisms including a 'market test'. A market test may set out what the criteria for providing incremental capacity can be. Another approach to

[73] http://ec.europa.eu/energy/gas_electricity/studies/doc/gas/2009_12_gas_transmission_and_balancing.pdf

provide incremental capacity could, for example, be a network development plan or simply an investment decision by a TSO.

In a workshop of GRI North-West, 4th June 2010, an illustrative overview of market test thresholds was presented by TSO representatives. That presentation showed the 2010 situation with market tests thresholds in NW-Europe. We provide a summary in the table below[74]:

TSO	Minimum commitment (= market test threshold)
EGT	min.80%>15 years max.5%<5years (last OS), future minimum commitment depends on circumstances/framework
WGT	future commitment depends on framework
Thyssengas	future commitment depends on framework
GUD/GTS	10 years each shipper (Last IOS), future commitment depends on framework
Ontras	future commitment depends on framework
DEP	future commitment depends on framework

TSO	Minimum commitment (= market test threshold)
Energinet.dk	70% of capacity, 10 years
Fluxys	Economic test
Gaslink	NRA and Gaslink make an investment plan
GRTGaz	10 years each shipper
GRTGaz DT	10 years each shipper
Swedegas	Not applicable
National Grid	NPV Revenue over 8 years > 50 % of costs

[74] Please note in the table above that some of the TSO names have changed in the meantime. EGT is now referred to as 'Open Grid Europe'. "WGT" is now "Gascade".

The above overview, which dates from 2010, is subject to changes in the meantime, but it does show a variety of approaches in current EU-practice.

It must also be noted that TSO remarked that on case-case basis investments must be economically viable, and NRAs must provide adequate regulatory support (e.g. in the above table you see references by TSOs to 'framework', meaning national regulatory regimes).

Policy options for Incremental capacity

One of the key issue from 'incremental capacity' for tariff structures is that incremental capacity can expose consumers to costs incurred by TSOs which may be problematic if incremental capacity costs are not fully recovered by users triggering the capacity provision as a result of the market test[75]. Another key issue is that the tariff provisions in the FG leave enough room for harmonized rules for incremental capacity if the future shows that these are indeed necessary. This is question that needs to be addressed.

Therefore it could be important how economic test(s) (principles) are constructed at country- or even broader EU level, to get a balance between timely increases in capacity, efficient increases in capacity and under-recovery of revenues.

Brattle (see Annex, section 6.7 Brattle report) considers that a priori a market test could help to avoid cost recovery problems, but it does not recommend making a standard market test mandatory for whole of EU. Therefore is does not recommend mandatory special tariff options for Incremental capacity. We quote the Brattle report, p 58. (without 'numbering'):

> *"… The fundamental problem that cost recovery mechanisms must address is that some investments in the network are made without long-term contracts in place. That is, no user or group of users were underwriting the investment. When this is the case, the assumption is that NRA has sanctioned the investment on behalf of all network users. Therefore, when there is subsequent under recovery, it is cost reflective if all network users bear the cost.*
>
> *It does not seem to make sense to focus cost recovery for an IP on the group of users who happen to be using the IP. If those users have not signed long-term capacity contracts (in this context contracts of e.g. 10-15 years that would have under written the investment), they are no more responsible for cost recovery at the IP than any other network user. As pointed out above, attempts to recover the costs from the IP at which under recovery occurred will simply lead to an increase in the price of capacity at that IP, which will reduce bookings and lead to further under recovery of revenue.*

[75] The only way to avoid this **fully** at all times would be to have bookers of incremental capacity pay 100% of the future costs. This is however potentially too restrictive. However views differ on this topic, and discussion is ongoing.

The above suggests that under-recovered revenues should be recovered from a broad group of users – that is all entry and exit points – via uplift on capacity charges. Such a recovery mechanism would avoid distorting cross-border trade and/or creating reference prices at IPs that are not sufficiently cost reflective.

Future cost under recovery issues could be reduced if investments in new capacity had the support of the market. The most tangible form of support would be in the form of long term contracts. If market participants are prepared to buy long-term capacity for a significant portion of the new capacity, this sends a strong signal that the investment is likely to be 'used and useful', based on the information available at the time of the investment decision. Such market tests take advantage of the information that market players, who are active in the market on a regular basis, have on likely market developments. Investment decisions guided by the market are likely to have less chance of being stranded, because they draw on a much wider pool of information than if the NRA/TSO were making an investment decision in isolation.

A relevant question is therefore whether market tests should be harmonised. The motivation would be to set a minimum standard of market test so as to avoid creating stranded costs. A market test seems to make intuitive sense for the reasons outlined above. However, it is also possible to imagine several important exceptions where investment incapacity might be deemed desirable, even though there is no market support in the form of long-term contracts. The main exception would likely be that the investment is required for security of supply purposes. Therefore any market test requirement would need to have an exception for investments that are required for non-commercial purposes. Such a test would inevitably be somewhat subjective. TSOs and NRAs could easily avoid any harmonised market test by claiming an exception for security of supply or some other non-commercial reason. In other words, it would be easy for TSOs/NRAs who wanted to avoid a harmonised market test to do so. This would render the harmonised test rather redundant.

Moreover, while market tests have been applied successfully in the GB market, the tests have related mainly to the increase in capacity at entry points where gas production or LNG enters the GB gas system. In such cases, system users have a clear motivation to book long-term capacity to get their production to the market. On continental Europe, market tests would more often apply to connections between countries, rather than a connection of a production source to the market. Traders may be more reluctant to commit to capacity expansions between MSs which will reduce price differences, and hence profits from arbitrage. We still support the application of market tests in continental Europe. But there may be more circumstances under which incremental capacity should be built even absent market support relative to the GB situation.

Moreover, if costs are recovered according to the recommendations above, stranded costs should not disrupt cross-border flows. The main parties to suffer from poor investment decisions would be the users of the network – cross-border effects would be limited."

Considering the above points, Brattle did not recommend a binding harmonised market Test but rather the development of guidelines for good practice on market tests for new capacity. NRAs and TSOs would then adopt these on a voluntary basis.

ACER considers that a priori additional analysis might be needed through consultation before deciding that no EU-action is needed through the FG/NC, and therefore is considering further consulting and studying on possible Policy options for the final FG. ACER will also use results from the on-going CEER-consultation on the Incremental capacity, which runs until 14 September 2012.

5.11. **Locational signals**

General baseline scenario: No policy changes/business as usual

Introduction

In EC letter ACER is invited to consider in IA if locational signals should be developed in the Network Code on transmission tariff structures.

Locational signals are considered to contribute to shippers using the system in a way which minimises future costs.

Locational signal will a priori automatically result from a cost-allocation methodology, which takes into account the main cost drivers (such as a distance). For some specific entry or exit points or situations, such as e.g. shorthaul and/or gas storages and/or LNG terminals, additional specific measures can be taken to encourage/discourage the usage of the network at that particular location.

According to Brattle (see Annex, section 6.2) a discussion of locational signals would fit best in a discussion of what the standard or benchmark tariff methodology[76] should be. Brattle has a short section at the end of section 6.2 which notes that the benchmark method should include a locational signal.

We quote Brattle on the matter, see p.43:

[76] Please note that that this 'benchmark tariff methodology' is what results from the Partial Harmonisation discussed in the section 'reference price setting for Firm Annual Capacity Products' of the Brattle report.

"Each TSO would apply the benchmark methodology to determine a set of entry/exit tariffs from which the TSOs actual tariffs could not deviate by more than a certain percentage. The definition of the benchmark methodology is outside of the scope of Brattle's Impact Assessment, but we recommend that the methodology is as cost reflective as possible, so that the tariffs send appropriate locational signals. For example, it should cost more to inject gas into the system where there is congestion or an expectation of congestion, so that users are encouraged to inject gas at less congested locations where possible.

As a more general point, we recommend the standard or benchmark methodology specifies that the capacity/commodity split should approximately reflect fixed and variable costs respectively. This will avoid distorting decisions by capacity holders by ensuring that the marginal price of using capacity reflects the marginal cost of doing so as closely as possible. This is an area where cost reflectivity is relatively easy to establish, since variable costs can be traced to items such as compressor fuel. Allocations that differ widely from this recommendation would not be cost -reflective, and could discourage efficient trading, or encourage trading that is not efficient. For example with a 100% capacity charge system users will not consider the variable costs of their flow requests on the system before making a nomination."

ACER will consider locational signals **specifically in relation to how tariff structures can be used to signal investment for e.g. gas-fired power plants, storages, LNG terminals, etc. Specific options are being investigated for storage, LNG and pipelines. ACER has currently no specific option(s) for incentivising of investment in gas-fired power plants.**

Shorthaul. Business as Usual.

We note that in current EU-regimes we are aware of use of locational signals to end-users, like CCGT's, which require only a short distance to transport gas (so-called 'shorthaul'). Such signals are practiced in GB ("NTS Optional Commodity ("**Shorthaul**") rate")[77], Slovakia (Lanzhot-Baumgarten route, approx. 60 km[78]), Germany (e.g. Ontras offers a special 'short

[77] See http://www.nationalgrid.com/NR/rdonlyres/B28FA229-1A68-41ED-8028-F0083C70B7DC/47968/OVERVIEWOFGASTRANSMISSIONCHARGINGExternalv1.pdf

78 Eustream. "Using Shorthaul service the shippers who booked entry/exit capacity at Lanzhot and Baumgarten and who perform the transmission at the route Lanzhot – Baumgarten and vice versa in compliance with provisions of the Article 8.4 of the Operational Order, can obtain additional discount on transmission tariffs".

haul' rate between Steinitz and Peckensen storage facility, approx. 15 km), Italy (Snam Rete Gas offers a reduction in capacity charge for its regional network if distance travelled is less than 15 km to prevent construction of a pipeline), Netherlands ("Customers can also purchase customised point-to-point-contracts (shorthaul)"[79].

Gas storage. Business as Usual.

Transportation tariffs make up for a significant part of the costs of gas storage. Due to different cost allocation mechanisms the transportation tariffs for storages vary across member states. In addition, in several member states storages receive a discount on the transportation tariffs, while in other countries there is no specific transportation tariff for storages, as is shown in the table below. As the table below also shows, these discounts vary across member states. Such discounts are typically substantiated by the positive effect of storages on required network investments or the contribution of storages to system stability. In countries with an entry-exit system, the way that tariffs are calculated may result in tariffs paid for transporting gas using storages that are not cost-reflective because tariffs are not allowed to depend on contractual paths. This may typically result in gas storage users paying entry and exit tariffs twice.

For the above reasons the absolute tariff levels paid by gas storages vary significantly across member states, and storages therefore face different costs depending on both the member state they are located in and on their position within the concerning network. The current mechanism therefore creates location signals for storages. See figure below, based on public sources, and as verified within ACER working group:

Member state	TSO	Specific transport tariff for storages?	Tariff characteristics summarised
UK	National Grid	yes	Potential to use product with Zero reserve price, commodity charge only applied for gas used by the storage facility
DE	Open Grid Europe	yes	Exit tariffs reduced 50%
DE	Thyssengas	yes	>60% reduction exit, small reduction entry

79 See http://www.gastransportservices.nl/en/corporate/gastransport/other_transport_services

IT	SNAM Rete Gas	yes	More than 60% reduction entry and exit
FR	GRTGaz	yes	More than 80% reduction on entry and exit
NL	GTS	no	-
ES	Enagas	yes	Zero exit tariff and zero entry tariffs
PT	REN	yes	Entry tariff reduced by 97%
BE	Fluxys	Yes	Exit tariff reduced by about 50%, no reduction of entry tariff

Policy options.

Gas storage. Adequate discount

As mentioned above, gas storages have an effect on required network investments and therefore the cost of networks (as also Brattle states in their impact assessment) as storages lower the peak load that networks have to be able to deal with. To the extent possible, storages are typically located close to the demand for the flexibility they provide. As storages are filled during off-peak hours, less gas therefore has to be transported over long distances during peak-hours. This limits required network investments and the costs of networks. Considering the policy objective of not having inefficient investments and the policy objective of cost-reflectivity this would argue for a discount on transportation tariffs to and from storages. An adequate discount may also solve any cross-subsidies between those that use storages and those that do not.

ACER believes that the discrimination risk mentioned by Brattle report in their impact assessment can be solved as storages are different from other entry and exit point in the sense that they are by definition not a net source of demand or supply, but only shift consumption over time (which is an important distinction to other gas infrastructures). Furthermore, discounts on tariffs for storages are already in place in several countries in Europe, so (perception of) discrimination does not seem to be a problem in practice.

Gas storage. Tariff level harmonisation

Again as mentioned above, current practice in Europe shows a large degree of difference between countries in the way transportation tariffs to and from gas storages are set due to different cost allocation mechanisms and the possible use of varying discounts up to a 100%.

Differences in absolute tariff levels for gas storages depending on the location of the storage will influence location decisions by storages operators because storage operators want to maximize their profits. Since shippers will pay the summer/winter spread for storage, a storage operator will build storage in the country with the lowest absolute transport costs. Of course, possible locations for storages are limited due to geological reasons but in West Europe possible locations are abundant. It may be beneficial for storages to be located in a member state with the lowest tariffs, even though the demand for their services is highest in another member state. Such behaviour will create inefficient use of networks and inefficient investments in networks. Therefore, efficiency could be improved by aiming at comparable tariff levels for storages both within and across member states.

Gas storages typically compete not only with storages in the same country, but may also compete with storages in the neighboring countries. So storages compete with at least the storages in the neighboring countries and possible even more depending on geographic. As transportation costs (without a discount) typically make up for a significant part of the variable costs of storages, different treatments of storage tariffs can also have a severe impact on the policy objective of efficient trade and competition. A negative impact on efficient trade and competition may therefore exist if the variable costs of one storage operator are for instance twice the variable costs of the other storage and if the resulting higher prices will induce storage users to rather book the storage capacities in a neighboring country. This could be the case where storage operators along a transit route compete for the service and the shipper may thus choose where along this way the storage service is booked.

Because of the above reasons the efficient use of the network, the efficient investments, and efficient trade and competition may potentially be further improved by aiming at comparable tariff levels to and from gas storages across and within member states.

Initial assessment conclusions

Initial conclusions:

(As reflected in the proposed draft FG), entry and exit points to and from gas storage facilities shall be priced at an adequate discount in order to reflect the contribution of gas storages to system stability[80], efficient use of the network, efficient level of investments, and efficient cross-border gas trade and competition.

[80] A TSO expert advised that System stability must not a priori be used as a reason to propose a discount for gas storage e/e tariffs. It is a very wide concept not related with transmission cost, and if it is used here the same concept can be proposed for a cross-subsidy between activities (e.g. E/e tariffs must recollect 25% of revenues of regular LNG plants, like occurs nowadays in Spain, and in the name of a similar concept like is “system flexibility”).

LNG. Business as Usual.

We are not aware of any special treatment in EU-member states with regards to locational signals in e/e tariffs for LNG-terminals.

Policy options for locational signals

Shorthaul as a form of 'locational signal' in e/e systems.

Recent THINK-study, commissioned by European Commission, recommended 'some harmonization in natural gas transmission tariff structures to ensure that the breakdown of costs among grid users and among entry- and exit points respects the principle of cost-reflectiveness as much as possible. Adequate discounts on short-haul transports should be encouraged'[81].

Entry-exit systems require users who want to take gas onto the system and deliver it to others in the system to buy entry capacity (to allow them to flow gas from the entry point to the virtual hub) and exit capacity (to allow them to flow gas from the virtual hub to the exit point). If users want to flow significant volumes of gas from an entry point to a nearby exit point they may consider building their own pipeline between the two points if that is cheaper for the user than paying for entry and exit capacity plus any additional revenue recovery charges (as their own pipeline would also be subject to less onerous tariff regulation in general). Building additional pipelines when there is capacity available on the system may not be the most efficient way to develop the network. Whilst it must be considered that permitting construction of such a pipeline might not be a realistic option in all EU Member-States. E.g. in GB a user could decide to locate a CCGT (= Combined Cycle Gas Turbine) power plant 1 km from a large entry point and decide to build their own pipeline from the large entry point to their CCGT. This is an example of how such a concern arises in practice, stemming mainly from inefficiency of constructing an additional pipeline.

ACER will consider whether the FG should have a tariff structure in place to avoid the incentive for inefficient building of pipelines (to avoid the entry-exit system charges) described above.
Brattle report considers in section 4.6 in regard to storage that non-harmonisation of e/e tariffs to storages might be problematic.

Brattle report in its section 5.7, see p. 36, considers further that:

> *"To address the issues identified [in its report], a harmonised tariff policy for storage tariffs could be adopted. The harmonised policy would aim to set entry and exit tariffs*

[81] See summary under web link: http://www.eui.eu/Projects/THINK/Documents/Thinktopic/PB/PB201201.pdf

for gas storage in a consistent way, which reflect the benefits to the network which gas storages can bring."

ACER will consider if the FG should have a tariff structure in place to incentivise locating of gas storages. In current draft FG in chapter 2 an option for 'adequate discount' is being considered for e/e fees to gas storages.

Specific treatment of LNG (if any) considered, in view of considering specific storage treatment.

LNG competes with the natural gas from other sources, like national production points or other entry points. It could therefore be argued that any discount on the entry and exit tariffs at points where CAP applies could produce a cross-subsidy, reducing cost reflectivity of system as a whole, and resulting in a discriminatory effect on the cross-border trade between LNG- and IP entry users. In addition, storage – contrary to LNG - is mostly considered as part of the system, as it uses gas, which has already 'paid e/e fees'. Namely, gas injected into underground storages have flowed across the system, which means it has been charged entry/exit fees, this is not the case for LNG which is stored after it has been unloaded from LNG-ship cargoes, before any entry fee on the transmission system is charged.

On other hand, it could be argued that LNG and Storage are both valuable flexibility tools in some EU gas market systems (especially in systems where LNG is due to geology & geographical situation potentially the only source of flexible gas) for shippers that should be stimulated, and similar to storage special treatment could be envisaged (contrary to gas production entry points, which with very few exceptions in EU, deliver much less flexibility in comparison to LNG). It must be also considered that – with similar logic – special treatments might be required by any end-user with flexibility for the system (e.g. power plants). In any case, justification is sought, as any special treatment must be reasoned and justified for a category of e/e points, to ensure non-discrimination.

ACER will consider whether the FG should have a tariff structure in place to reflect the benefit of LNG terminals to the transmission network (in terms of flexibility or 'decongestion' it can provide).

Conclusions for all locational signals options.

ACER considers that a priori additional analysis might be needed through consultation before deciding which EU-action is needed, and therefore is considering consulting further and studying on possible Policy options for the final FG, in relation to locational signals.

6. Preferred option(s) set.

Currently, a variety of approaches to EU tariff structures exists.

Based on the considerations in consultation, a preferred approach on EU tariff structures options in final FG/NC will be presented in this chapter.

7. Monitoring and Evaluation

7.1. General remarks.

The core indicator of progress (or lack thereof) concerning more effective EU-wide tariff structures is the continued existence of contractual congestion, whereas Reserve prices would not succeed in 'freeing capacity', whilst also ensuring cost recovery for TSOs. Attention will need to be paid to any cases of discrimination between any types of users. The situation of discrimination has often been related to past transit agreements associated with long term import contracts, which should not have a specific treatment anymore. However such specific treatment is still observed at many interconnection points. The differential treatment of transit capacity in Europe has been also one of the main conclusions of a forthcoming ACER report on the legal status of the transit contracts[82].83. The report reviews the access regime and regulatory treatment of the high-pressure transmission lines used for the transfer of natural gas within the EU for the purpose of delivery to another country (transit), after an inquiry performed by ACER. The inquiry indicates that there is still no clear information with NRAs and ACER as to the different access regimes for transportation and transit, as well as the differentiated treatment of the primary allocation of capacity. In some cases, it is unclear whether or not the capacity rights and access rules offered by the foreign and domestic pipeline operators are subject to the same rules, whereas there is strong evidence that historical capacity holders still obtain preferential access to the transit capacity. Furthermore, ACERs investigation has indicated that the terms and conditions of the transit contracts are still usually not publicly available; often remain negotiated individually and unknown to the regulator.

Article 41 of the Gas Directive 73/2009/EC already foresees very broad monitoring rights and duties for NRAs; therefore no Monitoring is foreseen at this stage by ACER, other than Monitoring of NC implementation together with ENTSO-G. ACER and ENTSO-G both have legal obligations to monitor NC implementation (in accordance with Article 9 (1) and Article 8(8) of Regulation (EC) No 715/2009 respectively).

7.2. Different visions on gas market development - might need to be watched during implementation of the network code on tariffs

Tariff structures reflect a combination of various considerations and aims. This includes dealing with constraints and specific objectives aimed, for instance, at delivering incentives to shippers. Choosing one approach in a specific area affects the choices available on complementary topics. Different approaches to the development of the European market have been taken which relate to different visions for national gas market development, focusing mainly either on short term competition development or long term gas dynamics. A first

[82]ACER Transit report is to be presented at the forthcoming Madrid Forum, 2nd of October 2012.

[83]ACER Transit report is to be presented at the forthcoming Madrid Forum, 2nd of October 2012.

approach consists in focusing on **stimulating short term trading** based on the idea that in an efficient market, prices would be aligned between hubs in the absence of congestion. The theoretical approach assumes perfect competition where the focus is put on commodity markets which should not be disturbed by transaction costs. In this case, capacity is considered to be priced at its "market value" which is estimated at the cost of congestion. Priority is given to the short term and the promotion of an optimal allocation of gas volumes within the European market, independently of the actual cost of shipping. In this market model, shippers will rely on short term capacity products when arbitrating between hubs, and short term capacity could be priced very low (even zero if full alignment is targeted). Due to the intrinsic uncertainty on short term auction revenues in such a system, infrastructure costs would need to be ensured by long term bookings or by other means like captive customers, commodity charge, etc.

A second approach could be considered as **cost based**, meaning that the background principle is to avoid differential prices and limiting cross subsidies by pricing the different kinds of products at their average cost. This approach is more long term oriented in the sense that a rule has to determine the relative prices to be applied to the capacity products of different durations. Under this approach, short term products are priced at an equal or higher level than long term products, in order to ensure shipper similarly contribute to the cost of the system between flat and profiled bookings. In this model, shippers are led to mainly rely on annual capacity products and use short term products for adjusting their capacity needs. In a hub-to-hub model, short term arbitrages are not directly linked to short term capacity bookings. Shippers however rely on their annual capacity bookings to arbitrate between hubs; this model might not prevent price convergence, as shown in the North West gas region, except where capacity holders are in a position to maintain the price difference by not using their capacity so that prices converge. A regulatory account can be employed to fill the gap between actual and expected revenues, i.e. by adjusting ex-post the regulated tariff for capacity.

National tariff systems **often combine these two approaches**[84], with the choice being made according to the specific national situations. For instance, the importance of transit compared to domestic transport and the level of congestion at entry or exit points influence the possible choice: In the absence of congestion, the second approach might be preferred to avoid shippers' flight to the short term, resulting in high cross subsidies and tariff uncertainty while in highly congested systems[85], a more short term oriented approach might be preferred to help tariffs reveal the value of capacity. Different approaches might be preferred by producing and importing countries due to different expectations on security of supply

[84] This assertion is based on initial experiences within ACER tariffs TF work.

[85] One should note that the level of (physical and contractual) congestion of the EU gas transmission networks could be low in the future, due to the SoS regulation, requiring each network to be "N-1" compliant (meaning that each network should be dimensioned in such a way that even in the event of a failure of the most important infrastructure element, the market should still be able to cover the total peak-demand of the market).

In any case, comparing these two approaches requires identifying their impact on the different objectives assigned to tariff structure harmonisation. Among the key questions is the behaviour of shippers when booking capacity, and its impact on both cost recovery and market integration. These aspects are particularly important in countries where long distance cross-border transportation is of high importance.

7.3. **Implementation period**

Please note that during consultation period we shall seek evidence from the marker parties (e.g. TSOs and Network Users), if any specific issues in the proposed draft rules, cause impossibility to implement during the 12 months after adoption of the final rules via Network code. In the final assessment we shall take account of that, in this chapter, if deemed required.

8. Annexes

ANNEX 1. Brattle group report

http://www.acer.europa.eu/Official_documents/Public_consultations/Pages/PC_2012_G_14.aspx

ANNEX 2. Evaluation of Responses (scope consultation)

http://www.acer.europa.eu/Official_documents/Public_consultations/Pages/PC_2012_G_14.aspx

ANNEX 3. Expert group minutes (in descending order)

3rd Expert Group meeting:

http://acernet.acer.europa.eu/portal/page/portal/ACER_HOME/Stakeholder_involvement/Expert%20Groups/Expert%20Group%20on%20Harmonised%20Gas%20Tariff%20Structures/Meetings/3suprdsup%20Meeting/Documents/Final%20Minutes_exp_group_gas_tariffs_FG_May%2030_2012_Paris.doc

2nd Expert Group meeting:

http://acernet.acer.europa.eu/portal/page/portal/ACER_HOME/Stakeholder_involvement/Expert%20Groups/Expert%20Group%20on%20Harmonised%20Gas%20Tariff%20Structures/Meetings/2supndsup%20Meeting/Approved_Documents_Minutes

1st Expert Group meeting:

http://acernet.acer.europa.eu/portal/page/portal/ACER_HOME/Stakeholder_involvement/Expert%20Groups/Expert%20Group%20on%20Harmonised%20Gas%20Tariff%20Structures/Meetings/1supstsup%20Meeting/Approved_Documents_Minutes/120507_Final%20Minutes_exp_group_gas_tariffs_FG_2nd%20of%20April_2012.doc