Principles on Calculating Tariffs for Access to Gas Transmission Networks

Evaluation of Comments

Ref: E08-CBT-01-03a

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European Regulators' Group for Electricity and Gas
Contact: Council of European Energy Regulators ASBL
28 Rue le Titien, 1000 Bruxelles
Arrondissement judiciaire de Bruxelles
RPM 0861.035.445

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List of Abbreviations

CAPEX	Capital Expenditures
CAPM	Capital Asset Pricing Model
CBIR	Cost-based Incentive Regulation
CPI	Consumer Price Index
DSO	Distribution System Operator
ENTSO-G	European Network of Transmission System Operators for Gas
ERGEG	European Regulators Group for Electricity and Gas
IEM	Internal Energy Market
LRMC	Long-run Marginal Cost
NRA	National Regulatory Authorities
OBA	Operational Balancing Agreements
OPEX	Operational Expenditures
RAB	Regulated Asset Base
REPEX	Replacement Expenditure
RPI	Retail Price Index
TPA	Third-party access
TSO	Transmission System Operator
WACC	Weighted Average Cost of Capital

1 Executive summary

ERGEG carried out a public consultation on principles on calculating tariffs for access to gas transmission networks. This paper summarises the responses received and draws some preliminary conclusions. The 3rd Package on energy market liberalisation foresees the development of rules regarding harmonised transmission tariff structures which shall ultimately become legally binding.

ERGEG understands from the responses received to the public consultation that the principles on calculating transmission tariffs need to be refined to meet the following requirements:

- clearly state the need and the level of harmonisation, together with a description of the situations in which harmonisation is recommended and the cases in which different parameters for cost and tariff principles are appropriate
- clarify the principles for the calculation of the annual revenue that a transmission system operator is allowed to recover for the provision of transmission services, taking into account some particular conditions prevailing in different systems
- clarify the determination of tariffs, e.g. the allocation of allowed revenues in entry-exit tariffs, taking into account some particular conditions prevailing in different systems

In line with the messages communicated in the responses, ERGEG proposes to divide the document into two sections, the first section will address the calculation of allowed revenues (regulatory accounting principles) and the second section will address the non-discriminatory allocation of allowed revenues in the tariff structure.

2 Introduction

2.1 Purpose of the Paper

The purpose of this paper is to summarise the views ERGEG received in response to "Principles on Calculating Tariffs for Access to Gas Transmission Networks – An ERGEG Public Consultation Paper", Ref: E08-CBT-01-03.

2.2 Review of the ERGEG Consultation Process

The Consultation Paper, in line with Regulation 1775/2005/EC which calls for convergence of transmission tariff structures and charging principles where different third-party access (TPA) tariffs may result in a restriction of market liquidity or a distortion of cross-border trade, seeks to establish principles on calculating cost reflective, transparent and non-discriminatory TPA tariffs and it addresses the following issues: cost principles; tariff principles; incentives for new infrastructure; and the criteria for assessing pipe -to- pipe competition.

As part of the process to develop Principles on Calculating Tariffs for Access to Gas Transmission Networks, ERGEG submitted the draft paper to a public consultation which was launched on 26th November 2007. A specific questionnaire on the key issues was designed for the procedure, although additional comments on the Principles on Calculating Tariffs for Access to Gas Transmission Networks were also welcomed. The majority of the questions sought views on the appropriateness of the principles established in the Consultation Paper, on existing tariff principles, on additional cost principles and sought to outline further incentive concepts for new infrastructure. The aim of this step was to collect the opinion of all the agents involved, since they are actively participating in the gas market and can provide the best insight, in order to produce useful Principles on Calculating Tariffs for Access to Gas Transmission Networks, consistent with the current situation in Europe.

The ERGEG consultation closed on 18th January 2008. 21 responses were received from 21 respondents, 2 of which were confidential. Table 1 shows the list of non-confidential respondents and their origin. All non-confidential responses have been published on the ERGEG website. Responses were analysed by topic area, which ensures confidentiality in those cases where respondents did not want their names to be published whilst taking their views on board.

ERGEG would like to thank all the organisations for their valuable contribution. ERGEG is pleased with the level of stakeholder engagement and grateful for the number of responses that have been submitted regarding this consultation.

After analysis of the comments received, ERGEG will publish a Conclusions Paper taking these comments into account.

2.3 Responses received

19 non-confidential and 2 confidential responses have been received.

Respondents		Country
AFG	Association Française du Gaz	France
Association of Electricity Producers (AEP)	Association of Electricity Producers	
BG International	Active in gas exploration and production, LNG, Transmission and distribution and power	UK
Centrica	Gas and Electricity generation, trade and supply company	UK
Edison	Gas and Electricity generation, trade and supply company	Italy
EdP Gás Com.	Gas distribution and supply company	Portugal
EFET	European federation of energy traders	EU
Eni Gas & Power	Gas producer and supplier	Italy
Gas Natural	Gas distribution and supply company	Spain
GEODE	The association of European independent distribution companies of gas and electricity.	EU
GTE	Gas Transmission Europe association	EU
GTS and NERA Economic Consulting	Dutch TSO	The Netherlands
IFIEC	International Federation of Industrial Energy Consumers	EU
National Grid	Electricity and gas transmission and distribution company	UK
Naturgas Energía Group	Energy supply, transmission and distribution group	Spain
Polish Commercial Chamber of Gas Industry	Polish gas industry association	Poland
SPE	Society of Petroleum Engineers	Worldwide
Scottish and Southern Energy	Energy generation, transmission, distribution, trade and supply company	UK
TIGF	French transmission system operator	France

Table 1: Overview: Responses received

2.4 Recent developments

On 9 June 2008, the European Commission issued an invitation to tender for a service contract regarding the following project: Study on methodologies for gas transmission network tariffs and gas balancing fees in Europe[1]. The scope of the study is to assess the existing European transmission tariff and balancing models, identify differences between them and analyse if such differences have negative impact on barrier-free cross-border trade. For that purpose, ERGEG will also liaise with the European Commission and the selected consultant performing the study on methodologies for gas transmission network tariffs and gas balancing fees in Europe. Therefore, the results of this consultation will be offered as ERGEG input to the Commissions' study.

The 3rd Package on energy market liberalisation presented by the European Commission in September 2007 proposes amendments to Regulation (EC) 1775/2005 to include rules regarding harmonised transmission tariff structures to be developed by the European Network of Transmission System Operators for Gas (ENTSO-G). On 9 July 2008 the European Parliament supported the Commission's proposal to amend Regulation 1775/2005 with regard to harmonised transmission tariff structures. Going beyond the Commission's proposal, the European Parliament voted in favour of legally binding codes to be developed by ENTSO-G on the basis of framework guidelines to be established by the Agency for the Co-operation of Energy Regulators (the Agency). ERGEG announced at the XIVth Madrid Forum that it will start preparing framework guidelines in the interim period in order for the Agency to implement them as soon as possible after the new legislation enters into force.

3 Analysis of Responses

3.1 Respondents' views - General issues

In this section, the general issues raised by respondents to the public consultation are summarised. In general, some respondents support the cost and tariff principles outlined by ERGEG and consider them to be appropriate to achieve convergence of tariff structures and charging principles. However, some respondents argue that the cost and tariff principles are incomplete and only applicable under particular conditions.

3.1.1. Scope of the Consultation Paper

Several respondents stated that the scope of the Consultation Paper is too wide and that ERGEG should limit the scope of its work to studying whether or not a difference in tariff structures is hampering cross-border trade in gas. If cross-border trade is hampered, national regulatory authorities (NRAs), (not ERGEG), and transmission system operators (TSOs) should cooperate to resolve the issue It was mentioned that the definition of costs, i.e., weighted-average cost of capital (WACC), does not fall within the competencies of ERGEG. Some respondents also argued that the scope of the Consultation Paper is much wider than its title suggests, as it deals with cost principles/determination of allowed revenues for TSOs. Furthermore, the objective of the Consultation Paper and the meaning of several terms and expressions in the Paper are unclear to some respondent since these terms and expressions

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[1] see invitation to tender No. TREN/C2/240-241-2008, http://ec.europa.eu/dgs/energy_transport/tenders/index_en.htm,

often have different meanings in the different Member States. These include: cross-subsidy, distortion of trade, market liquidity, harmonisation, and efficient utilisation of the gas network. The respondent suggested that the paper should include a section of definitions.

Several respondents are in favour of the identification of common principles relating to transmission tariffs and the structure of charges as fundamental step towards the convergence of the existing national gas markets in a common European market. Creating a homogenous and coordinated transmission framework, in terms of tariffs and access rules, is a preliminary condition to increase market liquidity; otherwise different TPA tariffs and conditions may result in a restriction of market liquidity or a distortion of cross-border trade. A common framework also facilitates monitoring the effective and coherent application of common principles, once identified. Some respondents stated that they are fully in line with ERGEG's recommendation to harmonise the tariff methodologies across the European Union and to agree on a common set of calculation principles to be enforced by the National Regulatory Authorities.

3.1.2. Subsidiarity: European principles vs national competences

Some respondents were of the view that it is each Member State's responsibility to establish a favourable regulatory framework for the internal gas market, for security of supply and for the security of both property and persons. Operators' revenues, fixed on the basis of a coherent set of parameters (related rates and risks, regulated asset base and its evolution, costs), should be integrated within this general framework. This must be adapted to each local context and adequate to attract capital for necessary short-, medium- and long-term investments and include effective incentives. The specificities of each transmission network require appropriate tariff structures, established on the basis of strong cooperation between operators and NRAs. An artificially contrived convergence can be considered inappropriate, whereas a shared view, at European level, on tariff structure principles would be a useful tool for operators and NRAs, which would contribute to market development and more liquidity at interconnection points. The harmonisation of tariff principles will promote investment as well as give the market the necessary visibility for its development and should be favoured over the convergence of operators' revenues. Operators that are involved with the NRAs in ERGEG's "Regional Gas Initiative" consider such initiatives as preliminary steps towards the design process for tariff conditions as proposed.

Furthermore, some respondents highlighted that countries must be free to decide how to articulate and delineate cost and tariff principles. Common principles should be agreed at a European level and NRAs should be responsible for the details, e.g., which costs should be included in the operating costs, as well as the cost of capital and the depreciation period, or how to manage fuel gas, etc. The respondent is of the opinion that instead of having "blind" uniformity, it is important to consider the different needs in each country. Indeed, regulatory differences do not necessarily imply that it is not possible to have a harmonised tariff; undifferentiated rules should only be adopted if indispensable.

One respondent (National Grid) mentioned that the introduction and application of common principles for the determination of tariffs may create redistributive effects between TSOs, network users and consumers that may not be helpful in a period when changes to promote a single European market are being sought. Furthermore, the respondent considers that the case for having principles that might be applied on a pan-European basis has not been made. The development of detailed tariff determination principles should not be pursued unless a demonstrable shortcoming, arising from either the level or structure of tariffs, affecting the development of the single European market has been established.

One respondent (PGC) expressed doubts as to whether issuing such Principles is reasonable and purposeful. Tariff setting is governed primarily by national laws. Under Polish law, the transmission system operator (TSO) develops its tariffs on its own and then submits them to the regulator for approval. The regulator may not deny approval to a tariff which complies with the law, even if the tariff is not entirely in line with the regulator's vision. Yet, the principles are, in some places, drafted in such a way that they appear to give themselves the status of mandatory provisions. On the one hand, it is understandable that efforts are being made to harmonise tariff methodologies across the EU. On the other hand, such efforts will cause changes in the existing methodologies in the Member States, thereby adversely affecting the certainty and predictability of doing business in those States. In addition, contrary to its introductory declarations, the Principles document provides for very little harmonisation of tariff structures and rather unifies the bases on which tariff rates are computed. Notwithstanding the above, the Principles do not offer a comprehensive regulation of all key issues applicable to gas tariffs. One such key issue that was omitted in the Principles is shifting transmission costs onto end users where transmission has been requested by a trading company (shipper). This becomes even more complicated where the trading company itself is subject to the tariff requirements. It is what happens in Poland. Another important matter is the passing down to end users of those costs incurred by trading companies for the benefit of the TSO, which result from users' breach of system use obligations so that, for example, imbalance charges arise. The Principles could relate to the regulators themselves. One of the key aspects of market regulation is predictability, particularly predictability of tariff policies. If the Principles are adopted, they should offer guidelines for the establishment by the regulators of long-term tariff approval methodologies, after giving suitable prior notice to market participants. This should not only refer to tariffs in respect of new investment, but also to tariffs for use of existing infrastructure. Absence of predictable tariff policies in relation to existing infrastructure is also a hurdle for new infrastructure projects because it discourages potential investors from taking equity participation in operator companies and it affects the level of risk incurred by the trading companies using the system. Predictability is also about ensuring that TSOs' tariffs are approved early enough for the other market participants to have sufficient time to take them into account in their business decisions. TSO behaviour affects a number of decisions made by distribution system operators (DSOs) or trading companies. Polish law provides a good solution by which the transmission grid code is developed and approved first, with distribution grid codes to follow on the basis of TSO's solutions contained in the former code. Such timing (a span of 60-90 days) should also be applicable to tariffs. The Principles refer in a number of places to a 'comparable' TSO. Such comparison is not possible in Poland and in some other Member States, where virtually all of the national transmission system is managed by one entity. And a comparison to a foreign operator would be difficult and of little benefit, in so much as each market has its specificity. Reference to a comparable TSO could provide guidance in those countries where there are more than one operator.

One respondent expressed doubt that there is a legal basis to impose a harmonisation of cost calculation principles in different countries. The respondent considers that, even if there is a legal basis, it would be inappropriate to identify a reference model for defining allowed costs, both in term of methodologies and parameters, due to the specificities of the different systems. The view of the respondent is that cost principles should be determined at a national level since the number of specificities that are necessary to take into account just to establish a set of general principles is so large and complex that regulators would find themselves constrained to apply a method that is not an appropriate basis for regulation in their jurisdictions. Furthermore, the Consultation Paper does not take that the harmonisation of cost principles into account, which could affect the regulatory framework of existing investments, resulting in higher regulatory risk and acting as a disincentive for new investments. Nevertheless, this respondent agreed that there is a basis to pursue convergence of tariff structures and charging principles on a European basis via close cooperation of TSOs with the relevant NRAs. The respondent stated that this close cooperation of TSOs with relevant NRAs is not adequately reflected in the Consultation Paper. The discussion on tariff design is almost absent from the Consultation Document presented by ERGEG. Only Section 4 of the Consultation Paper deals with tariff issues. Entry-Exit tariffs are recommended but the methodology to calculate them is not mentioned. The respondent criticised that a list of alternative tariff methodologies was not included in the Consultation Paper. Furthermore it was mentioned that the Consultation Paper presumes that any type of convergence would imply an improvement in terms of avoiding the restriction of market liquidity and the distortion of trade across borders. The respondent argued that fostering market liquidity is not a generally accepted principle of calculating transmission tariffs, but the consequence of a well-functioning gas market. The need to fix tariffs that encourage an efficient development and operation of the network by TSOs and the efficient use of the network by shippers should be the guiding principles of tariff design, which should include the allocation of total allowed revenues between users in a non-discriminatory, objective and transparent manner. Furthermore, the Consultation Paper ignores that tariff principles for transit and for national transmission might need to be different and the conclusion of the report was "the need for a harmonised regulatory approach with regard to tariff treatment of gas flows crossing borders", but not necessarily with regard to tariff treatment of gas flows within the different national transportation systems. The respondent is of the opinion that ERGEG should limit its scope of work to ensure the compatibility of transmission tariff structures and charging principles, paying particular attention to cross-border gas transmission issues. Furthermore, the respondent recognised that cost calculation principles and tariff design methodologies are interrelated and that the latter cannot be discussed without taking into account some general basic principles of the former.

GTE considers that, even if a consensus on some common general principles could be envisaged, both for TSOs and relevant national authorities, the identification of a detailed reference model for defining allowed costs and tariffs, both in terms of methodologies and parameters, would be inappropriate, in the view of taking the specificities of the different systems and legal obligations of each country duly into account. In particular, GTE considers that TSOs and NRAs should proactive cooperate to identify the tariff regulatory framework that better suits the historical, geographical and structural characteristics of each transmission system, on the basis of common general principles,.

3.1.3. Cost-based vs market-based tariff-setting

One respondent fully supports the ERGEG's statement "Where transit services differ from national transmission services, these differences should be based on cost differences and not simply by virtue of gas crossing from border to border. NRAs shall ensure that differentiated tariffs do not lead to cross-subsidisation between network users." In order to increase the efficiency of the TSOs, the respondent thinks that more attention should be given to the tariff cost base. As mentioned in the regulation, the cost base should include the actual costs incurred, insofar as such costs correspond to those of an efficient and structurally comparable network operator. Therefore a thorough analysis of the cost components should be undertaken. In the experience of the respondent as user of the transmission systems of some EU TSOs, significant differences can be found without justification for the differences. Finally, the document mentions that …"TSOs or relevant NRAs should publish sufficiently detailed information on tariff derivation and tariff structure in both their national language and in English, at the same time"…. The respondent considers that the information on costs and the methodology to allocate those costs should be transparent and should be made available to network users, so as to allow them to check the criteria applied.

Another respondent (NERA) listed some issues regarding the section "scope and objective" in the Consultation Paper. In paragraph 4 ("One way to achieve progress…."), the ERGEG paper states that "One way to achieve progress in the harmonisation of the tariff methodologies is for NRAs to agree on a common set of principles for calculating transmission tariffs. In addition, it is possible that more detailed legal requirements would be needed to ease this approach." The respondent stated that the meaning of the second sentence in this extract was not clear, suggesting that it might mean "In addition, legislation at European level may be required to ensure that the duties of national regulators incorporate common standards." Paragraph 8 ("In order to ensure transparent…") says that TSOs or relevant NRAs should publish "sufficiently detailed information on tariff derivation and tariff structure". However, it does not say how to judge whether the information is "sufficiently detailed". Assuming that tariffs will be "cost-based", ERGEG should state that "The methods of calculating tariffs should be objective, so that anyone can understand how tariffs will be calculated in the future." Incidentally, section 1 does not seem to anticipate the "market-based" tariff setting procedures discussed in section 6. Any revised version would need to provide a wider introduction to tariff-setting, recognising both cost-based and market-based systems.

3.1.4. TSO revenues and cost of capital vs charging methodology

One respondent stated that he considers a convergence in tariff structures to be an important stepping stone in advancing towards a fully liberalised European gas market. The experience of the respondent clearly shows that the subject of tariff principles is not harmonised across the markets. There are two key aspects to consider: the first decision is on the TSO's revenues and cost of capital; the second on the charging methodology. The first part determines the total allowed income of the network operator whereas the second part decides how this sum is to be collected from the network users. The consultation does not contain much detail on how to progress from the former to the latter, yet this is a major source of non-harmonisation. To ensure that governance is as inclusive as possible, network users should also be allowed to propose changes to charging methodologies, provided that there is evidence that these would deliver improvements overall. Following consultation with stakeholders, we would encourage ERGEG to develop a best practice template of principles for establishing access tariffs. This could set out greater detail on how to consider each component part of the tariff methodologies, subject to genuine and objective national differences. It would be beneficial to include more detailed European comparisons. As a number of areas in the consultation refer to benchmarking and comparative analysis, we would welcome the publication by ERGEG of more tables to expand on those included in the consultation annex. For example, the tables should set out for each EU Member State, the full breakdown of cost of capital figures in use, e.g. the data on the risk-free rate and equity risk premium, etc.

One respondent considers a more thorough study of the criteria for tariff methodologies is needed in order to ensure they reflect costs and could be comparable across the TSOs. The respondent would like to ask ERGEG to extend this study and analyse other topics in greater detail, for example:

- The allocation of costs when calculating entry-exit tariffs as it has a big impact for shippers and could, in some cases, distort cross-border trade.

- Cross subsidies between tariffs of different services (i.e., between transport and regasification) as they are not correctly reflecting costs. The respondent considers that in some countries access tariffs do not always reflect incurred costs and therefore are seriously distorting the market and preventing its proper functioning.

GTE considers that to avoid a restriction of market liquidity and distortions to trade across borders, a higher convergence should be envisaged on tariff principles rather than on cost methodologies and parameters. These principles should be designed taking into account the specificities of the different systems. GTE emphasises that a clear distinction between cost and tariff principles should be made. GTE considers that the consultation document is unduly focused upon the determination of the level of revenues rather than on the tariff structure features.

3.1.5. Tariff principles and capacity products

Some respondents argued that the harmonisation of available capacity products throughout Europe would probably be more significant in promoting EU market integration than defining the principles for tariffs. In this context, the respondents considered that market codes should not be overly prescriptive in determining the types of capacity products that are made available, so that national or regional requirements can be accommodated. However benefits of market driven harmonisation of products were expected. The trade-off between simplicity and complexity of products and, hence, tariffs should also be considered.

One respondent commented that

- As is the case e.g., in France, the respondent would recommend limiting long-term capacity subscription (both for entry as for transit) to about 80% of available capacity. This would still allow new entrants that did not get the opportunity to subscribe to long-term capacity, to enter the market without too many disadvantages and would therefore enhance competition. Of course, transporters should not be financially penalised for suboptimal use of their grids for this reason.
- Transporters and market parties (e.g. by a "Use It Or Loose It" principle) should have an incentive to increase liquidity on the secondary market.
- Backhaul flows should remain an interruptible service - a (specific) shipper should not receive financial incentives to maintain a minimal physical flow in order to guarantee a backhaul flow.

One respondent stated that TSOs and Regulators need to recognise the importance of setting tariffs in a way that is consistent with other aspects of the regulatory framework, for example the methods of capacity release. If this is not done, it may result in poor investment signals to the TSO or a distortion of competition between shippers, for example by distorting the buying decision between long- and short-term capacity.

GTE considers that the harmonisation of transmission tariff principles should duly take into account the several features of the transmission services currently provided by TSOs. In this perspective, GTE is actively working on capacity product coordination with a view to further increasing capacity trade and access to transmission networks. Increased coordination of product offers among the different European grids can facilitate capacity trading by streamlining the access to the different European TSOs, which constitute the backbone of the Internal Gas Market.

One respondent (GTE) is of the opinion that ERGEG should be activity focused on specific cross-border issues, as envisaged in Article 3 of Regulation 1775/2005/EC: this part of the regulation, in fact, does not address any provision concerning the harmonisation of methodologies and parameters to be used in setting the level of allowed costs. Nevertheless, the respondent appreciates ERGEG's efforts to find general principles related to the definition of tariffs for access to transmission networks, with the view to provide a common base at the European level, both for TSO's and relevant national authorities. In this perspective, the respondent considers that a constructive cooperation between relevant authorities and TSOs, at national level, is required to identify the regulatory framework which suits the historical, geographical and structural features of gas transmission networks in each country.

One respondent (NERA) considers that the ERGEG paper is lacking any credible and long-lasting statement of regulatory principles. Instead, it describes (imperfectly) a number of specific regulatory methods. These methods may have been used to regulate gas transmission networks at particular times, and may be suitable in particular conditions, but they are not so stable or robust that the use of such methods should become a binding commitment on national energy regulators. It would, therefore, be a mistake to set down these methods in a paper on principles. Furthermore, the opening section mentions a number of terms (e.g., cross subsidy, distortion of trade, market liquidity) used in the Gas Regulation, but it does not define them or explain how they should be applied in the regulation of gas transmission tariffs. Moreover, it is wrong to regard gas transmission networks as primarily a tool for promoting competition or liquidity in gas markets. Instead, competition should be seen as a tool to promote the higher objective of economic efficiency or social welfare. This objective may be expressed in alternative terms, as the pursuit of consumers' interests, but regulatory decisions that harm efficiency rarely benefit consumers in the long run. Furthermore, NERA stated that the Consultation document should recognise the goal of efficient development, operation and use of gas pipeline networks, along with some overarching principle, such as setting fair and reasonable prices or protecting consumer interests or promoting economic efficiency. The ERGEG paper actually contains very little guidance on common standards for tariff structures or charging principles. Instead, it discusses mainly the process for defining a "revenue requirement" or "allowed revenue" based on total costs. None of the four goals mentioned in the ERGEG paper (cross-subsidy, distortion of trade, market liquidity and harmonisation) provides any guidance on the process of setting total revenues. A further set of high level regulatory principles is required to provide guidance on the matters actually discussed in the ERGEG paper.

3.1.6. ERGEG view on the general issues raised by respondents

According to the provisions of Article 3 (2) of Regulation 1775/2005, system operators in cooperation with NRAs are required to actively pursue convergence of tariff structures and charging principles, including those relating to balancing, in cases where differences in tariff structures or balancing mechanism would hamper trade across transmission systems. Thus far, system operators have not actively pursued their legal obligation. For this reason, ERGEG proposed a set of principles to public consultation, which are intended to provide a basis for cost calculation and tariff derivation.

Under the 3rd Package, European-wide rules for harmonised transmission tariff structures shall be developed and eventually become legally binding. Some respondents to the public consultation supported the need for harmonised European-wide rules. The main reasons that were brought forward in favour of a certain level of harmonisation were:

- The development of a cross-border transmission infrastructure could be deterred due to poor decisions regarding investments in terms of the dimension of the pipelines and/or in terms of the time schedules in the different countries affected. A harmonisation of tariff principles will be important to promote investments.
- Cross subsidisation between the users of the capacity needed for domestic supply in favour of cross-border transmission (unjustified higher tariffs for the capacity needed for domestic supply than for the capacity for cross-border transmission, or vice-versa) shall be avoided.
- Providing a clear harmonised framework for cost determination might significantly constrain arbitrary or subjective decisions, thus preventing harming of long-term incentives for investments or preferential treatment of certain shippers. One respondent emphasised that for the definition of costs of a regulated business it is necessary to establish a set of regulatory accounting rules, since normal accounting rules are never sufficient to meet regulatory needs.
- Provision of a level playing field also from the cost perspective for non-domestic project developers and domestic project developers – competing for the completion of the same piece of pipeline - might be crucial for enabling efficient investments.
- Incentives for inefficient by-pass pipelines caused by non harmonised tariffs shall be avoided
- Routing of cross-border pipelines – in case there are alternatives – should not be mainly caused by non harmonised tariff structures in different Member States

ERGEG acknowledges that a harmonisation of tariff principles has to go hand in hand with a harmonisation of capacity products. Work on the latter began in 2008 and will be finalised in 2009.

3.1.7. Questions in the Consultation Paper

3.1.7.1. Question 1

Do you consider the described cost and tariff principles appropriate to achieve convergence of tariff structures and charging principles where tariffs for access to transmission networks may contribute to restrict market liquidity or distort trade across borders of different transmission systems?

Stakeholders' responses to the Consultation Paper:

The majority of respondents to this question consider that the cost and tariff principles outlined by ERGEG are, in general, appropriate to achieve convergence of tariff structures and charging principles. One respondent (Gas Natural) considered that the Consultation Paper is a good basis to start with and to discuss cost and tariff principles. However, the principles included in the ERGEG document are considered too general by this respondent and therefore, in the opinion of the respondent, will not contribute to the resolution of the situations where tariffs for access to transmission networks restrict market liquidity or distort cross-border trade. Detailed guidelines are needed according to this respondent.

One respondent (Naturgas) agrees that a minimum level of convergence of tariff structures and charging principles as proposed in the Consultation Paper is necessary to avoid cross-subsidisation and distortions of cross-border trade and to achieve a single energy market. Cost-based tariffication provides, in the view of respondents, a transparent and straightforward approach which is appropriate to base the harmonisation of tariffication methodologies.

One respondent (National Grid) stated that allowed revenues should be consistent with promoting effective competition in both local wholesale and retail markets, as well as ensuring that there are no unwarranted barriers to cross-border trade. Approaches across Europe have developed based upon local requirements. It is not clear whether harmonisation via extensive principles would be beneficial at this point in time.

One respondent (National Grid) would urge caution in the development of a further regulatory burden, particularly should it undermine the principle of subsidiarity and create other distortions. particularly those arising from redistributions between market players. However, the respondent considers that action would be necessary in the case where tariff regimes distort competition or cross-border flow patterns and the design of principles and their implementation should be considered.

One respondent supports the employment of a cost-based, transparent and non-discriminatory approach for calculating tariffs since this approach ensures fair competition and facilitates development of the internal energy market (IEM).

One respondent (AEP) broadly supports the principles proposed by ERGEG for calculating tariffs and considers that cost-based tariffs, based on efficiently incurred costs and free from cross-subsidies, are most consistent with the development of an EU market. Clearly, a degree of harmonisation of the tariff principles and methodologies will aid market participants' understanding of tariff derivation and provide greater certainty and confidence in future tariffs. This will, in turn, help to promote trade. This respondent noted that given the wide range of the weighted average cost of capital between Member States, there are likely to be significant differences in the level of charges for similar services.

One respondent (EdP) considers it necessary to have a minimum level of convergence of tariff structures and charging principles, in order to avoid cross-subsidisation, distortions to cross-border trade, and to achieve a real IEM. In this context, the respondent thinks that cost-based tariffication provides a transparent and straightforward approach. The respondent agrees with this principle as a base of the harmonisation of the tariffs methodology. However, the respondent also thinks that transit (international) tariffs should be treated in a different way, so that they are homogeneous between countries and incentivise international trading.

One respondent answered "No"; that the convergence of tariff structures and charging principles is neither necessarily nor generally related to the convergence on cost principles. Only very general cost principles (e.g., if the TSO or NRA opt for a marginal/incremental cost approach or an average cost approach) might need to be agreed, if any, in order to harmonise tariff structures and charging principles. These general cost principles are absent from the consultation paper, while the consultation paper suggest that the principles might go too far in other detailed cost principles. The respondent doubts that there is a legal basis within Regulation 1775/2005 to impose a harmonisation of cost calculation principles in different countries. Furthermore, the respondent considers that, even if the harmonisation of cost principles had a legal basis, it would be inappropriate to identify a reference model for defining allowed costs, both in terms of methodologies and parameters, due to the specificities of the different systems. In the view of the respondent, cost principles should be determined at a national level, since the number of specificities that must be taken into account just to establish a set of general principles is so large and complex that regulators would find themselves constrained to apply a method that may not be a good basis for regulation in their jurisdictions. The Consultation Paper does not take into account that the harmonisation of cost principles could affect the regulatory framework of existing investments, which could result in a higher regulatory risk and a disincentive for new investments. The respondent argued that it is useful to clarify that convergence on tariff levels should not be pursued, per se. Given the large number of potential differences between TSOs in different countries, it would be very unlikely that the convergence on tariff structures, charging principles and cost principles would lead to a convergence on tariff levels.

One respondent (Eni) considers the described cost and tariff principles appropriate.

One respondent (GEODE) considers that the cost and tariff principles outlined by ERGEG are, in general, appropriate to achieve convergence in the calculation of transmission tariffs within national gas markets, but also with regard to cross-border trade. As far as the development of specific guidelines is concerned, the respondent warns against exaggerated expectations. Even if guidelines on calculating transmission tariffs were developed, a significant scope of attestation will remain for both transmission system operators and regulatory authorities.

One respondent (NERA) argues that many of the statements given in the document are not statements of principle, but rather statements of intent to apply a particular method. Some of these methods are only applicable in particular conditions. Some regimes practise different methods and some regimes may in future move away from the methods listed in the ERGEG paper, as conditions change. Also, market liquidity and efficient cross-border trade in gas may be desirable outcomes or goals, but they are subordinate to the general objectives of promoting consumers' interests or the efficient development and operation of the network.

ERGEG view:

The answers received can be grouped as follows. The first group – mostly representing the users of the pipelines – are requesting even more detailed provisions regarding the determination of costs as well as the tariff structure (for a more detailed answer to the Tariff principles see 3.3.3 "Tariff Principles" in this document) than provided for in the consultation paper. The second group, in which most of the TSOs can be found, analysed the issues being dealt with more or less from the national perspective, opposing too detailed provisions but preferring harmonised principles instead of European guidelines for methodologies.

Both groups recognise the need for harmonisation or convergence of tariff structures, thus facilitating efficiency by reducing transaction costs and supporting the entry in different parts of the European market. The difference between these two groups seems – generally speaking – the level of details. An independent recommendation emphasised the necessity of establishing of a set of "regulatory accounting rules", since normal accounting rules are never sufficient to meet regulatory needs.

ERGEG proposed the principles dealt with in the consultation paper taking into account – among others – the following considerations:

- Encouragement of development of a pan-European market
- Facilitating cross-border transmission
- Fostering infrastructure developments

- Minimising inefficiencies (e.g., different capacity/tariff regimes might result in contractual congestion situations, which could be minimised by a harmonised approach)
- Predictability for investors and lenders – in particular for cross-border projects
- Objectivity in regulatory decisions-making and avoidance of subjective or arbitrary decisions.

ERGEG's view is that the Guidelines should provide reasonable guidance on the Principles on Calculating Tariffs for Access to Gas Transmission Networks. The input received during the public consultation from stakeholders is useful to improve the initial proposal.

3.1.7.2. Question 2

Are there different or additional cost and tariff principles currently in place? If yes, please outline which.

Stakeholders' responses to the Consultation Paper:

According to one respondent (AFG), the French transmission tariffs were drawn up "according to public, objective and non-discriminatory criteria, while taking into account both the specificities and the related costs of the service." Transmission network operators are bound to publish and disseminate general trade conditions for network access.

One respondent stated (EdP), that within the Spanish gas system a postage stamp system is applied to national transports, since it is necessary to considerer the national aspects and structure of market. The international transit tariffs are based on an entry-exit system. Referring to the Portuguese gas system, as of July 2007 there is a postage stamp tariff for "international deliveries". The tariff structures in both the Spanish and the Portuguese gas sectors have their origin in a system based on costs, which seek to charge each consumer for the costs they incur. This approach would be in consonance with the principles that ERGEG considers in this document.

One respondent answered "Yes"; The overriding cost principle must be to offer investors in networks a reasonable rate of return or revenues sufficient to finance their activity (= to attract capital).

- Marginal/incremental cost approaches are not mentioned in the consultation paper. Only average cost approaches are considered. This is surprising given that entry-exit tariff systems were first applied in the gas transmission sector to marginal/incremental cost systems.
- Different forms of Cost-Based Incentive Regulation (CBIR) are implemented in European countries. An analysis should be conducted by ERGEG to understand their different implications, particularly in terms of risk

As regards tariff design, the guiding principles should be the following:

- The method to fix tariffs shall promote an efficient development and operation of the network by TSOs;
- It shall also encourage the efficient use of the network by users;
- The allocation of total allowed revenues between users shall be made in a non-discriminatory, objective and transparent manner.

Other methods, apart from Entry-Exit tariffs might fulfil the previous principles, and as such should be analysed in the report.

One respondent (GEODE) stated that apart from the cost-based approach, some Member States, such as Germany, plan to implement a tariff system commonly referred to as incentive regulation. This means that transmission tariffs are no longer calculated on the basis of actual costs, insofar as such costs correspond to those of an efficient and structurally comparable network operator. Instead, a price cap or revenue cap is set by the NRA. If the actual costs fall below the cap, the network operator retains the margin, thereby providing an incentive to work (more) efficiently. While generally acknowledging the need for efficient network operation, the respondent sees the danger of creating restrictions to investments, especially if the (price or revenue) cap is set too low. Any different approach in calculating tariffs for access to gas transmission networks must take into account the need for an investment-friendly climate in order to ensure competitive and reliable energy markets.

One respondent (NERA) argued that several regulators are constrained by legal obligations, such as a duty to promote consumers' interests; a duty to promote efficiency in the development and operation of networks; or a duty to offer investors in networks a reasonable rate of return. Administrative decisions in general (or regulatory decisions in particular) are often constrained by the need to provide reasons or to show good cause, so that there is an obligation to produce reasoned decisions based on available evidence. Legislators have imposed these obligations on regulatory authorities with good reason – to prevent arbitrary, politically motivated or subjective decisions from undermining the stability of the regulatory framework and harming long-term incentives for investment. Any statement of tariff principles that ignores these principles will present a distorted picture of possible regulatory methods.

ERGEG view:

The answers provided by respondents indicate that there are several different or additional tariff principles currently in place. All of them – following the legal obligations – aim to:

- Fulfil the requirements of Article 25 (2) of Directive 2003/55/EC and
- Article 3 of Regulation 1775/2005.

Analysing the answers of the users of pipelines with regard to the level of detail of harmonisation, it appears that different/non-homogenous transmission frameworks in terms of tariffs and access rules constitute or are at least being perceived as obstacles for smooth cross-border transmission. The statements indicate that the creation of harmonised rules for tariffs and access rules could be a crucial precondition for increasing market liquidity and facilitating cross-border trade. Where unjustified divergent approaches persist, they continue to have adverse effects on cross-border trade. In any case, customers should be treated equally in each Member State via the application of a homogenous structure of transmission tariffs in order to avoid negative impacts on industrial competition among Member States.

ERGEG would like to re-emphasise the intention of the Principles on Calculating Tariffs for Access to Gas Transmission Networks – dealing with the costs/allowed revenues and the gathering of these revenues – is to develop guidelines for the calculation of tariffs for "business as usual" cases and also to provide scope for exceptions – on a justified basis.

3.1.7.3. Question 3

Are the described incentives for new infrastructure appropriate? Are there additional possible concepts?

Stakeholders' responses to the Consultation Paper:

Some respondents expressed that they think that the described incentives could be very useful to promote investments in infrastructure projects.

One respondent (National Grid) mentioned that TSO income streams should be consistent with a risk/reward profile sufficiently attractive to attract funds to support the TSO business. This could be achieved by allowing the TSO to secure a return on investment at least as great as its cost of capital, rather than "the maximum return on capital that an investor must expect to earn on its investment" (as quoted in the Consultation Paper). According to the respondent, this is essential to ensure a favourable investment and operational environment to deliver appropriate infrastructure and services to meet the requirements of properly functioning local and European markets. Furthermore, TSOs should also be incentivised to deliver the services required by the market, while ensuring both capital and operational efficiency in the delivery of those services.

One respondent mentioned that tariff methods should encourage the efficient development of the network. Apart from that, incentives for new infrastructure are not related to tariff methodologies, but to cost methodologies.

One respondent (Gas Natural) argued that even an enhance rate of return would not give the same result for ownership unbundled TSOs than for vertically integrated ones. Vertically integrated TSOs might not build the necessary infrastructure or might ask for a higher incentive compared to an ownership unbundled TSO. A higher rate of return could be a barrier for new entrants, as the access tariffs they will face would be higher and could diminish commercial opportunities. Therefore, if the need for investments in interconnection is clearly identified, no incentives are needed. The standard rate of return should apply, as no difference should be made simply because it is an investment involving a border between EU Member States. If TSOs do not commit to invest, a mechanism that allows NRAs to request the TSOs to invest should be envisaged.

Regarding possible additional concepts, one respondent (Gas Natural) considers that a minimum level of interconnection capacity should exist at all EU borders between Member States, as has already been acknowledged by the European Council and the Parliament. This minimum level of interconnection should not require any incentives to be built, as it is a pre-requisite to reach the goal of a real EU Energy market and a reasonable level of security of supply across the EU. The impact of these infrastructure investments would not be limited to the regions on either side of the border, as they would affect the functioning of the internal Energy market. Therefore, the decision to invest should not rely just on the parties on either side of the border, as some TSOs, when vertically integrated, could be tempted not to invest in order to prevent the entrance of new shippers. In this case, the decision should be taken by an independent European body, like the European Commission.

One respondent (Eni) stated that he deems, in general, that it should be appropriate to provide adequate incentives to build new infrastructure. All methods proposed are sharable; furthermore, in general, it is important to underline that in defining investment incentives, the introduction of mechanisms to guarantee the investment, regardless of the transported gas volumes should be avoided. Indeed, this kind of mechanism would introduce risks for investments not directly linked to the effective capacity needs and would produce system loads. Beside that, it is the opinion of the respondent that a strong incentive for investment in new infrastructure is provided by exemption from TPA service, which may be granted in application of Article 22 of Directive 2003/55/EC.

One respondent (NERA) argued that the model of long-term contracts is a well proven method for encouraging investment in new infrastructure projects. It matches the underlying structure of costs and risks associated with long-term investments and provides efficient cost signals to users. If the contract covers the actual point-to-point capacity created by real pipeline investments, it provides more accurate and more efficient cost signals than any system of annual entry-exit capacity booking can ever achieve. Thus, not only is it well suited to new infrastructure, but it also provides a good model for efficient use and allocation of existing pipeline capacity. If pipeline capacity is allocated to a number of users, long-term contracts for capacity will not entrench monopoly providers or "foreclose" access to upstream supplies or to retail markets. If the "point-to-point" contract allows users to deliver gas to intermediate points along the way, long-term contracts will not impose inflexible patterns of network usage or supply. If the capacity in these contracts is tradable, ownership of long-term rights does not prevent entry by new players, since they can buy capacity in secondary markets. Indeed, the need to trade may contribute to highly liquid markets in gas and network capacity. A model of long-term, tradable capacity rights allocated to multiple, credit-worthy capacity holders is, therefore, a viable and important alternative to a system of short-term entry-exit tariffs.

ERGEG view:

Investments in new infrastructure, in particular in transmission pipelines (domestic and non-domestic), are key – among others – for the:

- Provision of sufficient capacity to meet future demand;
- Enhancement of security of supply;
- Proper framework for competition; and
- Internal European gas market.

Having said this, the proper incentives for investments must be assessed – on a case-by-case basis - in order to adequately evaluate the risks of the particular circumstances. Being aware that two of the listed examples may lead to a discriminatory situation, since shippers using the newly built capacity might pay a higher fee than the later users, a recommendation for a specific approach might not lead to the desired results, without taking all the circumstances of the specific project into consideration. In this context, consultation between all of the regulators/relevant authorities being impacted by the project shall be envisaged.

3.2 Responses by subject area

In this section the responses by stakeholders are grouped by subject area. Several respondents raised general concerns on the level of harmonisation needed, the lack of consideration of particular conditions prevailing in different systems, the lack of differentiation between the calculation of the annual revenue that a transmission system operator is allowed to recover and the determination of tariffs. In this section, ERGEG will address the points raised by respondents on each subject area.

3.2.1. General principles for calculating transmission tariffs

Some respondents pointed to the fact that the purpose of network regulation should be to encourage efficient development and operation of the network by the TSO and to design tariff structures that encourage efficient use of the network.

In the view of one respondent (National Grid), the tariff determination principles should allow TSOs to recover and receive an adequate return on investments as well as a timely recovery of efficiently incurred operating costs, while ensuring the charges do not distort competition or artificially constrain cross-border gas flows.

One respondent asked for regulatory stability which is the main condition needed to protect and provide incentives for investments. Furthermore, the respondent considered that general principles for calculating transmission tariffs are the following:

a) The method for fixing tariffs should encourage the efficient development and operation of the network by TSOs,

b) The method must also encourage the efficient use of the network by users.

c) The method for setting tariff should allocate total allowed revenues between users in a non-discriminatory, objective and transparent manner.

It was mentioned by one respondent that there should be criteria to assess whether TSOs are structurally comparable and if a TSO is efficient. Furthermore, the respondent asked for a differentiation in efficiency categories (e.g., efficient, reasonable efficient, or prudently operated) since, in most countries, either a monopolistic or dominant TSO exists which makes national efficiency assessments difficult. In practice, attempts at identifying efficiently-incurred costs usually fail to deliver statistically robust or complete results, because of the impossibility to capture all the relevant drivers.

One respondent stated that it must be noted that most tariff methodologies and entry-exit tariffs in particular allow for certain amount of cross-subsidisation.

One respondent (Centrica) supports the statement that only actual costs that correspond to those of an economic and efficient network operator should be included in the tariffs. The respondent suggests that when regulators assess comparable operators that they should not restrict the analysis to gas network operators, but should consider other industries including electricity and water utilities. In addition to a harmonisation of principles across Member States, it is also important that regulators cooperate on other elements to improve cross-border gas flows, such as gas quality specifications, gas balancing, transparency requirements, capacity allocation mechanisms, etc.

One respondent (Natural Gas) considered that the general principles for calculating transmission tariffs and the cost principles proposed in the Consultation Paper are appropriate. However, with regard to the cost principles, it is not sufficient to harmonise the methodology (WACC, CAPM (capital asset pricing model), it is also important that the values do not differ as much as the data presented in the document:

Nominal risk-free rate:	2.87% - 5.02%
Dept risk premium:	0.41% - 2.50%
Equity risk premium	3.15% - 6.19%
Asset beta	0.25 - 0.66
Gearing	20.0% - 63.0%
Tax rate	16.0% - 30.0%.

The respondent stated that he cannot see why there is such a significant deviation when the regulation applied to the transmission businesses should be similar when all countries are part of the EU. Some reference values could be given; where there is substantial deviation, justifications should be provided.

One respondent (Eni) considered that in terms of tariff calculations, the principle of applying cost reflectivity to avoid cross-subsidisation requires an adequate allocation of transmission costs between capacity and commodity components. A cost allocation on commodity components higher than the corresponding weight of variable costs (as in Italian system where 30% of total costs are allocated on commodity) penalises regular capacity users while irregular ones benefit from an advantage. Moreover, in general terms, the transmission tariff framework should guarantee grid competition and avoid the risk of grid duplication. Furthermore, with reference to the cost reflectivity principle, it is the respondent's opinion that transmission tariffs should decrease with the increase of delivered volumes. In any case, the structure of the transmission tariffs applied in each Member State should be homogenous and should guarantee equal treatment to customers, avoiding differences that distort industrial competition among Member States. (In some Member States, transmission tariffs decrease when volumes delivered increase, in others, such as Italy, this is not the case).

One respondent (SSE) considers that the tariffs (whatever the tariff structure) should be designed to recover no more than the cost of financing the activities of the transmission company. There are several different aspects to the cost of these activities, which will be considered shortly, but in the view of the respondent, these costs should be as close as possible to the actual costs expected to be incurred in the particular tariff year. It should not, for example, be based on an assessment of the possible replacement cost of the infrastructure. As noted in paragraph 3.1, it would be unacceptable for users to pay more than once for the same asset over its lifetime. Given that gas transmission networks tend to be monopolistic, it is also important that there is effective regulatory oversight of the costs that are to be recovered through the tariffs.

One respondent (PGC) stated that the sentence at the end of point 2, reading that costs not related to network operations would not qualify for inclusion in the establishment of tariffs, is imprecise and may be misleading. After all, operators' responsibilities go beyond mere network operations (and include network expansion and capacity marketing, to give just two examples).

One respondent (NERA) asked for some high level principles of regulation that can serve as a long-lasting guide to the choice of different regulatory methods. At the highest level, the purpose of network regulation is to promote greater efficiency in the networks themselves and in the way they are used. The method of fixing tariffs should encourage efficient development and operation of the network by the regulated company. In practice, it is best to consider separately the desire for efficient long-term investment by the network company and efficient use of the network. Furthermore, the respondent stated that regulators should set tariffs that allow the regulated businesses to attract capital for efficient investment. In practice, investment incentives depend largely on the revenues that investors can recover when they invest in new pipeline capacity (rather than on individual tariffs). This objective, therefore, applies principally to the process of setting total revenue allowances (before their division into tariffs). Regulators must set total revenues that offer regulated firms a 'reasonable prospect of cost recovery' (where costs include operating expenditures, depreciation of investment costs and the cost of capital). Furthermore, the respondent mentioned that tariff structures should encourage efficient use of the network (including their use by efficient new entrants into gas markets). NRAs should strive to implement common network tariff structures where they would promote efficient use of the European gas pipeline network and protect the interests of European gas consumers, where possible by facilitating entry into any market by traders from other parts of Europe and facilitating the efficient movement of energy around Europe. According to the respondent, the method for setting “cost-based” tariffs should allocate total costs (or total allowed revenues) between users in fair (i.e. non-discriminatory) and reasonable (i.e. objective or transparent) manner and which encourages efficient use of the network. Regarding the cost base, the respondent suggested that network charges should include (either as an element of network tariffs or as a surcharge on network users) the recovery of stranded costs (possibly costs incurred in other businesses). According to the respondent, the current draft of the ERGEG paper therefore confuses the need to define costs with deciding which costs the regulated firm should be allowed to recover through its revenues. The ERGEG paper should consider these two tasks separately. It also contains contradictory principles. On one had, the paper advocates the recovery of only “efficient costs”, whilst on the other hand it acknowledges that rates of return must be comparable with those offered by other sectors. Only the latter principle has any strong basis in the economics of regulation. Furthermore, the respondent asked a set of regulatory accounting rules to be established since normal accounting rules are never sufficient to meet regulatory needs. For the sake of transparent and objective regulation, the ERGEG paper should also establish the principle that regulators must define (i.e. explain) the regulatory accounting rules they will use for defining costs and setting revenues. Without such a defined cost base, even cost-based regulation will be unpredictable and arbitrary. Furthermore, the respondent mentioned that even cost-based tariffs may be considered discriminatory in some instances. To avoid accusations of discrimination, it is not sufficient to “apply” cost-based tariffs equally. It is also necessary to use a non-discriminatory method of constructing the tariffs. Allegations of discrimination usually concern the allocation of common fixed costs. As a result, the avoidance of cross-subsidy is not a useful guide to or constraint on the design of network tariffs.

NERA pointed out that the term “capital expenditures” (CAPEX) is not defined correctly in the Consultation Paper. According to the opinion of NERA, the defined term should be Capital Costs or something similar. The respondent asked for clarification and description of some cost items (e.g., Depreciation). Furthermore, NERA stated that it would be advisable to remove any statements about the translation of costs into revenues from the definition of costs, such as the reference to tariffs reflecting the costs of “an efficient and structurally comparable network operator”.

ERGEG view:

As in many other subject areas, the answers received can be divided into two groups. The users of the pipelines represent one group. This group is requesting much more detailed provisions regarding the determination of costs as well as the tariff structure than provided for in the consultation paper. This need is substantiated by quoted examples. TSOs, which represent the other group, regard the guidance provided for by ERGEG as too detailed. They oppose a homogenous detailed approach, preferring more national rules – referring to several difficulties which might arise because of a European-wide approach.

Others indicated difficulties – almost exclusively by TSOs – dealing with efficiently incurred costs. Regulation 1775/2005 requires efficient operation of the system by the TSOs, hence accepting actual costs incurred, insofar as such costs correspond to those of an efficient and structurally comparable network operator. Thus, efficiency should also be increased in the regulated energy network sector – similar to competitive industry sectors. Therefore, ERGEG proposed to include efficiency factors in the tariff calculation methodologies.

3.2.2. Cost principles

One respondent argued that principles to calculate TPA tariffs should not include detailed cost calculation principles, but should include a discussion on the appropriate cost methodologies to derive entry-exit tariffs, which include marginal/incremental cost and average cost approaches. Furthermore, the respondent stated that the inclusion of an incomplete list of allowable costs is inappropriate and misleading. If the list is not restrictive, it is useless for regulatory purposes. If it was meant to be complete, cost of capital, depreciation, and various types of Operating Expenditures (OPEX), and not only the proposed items, should have been included. It should also be clarified if "capital employed" and regulated asset base (RAB) are the same concept in the proposal.

One respondent (Centrica) argued that it is important that only the economic and efficient costs attributable to the pure network operations are included in the cost calculations, e.g., costs of call centres that deal with access problems, gas escapes or service interruption are allowed, but those dealing with questions about supply billing are not. Therefore the unbundling of customer accounts and operations is essential for the development of cost-reflective network tariffs. Where comparisons are made, it is more beneficial to do so on the basis of the real rather than the nominal figures, e.g., for the risk-free rates. Furthermore, the respondent would encourage any comparisons of WACC to be done on the basis of real post-tax WACC rather than nominal pre-tax WACC. The table provided in Annex 1 of the consultation shows only the nominal pre-tax WACC figures from 14 countries, which vary from 6.25% to 21.37%. We note that the Ofgem figure is now out of date following the latest Gas Distribution Price Control Review. No explanation or justification is provided in the consultation document to understand why such large differences exist, but differences in inflation are presumably an element that makes comparisons problematic. Although the Ofgem figure for nominal pre-tax WACC in Annex 1 of 6.25% is the lowest in the table, we still believe that this is on the generous side, as the operation is essentially low risk.

Furthermore, the respondent (Centrica) stated that greater transparency of Member States' considerations and underlying assumptions would improve the understanding of regulators, TSOs and network users, as well as being a first step towards convergence of approach. It is essential that the level of the WACC only reflects the efficient costs of financing the regulated activities, a modest return and the level of risk faced by the operator. It should not be over generous as otherwise, long-term expectations of investors are inflated, leading to future valuations of operators (e.g., upon a company sale) being at a very high premium to the regulatory asset base. The respondent also noted in Annex I, a wide range of equity beta from 0.36 to 1.68. An equity beta is an indication of the systemic risk attached to a company's return on shares, relative to the market as a whole. As such, we would argue that an equity beta greater than one is implausible for a relatively low risk regulated network business.

One respondent (SSE) would prefer to define costs in terms of the financing requirement of the business. Funds are required to finance the activities of the company and these include its operating costs, its investment activities and to provide a return on investments already made. This wider definition of costs, while recognising the same key cost areas, allows for a wider range of funding mechanisms than the simple "OPEX plus depreciation plus rate of return" in the paper. In particular, it allows for a depreciation period for financing purposes different to the expected life of the assets. It also allows for other financing mechanisms for investment such as REPEX (replacement expenditure) where part of the investment is expensed rather than capitalised.

One respondent (GTE) considers that regulatory frameworks should be clear, stable and transparent, that they should ensure long-term visibility for shippers and investors, that they should guarantee a fair return on investments – in the sense of minimum allowed rate of return – and that they should provide sufficient incentives to ensure that appropriate investments are made. The respondent considers that NRAs and TSOs should identify, at a national level, the regulatory frameworks that suit the cost specificities of each transmission system, according to some fundamental principles of general application, which are herewith recalled:

- The clarity, transparency and stability of the regulatory framework should be pursued in order to create certainty, both for the investors and the network users, striking the right balance between the TSOs' regulatory risk and the level of allowed return.
- The long-term visibility of the methodologies defined by the relevant authorities, with particular reference to those used to assess the asset value and the related return, both on existing infrastructure and on new investments, improves the predictability of costs for network users and of revenues for TSOs and increases the quality of the price signals that shippers and investors use to make their decisions.
- TSOs should be allowed a fair rate of return on invested capital in order to adequately reflect the risk related to the gas transmission activity and to attract capital for the huge investments required in the near future to meet the significant gas demand increase in Europe. Moreover, the allowed return should provide investors with an adequate profile of earnings, not only in the long-term but also in the short-term.
- Attractive incentive schemes should be provided by the relevant authorities to foster the operational efficiency and infrastructure developments in a balanced way. Incentive-based regulation, where applicable, should bring advantages both to customers, via more efficient services and scale effects, and to TSOs, via the increase of the return on capital and the company value.

The respondent considers that the detail of the specific methodologies to define the level of allowed costs should be set out at national level, agreed between the relevant authorities and TSOs. Therefore, GTE prefers not to comment on specific items described in the paper – leaving aside discrepancies on methodologies and parameters – that seem more focused on the definition of a cost-based method (asset base, depreciation, operating expenditures including fuel gas, cost of capital and additional spread). Nevertheless, some common practices could be developed in order to provide clarity, visibility and stability, in the case of cost-based method.

One respondent (NERA) stated the definition of "capital employed" and its relation to RAB was omitted.

ERGEG view:

In the document "Principles on Calculating Tariffs for Access to Gas Transmission Networks", ERGEG provided high level principles. Generally speaking, all of the stakeholders welcomed the decision to address principles on cost determination as well as the derivation of tariffs. Differences appear when looking at the necessary level of detail to be set out in the document. Again, infrastructure users request more detailed rules than specified in the document, whereas the TSOs would like to address principles on a very high level. When analysing the answers of the stakeholders and the proposals made on what topics the above-mentioned principles should address, ERGEG concludes that the users of the infrastructure, in particular cross-border shippers, still face difficulties in their operational business. From this perspective, it appears that TSOs have not completely fulfilled the provisions of Article 3 (2), which requires system operators in cooperation with NRAs to actively pursue convergence of tariff structures and charging principles including in relation to balancing, in cases where differences in tariff structures or balancing mechanism would hamper trade across transmission systems. For this reason, ERGEG developed a consultation document sought to provide a sound basis for cost calculation and tariff derivation.

3.2.2.1. Asset base

One respondent (National Grid) notes that there may be some inconsistencies in the basis of WACC in Annex 1. Additionally, Nominal pre-tax WACC quoted for the UK relates to the 2001 Transco review and more recent Price Control settlements have been based upon different values.

One respondent requested that the “numerous methods” for defining RAB that have been considered by ERGEG be listed and the reasons why a cost-based approach is preferred. Marginal/incremental cost approaches are not mentioned. It would be convenient to discuss, at least, the virtues of Long Run Marginal Cost (LRMC) approaches and their implications in terms of tariff setting. Historical cost, indexed historical cost and replacement cost methodologies are enumerated and it is mentioned that “the different approaches have advantages and disadvantages”, but these are not developed. The historical and indexed historical approaches are assumed to be net of depreciation, while there are systems where historical or indexed historical cost approaches are adopted, but do not deduct depreciation. Gross and net value approaches are equally valid, as long as the Free Cash Flows resulting from depreciation and financial return on the RAB, discounted at the same rate, result in the same net present value. Finally, it is remarked that “the historical cost approach requires a nominal risk-free rate, whereas the replacement cost approach requires a real risk-free rate”. The respondent understands that ERGEG means “rate of return” instead of “risk-free rate”. If a nominal (real) RAB is calculated, in principle, a real (nominal) rate of return should be applied over the RAB. Whether a real or a nominal risk-free rate has been taken into account to calculate the WACC-based rate of return is another issue. What should be clarified is that converting a real (nominal) WACC or rate of return into a nominal (real) WACC or rate of return is not always a straightforward calculation.

One respondent (Centrica) urged ERGEG to include greater explanation of the cost components. For example, it would be useful to set out the different ways to calculate the asset base (section 3.1) and to compare and contrast the different approaches and assumptions used. A set of agreed, consistent assumptions would be helpful.

One respondent (TIGF) asked for incorporating working capital in the Asset Base.

One respondent (SSE) stated that a key consideration is the asset base on which a rate of return is to be allowed. In our view, historical cost or indexed historic (i.e. current cost) are preferable since these reflect the actual costs paid to install the assets. Replacement cost is subjective and allows considerable scope for manipulation. The respondent agrees that once the initial regulatory asset base has been determined, additions should be consistent with the depreciation policy (for financing purposes) determined as below.

One respondent (GTE) considers that the asset base must be determined through transparent and clear methodologies, in order to reflect the current industrial value of the assets and not the historical book value, considering the inflation rate related to the activity of TSOs and taking duly into account those assets that are completely depreciated but still in operation. Furthermore, in case of removal of assets, due to regulation changes or network optimisation for example, the cost of depreciation should be taken into account until the end of the initially defined depreciation period.

One respondent (NERA) stated that the use of the passive verb “is preferred” in the second sentence of the section hides the source of and the reasoning behind this statement. In general, for the sake of transparency, the ERGEG paper should not express “preferences” without providing a source and a reasoned justification for them. Furthermore, the respondent stated that any general regulatory principle to guide the choice of valuation method or the associated rate of return is missing in the section. NERA is of the opinion that the Consultation Paper would benefit by learning about the choice of different accounting rules which are covered in detail in the Byatt Report (1986). Furthermore, the respondent stated that for the sake of transparency and predictability, regulators should use either historic cost asset values in conjunction with a nominal rate of return or consumer price index (CPI) indexation of assets along with a real rate of return net of CPI inflation.

ERGEG view:

The potential for different approaches to determine the Regulated Asset Base (RAB) provides NRAs with the ability to choose to apply the approach which best fits the national circumstances the most Member States. Of course, a homogenous approach would ease the determination of the RAB, in particular in cases where comparison of the RABs of different EU-Member States might help to calculate the RAB more precisely. The different solutions proposed by the respondents’ on how to deal with the determination of the RAB indicate – despite the proposed preferred solution – a need for a common solution, acknowledging that a commonly agreed approach probably would support harmonisation of tariff methodologies. As in many other subject areas addressed in these principles, a set of regulatory accounting rules, as recommended in the public consultation, might help to streamline cost determination and, subsequently, tariff derivation. ERGEG supports the proposal made to develop regulatory accounting rules, including also the treatment of contributions received for the development of the networks

3.2.2.2. Depreciation

One respondent (Edison) suggested taking into consideration the mechanism described in the ERGEG document “Report on the transmission pricing (for transit) and how it interacts with Entry-Exit Systems” (point 45) to obtain constant tariffs.

One respondent (Confidential) asked for publication of the cited E-Control survey as well as the link to the Survey in the Consultation Paper. Furthermore, the respondent understands that a 40 year regulatory lifetime for national gas transmission pipelines is most common, although the range is certainly wide. Longer lifetimes might be common for transit pipelines. In the view of one respondent, the Consultation Paper seems to confuse regulatory and accounting asset lifetimes. National GAAP might recommend or even oblige the application of certain asset lifetimes, but this might not have any implication for regulatory asset lifetimes.

One respondent (Confidential) highlighted that the recommended conditions on depreciation might be incompatible. If, as suggested, a historic or indexed historic cost approach, net of depreciation, is considered, the RAB will decrease over the lifetime of an infrastructure, but not its capacity. Therefore, the payment for that infrastructure will be decreasing (particularly if the historic cost is not indexed) and tariffs will be reduced over time. The effect might be amplified if an efficiency factor is, as suggested, applied to operating costs. Therefore, there is a trade-off between the two conditions, and a clarification of which principle should prevail would be required. Furthermore the respondent noted that keeping tariffs constant in real terms over the life of the system is likely to introduce cross-subsidies over time. Paradoxically, the use of gross indexed historic cost approaches, not regarded in the consultation paper, facilitates keeping tariffs constant in real terms over the life of the system.

One respondent (Confidential) reminded that while demand increases are generally marginal, capacity investments are discrete and some spare capacity might appear for some time after a large investment has been completed. The decision of whether all present costs are allocated to present users or whether some of the present costs are allocated to future users of the infrastructure will have an impact on the evolution of tariffs. While it is difficult to apply a general rule to all infrastructure investments, this would be one of the main cost issues to be addressed if a convergence on cost principles was an objective, which again is related to the allowance of certain cross-subsidies.

One respondent (TIGF) agrees on the principles mentioned, but points out that although a 50-year lifetime for a pipeline can be considered as a correct value, revenues based on such a long lifetime is economically risky:

- future of the gas business in general is clearly uncertain over such a long period,
- the evolution of the legal framework may oblige operators to withdraw their assets before the end of their lifetime.

To mitigate this risk the respondent suggested that TSO revenue should, at least, include exceptional depreciation for the assets withdrawn before the end of their economic lifetime, such that the depreciation schedule used best reflects economic reality.

One respondent (SSE) stated that the depreciation period for the purposes of calculating the financing requirement may be different to the “book” life for accounting purposes. Such a mechanism can be used as an investment incentive, since the costs are recovered over a shorter period of time, reducing the investment risk. However, the principles established for financing the assets should be transparent so that the tariffs charged can be verified against the total financing cost requirement of the company.

One respondent stated that the report of the Brattle Group referred to in the Consultation Paper is not in the public domain, so the reference does not contribute to open and transparent regulation. Moreover, the citation does not provide a useful principle and is internally inconsistent.

ERGEG view:

As stated in the consultation document, NRAs use depreciation periods for pipelines between 40 – 60 years. This does not automatically mean that depreciated pipelines cannot be used beyond these dates – for the most part, they remain in operation. If the proper material for pipelines was chosen and the operating pressure remains in the foreseen range – which is usually a requirement for the safety of operation – and a functioning corrosion protection system is in place, the economic lifetime may be even longer. For non-pipeline assets, the economic lifetime of 30 years is the lower rather than the upper threshold. In the case of rotating equipment, like compressors and compressor drivers, the expected lifetime can be provided by the producer/manufactures of the equipment.

If there are justified reasons for a shorter lifetime, for example if the pipeline was laid in very aggressive soil, this shall be taken into consideration by the NRAs. NRAs, if needed, may also introduce shorter depreciation periods for specific kinds of non-pipeline assets (as, for example, information systems or intangible assets).

With regard to depreciation schedule, it must be emphasised that an economic depreciation schedule allows the real usage of the system to be taken into account and keep tariffs constant.

To address such details a set of regulatory accounting principles might provide a sound basis.

3.2.2.3. Operating costs

One respondent (Edison) argued that the application of incentives should be decided on a case-by-case basis, considering that on point to point efficient transport infrastructure further improvements are unlikely.

One respondent asked to change the expression “operating costs” to “operating expenditures”, since the former includes depreciation. The definition of “operating cost” might differ per jurisdiction. Therefore, the proposed list of costs must not be considered as complete or exhaustive. It must be clarified whether certain non-recurrent maintenance costs which require significant reinvestments are to be treated as part of the asset base or just as an operating cost. Furthermore, the respondent asked for clarification on the expressions “escalation of Operating Expenditure” and “additional escalation of the tariffs”.

In the view of the respondent it would be useful to clarify that:

- If the operating expenditure is rising, there is no reason to exclude the possibility that the tariff methodology does not automatically pass through the additional costs as an increase in tariffs. The respondent considers that the intention of ERGEG is to avoid increases in tariffs that do not reflect the underlying costs. If this is the case, it should be more clearly stated. The intention may also be to limit the pass-through of changes to foster efficiency. This may not be justified in many cases, e.g. fuel cost or other very unpredictable costs, but only where the rate of efficiency growth can be predicted.
- The incentives for efficiency improvements are independent from the existence of such “escalation”. They might be in place even if no new costs are incurred.

One respondent (Centrica) considered it important that TSOs face strong incentives to reduce efficient operational expenditure and that this limits pass through to network users; such an incentive does not have to be limited to RPI-X[2]. In Great Britain, the gas distribution price control now includes a separate efficiency reduction on operational expenditure rather than an RPI-X factor. This, in part, reflects that in previous periods, the revenue profiling required to produce a smooth RPI-X profile led to significant revenue adjustments in subsequent price controls.

One respondent (TIGF) argued that using a theoretical efficiency factor to manage operating costs incurs the risk of not taking into consideration the evolution of TSO constraints, especially in terms of regulations regarding safety and environment. Furthermore, the

[2] RPI-X – an approach to regulating prices in which the regulated firm is able to recover costs adjusted for inflation (retail price index or RPI) less an efficiency factor (X), which is set by the NRA.

respondent stated that out of his perspective it is not easy (not to say impossible) to identify what are "efficiently incurred costs used for operation and maintenance of a pipeline system". NRAs should proceed very carefully when implementing such a principle.

One respondent (GTE) considers that all justified costs a regulated company actually bears to offer the transmission service should be recognised, not only those incurred by a theoretical efficient operator, eventually introducing mechanisms that provide incentives to pursue efficiency gains. In this respect, the efficiency targets set for TSOs must be realistic and must take into account the efficiency gains that have been achieved. All costs that cannot be completely controlled by the TSOs, such as fuel-gas costs, should be fully recognised as pass-through costs.

One respondent (NERA) pointed out that the section refers incorrectly to OPEX being "efficiently incurred", whereas in fact OPEX includes all the "day-to-day costs of running and maintaining an infrastructure." In general, this section confuses the definition of costs with the conversion of costs into a revenue allowance. The list of costs given in this section contains two inconsistent categories of cost. Any definitions should either define the scope of activities for which operating expenditures must be recorded or else refer to detailed regulatory accounting guidelines. Furthermore, NERA is the opinion that the paragraph on "escalation" of OPEX is incomprehensible and needs redrafting.

ERGEG view:

Following the formula provided for in the section "General principles for calculating transmission tariffs" of the consultation document, the operating costs are the day-to-day costs of running and maintaining the respective infrastructure; thus, costs attributable to the pure network operations shall be included in the cost calculations. The direct operating costs shall be allocated to those who caused these costs, on a fair basis according to the input involved and as far as precise allocation is economically reasonable. Common costs shall be allocated reasonably. Bearing this in mind, consequent costs which occur because of legal obligations related to network operations – if any – should be allocated to those who are/may be the beneficiaries of such obligations.

It must also be taken into consideration that costs resulting from common service providers (service providers who serve the needs of the regulated sector as well as the needs of the competitive sector) could – if not carefully allocated – result in advantages for incumbents because costs which must be allocated to the competitive (supply) sector remain in the regulated sector. Therefore, costs which are generated by the competitive sector must be allocated to this sector

As in other industries, efficiency shall also be increased in the regulated energy network sector. Consequently, escalation of operating costs must not lead automatically to an escalation of tariffs, otherwise such an approach – all other things remaining equal – would indicate that there are no efficiency gains possible in the regulated energy network sector. In order to ensure the improvement of TSOs' efficiency levels, NRAs should adopt incentives mechanisms, like for example RPI-X incentive schemes.

3.2.2.4. Fuel gas

One respondent (Edison) suggested that transporters, at least for point to point transport infrastructure, should have the possibility to ask shippers to provide fuel gas directly, since such solutions are cost reflective and the easiest ones.

One respondent reminded that where NRAs are responsible for establishing (and not simply approving) tariff and cost methodologies, the obligation to publish the calculation methodologies must be placed on them, including the tariffs for fuel gas.

One respondent (Centrica) stated that if TSOs claim costs for fuel gas (section 3.4), they should be encouraged to use a market related price, together with a two-way incentive factor i.e., target, cap, collar and sliding scale. This is deemed fairer to consumers than a fixed risk exposure factor or actual cost pass-through.

One respondent (PGC) expressed doubts concerning point 3.4, requiring operators to purchase fuel gas using a tendering procedure. This issue has already been regulated in Directive 2003/55. Note that this clause in the Directive is different from the corresponding point in the Principles. ERGEG planned similar far-reaching solutions in its draft Guidelines of Good Practice on Regulatory Accounts Unbundling. Ultimately, the Guidelines were not adopted and, as can be seen from input provided by parties to public consultations on the draft, one of the objections was that the Guidelines were unnecessary with public procurement laws in place.

ERGEG view:

Article 8 (4) of Directive 2003/55/EC requires the TSOs to procure the energy they use to carrying out their functions according to transparent, non-discriminatory and market-based procedures. Fuel gas is – among others – energy needed for carrying out their functions (if the TSOs need fuel gas). The generated costs consist primarily of the costs for the commodity “natural gas” needed to run the compression stations and to restore physical losses in the transmission grid plus the usage of system services needed to transport the gas to the TSO. The use of system services on a TPA basis corresponds to the provisions of Article 18 (2) of Directive 2003/55/EC. Linking the requirement of the application of a market-based procedure for the procurement of such energy with the claim of cost reflectivity (see Article 3 (1) of Regulation 1775/2005), the outcome is that more or less, TSOs have to pass through the costs for fuel gas needed by them. Those shippers who have delivered “their” fuel gas for transportation purposes to the respective TSOs can offer their gas in the market-based procedure. By doing so, this may be favourable for them, since if they make the best offer, they can sell their gas which was intended to be used as fuel gas. If they do not make the best offer because their procurement price for fuel gas is higher than the best offer, they may even benefit from such a market-based approach because the transmission tariff, including fuel gas, should be lower than the former transmission tariff plus the procurement costs for fuel gas. This would allow the shippers to sell the excess gas or simply procure less gas. Having said this, the costs for fuel gas should be included in the tariffs and be made transparent. NRAs, however, may also introduce incentives schemes to ensure that TSOs minimise fuel gas consumption.

3.2.2.5. Cost of capital

One respondent asked if the concepts of “required” and “expected” rate of return are confused in the Consultation Paper. By definition, the cost of capital cannot represent “the maximum return of capital that an investor (regulated company) must expect to earn on its investment", but the minimum one. The cost of capital is necessarily the minimum, not the maximum, expected rate of return (i.e., a net present value of zero would be the minimum expected return for a company). Again, the respondent asked for publication of the cited E-Control survey. Furthermore, the respondent considers that Annex 1 contains a number of errors and omissions:

- Either the findings of the survey have not been correctly included on page 7 or the survey itself is wrong. The figure reported as "nominal risk-free rate" for GB (OFGEM) is real, not nominal. The respondent doubts that others, such as the one reported for EMV (Finland), are nominal and not real.
- The parameters considered by CRE (France) have not been detailed. This is surprising, given that the parameters were public at the time the survey was conducted.
- Most of the figures that say "0.00" should read "not applicable".
- The final table does not include definitions of assets included in the RAB and the basis for their valuation. As such, it is incomplete and misleading.

The range of possible values for the WACC parameters is influenced by the previous errors and omissions. Even if the figures were correct, a careful analysis of each regulatory framework, including the planning process, definitions of assets included in the RAB, and the basis for their valuation, the regulatory risk, etc., would need to be performed to allow for comparisons.

One respondent (IFIEC) stated that the cost of capital or return rate used in the calculation of the CAPEX part of the tariffs must be fair. It should reflect the actual risk borne by the investor. In most cases, the revenues are secured and the risk taken by the TSO is low. Therefore, the rate of return should be only slightly above the risk-free rate (1 or 2% maximum) and in no circumstances above 7% with the current interest rates, as observed in many Member States.

One respondent (Centrica) argued that when developing the cost of capital factor (section 3.5), it would be useful to have further guidance on the factors to be taken into account when setting the elements of the cost of capital. For example, when considering the cost of debt, should regulators have regard to spot rates and long-term averages, as well as market evidence on the types of debt available and commonly used, for example index linking?

One respondent (TIGF) stated that the WACC method must be considered very carefully:

- a proper approach for the WACC method should be to establish an individual WACC for each individual corporation,
- finding relevant values for each of its parameters in financial and stock markets is not possible because these markets do not provide data reflecting the specific conditions of each TSO business.

One respondent (SSE) mentioned that the calculation of WACC in individual cases is potentially the most contentious, because of the greatly varying situations in the Member States. The components such as the risk-free rates, the risk premia demanded in the various markets, gearing levels and tax rates vary greatly. It is therefore not possible to be prescriptive about the possible range of values for the WACC. All that can be said here is that the cost of capital applied to a particular business should be in the public domain, so that the total financing requirement can be calculated.

One respondent (GTE) pointed out that investors do not make a decision by considering a maximum return on its investment. An approach directed toward defining the minimum rate of return, instead of the maximum rate of return that TSOs could expect for a specific investment would contribute to enhancing the investors' confidence in transmission infrastructure financing. Furthermore, the mere comparison of allowed WACC, without considering possible different evaluations of other parameters, such as the asset base to which this rate is applied, could produce inappropriate conclusions.

One respondent (NERA) pointed out that the cost of capital represents the minimum return on capital an investor (regulated company) must expect to earn on its investment instead of the maximum return on capital. Furthermore, the respondent mentioned that the cited survey reports figures incorrectly in several cases – mainly where it describes a real risk-free rate as a nominal one. The respondent also stated that it would be better to not set out regulatory principles in relation to a complex and detailed regulatory method like CAPM.

ERGEG view:

ERGEG understands that each investor in infrastructure projects is confronted with different types of risk. The required rate of return is the opportunity cost to the investor of investing scarce resources elsewhere in opportunities with equivalent risk. The survey on the parameters used to calculate the cost of capital for gas transmission networks, indicate:

- that many of the NRAs use the CAPM to determine the WACC
- a very wide range of possible values for the WACC parameters, although the highest and lowest numbers were eliminated.

Analysing the main variables of the formula for the calculation of the WACC, namely the risk-free rate, debt risk premium, equity risk premium, the beta factor and the gearing, it turns out that even in the Euro-zone, the debt risk premium (for more details see 3.3.2.5.2 Debt Risk Premium") differs significantly, although it could be expected that because of converging financial market conditions and similar assessment procedures the range should be narrower.

The equity risk premium in the Euro-zone also differs significantly, although the investors are not "just" national ones but stem also from other Euro–zone countries (for more details see 3.3.2.5.3 "Cost of Equity"). Of course, this data reflects, to a certain extent, the different financing structures of the TSOs. However, taking into consideration that the business is regulated in all EU Member States, hence basically dealing with the same operation issues, the equity beta should not differ that much. As stated in the document "Principles on Calculating Tariffs for Access to Gas Transmission Networks", the figures should only convey an overview of the range of the different parameters and not recommend a specific WACC. The reasons for such a wide range are probably diverse time periods, various economic conditions and different RABs. As in other subject areas, the users of the infrastructure call for more detailed rules whereas the TSOs prefer a high level approach. To address such details, a set of regulatory accounting principles – as suggested by one stakeholder – might provide a sound basis for determining the cost of capital.

3.2.2.6. Risk-free rate

One respondent considered that the consideration of government bonds as an indicator of the risk-free rate is not a characteristic of financial markets, but a practice of regulators for practical purposes (and only if issued by countries with AAA rate). The regulatory period, if existing, is not the only, nor the most relevant variable to use to fix the duration of the bonds. All the assertions made in the first paragraph would need a detailed analysis.

One respondent (TIGF) mentioned that there is no 30 to 50 year risk-free rate, which is equivalent to the asset lifetime. The inflation rate that applies to TSO activities is not the average inflation rate. This issue must be considered together with the RAB calculation and the way inflation is taken into account.

One respondent (NERA) stated that state bonds are not considered at the prevailing risk-free rate by financial markets. Furthermore, the respondent considers that the "appointed date" method is not more precise and asks for recognition that there are different methods of estimating the risk-free rate and that "any method should provide a reasoned estimate consistent with the other parameters of the CAPM formula".

ERGEG view:

As indicated in the survey on "Parameters used to calculate the capital costs for gas transmission systems", the risk-free rate in the Euro-zone is very narrow. This result is expectable since the European Monetary Union lead to more homogenous risk-free rates. Obviously financial markets regard bonds issued by Euro-Zone countries as almost risk free.

However, in any case the determination of the risk-free rate has to be transparent and carefully done in order to take the different markets, tenors and other crucial terms and conditions of bonds into account. As mentioned in the "Principles on Calculating Tariffs for Access to Gas Transmission Networks" there are two proposed approaches and it is up to the NRA which method will be used.

3.2.2.7. Debt Risk Premium

One respondent argued that the debt risk premium should not only be compatible with the gearing, but with the financial ratios (e.g., interest cover) that the company can achieve with the revenues allowed by the regulator.

One respondent (TIGF) stated that the debt risk premium should be established, taking into consideration the gearing. Debt risk premium is specific to each TSO and depends on many parameters (not only the gearing).

One respondent (NERA) asked for including in the document that the debt risk premium should be compatible with the financial ratios that the company can achieve with the revenues allowed by the regulator. The range of relevant financial ratios and minimum/maximum values are defined by the ratings agencies.

ERGEG view:

The cost of debt consists of the risk-free rate plus a premium over the risk-free rate. The Debt Risk Premium should reflect the risk of default, the maturity, the tenor, the expected costs of a bankruptcy/business disruption and other relevant factors. Basically, regulation provides for reasonable returns, but also lowers significantly the financial risk of network operation business. In case where the relevant parameters, which have an impact on the Debt Risk Premium, like tenor maturity, etc., are not set by the NRA, the TSO should have the obligation to make the data, used for the calculation of the Debt Risk Premium, transparent to the NRA.

3.2.2.8. Cost of equity

One respondent asked for a more careful analysis of the equity risk premium, suggesting that the concepts of "risk premium" and equity risk premium" are confused. While the risk premium is company-specific (even this is also debatable, it could be argued that is sector-specific), the equity risk premium is not; according to CAPM, all specific risks are captured in the asset beta. The CAPM is not a model to derive the equity risk premium. The equity risk premium is an input into the CAPM model. The equity risk premium is not related to the specific risk characteristics of the TSO. Furthermore, the respondent asked to address to what extent the CAPM reflects regulatory risk. The CAPM assumes risks to be normally distributed, whereas regulatory risk is generally asymmetric. Therefore the CAPM does not take regulatory risk into account. Other methodologies could allow for the effects of regulatory risk, but present another set of problems.

One respondent (Centrica) would dispute the preference for the sole use of CAPM to determine the equity risk premium (section 3.5.3.1). Our arguments against the sole use of the CAPM were set out in the annexes to our recent public responses to Ofgem's consultations on the 2008-2013 Price Controls for Gas Distribution Networks. In summary, the respondent considers a purely CAPM-derived technical approach to be weak. The model assumes that parameter values estimated from historic data are valid indicators of prospective values. However CAPM is a poor predictor of historic excess returns. The failure of CAPM to generate robust estimates of the cost of capital has been recognised by both Ofgem and Ofwat (the Office of Water Services) in the UK. The respondent urges that the chosen approach includes market evidence on equity, rather relying solely on CAPM. Thus, alongside the CAPM approach, the respondent would urge the use of market evidence for the cost of equity. This could include data from three sources: the overall state of equity markets; the market valuation to RAB ratios for listed regulated companies and from asset sales and disposals; and evidence of the required cost of equity by infrastructure funds. The fact that some TSOs are unquoted and/or part of larger utility groups is important when determining the asset beta. Further guidance on how to use comparative data effectively from similar regulated listed companies would be beneficial. Here, the respondent would encourage regulators to consider comparisons with utilities outside the gas sector, e.g., electricity or water companies and from a range of jurisdictions. However, when considering the use of comparative data in this area, considerable care is needed to ensure the analysis properly reflects and values regime differences.

One respondent (TIGF) shares the position of ERGEG when saying that both the equity risk premium and asset beta should be established, taking into consideration the specific risks and liquidity of companies considered.

One respondent (NERA) stated that in the Consultation Paper the concepts of Equity Risk Premium and the company-specific risk premium calculated in the CAPM model are confused. The respondent considers that one cannot use the CAPM model to derive the Equity Risk Premium, as stated in the ERGEG paper. Furthermore, the respondent referred to the ERGEG paper, which reports the characteristic of the CAPM, whereby only the market risk should be incorporated into the WACC and company-specific risk is seen as diversifiable. This is a deficiency of the CAPM, not a conclusion that can be applied to the regulation of specific companies. The CAPM is incapable of taking regulatory risk into account, even when it affects the cost of capital.

ERGEG view:

As any other model, the CAPM has huge advantages but also some disadvantages. Despite the known disadvantages, many regulators apply CAPM in the course of determining the WACC, thus enabling comparisons between regulatory authority decisions on the WACC, but also of the factors having an impact on the results of the WACC. All company-specific risks are captured in the asset beta. The Equity Risk Premium depends on the financial market, which could be an international one, in which the TSO has to raise capital. Bearing in mind the wide range of the Equity Risk Premium indicated in the survey on "Parameters used to calculate the capital costs for gas transmission systems", it may be that the Equity Risk Premium was derived more from national financial markets, which may be defined at the level of currency or economy. Since the company-specific risk is seen as diversifiable, the beta factor represents the part of the risks of an undertaking which are not diversifiable. The Asset Beta measures the underlying business risks independent of the gearing. The lower the Asset Beta, the lower the risks associated with the investment. TSO investments are regarded as not very risky, in particular when taking into consideration that the revenues are regulated. Therefore, the beta values of those TSOs in Europe which fulfil the requirements, in terms of liquidity, length of period etc., are being used as a basis (for example Bloomberg Professional Data are available). The average beta value is very often being determined by taking into account/weighing the market capitalisation of the analysed TSOs. A harmonisation of the criteria for setting the Beta parameter is recommended.

3.2.2.9. Gearing

One respondent argued that as a general principle, an allowance for the costs of issuing new debt and new equity should be included in the cost of capital.

One respondent (Centrica) mentioned that when deciding on the appropriate level of gearing (section 3.5.4), it is important not only to consider actual market evidence from the companies in question, but also the regulatory view of an efficient level of gearing for a network company. A low level of gearing will lead to excessive charging and thus could be argued to be inefficient for tariff methodology purposes. The respondent considers that 50%-65% may be a reasonable rate, depending on circumstances.

One respondent (TIGF) suggested that the situation of each corporation should be considered.

One respondent (NERA) stated that the cost of capital should include an allowance for the costs of issuing new debt and new equity.

ERGEG view:

Gearing represents the variable which is being used to link the Cost of equity and the Cost of Debt.

According to the Modigliani-Miller theorem, the value of a company would not depend on it's capital structure if taxes were not deductable from the tax basis. Therefore, gearing is influenced by the difference of the impact on the tax basis caused by equity compared to debt and if there is a subsequent change in the credit rating and the possible consequences associated with this.

In other words, a capital structure (or rather a range for the capital structure) must be found at which the advantages of tax base deductions caused by debt – if interest payments on debt are being allowed for reducing the tax base – are greatest and the credit rating is still good enough to ensure access to a wide range of funds. So, the WACC is impacted by the gearing – the higher the gearing the lower the WACC – to a certain extent. Certainly, one has to take the part of debt without interest payments (for example supplier credit) into account when calculating the gearing.

3.2.2.10. Adjusting for taxation

One respondent mentioned that the general principle presented might not be applicable in all regulatory frameworks. For a number of reasons, a post-tax WACC is used in various regimes.

One respondent (Centrica) mentioned one way to take account of potentially different corporate tax rates (section 3.5.5) is to develop a 'vanilla' WACC and allocate a TSO-specific tax rate to each network operator as appropriate.

One respondent (NERA) argued that it is overly prescriptive to state that the use of a pre-tax WACC with a tax wedge is a requirement or a principle.

ERGEG view:

As discussed in the "Principles on Calculating Tariffs for Access to Gas Transmission Networks", as interest payments are allowable against corporation tax and since the taxes vary from one MS to another, the cost of equity has to be adjusted upwards by a tax wedge. As in several other subject areas, the intention of the Principles on Calculating Tariffs for Access to Gas Transmission Networks – dealing with the costs/allowed revenues and the recovery of these revenues – is to develop guidelines for the calculation of tariffs for "business as usual" cases and also provide scope for exceptions – on a justified basis.

3.2.3. Tariff principles

One respondent wanted to note that allocating capacity costs to capacity charges, and variable costs to commodity charges, would typically result in a 95/5 (or even 99/1) capacity/ commodity split. While this is necessary (but not sufficient) to strictly avoid cross-subsidies, and is in many cases favoured by TSOs, it is not generally favoured by NRAs, particularly in non-mature markets or markets in transition to a liberalised environment, for a number of practical reasons which have to do with lowering entry barriers.

One respondent (IFIEC) would like to make the following recommendations:

- Efficiency improvement incentives should be the basis in all tariff calculations. Efficiency should be assessed and measured over the whole sector in Europe.
- NRAs must have all the data to assess whether the operating cost level in the tariffs are sufficiently efficient. This level of information should be harmonised at the EU level. A public consultation in the validation process of the tariffs by the NRA should be mandatory in all member States.

- Similarly, all the data to assess the RAB must be given to the NRAs in a harmonised manner at the EU level, and be made publicly available.
- To promote a single gas market, balancing mechanisms must absolutely be harmonised. IFIEC proposes a market-based daily balancing system throughout the EU.
- Interruption should be better and more clearly valorised since storage capacity is scarce.
- End-users should have access to liquid market places, either directly or via a balancing party / shipper. End-users should have free choice in gas delivery, for example at their exit-point or at a hub. Transport capacity should be offered to the market on a separate basis, where a mechanism of one-stop-transport should be established.
- Imbalance charges should reflect actual costs: they must be based on market balancing prices and there should not be any arbitrary penalties.

One respondent (Centrica) mentioned that, in addition to allocating transmission costs to capacity and/or energy costs, the regulator should also have regard to the proportions of the costs which are fixed or variable and consider the incentives required for each. The respondent considers that some benchmarking by ERGEG of the approaches taken across Europe would improve the understanding of market participants and could help facilitate greater harmonisation. Some national regulatory authorities do not allow long-term fixed or indexed transmission tariffs, e.g., DTE and in the past Ofgem, whilst others do. To improve cross-border gas flows, this should be harmonised. The respondent does not believe that there are compelling reasons to exclude the possibility.

One respondent (Gas Natural) considered that tariff principles have a strong impact in cross-border trade and is not thoroughly analysed. The respondent assumes that even if NRAs apply different cost methodologies, the result could be comparable across TSOs. However, unless there are clear tariff principles and detail guidelines, in particular with regard entry-exit tariffs, the situation with regard to cross-border trade would not improve. For example, the allocation of costs in entry-exit tariffs may have greater impacts on shippers than the cost principles.

One respondent (EFET) stated that it would be desirable for the overall tariff design to be consistent with the framework for capacity release and allocation and also consistent with creating a level playing field where shippers can compete. It should be possible to avoid situations that distort the capacity buying decision in favour of short- or long-term capacity contracts, but rather allow shippers to manage portfolio needs through a variety of properly priced capacity contracts. Specifically, it is necessary to consider how network expansions should be priced and how short-term prices should be calculated.

- It is insufficient to use past prices as a guide to the future under an expansion scenario. Expansion costs may be higher or lower per unit. Seeking to protect the capacity value of previous long-term capacity buyers by keeping tariff levels at historic prices does not have a rational economic basis and will result in a cost and revenue mismatch.
- Similarly short-term tariffs should more properly reflect the supply-demand balance. The respondent does not understand the risks mentioned in section 4.4 and does not believe that short-term contracts are any more risky for TSOs when they are part of a properly construction range of capacity auctions. Overall risks are better managed by

giving shippers the ability to obtain a variety of contracts and hence the ability to shape needs in line with business requirements.

At a detailed level, the introduction of measures such as entry-exit tariffs also raises questions about the appropriate tariff split and how to deal with under- and over-recovery of revenues necessary to fulfil agreed price control returns. Guidance on these issues may prove useful in order to avoid a large variety of approaches and the risk of cross subsidisation. An example of this would be where auctions are used for entry capacity, resulting in an over-recovery of the required revenue. The TSO must find a way to use this revenue that creates the least distortion. For interruptible tariffs, the basic principle in the consultation is sound, but this must be assessed against the way in which a TSO seeks to manage its risk. The respondent has concerns about situations where a significant amount of interruptible capacity is sold at near firm prices for a sustained period. This would seem to indicate that the TSO is forcing too much risk back on shippers by holding a cheap or free option on interruption. A better solution is where the maximum possible firm capacity is offered to the market. When this is coupled with an efficient secondary market that increases the utilisation of the sold capacity, this should leave only a residual amount of interruptible capacity for sale. The chance of interruption for this residual capacity would naturally be higher and it may simply make more sense to offer this to the market on a zero reserve auction basis so that shippers can assess their own risks. In terms of transparency, we welcome the proposals on the historical flows and believe that the value of this information would be enhanced by a better understanding of the underlying available capacity. The respondent agrees that more work is required on balancing charges. We support the concept of market-based pricing, rather than the use of penalties which are detrimental to competition. Efficient balancing would also be enhanced by having well-structured Operational Balancing Agreements between TSOs. These may provide a logical first step toward harmonisation and regional balancing. For the use of revenues, the respondent agrees that revenue should be returned when this is above the regulated returns and, indeed, mechanisms may also be needed to address the under-recovery of revenue. In any case, care is needed to ensure that such revenue flows are not unduly discriminatory, noting that different parties will occupy different parts of the supply chain. For example, it may not be appropriate to reallocate entry revenues to the distribution level. In addition, consideration should be given to investment remedies where the over-recovery of revenue is significant and persistent, as this could indicate ongoing congestion.

One respondent (SSE) mentioned that access tariffs should be designed to recover no more than the financing requirements of the company. Any errors in calculation these will result in tariffs recovering more (or less) than the required funding, which should be corrected the following year by reducing (or increasing) tariffs respectively.

One respondent (GTE) considers that tariff structures should be simple and transparent, that they should be designed to facilitate the development of the European market and its liquidity, encouraging an efficient use of the network, allocating total costs among users in a non-discriminatory way and avoiding, as much as possible, cross-subsidies.

The respondent considers that tariff structures should be designed taking into account the specificities of each transmission system and the following fundamental principles:

- The tariff structure should be simple and transparent, contributing to the development of the European market and its liquidity.
- Tariffs structure should support efficient development and operation of the network by the TSOs.

- The tariff structures should encourage the efficient use of the network by all users and should deliver predictable results.
- The tariff structures should allocate total costs between users in a non-discriminatory and transparent manner.
- Tarification should avoid, as much as possible, cross-subsidies among network users. A limited level of cross-subsidisation can be justified if other advantages are introduced by a specific tariff model.

The respondent would like to point out that the Entry-Exit model is one of the possible mechanisms for tariff derivation. Other models, e.g. point-to-point, may be applied. It must be noted that, in deriving transmission tariffs through an Entry-Exit model, several approaches can be used as well, ranging from the determination of Entry and Exit charges equal for all the points to more sophisticate methods (e.g., LRMC method, Average Cost method, etc..). In addition, point-specific auctions may be used to sell capacity. As far as the capacity utilisation issue is concerned, the respondent's understanding of the paragraph is to provide guidance on reference capacity and volume figures that should be used by TSOs in determining the unit capacity and commodity charges of transportation tariffs. In this respect, the respondent considers that unit transmission tariffs should be determined on the basis of booked capacity, either forecasted or actual, and transported volumes, taking into account the commitments resulting from transparent and public procedures (e.g., auctions, open seasons, etc.). The respondent considers that transmission tariffs for short-term capacity services should be relatively higher than annual tariffs and should reflect the different levels of utilisation of the infrastructure during the year in order to incentivise regular use of the network by shippers. As far as interruptible services are concerned, the respondent shares the principle that the likelihood of interruption should be reflected in the tariffs. In terms of operational balancing agreements (OBA), the respondent would like to outline as this topic is out of the scope of the consultation paper because it is an operational agreement between TSOs on a specific cross-border point. Finally, concerning the use of auction revenues and overrun fees, the respondent generally shares the view of what is stated in the consultation document, provided that it is made in a manner that least distorts the efficiency of decisions by shippers, including their participation in auctions and their use of networks.

ERGEG view:

ERGEG, following the "spirit" of the Directive 2003/55/EC, for example Nr. 16 of the preamble, and the intentions of the Regulation 1775/2005, proposed principles on a very high level. The answers received from the stakeholders indicate a clear need for further guidance on tariffs, although the needed degree of detail must be clarified with the stakeholders in the process. The answers received can be grouped similarly to the analysis of the answers to Question 1 of the document. The first group – mostly representing system users – have provided some very detailed proposals and are requesting even more detailed provisions regarding the tariff structure. The TSOs also indicate the need for more guidance on tariff principles, thus obviously having a sound basis for the development of capacity products and subsequently fostering cross-border flows. Bearing the intention of the responses in mind, ERGEG proposes to split the document in two parts, the first addressing the calculation of allowed revenues (regulatory accounting principles) and the second addressing the non-discriminatory "allocation" of the allowed revenues within harmonised rules on tariff structure.

ERGEG recognises that a reasonable harmonisation of tariffs and access rules provides a sound framework for the improvement of market liquidity and the avoidance of distortions of cross-border trade.

3.2.3.1. Entry-Exit Tariffs

One respondent argued that any tariff system should enable and encourage full utilisation of the available capacity and the flexibility of the relevant system. An Entry-Exit system where entry capacity can be booked separately from exit tariffs is more desirable and can support capacity utilisation and flexibility more than other systems. Thus, such a system should be established in all European markets.

One respondent (EdP) stated that these tariffs could be considered discriminatory for end-users since they will result in different energy prices depending on the end-user location. This respondent also considers that entry-exit tariffs are a constraint to competition and that An entry-exit tariff in a transmission network with different entries could imply market regionalisation, since small players will not be able to access through several entries.

One respondent argued that the statement that the entry-exit system is the most beneficial to the development of competition is not a universal principle and thus might change in the light of new conditions. The Consultation Paper should, in the first instance, list and describe all the existing methods, before discussing its drawbacks and advantages. Furthermore, the respondent argued that the position adopted by ERGEG also suggest that the main purpose of setting gas network tariffs is to promote competition in gas markets. This is the wrong approach, as commented in sections "2.1" and "2.2". The need to promote efficiency in the development, operation and use of gas networks must not be overlooked. Entry-Exit systems may, in fact, harm liquidity in gas markets as, in many cases, it removes the need for competing shippers to trade gas, because the TSO itself arranges gas to be re-routed into the network. The previous example illustrates that it is a mistake to base any statement of principle on a temporary view of priorities. The virtue of allowing for the appropriate consideration of a "scarcity charge" and an "additional charge" is not exclusive of Entry-Exit systems. Finally, the respondent considers it is incorrect for scarcity to be indicated through marginal cost calculations. Marginal costs only indicate an efficient price when supply can expand to meet demand. Scarcity, on the other hand, is defined by the condition in which demand exceeds supply and the efficient price lies above the marginal cost of adding capacity.

One respondent (Centrica) welcomes the strong support for an entry-exit access system (section 4.1), and considers that this is the tariff structure that best facilitates cross-border transit flows and market liquidity at and between gas hubs. The respondent also welcomes the reference to an equal tariff treatment for transit and other transmission flows. The Belgian gas transit regime continues to operate outside the European preferred model of entry-exit. This non-harmonisation causes difficulty for cross-border transportation and trading activities.

One respondent (SSE) agrees that an entry-exit tariff system is the most effective tariff system and is also the easiest to understand and validate. It is also potentially the most transparent system. Against this background, it should be stressed that the system for calculation of tariffs should lead to tariffs that are stable and predictable over time. The assets involved in gas (or electricity) transmission are long-lived and a large proportion of the cost recovery relates to the sunk cost of historic investment. There is, therefore, no reason for large swings in tariffs from year to year. However, large swings have been observed in some tariffs because of the use of locational pricing models, which overstate the effect of relatively small variations in flow patterns on the total cost of the transmission system. Such tariff swings create uncertainty and risks for investors and this could lead to under investment with consequential effects on security of supply.

One respondent (NERA) argued that it is not certain or self-evident that entry-exit tariffs are beneficial to the development of competition in the gas market. Furthermore, the respondent argued that it is not possible to indicate scarcity through marginal cost calculations, since marginal costs only indicate an efficient price when supply can expand to meet demand. Scarcity, on the other hand, is defined by the condition in which demand exceeds supply, and the efficient price of capacity lies above the marginal cost of adding capacity.

ERGEG view:

Discussions within several Madrid Fora were held on entry-exit systems, which as any other system, inherently provides some imperfections. Nonetheless, when taking all the advantages and disadvantages of the different systems into consideration, the advantages of the entry-exit system outweigh the disadvantages of the system compared to other systems. At the Madrid Fora it was agreed that the implementation of entry-exit systems in Europe was favoured. Of course, a proper system design is necessary to gain all the benefits mentioned. Additionally there may be a need to adapt the application of the system to specific situations, for example to deal with shortcomings, i.e., the amount to be paid for short distanced exits or the existence of small dimension networks, for which the use of other tariff systems may be more appropriate.

3.2.3.2. Capacity Utilisation

One respondent stated considered that future capacity requirements should be formulated to take into account both the long-term contracts signed by the TSOs and also the potential need for short- and medium-term capacity. The respondent considers that the NRA’s role should primarily be to ensure the balance between long-term and short-term needs of the market and to create relevant incentives for the TSOs to maintain the balance. Furthermore, the respondent argues that empowering the NRAs with the right to take commercial decisions must be considered with caution, as it may distort the risk and reward balance for the TSOs. The main emphasis should be placed on developing correct mechanisms for capacity allocation, which would satisfy TSOs investment requirements and the shippers’ need for short- and medium-term capacity.

One respondent noted that open season procedures are not the only public and transparent procedures to evaluate market demand.

One respondent (PGC) stated that point 4.2 is based on an erroneous assumption that NRAs are competent and proper for projecting future capacity requirements. Polish law neither requires the regulator to make such projections, nor offers any tools for it to do the job.

One respondent (NERA) argued that the intention of this section in the Consultation Paper is unclear and asked for clarification.

ERGEG view:

The degree of capacity utilisation is a crucial element in the allocation of costs resulting from the predicted capacity needs for a respective infrastructure – not including the costs for the transportation of the commodity. The higher the capacity requirements, the lower the costs per capacity unit needed, subsequently the lower the tariffs. In other words, the costs generated by a certain system shall be allocated to the predicted needs for capacity units for a certain future period. For this purpose, the expected utilisation must be determined as precisely as possible. The basis for such a calculation is the contracts, indicating the needed capacity as well as projections for future capacity requirements if these future needs had not been taken into consideration in the contracts. The indicated future capacity needs shall be assessed by NRAs in order to take the actual capacity requirements as a basis for cost allocation needed for the derivation of tariffs. Another possible approach for the calculation of future capacity utilisation is the results of market evaluations, e.g., by binding results of open season procedures.

3.2.3.3. Backhaul flows

One respondent considers that the availability of backhaul flows promote market liquidity and is an effective tool to optimise gas flows and infrastructure usage within and between Member States. The usefulness will, according to the respondent, increase significantly if the uncertainty of backhaul flow availability is reduced for shippers. The respondent considers that encouraging TSOs to increase the firmness of backhaul capacity by decreasing the chance of interruption, whenever possible, and supporting and enhancing transparency with regard to historical interruptions and interruption probabilities. Furthermore, the respondent considers that the guideline should emphasise that the rules for allocating the interruption between the backhaul shippers should be non-discriminatory and transparent.

One respondent argued that a general characteristic of Entry-Exit systems is that backhaul flows are already considered in the costs matrix. Therefore, the meaning of the paragraph in this subsection is unclear. It might even be understood as a recognition that non-entry-exit tariff systems will be permitted.

One respondent (Centrica) argued that if the market implements a true entry-exit access system, the need for specific backhaul tariffs will be removed. The issue of shorthaul tariffs is not addressed in the consultation document. These are in place in Great Britain; the respondent understands that they are soon to be abolished in the Netherlands. A consistent and non-discriminatory application of shorthaul tariffs is essential for harmonisation.

One respondent (NERA) stated that the use of an entry-exit system makes the identification of backhaul flows impossible.

ERGEG view:

ERGEG considers that in a full fledged entry-exit system there is no need for specific backhaul tariffs because backhaul flows are already considered in the cost matrix. In derived entry-exit systems there might be a temporary need for consideration of backhaul flows until the implementation of full fledged entry-exit systems. In such cases, the backhaul flows shall be defined by reference to the direction of the predominant physical flows.

3.2.3.4. Short-term capacity

One respondent considers that TSOs do not bear the risk associated with selling short-term capacity when their returns on investments are regulated and therefore are low in risk. Furthermore, the respondent sees no argument for differentiating between long-term and short-term tariff calculation principles, as both should be cost-based and should reflect the situation in the market.

One respondent noted that the overriding objective of tariff setting for ERGEG seems to be the promotion of gas trading, in contrast with the generally accepted principles of tariff design previously commented.

One respondent (Centrica) stated that whilst the level of tariffs for short-term capacity might be justifiably slightly higher than for long-term capacity, it is important that these are still cost-reflective and that this variation is rigorously evidenced. There seems to be an assumption that prices will always be higher closer to the delivery day. This is not always the case: if there is a surplus of gas, the value/cost should decrease as the delivery date gets closer.

One respondent (BG) expressed disagreement with the view that short-term capacity contracts necessarily mean higher risk for the TSO and should therefore mean higher charges. This depends on the TSO's level of certainty regarding its allowed revenue and the cost of capital that it is allowed overall, which should reflect its risk. TSOs should be obliged to maximise the release of capacity to the market, whether this is on a long-term or short-term basis. It may be appropriate to have a framework whereby short-term capacity is sold on a pay-as-bid basis, to allow efficient allocation between players. However, this should be coupled with measures to ensure that there is not unnecessary contractual congestion and thereby ensure that the utilisation of pipelines can be maximised. Long-term capacity should be sold on a regulated price basis, as the quantity of capacity is not fixed and TSOs should meet demand where it is economic to do so. It should be noted that it is usually better to have a little too much capacity, rather than too little, because of the way capacity constraints impede trade in gas.

One respondent (Eni) stated that short-term capacity should be made available only at the end of long-term and annual capacity contracting procedures and related tariffs should be calculated on the basis of the contract length. Tariffs must give correct market signals, reflecting system transmission costs. For this reason, short-term capacity tariffs should be higher then tariffs for long-term transportation services and should be calculated so that all users may equally contribute to fixed infrastructure costs via the tariffs. From this point of view, a seasonal variation of tariffs during the year, where winter tariffs are higher than summer ones, is also recommended.

ERGEG view:

Short-term contracts are essential for the proper functioning of the market. According to the document "Principles on Calculating Tariffs for Access to Gas Transmission Networks" short-term services, as well as long-term services, shall be provided on a cost-reflective basis. Short-term tariffs may be higher than long-term transportation services.

3.2.3.5. Transportation on interruptible basis

According to one respondent, a minimum of 3 years historical flow data, as well as historical capacity availability data, needs to be published to support proper analysis by shippers on their chances of interruption. Furthermore, the respondent considers that where no major infrastructural changes have taken place, publication of earlier data should be encouraged. The guideline should emphasise that the rules for allocating the interruption between the backhaul shippers will be non-discriminatory and transparent. The tariff structure that is applicable to interruptible capacity should stimulate an increase in the utilisation of capacity and it should discourage risk-evasive behaviour by the TSO, as this could decrease the overall level of firm available capacity.

One respondent (Centrica) requested clarification of whether interruptible tariffs are cost-based or if they reflect the probability of interruption (charging customers for their willingness to pay). The respondent understands that ERGEG finds itself constrained by Regulation 1775/2005, which takes an over-simplistic approach to interruptibility. Nevertheless, a debate on these concepts would be useful, if only to conclude that Regulation 1775/2005 should be revised.

The respondent agrees that it is essential that the likelihood for interruption is reflected in the tariffs for interruptible access, as well as the need for TSOs to publish actual historic flows and actual interruptions. Improved information transparency will improve the understanding of interruption probability and improve market confidence in the level of tariffs. In addition, cross subsidisation to or from interruptible and firm customers should be avoided.

One respondent (Eni) stated that relative tariffs should reflect both the expectance of interruption and the costs that system avoids through the activation of interruptions. Interruptible customers relieve the system from implementing alternative measures (i.e., storage facilities).

One respondent (NERA) argued that as long as interruptible users are willing to be interrupted whenever the network is congested, a tariff policy based on the probability of interruption would not charge users on the basis of the costs they impose on the system, but rather on their willingness to pay, assuming that users who are interrupted less often are willing to pay more for their use of the system. Tariffs based on willingness to pay conflict with the cost-reflective approach in many cases.

ERGEG view:

When “allocating” the allowed revenues, which are of course equal to the costs of the TSOs, revenues resulting from interruptible services must also be taken into account in a sound manner (see also 3.3.3.2 of the document). Existing infrastructure shall be used as efficiently as possible in terms of available capacity as well as availability by combining long-term, short-term and interruptible services. Shippers buying capacity available on interruptible basis make their decision, iter alia, on the likelihood of interruption, which must be sufficiently reflected in the tariff, thus stimulating an increase in the utilisation of available capacity. The proposed approach was recognised in most of the responses as a solid approach, although some proposals indicated that further detail is needed to provide a sound basis for the improvement of market confidence in the level of tariffs. ERGEG’s view is that the risk of interruption must be reflected in the tariff of the interruptible capacity product. It must be known ex-ante to shippers. Based on the information on historic flows and actual flows (capacity utilisation), the risk of interruption must lead to a discount vis-à-vis the non-interruptible capacity product.

3.2.3.6. Imbalance charges

One respondent (National Grid) considers that issues associated with balancing, particularly imbalance cash-out price determinations (which should be market-based and to which, as a general principle, TSOs should be revenue-neutral) and OBAs should be independent of network access tariff determination.

Another respondent supports the principle of market-based allocations of imbalance costs to network users and emphasised the fact that this can only be achieved when the relevant costs are allocated to those shippers that caused imbalances. Imbalance charges should only be incurred when, in case of a physical system imbalance, the TSO is forced to take action and incurs costs. Nevertheless, this respondent realises that TSOs may have difficulties identifying the network users that have caused the imbalances. Therefore, the guidelines should provide a general methodology that can be used to address such cases. The respondent suggests that a retroactive balancing principle (see UK example) is introduced by the TSOs in Europe. This principle allows individual shippers to compare and match their capacity profiles after the day, to avoid individual imbalance penalties when no system imbalances occur on the aggregated level.

One respondent pointed out that the last sentences of this sub-section suggests that convergence of balancing regimes itself (as suggested in the case of tariff structures) would promote liquidity, and that liquidity should be the overriding objective of the balancing regimes. The respondent considers that it would be more convenient to state that, without prejudice to the efficient use of transmission networks, transmission system operators shall, in close cooperation with the relevant national authorities, actively pursue convergence of the balancing regimes in order to facilitate entry into the market.

One respondent (Centrica) stated that imbalance charges should be revenue neutral to the TSO and the TSO given an absolute obligation to ensure non-discrimination between shipper categories. This service should not be an unlimited, additional source of income to the TSO. Nor should the charges be designed in such a way as to favour market incumbents, who frequently hold much of the flexible sources of gas available in the relevant market, such as storage, over new entrants without direct access to similar provisions. As with other costs that cannot be accurately forecasted, an incentive should be given to TSOs to minimise imbalance charges. As soon as liquidity and market systems allow, the respondent would strongly advocate moving to using a genuine balancing market for imbalance pricing rather than using the arbitrary method of multiples of trade market prices.

One respondent (BG) noted that imbalance charges should be regulated to ensure that they reflect costs incurred and are properly targeted to those who create the costs. To achieve this, imbalance charges should be based on a market price for gas where there is a reliable liquid market (as is the case in the UK) or should be set in a way that reflects costs expected to be incurred where such a liquid market does not exist. A benchmarking approach could lead to TSOs charging unnecessarily penal rates simply because other TSOs charge such rates. The respondent welcomes the proposal to establish OBAs between TSOs to minimise interruptions or reductions to shippers. The respondent has experienced situations where lack of such an agreement, compounded by penal balancing charges in one TSO system, have hindered cross-border flows to the detriment of European gas trade and ultimately consumers.

One respondent (PGC) stated that point 4.6 is not clear. Specifically, it may be questioned whether mechanisms are provided that would enable system users to shift imbalance charges they paid to the operators back onto those who caused them. In particular, where the system is used by a trading company that ships fuel gas to customers by delivery at system exit point (thereby itself entering into a transmission contract), the company's imbalance does not depend on its actions or omissions but only on actions and omissions of its customers (end users). If no cost charge-back mechanism is in place, end users will not have incentives to consume gas in such a way as to avoid imbalance.

One respondent (NERA) stated that shippers would avoid imbalance charges on their nominations if TSOs are responsible for arranging the redirection of flows to maintain network security. However, shippers will still have to reimburse the TSOs for the costs of maintaining flows over the interconnectors. Furthermore, the respondent requested that ERGEG pursues the convergence of the balancing regimes to facilitate entry into the market and to promote efficiency in use of transmission networks.

ERGEG view:

Article 8 (4) of the Directive 2003/55/EC forces TSOs to procure the energy use for carrying out their functions according to transparent, non-discriminatory and market-based procedures. The energy used for balancing purposes can be bought for example on balance energy markets where market participants offer to inject natural gas into the system or withdraw natural gas from the system at a certain price and at a certain period in time, following the instructions of the TSO when injecting or withdrawing energy. The TSO does not become owner of the balance energy. Another approach might be in use if a market-based balancing system is not in place, for example in emerging gas markets or in case the relation between cross-border transmission and the resources available to the TSOs for balancing the system do not allow for a market-based approach. In clear words, the available resources for the balancing function cannot cope with extensive deviation from nominations – which can happen, for example, in cross-border transmission countries (Slovakia, Austria, Czech Republic). In such cases, the TSO should act as a residual balancer and, therefore, the TSO must procure the needed energy for the balancing function by applying market-based procedures. This approach corresponds with the requirements of Article 7 (2) of Regulation 1775/2005. In other words, the TSO procures the gas/services needed for balancing reasons from the best bidder and sells the needed volume to those who are out of balance. Tariffs for the provision of such a service should be established pursuant to a methodology compatible with Article 25 (2) of Directive 2003/55/EC in a non-discriminatory and cost-reflective way [see Article 8 (2) of said Directive]. Since such cost reflective services might not be sufficiently prohibitive to deviate excessively from the nomination, the TSO may impose reasonable penalties on network users whose behaviour could endanger the system stability. Of course, there is a clear need for precise allocation of needed balancing energy and the resulting costs to those who caused those costs, hence OBAs with the adjacent TSOs are necessary. Having said this, harmonised balancing regimes and streamlined structures and levels of balancing charges for cross-border transmission are needed to facilitate gas trade.

3.2.3.7. Use of auction revenues and overrun fees

One respondent considers that the issue of revenues and fee redistribution is too complex and dependant on the situation to be defined in these guidelines. The redistribution process should cover situations where TSOs over- as well as under-recover their costs, as both situations may require different solutions. Due to the large differences the effect revenue distribution can have on shippers and the market, one respondent recommends a high level approach to the subject in the guidelines, in which ERGEG suggests the NRAs and/or TSOs develop a solution that ensures transparency of the process and a fair distribution of over- and under-recovered costs.

One respondent argued that the redistribution of additional-revenues (above incurred costs) should also be redistributed in a manner that least distorts the efficient decisions of shippers, including their participation in auctions and the use of the networks.

One respondent (Centrica) argued that the treatment of revenues from auctions and overrun fees must also be economically justified. Therefore, when checking the validity of the charges levied, the national regulator must ensure that they were efficiently incurred and ideally provide incentives to minimise any additional costs that may be passed through to network users, who often have little or no control over the activities in question. The rules must recognise the difference between due and undue discrimination. Clear requirements for evidence for additional costs and revenues should be established ex-ante and treatments (rewards and penalties) for under or overspends against capex/repex should also be clearly defined ex-ante. In reference to auctions, it is perhaps worth noting that there are legal issues with holding gas capacity auctions in some Member States, such as Germany. Such legal problems also contribute to non-harmonised market rules.

One respondent (SSE) agrees that any additional revenues deriving from auctions, overrun fees and other revenues not part of the original calculation of the cost of providing the access service should be redistributed (net of any associated costs) to all users, either directly or through reductions in the transportation tariff.

One respondent (NERA) asked the following to be included: "…in a manner that least distorts the efficiency of decisions by shippers, including their participation in auctions and their use of networks."

ERGEG view:

The requirement of cost reflectivity (see Article 3 (1) of Regulation 1775/2005), demands that deviations from the forecasted revenues are dealt with in a fair and non-discriminatory manner, otherwise existing bottlenecks could even lead to higher than reasonable profits for TSOs. Hence, investments which were intended to eliminate such bottlenecks would not occur or may be purposefully delayed. Certainly, possible shortcomings for TSOs (revenues are lower than the forecasted ones) must also be taken into consideration. To this end, ERGEG proposed principles on a very high level.

All of the stakeholders agreed on the need to address deviations from the forecasted revenues and most of them made justified proposals on issues which must be taken into consideration. These proposals are clearly demonstrating a need for action, in terms of more detailed guidelines or codes provided for by NRAs/TSOs, thereby establishing a sound basis for all involved stakeholders, including investors and banks. Due to the large differences in the effect that the revenue distribution can have on shippers and the market, a high level approach to the subject is recommended.

3.2.4. Incentives for new infrastructure

One respondent argued that the first two incentive proposals may lead to a discriminatory situation when shippers that use the newly build capacity in the first period will pay a higher fee than the later users, whereas the third method creates a more stable and predictable investment climate and does not discriminate against certain shippers. Moreover, allowing NRAs a certain degree of freedom when it comes to choosing the incentive mechanisms on a case-by-case basis could distort the positive trend of policy convergence and lead to sub-optimal investment decisions.

One respondent argued that tariff should promote the efficient development of the network. Apart from that, incentives for new infrastructure are not related to tariff methodologies, but to cost methodologies. The respondent agrees with the Commission that before considering whether an exemption under Article 22 is justified, the NRA should assess the possibility of allowing a special treatment for a new infrastructure project. The respondents' impression is that the possibility to make adjustments to the existing regulatory framework has tended to be overlooked by regulators awarding exemptions under Article 22 of the Directive. As regards the enumerated incentives, the respondents' view is that:

- A higher rate of return is the most appropriate incentive, because it is more transparent and explicit than the other, and easier to understand, quantify and compare.

  The Consultation Paper seems to confuse the concepts of "rate of return" and WACC. A higher rate of return does not imply a higher WACC. The WACC would be the same, but the regulator would be allowing, as an incentive, a (higher) premium over the WACC to provide an incentive to invest.

- A shorter depreciation schedule is less appropriate in terms of transparency and, according to the respondent's experience, may lead to erroneous interpretations by TSOs' analyst and shareholders.

- In order to provide an investment incentive, the long-term commitment should be made to a certain cost methodology, not to a certain tariff methodology. It might be necessary or convenient to modify the tariff system, but it must not imply a modification of the cost system, at least of existing investments. However, this type of commitment may be useless if the credibility of the regulatory framework, and in particular of the NRA, is poor. Regulatory stability is to a large extent a matter of credibility, and the latter needs to be built over a long period of time.

  Another concept that needs to be clarified is that TSOs generally secure financing for all its investments or activities. Financing linked to a particular project is typically secured under "project finance", a type of financing not generally applied by TSOs to national transmission projects. Therefore, a credible commitment to a certain cost methodology applied to a particular infrastructure might not be helpful to secure the necessary financing if the framework applied to the rest of the infrastructures is not appropriate.

One respondent (IFIEC) mentioned that in many Member States, the method used to promote investments is to allow a higher rate of return. Facts show that very few investments are decided upon, despite this bonus. The respondent fears that some very important investments, and more particularly cross-border interconnections, may not be decided upon by the TSOs. Moreover, the Open Seasons launched recently do not seem to progress efficiently. The various delays observed in the Open Season for additional transit capacity between the Netherlands, Belgium and France suggest that cross-border projects may require additional enforcement powers from the regulators. Therefore, the respondent is convinced that investment decisions must be taken in a different way. Firstly, it is absolutely necessary that an investment plan is produced by each Member State and at the European level, in order to identify clearly the investments that are absolutely necessary to make the market work properly and the corresponding schedule of implementation. Then, if the TSOs do not invest, the NRAs or the new Agency for the Cooperation of Energy Regulators (as proposed under the 3rd Package) should have the power to launch a tender process and to assign the project to the best bidder. In that case, it is no longer necessary to have a higher rate of return or a shorter depreciation schedule that would result from an intransparent decision. This would ensure that the capital funding decisions are taken without any influence by any ultimate holding company. Another key element is that long-term visibility of tariffs is absolutely necessary to secure investments. NRAs should establish long-term tariffs to provide a stable framework for potential investors.

One respondent (Centrica) argued that incentive regimes can contribute greatly to the timing and placement of new investment projects and thus warrant careful consideration by regulators. Whilst some Member States have seen a number of projects requesting an exemption from third party access for new investment as provided for in Article 22 of the Gas Directive, other Member States have preferred the use of mechanisms within the third party access regime to encourage investment. The key factor to consider in opting for any particular type of incentive model is the need to avoid unintended consequences. Robust cost benefit analysis should always be conducted and the effect on customers considered. Especially for the treatment of cross-border capacity increases, the respondent considers that further guidance would benefit the work of regulators to ensure consistent treatment of cross-border investments. Underinvestment could affect future investment. Regulatory authorities should not only assess the level of additional revenues allowed for new investment, but monitor the actual results. This will ensure that the infrastructure is built and will show whether TSOs have accurately projected costs. The arrangement should also make clear the potential treatment of over or underspending. Whichever approach is implemented in a Member State, the incentive regime must balance the need to attract new investment and ensure a stable environment for the treatment of ongoing interests by the TSO and other investors. Whilst regulatory stability is desirable, it is not always possible for long-term projects. In so far as possible, the exposure of such long-term investment projects to proposed changes in the regulatory regime must be taken into consideration. The respondent would welcome further work on this aspect of tariff principles.

One respondent (TIGF) pointed out that in France, a higher rate of return for new investments is allowed for a specified period of time. This rate is a bonus on the base rate. If the NRA changes the base rate, the rate of return which had been allowed for the investment also changes. This means that investment decisions remain highly risky, due to regulatory uncertainty. The rate of return applying to new infrastructure investments should be maintained for the full period of time chosen when the investment has been approved by the NRA.

One respondent (EFET) broadly agrees that infrastructure investment incentives should be considered in some circumstances. The respondent would encourage the development of a broader discussion on this point, which may include:

- consideration of the appropriate balance of risks between shippers, network operators and consumers;
- the development of pragmatic economic tests for investment decisions in order to provide greater certainty for shippers on outcomes and TSOs on the treatment of the investment in the asset base;
- clarity on measuring strategic benefits, at least on a regional level; and
- consideration of how to allocate costs across interconnecting systems which would help to ensure that investment occurs in the most efficient location.

One respondent (GTE) appreciates that ERGEG recognises that a recommendations for a specific approach are not appropriate, mirroring the correct nature of a document which should aim to define principles and not methods. In this view, the respondent supports the proposal of decisions taken by NRAs on a case-by-case basis, since this represents a correct way for recognising the relevance of specificities at Member State level. The respondent also considers that operating costs related to new infrastructure investments should be duly taken into account. In the case of cross-border investments, appropriate guarantees should be provided to the TSO in order to assure the full recovering of its investment and costs included the portions related to the neighbouring network(s). Moreover, with reference to long-term commitments, the respondent highlighted the need for the regulatory framework to allow TSOs to enter into long-term transportation contracts with network users under transparent and non-discriminatory conditions, before the start of the construction.

One respondent (NERA) criticised that the proposed mechanisms discriminate between new entrants and incumbents.

ERGEG view:

There are several incentives which can support investments in new infrastructure as well as in significant increases of capacity in existing infrastructure and modifications of such infrastructures, which enable the development of new sources of gas supply. Having said this, the proper incentives for investments must be assessed on a case-by-case basis in order to adequately include the risks of the relevant circumstances. All the approaches mentioned in the Principles on Calculating Tariffs for Access to Gas Transmission Networks, have advantages as well as disadvantages. In order to avoid approaches which could generate hurdles for cross-border trade, Article 22 (3) (e) of the Directive 2003/55/EC requires EU Member States or regulatory authorities, to consult with other Member States or regulatory authorities concerned before a decision shall be taken. Under certain conditions, new infrastructure may, upon request, be exempted from key provisions in the Third Party Access regime. Additionally, such decisions shall be notified without delay by the competent authority to the European Commission. The European Commission may request that the Member State amend or withdraw the decision to grant an exemption. These requirements ensure a finely tuned approach between the Member States concerned while providing the ability to consider the “big picture” of an internal energy market. Where there is no application for Third Party Access regime exemption, Article 25 (12) of Directive 2003/55/EC contributes to a more or less harmonised approach, by requesting the NRAs to cooperate with each other and with the European Commission to achieve a level playing field. As indicated, even without a recommendation for a specific approach, a fine tuned approach between the Member States concerned with the cross-border project is more or less ensured because of the mentioned rules provided for in the Directive 2003/55/EC. The need for investment incentives must be substantiated by the investor.

When defining the incentives schemes for new infrastructure, NRAs should also consider the contribution of each investment project to the increase of security of supply and the promotion of competition in the gas market. In order to ensure the efficient development of the transmission network, the investment projects that give a greater contribution to the transmission network should receive greater incentives.

3.2.5. Criteria to assess effective pipe-to-pipe competition

One respondent agrees that pipe-to-pipe competition tariffs should be cost-reflective. Nevertheless, the respondent considers that this is not the case today and that they do not foresee that the situation will change significantly in the years to come. One reason for this is the existence of long-term contracts and lack of available short-term capacity, which constrains shippers' ability to switch between pipelines and therefore limits potential competition. Furthermore, the respondent argues that while benchmarking of the tariff structure and calculation principles may be a useful tool for the improving efficiency and convergence of the European markets, it should not distort market mechanisms and overrule market forces. Therefore, the respondent questions whether tariff benchmarking should be promoted as an appropriate tool. According to this respondent, there is a need for a clear definition of a "significant deviation", as well as a clear guideline on the extent to which benchmarking should influence possible changes in tariffs. In general, the respondent considers that the availability of clear principles on tariff calculation is needed to achieve convergence of tariff structures. However, it is the respondent's position that the increase in market liquidity and the development of an IEM requires more than common tariff calculation principles. Increased capacity availability and transparency on flow interruptions can improve market development in Europe significantly and should remain a key priority of ERGEG and other market parties.

One respondent rejected the proposal to apply market-based tariffs to TSOs. The respondent understands that the possibility was included in Regulation 1775/2005 due to fierce pressure from the German TSOs to maintain a privileged remuneration system. Regulation 1775/2005 includes tariff benchmarking as a possibility and the consultation document should reflect that fact. Under the current wording, an attempt seems to be made by ERGEG to reconcile cost-based tariffs and market-based tariffs. The respondent considers that it is not possible. Furthermore, the respondent considers that it is incorrect that, "if effective competition between TSOs exists, tariffs will always reflect incurred costs, making a cost-based tariff setting regime unnecessary". Even in the case of effective competition between TSOs, tariffs need not reflect "incurred costs. In a competitive market, prices reflect the marginal costs of the marginal producer, i.e., the costs of the most expensive producer in the market (which, by definition, lie above those of the other producers in the market):

- In a market with economies of scale and limits on capacity, prices may only be constrained by the average costs of a new entrant, which can lie above or below the costs of incumbents. In neither case will the tariffs of each pipeline reflect the costs "incurred" by that pipeline (unlike in cost-of-service regulation, i.e., cost-based tariffs).
- In a market with economies of scale and excess capacity, efficient competition would lead to prices reflecting marginal (= variable) costs (i.e., the TSO would be willing to sell capacity if it recovered its operating expenditures + ε). Given that capacity costs account for around 95% of total costs, prices would reflect around 5% of the average costs.

The last paragraph of the section seems to be a recognition that the benchmarking of tariffs is not an effective tool and needs to be tested against a cost-based approach.

This section also assumes, when listing the criteria, that it is possible to observe "competitive behaviour", while in practice some kind of assessment is required to answer that question.

One respondent (Centrica) was perplexed at the inclusion of this section on pipeline to pipeline competition, as an earlier ERGEG "Report on the transmission pricing (for transit) and how it interacts with entry-exit system" dated December 2006 appeared to conclude that given the widely meshed nature of the transport system in Europe, a case of true pipeline-to-pipeline competition would be very rare. The respondent also reiterated support for an entry-exit tariff system, as ultimately a European wide entry-exit system would remove the need to consider any pipeline competition as network users would have no need for visibility of the route used to flow gas. Rather than benchmarked tariffs where there are claims of pipeline competition, the respondent considers that benchmarked performance across TSOs, together with greater publication of the resulting data would be more useful. This would assist in efficiency assessments of comparable operators and improve the quality of user responses to consultation.

One respondent (BG) welcomes the fact that ERGEG recognises that there needs to be a rigorous test before allowing TSOs to charge market-based tariffs. The respondent would question if the existence of two TSOs in a market will lead to pipe-to-pipe competition, given the oligopolistic nature of most European gas markets and therefore welcome ERGEG's statement that such a situation is a necessary, but not a sufficient condition for pipe-to-pipe competition. The view of the respondent is that market-based tariffs or a benchmarking approach are wholly inappropriate at this time for downstream European transmission pipelines. The current situation, where many TSOs are part of vertically integrated incumbents, who often are the dominant players in their respective markets, means that any approach other than a regulated approach to tariff setting will only benefit the incumbent players by keeping other players out of the market. Incumbents with captive markets will be able to absorb high transportation costs by passing them onto consumers, whilst new entrants will frequently be at a disadvantage. An example of this is imbalance charges, where a lack of liquid markets makes new entrants much more vulnerable to imbalance charges than incumbents. Where such charges are set very high, it can adversely impact the viability of potential deals. Another issue is the lack of willingness of TSOs to invest in new capacity or to maximise the utilisation of existing capacity where there is contractual but not physical congestion. The EU Commission Sectoral Enquiry identified many examples of contractual congestion, even when there is not physical congestion. Such a situation, combined with market-based tariffs, will simply lead to higher transmission costs than can be justified. Proper regulation of TSOs' tariffs would ensure that they had the right incentives to maximise their revenues by maximising availability of capacity on a transparent, fair and non-discriminatory basis.

One respondent (EFET) considers that the stated criteria to assess effective pipe-to-pipe competition follows general economic principles and it is important to have clarity on how any assessment would be made. However, the respondent considers that Europe is unlikely to have any significant pipe-on-pipe competition. The history of the development of national grid systems and specific transit pipes places the overall network in the position of a natural monopoly, rather than competing pipes.

According to one respondent (GEODE) ERGEG correctly emphasises that having two pipelines in place does not mean, per se, that they are in competition. The respondent has serious doubts whether effective pipe-to-pipe competition exists in Europe and its Member States. In practice, network users do not have a real choice between different pipelines and transportation capacity, respectively. Even if that is the case, system operators do not compete against each other. The respondent would like to draw ERGEG's attention to the situation in Germany, where TSOs have claimed the existence of pipe-to-pipe competition since 2005, although such competition remains to be proven. Due to the fact that a regulatory decision has not yet been taken, TSO infrastructure is not subject to tariff regulation at all. To ensure that benchmarking of tariffs is only applied when pipe-to-pipe-competition really exists, the respondent would ask ERGEG to carry out careful monitoring of pipe-to-pipe competition and the regulatory practice in Member States. With regard to the huge investments needed for the construction and operation of transmission infrastructure, the respondent, however, doubts that effective pipe-to-pipe competition will ever exist. Therefore, the respondent strongly feels that a cost-based tariff setting regime remains necessary.

As a general principle, one respondent (GTE) considers that when pipe-to-pipe competition is effective, the benchmarking of tariffs approach, admitted by Article 3(1) of Regulation 1775/2005/EC, could be considered as a real alternative to cost-based tariffs. The respondent also considers that the relevant authorities and TSOs should identify the appropriate methodology to assess pipe-to-pipe competition at national level.

One respondent (NERA) argued that even if there is effective competition between existing pipelines, their tariffs need not reflect "incurred costs". ERGEG's description of the outcome of competition would make market-based pricing no different from cost-based pricing, which would render it impossible to apply. Furthermore, the respondent asked for detailed explanations on the seven listed criteria.

ERGEG view:

The legislator, being aware of the difficulties of real competition in an oligopoly in such markets, in particular taking into account the possible difficulties for effective competition, provides for the opportunity to benchmark tariffs if competition exists. This is emphasised in preamble nr. 7 of Regulation 1775/2005*: "In this respect, and in particular if effective pipeline to pipeline competition exists, the benchmarking of tariffs by the regulatory authorities will be a relevant consideration."* ERGEG has proposed a set of minimum criteria to assess whether pipe-to-pipe competition exists. The assessment, if applied, must strictly follow the Small but Significant Non-transitory Increase in Price (SSNIP) test, In the event that a tariff benchmarking is applied, this tariff serves as a plausibility check for the cost-based approach, checking the plausibility of a cost-based approach. Since almost all of the answers which were received indicate absence of proper circumstances for real competition, ERGEG, is being reaffirmed in its request for strict criteria needed for the assessment of pipe-to-pipe competition.

4 Preliminary conclusions and recommendations

ERGEG understands from the responses received to the public consultation that the principles for calculating transmission tariffs need to be refined to meet the following requirements:

- clearly state the need and the level of harmonisation, together with a description of the situations in which harmonisation is recommended and the cases where different parameters for cost and tariff principles are appropriate
- clarify the principles for the calculation of the annual revenue that a transmission system operator is allowed to recover for the provision of transmission services, taking into account the specificities of conditions prevailing in different systems, bearing in mind that these principles should set at a very high-level
- clarify the determination of tariffs, e.g., the allocation of allowed revenues in entry-exit tariffs, taking into account the specificities of conditions prevailing in different systems

Bearing the intention of the responses in mind, ERGEG proposes to split the document in two parts, the first part addressing the calculation of allowed revenues (regulatory accounting principles) and the second part addressing the non-discriminatory allocation of the allowed revenues in the tariff structure.

According to its guidelines on public consultation practices, ERGEG will publish a Conclusions Paper which will focus on the issues above, based on the evaluation of comments in this paper,. For that purpose, ERGEG will also liaise with the European Commission and the selected consultant performing the study on methodologies for gas transmission network tariffs and gas balancing fees in Europe. It is understood that the outcome of the study will address the negative impacts of differences in tariff models on barrier-free cross-border trade and make recommendations on the level of harmonisation needed. Therefore the results of this consultation will be offered as ERGEG input to the Commission’s study.