"Investments in gas infrastructures and the role of EU national regulatory authorities"

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Content

Background

On several occasions, the CEER has stressed the importance of promoting investments in new infrastructures, so as to increase the security of supply and facilitate the development of efficient energy trade.

Reference should also be made to the document "Principles on regulatory control and financial reward for infrastructure" issued by the CEER on March 2003. The aim of this paper was to establish a series of principles on how to regulate and financially reward the construction of infrastructure. It also contained "Council of European Energy Regulators (CEER)'s opinion on the conditions required for the European framework to be suitable for the efficient development of interconnection infrastructure". The present study builds on that paper while focusing on gas infrastructures.

In its contribution to the 7th Madrid Regulatory Forum in September 2003 on "The development of gas hubs and trading centers", the CEER has evidenced the role of regional markets in the step-by-step completion of the internal market and the merits of addressing simultaneously both the issues of market integration and of network planning and development.

As a conclusion to the 2003 World Forum of Energy Regulation, the CEER has issued a statement "Completing the internal energy market: the missing steps" (6 October 2003)[1] that confirms the main priorities identified by the EU national regulatory authorities in view of the creation of a safe and trade-oriented internal energy market. This statement underlines the target of achieving "an increasing convergence of regional markets", as a prerequisite to further steps of integration, and **the essential link between the development of new gas infrastructures and the implementation of efficient trade.**

The present document represents the additional contribution of CEER on this main issue. It evidences the role of EU national regulatory authorities in creating the appropriate investment framework for the gas market and in ensuring consistency between competition and safety of supply.

During its meeting of May, 12th, 2005, the General Assembly of the Council of European Energy Regulators (CEER) approved the Report of the Infrastructure Task Force, entitled "Investments in gas infrastructures and the role of EU national regulatory authorities". There was a dissenting opinion by the CREG and that opinion can be found on www.creg.be

[1] Available on http://www.ceer-eu.org

1. Executive Summary

Market liberalization consequences, in particular the unbundling of supply and transmission activities, have significantly changed the conditions (structural, legal and contractual) prevailing in the previously integrated regime, in respect to all the key steps in the life of new gas infrastructures, from the decision-making and financing process to their operation.

Generally, investments in gas infrastructures result from private initiatives, in response and anticipation of the needs of the markets or in some Members States in response of a centralized infrastructure planning.

The unbundling of supply and transmission has split the initiative to invest between suppliers and system operators (TSOs, DSOs, SSOs, LNGSOs). Infrastructure planners have to elaborate new methods for having visibility on future supplies to accommodate growth and changes in the nature of the demand.

The former exclusivity granted to incumbent TSOs to invest in new large gas infrastructure has been abolished: “alternative” investors have appeared. Many new developers’ projects are under construction, planned or in discussion in Europe. Actually, there is an increasing degree of sponsors’ diversity and different types of actors have emerged:

- Incumbent TSOs,
- Other TSOs developing services not only for national markets but also for regional markets,
- International oil and gas producers and private gas producers,
- Traditional, recent or new EU gas exporters,
- Power companies.

The study evidences that the liberalisation process has enlarged the number of actors that now have the possibility to contribute to the development of new infrastructures across the EU.

Key factors in the decision-making process for investments in gas infrastructures do not have the same importance according to the nature of the investment. Therefore, the study identifies three types of investments -specifically, intra-regional, inter-regional, and EU wide supply:

- “Intra-regional” investments, in either the network or storage facilities, are necessary to accommodate growth and changes in the nature of demand and to enhance the functional capacity of the regional grids;
- “Inter-regional” investments, in either the network or storage facilities, are necessary to interconnect regional markets and to allow establishing a flexible regime of cross-border exchanges of gas, which is key to the convergence of regional markets;
- New gas supply investments are necessary to carry the long-term flows of gas from remote sources (e.g. from Russia, Africa, the Middle East) to the boundary of the EU market. These projects tend to result from well-identified long-term supply projects, for which they constitute the “midstream” part.

New investments also include the upgrading of existing facilities (transport, LNG plants and storages). New investments projects may mix the upgrading of existing facilities and the building of new ones.

The scope of the present study is focussed on the role of national regulatory authorities with regard to investments. It is however necessary to point out that Governments have also an important role

to play in this respect. For instance Governments are in general responsible for setting procedures which have a very important role with regard to investments.

The role of national regulatory authorities is usually to license system operators/sponsors and/or to approve or to set the tariffs, which means that they are usually in charge of:

- Setting or approving a clear and stable TPA tariff structure and level ;
- Deciding whether to incorporate the investment into the regulated asset base of the general network;
- Deciding on specific investments that should potentially receive a specific rate of return, or by deciding a special treatment for new large investments, on a case by case basis.

Practices with regard to tariff setting (structure and level) differ widely among EU members. These practices have been – and are being – described in various CEER-ERGEG documents. This study focuses more specifically on measures aimed at incentivizing investments.

There are differences in the extent to which the national regulatory authority considers investments on a case-by-case basis as opposed to setting the incentive framework and letting the operator decide on the most appropriate investment projects. In some cases, new pipelines or LNG terminals may benefit of an appropriate enhanced rate of return to compensate for higher risks. National regulatory authorities can also under a regulated tariff regime choose a specific TPA regime with long term capacity reservations for some new gas supply projects to allow the sponsor of the project to benefit from a specific part of the infrastructure during a determined period.

The default regulatory framework usually contains an appropriate reward to encourage efficient investment. However, when necessary, some new large investments may be incentivised or fostered by a series of regulatory measures which may deviate from the default approach.

Taking into account all the measures in the hand of the national regulatory authorities, it appears that there is considerable scope for flexibility in choosing the different ways to incentivise investments.

This scope is enlarged by the possibility of exemptions envisaged in article 22 of Directive 55/2003. This is an exception to the regulated Third Party Access (rTPA regime). Article 22 of Directive 2003/55/EC allows for the possibility of exemptions to general rules of TPA contained in the Directive whereby there is a range of possible exemptions which could apply. The possibility for such exemptions is clearly envisaged to be an exception to the default arrangements. Exemptions under Article 22 are considered on a case by case basis, and there are general criteria that are to be met. Exemptions can be granted to the whole infrastructure or only to part of it.

A large degree of choice is available to the national regulatory authorities in order to determine which measures best foster investments while promoting competition. In particular, this study discusses the merits and demerits of alternative approaches. While the default regulatory approach may best ensure a level playing field for investors, the recourse to article 22 may be more tailored to specific projects.

Other issues related to regulatory instruments include the following:

- The need for a clear and stable regulatory framework to avoid unpredictable changes in regulatory regime in particular at the beginning of the regulatory process. Open and transparent decisions and consultation of all market players should help to minimize this

perception of risk. Governments and national regulatory authorities may want to make public what their medium term goals are. Cooperation with the other national regulatory authorities is also necessary when several countries are involved;

- National regulatory authorities have a key role in promoting inter-regional projects through the establishment of common, clear market rules facilitating gas flows across the regions. Solving problems related to cross border trade, including gas quality interoperability and congestion management, is an important regulatory task in this context;
- An increased meshing of the network will ensure its robustness against incidents and allows a more efficient use of the network capacities. In order to increase the meshing of the European network it is advisable to multiply the interconnections. This will lead to a better integration of the European infrastructure;
- In order to determine future investment needs it is crucial to identify where physical congestion can occur in the existing infrastructure. This can be achieved with clear and transparent market rules.

These instruments have been adapted/tailored to the nature of the investment: intra-regional, inter-regional, and new gas supply projects. These instruments apply particularly to the two last types of investments given their relative size and complexity.

In their action in favor of an investment framework that may foster new projects, national regulatory authorities have to consider eight main aspects:

- The necessity to find the right balance between a flexible –as opposed to rigid- regulatory framework, and enough stability for operators to carry out their future investments, without discriminating existing infrastructure of the same category or with the same goals;

- The use of specific measures for mitigating the risks of new investments such as the inclusion of the new investments in the RAB or the acceptance of an enhanced rate of return should not be detrimental to the consumers, either by transferring to them the burden of an infrastructure of low value or by giving a “windfall profit” to investors;

- If specific incentives for investments are granted, they should reflect the project risk, both in their scope as in their beneficiary. The regulatory decision to allow an enhanced rate of return to the sponsor(s) should ensure that the new project will foster competition on a regional or inter-regional basis. In the case of long-term capacity reservations, the signature of long term ship-or-pay contracts reduces the financial exposure of the sponsor. For this reason, national regulatory authorities should carefully analyse the effects of an increased reward to the owner;

- In the case of granting TPA exemption under Article 22 for a new investment appears necessary to foster the development of a large gas supply project, the TPA exemption may be subject to a series of conditions ensuring that small shippers also have access to the new facility and more generally that the project fully contributes not only to the security of supply but also to competition;

- A specific issue relates to the share of long term supply contracts which are often linked with long term capacity reservation contracts: they continue to be used as a tool to allow for large investments although they should be consistent with the development of competitive markets. The availability of short term capacity is also necessary to develop competition and market liquidity. It is important that these long-term commitments are not used to deter competition, in

particular by hoarding unused capacity. The initial capacity allocation procedures of new investment projects must be clear and accessible to all parties.

In case of long term capacity booking, the relevant national regulatory authorities should make sure that capacity allocation is non discriminatory and transparent. Differing solutions are in use within Member States: auctioning procedures, open season programmes, first come first serve procedures or sometimes specific regulatory rules for new gas supply projects.

Regulatory constraints may be imposed to the sponsor to avoid threatening competition. It may consist in offering a share of the capacity on the short term or in requiring that no supplier should be allowed to reserve more than a share of the total. It is essential that whatever form of allocation is chosen, long term capacity booking must not prevent new entrants from competing. For the same reasons, market based procedures such as auctioning or open season should be encouraged.

National regulatory authorities should also carefully assess the length of special treatments or exemptions.

- The national regulatory authorities should consult with each other, share experience and identify best practices in order to ensure that there is a level playing field for investors all over Europe;

- If necessary, national regulatory authorities should provide early guidance to all market players on the likely regulatory regime for new gas investments and the likely terms of exemption, if any, from this legislation;

- New investments should not be hampered by unnecessary delays or lack of clarity in decisions affecting their construction and operation.

The broad range of measures which are being implemented facilitate investments may lead to a situation where the rules of the game may differ substantially between different regulatory areas if not within single regulatory areas. At the EU level, the study suggests that there remains areas where national regulatory authorities may want to make practices more convergent with regard of issues of common interest, which encompass not only the inter-regional projects as new interconnectors, but more generally, the long-term regional development of the interconnected networks, the derogations to standard TPA regime, and the construction, through hubs and regional market places, of a more integrated gas market. Regulatory practices shall be harmonized or at least co-coordinated to facilitate where necessary the design of new projects and meet the need for a clear and stable regulatory framework.

The development of a liquid and competitive gas market and the security of supply in the EU heavily depends on the capacity of the regulatory framework to nurture a steady flow of new investments in gas supply projects and infrastructures. Promotion of investment and protection of regulated investment are among the core duties of the national regulatory authorities.

CEER key issues to promote the development of new gas infrastructure Europe (it should be noted that, according to the respective national legislations, all the following items may not fall under the responsibility of national regulatory authorities):

1) Tariffs setting

- Promoting close contact and communication between market players and system operators,
- Guaranteeing a high transparency of investment process,
- Ensuring that system operators and others sponsors be appropriately incentivised to invest efficiently in network infrastructure and to respond to market needs and signals,
- If necessary, national regulatory authorities should provide early guidance to all market players on the likely regulatory regime for new gas investments and the likely terms of exemption (if any) from this legislation.

2) Regulation

- Harmonizing or at least coordinating regulatory practices in Europe in order to facilitate the development of the internal energy market ;
- Consulting with the other national regulatory authorities, sharing experience and identifying best practices at European level in order to :
  - Meet the need for a clear and stable regulatory framework and give visibility to investors;
  - Promote and facilitate inter-regional projects,
  - Carefully consider the instruments at their disposal in order to balance the need for new investments and the development of competition;
  - Ensure that there is a level playing field for investors all over Europe;
  - Ensure that decisions are made in time, as excessive delays may deter the realization of new infrastructures.

3) Market design

- Ensuring that an effective unbundling is established to ensure no conflict of interest when making investment decisions,
- Promoting the publication of system operators' investment plans and the consultation with system users on their future requirements,
- Guaranteeing the transparency of initial capacity allocation procedures of new investment projects,
- Ensuring that long-term commitments however do not threaten competition by hoarding unused capacity,
- Facilitating the possibility for all market players to identify where physical congestion can occur in the existing infrastructure,
- Requiring effective transparency of flows and available capacities,
- Ensuring that capacity is released to the market on a non-discriminatory and market oriented manner,
- Guaranteeing the establishment of anti-hoarding mechanisms,
- Facilitating congestion management mechanisms,
- Promoting the development of hubs and trading centers in Europe to provide price transparency.

2. Introduction

The issue of how investment in new infrastructures is facilitated, funded and treated under the various regulatory regimes remains a central issue for the European gas industry. This is for many reasons and in particular:

- for gas security of supply - With the increasing dependence of the EU on external gas sources it is necessary to develop new infrastructures (transmission, LNG and storage) to ensure a satisfactory level of security of supply; the European network must also be robust enough to cope with incidents;

- for the effective functioning of the EU internal market: investments are a crucial element for covering the growth in gas demand and for facilitating the effective functioning of gas hubs accommodating;

- the increased variability in the flows of gas, the increased number of shippers, the exchanges of gas between networks and operators and the trade arbitration between hubs.

For the purpose of the study, in April 2004, a questionnaire was sent to all CEER members –and the German Ministry for Economic Affairs- in order to collect the information on new investment. Answers to the questionnaire were received from Austria, Belgium, Denmark, Finland, France, Ireland, Italy, the Netherlands, Spain, Portugal and the United Kingdom. In May 2004, the questionnaire was sent to the new member states. Contributions were received from the national regulatory authorities of Cyprus, Slovenia, the Czech Republic, Hungary, Slovakia and Estonia. A summary of the answers received is presented in the annex. The questionnaire was useful to gather some information; however, the study is also based on other sources, including extensive discussions with other national regulatory authorities and the industry.

To assess the critical factors on the way to invest in gas infrastructures in Europe, this study examines the following important issues:

- The consequences of market liberalization on network planning and on the development of infrastructures;
- The key factors in the decision-making process for investments in new gas infrastructures;
- The role of national regulatory authorities in the promotion of new infrastructures;
- A review of some reference cases;
- Conclusion and recommendations.

3. The consequences of market liberalization on network planning and on the development of infrastructures

The unbundling of supply and transmission has significantly changed the conditions (structural, legal and contractual) prevailing in the previously integrated regime, in respect to all the key steps in the life of new gas infrastructures, from the decision-making and financing process to their operation.

3.1 The framework for investments in the gas industry before the liberalization

The consequence of the legal and contractual organization that prevailed in the pre- liberalization era has been to create a series of national markets.

The former organization structures had certain features including:

- An integrated (or "back to back") coverage of the chain of risk, from the production fields to the consumer:
  - Long term contracts with "take-or-pay" volume commitments have been used by gas producers to raise funds and loans for the development of their respective parts of the projects;
  - The "netback pricing" system, which was the counterpart granted by producers to the utilities, was coupled with redelivery points that did not allow the buyers to sell gas along the transit route to another country. This contractual scheme was securing long-term dedicated flows of gas in the new transit lines, enabling to support their financing through "ship-or-pay" transmission contracts, which mirrored the "take-or-pay" contracts.

- A long-term upstream policy extended to the national utilities on their network planning and infrastructure development activities:
  - National utilities were in a position to plan the upgrading of their existing networks, as well as the development of new transmission, storage and distribution facilities in accordance with the long-term dedicated flows of gas that they had contracted for the supply of their gas grids;
  - The legal system prevailing in most EU countries was the "concession", which granted to the utilities an exclusive right to transport, distribute and sell gas in their own region (or country).

- An access to privileged financing conditions:
  - Sheltered by a legal monopoly covering their bundled activities, the utilities had the possibility to borrow funds for the development of their gas system, including participating interests in large transit pipelines, under favorable conditions, both in terms of rate and duration.

- The possibility of "passing trough" the inefficiency costs to consumers:
  - Utilities had the possibility of making-up their inefficiency costs on the transmission, storage and distribution activities, by passing them all through to the end consumers.

- The national companies were in charge of implementing security of supply policy.

3.2 The framework for investments in the gas industry after the liberalization

The unbundling of supply and logistics (transmission, storage and distribution) is a major consequence of liberalization. It makes it necessary to examine separately within these two activities the ability of market players to take initiatives and manage the risks attached to the creation of new infrastructures:

- Concerning the supply activity:
  - producers, other suppliers as well as final customers e.g. electricity companies, now have the initiative to create supply projects and to engage in gas marketing activities;
  - insofar as other fuels can substitute natural gas in all its uses, the target for the producers to deliver a structurally competitive supply on the final markets remains as an invariant. The netback pricing is therefore still a benchmark upon which project sponsors take their investments decisions;
  - because of the development of gas liberalization, with the termination of supply monopolies, suppliers have also to deal with gas to gas competition with a volatility of short term market prices.

- Concerning the logistic activity:
  - Being independent from grid users, system operators have to manage network planning while they have no ultimate control on supply management:
    - In the short-term, the system operators must face the increased variability in the flows of gas into their system, which results from the unforeseeable arbitration made by suppliers between the various entry points on the national grid, or on the local hubs and trading centers, or between regional markets (flow-changes in interconnecting lines);
    - For the medium and long term, they can rely to a lower extent on the visibility offered by contractually dedicated flows of gas, which is used to command the planned development of their system. However, the possibility extended to system operators by the national regulatory authorities, in most EU countries, to split the allocation of entry capacity reservations, in the main feeders and LNG terminals, between short, medium and long term, has largely contributed to improving the visibility of system operators on their activity and to facilitating network planning;
    - These two factors altogether make it necessary for system operators to upgrade their system so as to face the variability in the flows of gas, notwithstanding the more predictable enhancement of transmission and distribution capacities necessary to face the growth of the market.
  - A major opportunity for system operators is to optimise the use of their systems by creating new services.

4. Key factors in the decision-making process for investments in gas infrastructures

When making an investment decision, risks and rewards have to be balanced. The study needs to assess the specificity of these risks which appear not to have the same importance according to the nature of the investment.

Therefore, the study considers and distinguishes three types of investments that relate more specifically to the intra-regional, inter-regional, and EU wide supply conditions of the internal gas market:

- “Intra-regional” investments, in either the network or storage facilities, are necessary to accommodate growth and changes in the nature of demand and to enhance the functional capacity of the regional grids. Such investments are usually sponsored by the system operators (the TSOs, DSOs or the SSOs) themselves and potentially by other investors ;
- “Inter-regional” investments, in either the network or storage facilities, are necessary to interconnect regional markets and to allow establishing a flexible regime of cross-border

exchanges of gas, which is key to the convergence of regional markets. They usually have a dual function, primarily as a gas carrier for a long-term dedicated transit of gas, and secondarily as a conduit for arbitration flows between hubs. Sponsors for this category of projects usually include TSOs (or SSOs in the case of storage facilities), but also supply & trading companies. Even when the sponsors are regulated companies (i.e. TSOs, SSOs), they may set up an *ad hoc* legally separate organization to finance the project ;

- New gas supply investments are necessary to carry the long-term flows of gas from remote sources (e.g. from Russia, Africa, the Middle East) to the boundary of the EU market. These projects tend to result from well-identified long-term supply projects, for which they constitute the "midstream" part. Sponsors for this category of projects include large suppliers, other supply and trading companies, or TSOs. Also an ad hoc legally separate organization may be set up to finance the project, but it is not always the case (e.g. LNG terminals sponsored by TSOs).

New investments also include the upgrading of existing facilities (transport, LNG plants and storages). This upgrading is being undertaken in each of these three cases, "intra-regional", "inter-regional" and new gas supplies. As existing facilities are developing there is more room to use these facilities by upgrading them. New investments projects may mix the upgrading of existing facilities and the building of new ones.

Accordingly, the necessary investments to sustain the development of the gas market in individual countries, between regions and across the EU level, have been split into the three categories identified above so that the main risks associated with each can be identified – in particular whether there are any barriers to the efficient undertaking of such investment and if so whether national regulatory authorities have taken steps to provide appropriate incentives or other arrangements to encourage the necessary investment. A list of potential 'methods' in each investment category are identified and assessed in chapter 5.

4.1 The case of "intra-regional" investments

The first duty of system operators is to invest in gas networks in order to respond to the regional market demand growth and needs, including security of supply.

The variability in the regimes of gas flows in a gas grid resulting from the introduction of new suppliers is a natural consequence of the liberalization. A significant swift in gas supply route may reveal structural bottlenecks or congestions in some parts of the grid.

Therefore, the other main duty of TSOs (DSOs) is to bring remedy to these structural bottlenecks, which may prevent to accommodate a flexible supply and trading system across the network. Such flexibility is necessary to allow arbitration by suppliers between entry points, the implementation of "entry-exit" tariff systems and, eventually, the creation of "balancing points" enabling the emergence of a trade market.

The willingness of the system operators to undertake these investments is driven by a number of factors including the incentives and rate of return available to it under the prevailing regulatory arrangements (see below). System operators will also be subject to relevant licensed and statutory obligations which coupled with explicit other incentives, for example on quality, will also drive investment decisions (see tables C & D in the annex).

Together with the increase in gas demand, new underground storage facilities may be needed. The localisation of these storage facilities depend on the geology but also on investments. In some cases, due to sitting and environmental legislation the development or the creation of new storage facilities may take several years. In the past SSOs have been the main investors in storage facilities. Table J in the annex indicate that newcomers tend to invest in storage facilities.

Main risks

The main risks corresponding to those investments are the volume and revenue risks: the new upgraded infrastructures may be under-utilized. These investments may face less risk than the two other categories (see below), because the closer to the consumers, the better the future demand can be assessed and forecasted.

The "need for a clear and stable regulatory framework" referred to by market players, is the feeling that some of the main parameters of the regulatory framework (tariffs, tariff revisions, conditions of capacity reservations, own use etc.) may change in time and affect investors interests.

4.2 The case of "inter-regional" investments

Projects of this nature are considered as an essential tool for integration of the regional markets, which is itself a major step for the completion of the larger EU internal market.

According to some sponsors (large suppliers, producers, other supply & trading companies, TSOs, SSOs) these investments may prove difficult to nurture and to finance as it is highly difficult to predict the future income generated by the project, since it can depend primarily, not on contractual flows of gas, but on unforeseeable arbitration flows.

In addition, established suppliers on both sides may not wish to have that infrastructure built, as it may bring additional competition.

Insofar as they contribute to the development of trade, projects of this nature tend to reduce the commercial influence of the dominant suppliers at the two ends of the line. Although TSOs have to be at least legally separated from the trading arm of the former integrated utility, integrated companies may not be neutral towards the additional competition generated by the future project.

It should be remembered that the eight sponsors of the Interconnector UK had to accept notional "ship-or-pay" commitments, for 20 years at full design capacity, at an agreed throughput tariff from Bacton to Zeebrugge, as a precondition for obtaining a project-finance facility. They were, later on, entitled to sell their capacity rights on a secondary market, which has allowed to establish eventually the project as a "merchant line".

Main risks

For this category of projects, there is a large volume risk, as it will depend primarily not only on contractual flows of gas but on unforeseeable arbitration flows. System operators bear this risk only if all of part of the capacity of the new infrastructure is reserved for short-term capacity bookings.

The need for a clear and stable regulatory framework may exist where regulatory decisions are made on a shorter period of time than that of the investment project. This may increase the

uncertainties about the feasibility of the project. Because “inter-regional” investments projects involve more than one regulator, there is, in addition to the above, the possibility that regulatory regimes are not harmonized.

4.3 The case of new gas supply investments

This third category is different from the two other ones in this extent that it can relate to intra-regional and inter-regional conditions, but with the speciality that new supplementary entry capacity is created at an EU border. As such, LNG terminals are located in this third category.

The new gas supply projects are essential to the achievement of an internal market meeting the requested targets of security and diversification of its supply sources and to fulfill the EU market demand.

TSOs and new entrants are sometimes interested in becoming sponsors of large import projects. For instance, the Austrian OMV Gas is together with the Turkish Botas, the Hungarian MOL, the Romanian Transgaz and the Bulgarian Bulgargaz are the promoters for the “Nabucco” project creating a new pipeline route connecting the Middle East (Caspian gas reserves) with the gas markets in the Balkans and the Central and Western European gas markets. Gaz de France and Total will own the Fos-Cavaou LNG terminal in France. NGT (National Grid Transco), in the UK, is developing the Isle of Grain LNG terminal. Also, in Spain, the electricity companies are project sponsors of new LNG facilities (as shown in annex tables L & M). DEPA, the Greek TSO, together with the Turkish Botas and the Italian gas supplier Edison are promoters of a new pipeline connecting Turkey and Italy via Greece, thereby creating a new gas supply route from the Middle East to southern Europe and possibly the Balkan countries.

When the sponsors are large international oil and gas companies, in a significant number of cases, they may prefer to take an investment decision once they consider themselves as having a sufficient control over the project, in term of costs and risks, from the production stage to the final marketing. They argue that it is one of the requests generally presented to them by the banks and financial institutions.

Main risks

As far as the revenue risk is concerned, these infrastructures are usually very expensive. In specific cases, sponsors argue that the level of risk is such that the investment would not take place if standard rTPA tariffs were to be charged for the use of the new infrastructure.

There is also a need for a clear and stable regulatory framework. For new pipelines, the lack of harmonization between regulatory regimes is even more critical, as often the infrastructures cross several borders. Potentially, the risk is higher if the infrastructure is shared between an EU country and a non-EU country.

Summary

- The unbundling of supply and logistics has split the initiative to invest between suppliers and TSOs (DSOs, SSOs, LNGSOs);
- In network planning, TSOs have to elaborate new methods for having visibility on future supplies to accommodate growth and changes in the nature of the demand;
- System operators have to invest for removing the structural bottlenecks in or between their networks resulting from a more variable regime of gas flows;
- "inter-regional" investments are key to the convergence of regional markets and the initiative of their creation by TSOs or other sponsors should be encouraged;
- New major gas supply projects still command the creation of large infrastructures (transit lines and LNG terminals);
- There is a level and a category of risk attached to the nature of each investment.

5. The role of national regulatory authorities in the promotion of new infrastructures

Generally, investments in gas infrastructures result from private initiatives, in response and anticipation of the needs of the markets or in some Members States in response of a centralized infrastructure planning.

The scope of the study is focussed on the role of national regulatory authorities with regard to investments. It is however necessary to point out that Governments have also an important role to play in this respect. For instance Governments are in general responsible for setting procedures which have a very important role with regard to investments. The share of responsibilities between Governments and national regulatory authorities for the approval process of new infrastructures in the different Member States is indicated in the annexes (tables D & E).

It should be clear that the document does not suggest that any new investment deserves specific measures. Actually, in a first stage, national legislation may or may not consider in their default regime specific measures to promote investments. In a second stage, national regulatory authorities may or may not consider specific measures to promote these investments. The default regulatory framework usually contains a reward on investment. However, when necessary, some new large investments may be incentivised or fostered by a series of regulatory measures. Eventually exceptions to the default regime may be considered under article 22 of the EU gas directive.

CEER members were sent a questionnaire aiming at gathering the relevant information on procedures and incentives for investment in new gas infrastructures, in their respective countries. The results of this consultation of EU national regulatory authorities are summarized in a series of tables attached in the appendix of this document.

5.1 Instruments used by national regulatory authorities to promote new investments

The EU gas directive and national legislations enable national regulatory authorities to consider whether it is appropriate to either mitigate some of the risks associated with investment projects or provide an appropriate set of incentives and arrangements to help ensure that investment is undertaken efficiently and in response to demand.

The role of national regulatory authorities is therefore dependant upon national legislation which can provide for specific measures to promote investments and/or give a specific role to regulators in the investment process. The different regimes which can apply are described in tables F,G & H of the annex which have been made from the result of the answers to the questionnaire sent to regulators.

For each of the risks which have been identified, several tools exist which may be used by the national regulatory authorities provided that they are allowed by law to do so:

- to mitigate the volume and the revenue risk, the national regulatory authority may consider the possibility to grant an enhanced rate of return; other instruments include an adapted booking regime with an adapted share of long term contracts. There is also a possibility to set open seasons with long term reservation, combined with use-it-or-lose-it mechanisms, to ensure the maximum use of the new infrastructure;
- the need for a clear and stable regulatory framework, to avoid unpredictable changes in regulatory regime in particular at the beginning of the regulatory process. Open and transparent decisions and consultation of all market players should help to minimize this perception of risk. There is a need for a stable and clear investment framework. Governments and national regulatory authorities may want to make public what their medium term goals are. Cooperation with the other national regulatory authorities are also necessary when several countries are involved.

Other instruments exist in the following areas: network planning, third party access tariffs, capacity allocation rules, other regulatory measures and in particular those related to transparency. It appears that a large spectrum of approaches exists ranging from “standard” rTPA through a more “relaxed” version of rTPA to a partial and then full exemption under article 22 of the EU gas directive.

5.1.1 Through third party access tariffs and long term capacity reservation

More specifically, the role of national regulatory authorities is usually to license TSOs/sponsors and/or to approve or to set the tariffs, which means that they are usually in charge of:

- Setting or approving a clear and stable TPA tariff structure and level ;
- Deciding whether to incorporate the investment into the regulated asset base of the general network;
- Deciding on specific investments that should potentially receive a specific rate of return, or by deciding on a special treatment for new large investments, on a case by case basis.

System operators and sponsors shall be appropriately incentivised to invest efficiently in network infrastructure and to respond to market needs and signals.

In several cases, regulation does not envisage specific measures for new investments. This is the case for instance of Spain.

In other cases, new pipelines or LNG terminals may benefit of an enhanced rate of return to compensate for higher risks. Variants on this method are applied in Belgium, France, Ireland, Italy, and in the UK. There are differences in the extent to which the national regulatory authority considers investments on a case-by-case basis as opposed to setting the incentive framework and letting the operator decide on the most appropriate investment projects.

In Belgium, in order to give incentives to develop new gas supply projects, regulators set up a tariff methodology in advance and have proposed a long-term tariff regulation. This has been the case for the Zeebrugge LNG terminal.

In France, CRE has decided to differentiate between return rates, according to whether or not they are designed to remunerate existing assets or new investments. This is to encourage operators to invest not only in necessary maintenance and replacements, and in extending the transmission network, but also in improving the functionning of the market. For existing assets, the remuneration rate for those implemented prior to 2004 has been set at 7.75% in real term and before tax. The remuneration rate for assets implemented after 1 January 2004 has been set at 9% in real term and before tax. For the investments helping to decongest the network and increase competition, the rate has been set at 12% in real term and before tax, for a limited period of 5 to 10 years. This rate is allowed by the CRE on a case by case basis. This incentive mechanism is comparable to current practices in the UK- although the rate of return may differ.

In Italy, AEEG introduced special provisions in order to promote new investments. New construction of pipelines and LNG terminals will benefit from complete freedom of tariff setting for the first year (four years in the case of storage facilities) and an incentive recognised in tariffs for the subsequent period. New investments in pipelines are awarded a 12.44 % rate as additional revenue (7.94% rate of return, 2.5% for depreciation and 2% for operating costs). The 60% of the additional revenue goes to the capacity component through additional tariffs. The remaining 40% goes to the commodity component. The cited incentive refers to the additional commodity component for new investment that lasts for six years, that is to say it overlaps the commodity component of the second phase of regulation. New LNG plants are awarded a 15.15 % rate as additional revenue (9.15% rate of return, 4% for depreciation and 2% for operating costs). The additional revenues are divided into two components with the same percentage of the additional revenue that had been set for the pipelines (60% and 40% respectively for capacity and commodity component). In addition, the sponsor who pays for the new structure will be granted priority access to it, up to 80% of capacity and for a period up to 20 years (and until 2015 for entry points), while the remaining 20% is subject to the ordinary rules of regulated access and tariff. Eventually, new storage facilities are exempted from TPA during the first four years of functionning.

National regulatory authorities can also under a regulated tariff regime choose a specific TPA regime with long term capacity reservations for some new gas supply projects to allow the sponsor of the project to benefit from a specific part of the infrastructure during a determined period. For instance:

- an important part of the capacity of the new infrastructure is retained by the sponsors as in France for Fos 2;
- the full capacity of the new infrastructure can be booked on a long term basis by shippers after an open season procedure as in Belgium and the UK, linked to strict use-it-or-lose-it provisions.

Regulatory constraints may be imposed to the sponsor to avoid threatening competition. It may consist in offering a share of the capacity on the short term or in requiring that no supplier should be allowed to reserve more than a share of the total. It is essential that whatever form of allocation is chosen, long term capacity booking must not prevent new entrants from competing. For the same reasons, market based procedures such as auctioning or open season should be encouraged.
In case of long term capacity booking, the relevant national regulatory authorities should make sure that capacity allocation is non discriminatory and transparent. Differing solutions are in use within Member States: auctioning procedures, open season programmes, first come first serve procedures or sometimes specific regulatory rules for new gas supply projects.

It therefore appears that there is considerable scope for flexibility in choosing the different ways to enhance investments. This scope is enlarged by the possibility of exemptions envisaged in article 22 of Directive 55/2003.

5.1.2 Through other instruments, including the exceptions of article 22

5.1.2.1 Exceptions of article 22

Article 22 of Directive 2003/55EC allows also for the possibility of exemptions to general rules of TPA contained in the Directive whereby there is a range of possible exemptions which could apply. The possibility for such exemptions is clearly envisaged to be an exception. However, albeit exemptions will therefore be considered on a case by case basis, there are general criteria that are to be met.

These exemptions apply to “major new gas infrastructures, e.g. interconnectors between Member States, LNG and storage facilities” and also to “significant increases of capacity in existing infrastructures and to modifications of such infrastructures which enables the development of new sources of gas supply”.

Note for the reader: as it is often the case, and perhaps by nature, the descriptions of exceptions are longer than the descriptions of the default regime. This of course does not mean that the paper takes a more favourable view on the exception.

Partial or total TPA exemptions for new infrastructures, as provided for by article 22 of the 2003/55 EC Directive have already been granted by the national regulatory authorities in the Netherlands, and the UK. So far, these TPA exemptions have been decided for the “potentially contestable” activities namely import/export pipeline facilities (transit pipelines and interconnectors), new LNG terminals, but never for the upgrading of the existing national grids. The issue seems still at an early stage for new underground storage capacities. Decisions on such exemptions are taken by the national authorities on a case-by-case basis, and should be eventually approved by the EU Commission, with due reference to the five criteria set out in the Directive.

The granting of an exemption by regulators will be motivated by their desire to protect customers against having to underwrite projects where the ratio of benefits to costs is uncertain and where the cost is particularly high. It must be demonstrated that without the exemption for the requested time and scope the infrastructure project would not go ahead.

1) The conditions to grant these exemptions are as follows

a) The investment must enhance competition in gas supply and enhance security of supply
The requirement relates to meeting information request. Sponsors must comply with the requests presented by the national regulatory authority at the pre-consultation stage, giving information on issues such as dominant position, market conditions etc..

It should be reminded that distorting tariffs for e.g. LNG terminals could discriminate in favour of vertically integrated undertakings, because only they are indifferent to such distortions.

b) The level of risk attached to the pipeline is such that the investment would not take place unless the exemption is granted
It is expected that the sponsors will have presented an economic analysis showing the "risks associated with a rTPA regime" for the pipeline, as well as the risks of having an exemption that would be subject to an excessive share of the capacity reserved for short-term access. The feasibility of setting-up a financing for the project will be a key factor in the appraisal of the case.

The form of the exemption can be designed to reflect which parties are ultimately bearing the risks as in the case of the Zeebrugge terminal (see part 6).

It may be preferable to grant exemption in the form of a fixed level of capacity rather than a percentage.

c) The infrastructure must be owned by a natural or legal person which is separate at least in terms of its legal form from the system operators in whose systems that infrastructure will be built
This criterion leaves enough room to sponsors, even if they are themselves TSOs, since they still have the possibility to create the infrastructure as a separate legal body. This is what, for instance, Transco will do for the Grain LNG project.

d) Charges are levied on users of that infrastructure
It is of course expected that all the users of the pipeline will pay for its use and that the activity will be completely separated from the regulated activities of the sponsors, if any.

e) The exemption is not detrimental to the effective functioning of the internal gas market, or the efficient functioning of the regulated system to which the infrastructure is connected
The first condition mainly relates to competition in the commodity market. This requirement adds the dimension of fair commercial relationship among system operators.

2) A large degree of choice is left to the national regulatory authority

According to article 22, "the regulatory authority may, on a case by case basis decide…"

In addition:
- This exemption may cover all or parts of the new infrastructure;
- Consideration should be given to the need to impose conditions regarding the duration of the exemption. Account shall, in particular, be taken of the duration of the contracts, additional capacity to be built or the modification of existing priority.

Therefore, while examining the request of derogation, regulatory authorities may want to focus on:

- the need to ensure that the exemption must enhance competition. This exemption should not give/increase market power to the company which benefits from the exempted infrastructure. For this reason, the exemption may be limited to part of the infrastructure. The national regulator may impose conditions (duration of the exemptions, UIOLI rules, transparency…) to avoid that this exemption leads to the creation of a dominant supplier;
- with regard to the case of a project involving several countries, applications for exemption according to article 22 should be notified also to the EU Commission;
- while deciding on the exemption to the infrastructure (e.g. length of the exemption, full or partial, choice of the applicable rules) specific attention should be given on the long term ToP contracts as the terms and conditions for the use of these infrastructures are linked to these ToP contracts;
- the importance given to long term contracts and reservation capacity should not undermine the fluidity of the market and attention should be made to give room to short term flow of gas and to allow small shippers to stay in the market;
- it should make sure that the coexistence of infrastructures functioning under the default regime and those functioning under the terms of Article 22 does not lead to market distortions;
- the way rules applied for infrastructures under Article 22 interact with those in the default system, in particular how the use of this infrastructures fits in an entry exit system applied in the default regime. In the UK this has been solved by setting an exit and entry tariff at the exit/entry of the exempted infrastructure.

It therefore appears that, in newly liberalized markets, exceptions from TPA under Article 22 may not be a full exemption and that, like in the default regime a balance needs to be found between the promotion of new investments and the development of competition.

3) The position of the EU Commission on this issue has been detailed in an “Interpretive note”

The Directive states that the exemption decision shall be notified without delay by the competent authority to the Commission. The Commission may request that the regulatory authority or the Member State concerned amend or withdraw the decision to grant an exception.

This note gives a useful reading of Article 22 and, in broad terms, puts the emphasis on the necessity to reconcile the wish of project sponsors to stay in control of major infrastructure projects, and the aim of the Directive to enhance competition by giving TPA to the largest possible range of suppliers and shippers in the new facilities.

Along this line and, while considering “full exemption” as a possibility, the Interpretive note introduces the concept of “partial exemption” as a means of achieving this reconciliation:

- “Full exemption would mean that project developers could retain all the available capacity of the project for themselves for the duration of the exemption: a so called “own use” piece of infrastructure”;
- “Normally, the parties seeking [full] exemption will have given other parties an opportunity to gain access to the new facility at the planning and feasibility stage, for example through an open season procedure. Alternatively, developers should create the possibility for a minimum level of third party access to the new infrastructure under the rules of the Directive for a certain proportion of its capacity”;

- "In general, it will be expected that exemptions cannot apply where an existing dominant position is created or reinforced or where the granting of an exemption reduces the scope for diluting existing dominant positions."

5.1.2.2 Other instruments

The national regulatory authorities, who have a comprehensive view over the gas supply pattern in their respective countries, to the extent of their national competences, play an important role on the network planning activities of system operators, even if this role is not legally extended to them.

According to national legislation, national regulatory authorities may play a role in network planning:

- In most cases, Governments and other administrative bodies approve new infrastructures.
- In some countries, national energy policy measures involve the national regulatory authority through the development process of new gas infrastructures:
    - o - the approval process for new infrastructures provides that the national regulatory authority is consulted in Spain, Belgium, Austria and in the UK;
    - o - the participation of the national regulatory authority through reports or proposals in an indicative plan for natural gas supply/demand and investments needs is required in Spain, Ireland and Belgium.

Eventually, even if national regulatory authorities have no formal powers to approve new investments, they can always deliberate on the investment plans and budgets of system operators and their prioritization. National regulatory authorities can always make their opinion public.

For determining future investment needs it is crucial to identify where physical congestion can occur in the existing infrastructure. This can be achieved with clear and transparent market structures. These are developed in point 5.5

5.2. Use of these instruments according to the categories of investments

The risk mitigation tools in the hands of the national regulatory authorities can be split according to the three cases abovementioned.

5.2.1 Intra-regional investments

Intra-regional investments, in either the network or storage facilities, are necessary to accommodate growth and changes in the nature of demand and to enhance the functional capacity of the regional grids.

As stated above, several measures exist to ensure that system operators make the necessary investments. When granting an specific rate of return to new investments (in the UK or France for instance), national regulatory authorities may ensure that this does not lead to windfall profits and must reflect the underlying risks.

The need for a clear and stable regulatory framework is rather limited to the extent that the new investment may be limited compared to the other investments (see inter-regional investments and

large supply projects) and as the regulation involves only one national regulatory authority. The regulated tariffs or tariff methodologies should be designed in order to allow for a fair reward on investment.

Table 1 presents a summary of risks and risk mitigation/incentives for the first category of investments considered for the purpose of this study.

Table1: intra-regional investments

Nature of investment	Sponsors	Risk		Risk mitigation/incentives
• Debottlenecking; • Reinforcement of transmission, distribution grids, storage facilities; • Normal grid development to meet increasing demand and area of demand; • Storage development	• TSOs (transmission, distribution); • SSOs (storage).	*Volume risk*	Under-utilization	Inclusion in RAB/ potentially specific rate of return
		Revenue risk	Under-utilization	Inclusion in RAB/ potentially specific rate of return
		Need for a clear and stable regulatory framework	Generally no risk	Creation of a stable and clear investment framework Pro-active cooperation between system operators and national regulatory authority

5.2.2 Inter-regional investments

Inter-regional investments, in either the network or storage facilities, are necessary to interconnect regional markets and to allow establishing a flexible regime of cross-border exchanges of gas, which is key to the convergence of regional markets.

In the event the creation of a new cross-border interconnector appears as necessary, with no prospect of an important pipeline to fill the “missing link”, it may be necessary to take adequate steps to foster the project independently from a given supply scheme.

In addition, as stated above, there is an extra risk related to the investment linked to the uncertainty of flows.

On a case-by-case basis, national regulatory authorities may decide to provide some incentives to the sponsors, if the standard regulatory regime is not enough to allow for the investment, through:

- an enhanced rate of return for these infrastructures;
- a specific subscription regime (substantial share of capacity committed to sponsors);
- an open season with long term capacity booking to ensure the maximum use of the new infrastructure.

The EU TEN-energy program is designed to promote the development of energy infrastructure, in particular through the participation of the feasibility studies. It has been assessed by the EU Commission as essential to activate the development of a number of interconnecting lines among those listed in Appendix 3 of the last proposal, dated February 10, 2004, of the EU Commission concerning the development of energy infrastructures, such as:

- The pipeline Perpignan (F) - Barcelone (S);
- Capacity increase of the LACAL (France/Spain);

- A new interconnector between Ireland and Scotland;
- The Dublin to Belfast gas pipeline;
- Capacity increase of the lines between Spain and Portugal.

If necessary, national regulatory authorities may consider, on a case-by-case basis, to further promote inter-regional projects or to facilitate the emergence of new transit lines by sponsors of gas supply projects through TPA exemption (article 22).

At the beginning of 2005, only the UK and the Netherlands plan to implement the article 22 for an interconnecor: the BBL project. This is presented in details in chapter 6.

Table 2 presents a summary of risks and risk mitigation/incentives for the second category of investments considered for the purpose of this study.

Table 2: Projects of inter- regional interest

Nature of investment	Sponsors	Risk		Risk mitigation/incentives
• New interconnectors and enhancing of existing interconnections; • Switching from a transit line into an interconnector (dual flow); • Storage development.	• TSOs (transmission)*; • SSOs (storage); • Supply & trading Cos. • Producers	*Volume risk*	Short-term subscription regime	Diversification of subscription regime (substantial share committed to LT reservations)
			Under-utilization Lack of predictability of flows	Open season Normal risk management of merchant line
		Revenue risk	*Regulated asset*	Enhanced rate of return, if justified
			If not regulated	Own-use management (art. 22)
		Need for a clear and stable regulatory framework	Lack of harmonization between two TSOs	Dialogue with market players and national regulatory authorities involved
			Possible revision of terms and conditions for TPA	Length of enhanced rate of return regime
			Possible revision of terms and conditions for exemption (art. 22)	Full or partial TPA exemption

(*) Initiatives from TSOs may be hampered by conflict of interest if asset unbundling between the TSO and the Supply & trading arm of its parent company is not achieved

5.2.3 New gas supply projects

Investments in new gas supply projects are necessary to carry the long-term flows of gas from remote sources (e.g. from Russia, Africa, the Middle East) to the boundary of the EU market. These projects tend to result from well-identified long-term supply projects, for which they constitute the “midstream” part.

Investments in new gas supply projects are more complex and involve increased risks for the sponsor: the volume and revenue risks are higher than in the other cases. The need for a clear and stable regulatory framework may be increased by the number of regulatory areas involved (this is of course not the case for LNG projects).

These projects which are aimed at supplying a country or a region need to come on stream on time to avoid supply problems.

The standard regulated TPA regime can be appropriate if gas demand forecasts and competition between different players wishing to invest in gas supply projects are growing very quickly. It applies for instance for the substantial program of investment aimed at developing LNG terminals in Spain.

New pipelines and LNG terminals may benefit of the granting by the national regulatory authorities of an enhanced rate of return to compensate for higher risks. It is the case for instance in Belgium for the extension of the Zeebrugge LNG terminal, where an additional 0,4% was allowed for the shareholders above the specific risk profile of the operator.

It should however be noted that the recourse to long term capacity reservation contracts is a major tool used to enhance new gas supply project. Specific subscription regime can be allowed by the national regulatory authorities with the possibility of new capacity reservation being made in advance of its construction. For instance, a substantial share of new gas supply projects capacity could be commited to sponsors. Market procedures such as open season procedures are also used by sponsors.

The recourse to the exemptions of article 22 is also a solution for specific projects described in the chapter 5.1.2.

Table 3: New gas supply projects

Nature of investment	Sponsors	Risk		Risk mitigation/incentives
• New large capacity transit lines; • New LNG terminals; • New large gas supply projects.	• Large suppliers; • Other Supply & trading Cos; • TSOs (transmission); • Producers	*Volume risk*	Short-term subscription regime	Diversification of subscription regime (substantial share committed to LT reservations)
			Under-utilization	Open season
		Revenue risk	*Regulated asset*	Enhanced rate of return, when necessary
			If not regulated	Own-use management (art. 22)
		need for a clear and stable regulatory framework	Lack of harmonization between two TSOs	Dialogue with market players and national regulatory authorities concerned
			Possible revision of terms and conditions for TPA	Length of enhanced rate of return regime
			Possible revision of terms and conditions for exemption (art. 22)	Permanent or temporary TPA exemption

5.3 Specific measures to ensure the development of competition

As mentioned above, a right balance has to be found between the promotion of new investments, leading to specific measures in favour of projects sponsors and the necessity to ensure the development of competition and therefore the need to ensure that newcomers have access to the liberalized markets.

Several measures have already been made in some countries. The regulatory rules/constraints that may be imposed to the sponsor(s) to ensure that the new project will foster competition are:

- The diversification of shareholders;
- A minimum capacity share reserved for short-term bookings;
- A minimum capacity share reserved for TPA under regulated tariffs;
- An “open season” procedure for long-term capacity reservations;
- Rules for allocation of unused capacity and development of secondary markets.

It is a matter of concern that the signing of long-term supply and capacity reservation contracts may be used to foreclose the market, making it difficult for third parties to enter.

Long term gas supply contracts have been defined as gas supply contracts with a duration of more than 10 years for the purpose of Council Directive 2004/67/EC (Article 2.1). The relevant national authorities should ensure that long term capacity reservations linked to long term supply contracts do not undermine competition.

A possible issue is the design of regulatory procedures to allocate new network capacities among long-term rights and shorter-term markets.
Italy, France and Spain have taken some dispositions to foster competition.

- Italy and France limit the capacity booked on a long-term basis by the sponsors of new LNG terminal projects, respectively to 90% and 80% of the total capacity:
- In Italy, a minimum of 20% of capacity of any new infrastructure is subject to rTPA;

- France also requires that no supplier should be allowed, on an individual basis, to reserve more than 66.7% of said capacity;
- In Spain, no more that 75% of the long-term capacity of the infrastructures (LNG plants, interconnections, storages) can be booked by the same shipper. And no more than 50% of the short-term capacity can be booked by the same shipper.

Other examples of conditions attached to the development of new regulated infrastructures include the following:

- Rules for allocation of unused capacity: anti hoarding measures, like UIOLI and non used capacity release, are in force in many European countries[2]. In Italy, IUOLI measures apply to the new investments (see above the specific default regime for new investments). All national regulatory authorities have the concern that unused capacities be at least offered on a secondary market, even if no formal rule or regulation is officially applicable. In Belgium, shippers in the transport lines (and not in transit lines) are legally obliged to offer unused capacity on the secondary market.[3]
- In the UK, interconnectors must demonstrate that they are legally separate from transportation and other activities requiring a license (shipping and supply);

The necessity to find this balance between the promotion of new investments and competition should also be taken into account when implementing the exemptions provided by article 22 of the 2003/55 CE Directive.

5.4 Security of gas supply

This important issue can be split into two different aspects.

The need to redefine responsibilities between market players and public authorities with regard to security of supply

Before the liberalization process the most widespread system was that the gas monopolies were in charge of ensuring this security through various means. Costs were passed through directly to consumers. With the liberalization process which terminated with supply monopolies, this system is no more applicable and new systems have to be implemented. This is being made in the different member states as shown in annexes. In any case the role of public authorities remains predominant. Member States also have to implement the 2004 EU Directive on gas security of supply.

Tables A, B and C in annexes indicate the different methods used to ensure security of supply (maximum share allocated to any single source of gas in the supply pattern, minimum number of entry points on the national grid, description of storage obligations for security of supply).

National energy policies in certain European countries, which are often the more dependent on gas imports, have fixed legal constraints regarding to security of supply for instance by limiting the share of a single source of supply. These specific measures could stimulate investments, for instance to allow for diversified supply.

[2] Cf. CEER Monitoring report 2004 concerning Compliance with the Guidelines for Good Third Party Access Practice to Gas Transmission systems

[3] TPA-rules are not yet applicable to transit.

Security of gas supply is also linked to the availability of the gas infrastructures

Existing infrastructures need to be reliable and new infrastructures need to be available on time. Increased interconnections between grids allow to better face a supply disruption from a single source. LNG plants which allow for more flexible supply than transmission lines play also an important role. Eventually, when geology allows it, gas storage can be an important tool to ensure security of supply.

Although no security of gas supply problems has been identified in the answers given to the questionnaire, because of the increased gas demand and in particular for electricity generation, this question should remain an important matter of concern.

5.5 Guidelines for decision making

In their action in favor of an investment framework that may foster new projects, national regulatory authorities have to consider eight main aspects:

- The necessity to find the right balance between a flexible –as opposed to rigid- regulatory framework, and enough stability for operators to carry out their future investments, without discriminating existing infrastructure of the same category or with the same goals. To achieve this, the national regulatory authorities may give to the operators a clear vision of their long-term action for issues such as TPA tariff structures, TPA tariff revisions, capacity management, etc.

- The use of specific measures for mitigating the risks of new investments such as the inclusion of the new investments in the RAB or the acceptance of an enhanced rate of return should not be detrimental to the consumers, either by transferring to them the burden of an infrastructure of low value or by giving a “windfall profit” to investors.

- If specific investment incentives are granted, they should reflect the project risk, both in their scope as in their beneficiary.

- In the case of granting TPA exemption under Article 22 for a new investment appears necessary to foster the development of a large gas supply project, the TPA exemption may be subject to a series of conditions ensuring that small shippers also have access to the new facility and more generally that the project fully contributes not only to the security of supply but also to competition.

- A specific issue relates to the share of long term supply contracts which are often linked with long term capacity reservation contracts: they continue to be used as a tool to allow for large investments although they should be consistent with the development of competitive markets. The availability of short term capacity is also necessary to develop competition and market liquidity. Therefore, it is important that these long-term commitments are not used to deter competition, in particular by hoarding unused capacity.

- The national regulatory authorities should consult with each other, share experience and identify best practices in order to ensure that there is a level playing field for investors all over Europe.

- If necessary, national regulatory authorities should provide early guidance to all market players on the likely regulatory regime for new gas investments and the likely terms of exemption (if any) from this legislation (see also first point).

- New investments should not be hampered by unnecessary delays or lack of clarity in decisions affecting their construction and operation.

"Pros and cons" comparison between the default regulatory regime and the article 22 method to promote new investments.

	Default regime	Article 22
"Pros"	1) Investors are on a "level playing field with regard to competition" 2) Rules are transparent and the same for all market players 3) The default regime may be adapted to promote new investments for instance costly/risky investments	1) Allows more tailored solutions and may allow investments which would have not been made in the regulatory regime, for instance large and costly/risky projects 2) Consumers do not bear the investment risk 3) Has allowed new players to enter the market[4] 4) there is a possibility to terminate with the exemptions in case of abuse of dominant position
"Cons"	The default regime may not be adapted for some specific investments	1) A level playing field between new projects is more difficult to ensure. The coexistence of infrastructures built under the default regime and the exemptions of article 22 should not create market distortions 2) Need to ensure that the exemption does not give market power to the investor 3) Attention should be made to give room to short term flows of gas 4) Need from the sponsor to ask for an authorization from the national regulatory authorities and from the EU Commission which burdens the process to assess applications 5) Need to ensure that the article 22 mechanism rightly address the concerns of the sponsor which takes the risk and does not threaten competition 6) A priori there is no transparency on tariffs for the use of the infrastructure and flows

National regulatory authorities should help to create a stable and clear investment framework, the clarity of rules being a crucial factor. Investments in infrastructure require long-term stability and investors must be confident they can raise the necessary capital and recover the appropriate revenues.

Several national regulatory authorities have also taken measures to meet the need for a clear and stable regulatory framework, for instance by making public their middle/long term goals, by cooperating with other national regulatory authorities, and by ensuring a permanent dialogue with

[4] It should be noted that, in Spain, the default regime has allowed new players to enter the market.

regulated companies and all stakeholders. This issue will be further developed in the part on recommendations.

Inter-regional projects may involve several national regulatory authorities. They should make efforts to make clear their medium long term goals so that market players can make their decision in a more secure environment. Dialogue and coordination with other regulatory authorities involved are also necessarily required to facilitate the feasibility of the investment project and meet the need for a clear and stable regulatory framework. The obligation that regulators must cooperate, introduced by article 25, point 1, a), of the second directive 55/2003, should limit a potential lack of harmonization between two TSOs. Regulators have a key role in promoting inter-regional projects through the establishment of common, clear market rules facilitating gas flows across the regions. Solving problems related to cross border trade, including gas quality interoperability and congestion management, is an important regulatory task in this context.

Regulations should help identifying where physical congestion can occur. This can be achieved through the following:

- Effective unbundling should be established;

All gas infrastructures operators must be sufficiently independent of network users to ensure that investment decisions are not distorted by a conflict of interest.

- Effective transparency of flows and available capacities should be established:

Ensuring transparency in transmission capacity as required by the “Guidelines for Good TPA Practice for Transmission System Operators” is an important instrument to make an evaluation of the current situation of the infrastructures in comparison with the needs and is also an important tool (but not the only one) to forecast futures needs.

- The relevant body should publish the investment plans and consult with system users on their future requirements;

A minimum procedure for the publication of the Transmission System Operators’ infrastructure investment plans should be encouraged by the national regulatory authorities so that users can see how the system capacities will be developed.

- Capacity should be released to the market on a non-discriminatory and market oriented manner;

- Anti-hoarding mechanisms should be established;

There should be a regulatory regime in place to require that unused capacity is made available to the market, and secondary capacity markets should be encouraged.

- Market focused capacity allocation and congestion management mechanisms should be introduced;

While setting the conditions for access to regulated infrastructures, national regulatory authorities are also able to provide some risk mitigation/incentives and play a positive role in the decision-making process. For instance, in the UK, Ofgem has designed and implemented a system of long-term auctions for entry capacities. The idea is to send market-based signals to anticipate and eventually incentivize investments in order to remedy congestions. This system is presented in details in chapter 6.1.

The initial capacity allocation procedures of new investment projects must be clear and accessible to all parties. “Open season” procedure for long-term capacity reservations is required in Austria, Belgium and generally the UK. This procedure is used as a catalyst to identify feasible infrastructure projects.

- Liquid wholesale markets should be facilitated.

The development of hubs provides also price transparency, facilitating risk management and thereby helping to create investment signals. Market players will be more encouraged to make large investments to import gas to Europe if there is always a liquid wholesale market into which gas can be sold in the absence of specific buyer.

Summary:

- There is a large range of tools in the hands of national regulatory authorities;
- The first point is to assess if, on a case by case basis specific measures are needed;
- Then measures allowing both for the promotion of new investments and competition need to be chosen;
- The need for a clear and stable regulatory framework should be met. This is of particular importance for large investments involving several regulatory areas and also when case by case measures are made;
- Transparency in infrastructure use and use it or lose it measures help making the right investment on time;
- Promoting investments is also essential for security of supply as necessary investments should come on stream on time to ensure enough supply. Interconnections between grids allow to better face a supply disruption from a single source;
- This policy should be harmonized or at least coordinated at EU level so as both to meet the need for a clear and stable regulatory framework and mitigate potential discrimination.

6 A review of some reference cases

This chapter aims at emphasising the large variety of projects and regulatory tools which exist as well as the diversity of new sponsors.

6.1 Intra-regional projects

There is a long list of intra-regional projects (see appendix). National regulatory authorities in most case play a role in long-term planning of infrastructures. For example, in Belgium, CREG establishes an indicative long-term plan for investments. In Spain, CNE participates in the planning process.

Providing incentives for the construction of new infrastructures: capacity auctions in the UK

Since 1999, a number of auctions have been developed for the sale of entry capacity rights by Transco. Firm entry capacity has been auctioned in both monthly blocks and in daily blocks for the following day, and for the remainder of the gas day within each day. The short-term entry capacity regime introduced an efficient, non-discriminatory method of selling firm, tradeable entry capacity rights to the NTS. Under this regime, Transco is required to buy firm entry capacity rights it has sold where expected gas flows against these rights exceed physical capability. Incentives were also placed on Transco to maximize the volume of capacity rights released and to minimize the costs of buying back capacity to manage system constraint. While these changes to the entry capacity regime addressed short-term availability and allocation issues, the regime did not provide any long-term mechanism for the allocation of capacity rights to shippers. In addition it did not seek to address the provision of long-term signals and incentives to inform decisions about investments in the NTS.

Ofgem responded to concerns raised by the gas industry and customers about the importance of shippers being able to secure entry capacity rights several years ahead of use and the need for improved long-term investment signals and incentives on Transco, by initiating a review in 2000. A major objective of reform was to provide Transco with signals of NTS demand sufficiently in advance of the need for investment to accommodate that demand and to give Transco adequate incentives to respond those signals where it is economically efficient to do so.

Following a series of consultations with the industry on how the regime could be developed further, Ofgem completed the review in 2000. Ofgem proposed that a significant proportion of the available entry capacity should be auctioned over the long term, because the resultant price signals would give Transco valuable information to assist it in making future investment decisions. This information would add to the existing information from Transco's planning process and would give a reliable indicator of demand for entry capacity, because it would be backed by a willingness to pay for that capacity.

The exact features of the LTSEC auctions were developed by the industry through workstreams, culminating in the implementation of network code modification 500, "Long-term Capacity Allocation" on 30 September 2002.

The long-term auction system is described in details in a document published by Ofgem: "The January 2003 Long-Term System Entry Capacity Auctions: a review document" published in August 2003[5].

6.2 Inter-regional projects

Enhanced rate of return: the Euskadour project

For that category of investment, national regulatory authorities have also used relevant incentives to promote such projects. For example, in France, the default regime, which results from CRE's tariff proposal for 2003 (enforced by operators), provides for a rate of return for transmission assets of 7.75% in real terms before tax. The tariff regime also provides for an enhanced rate of return for new investments (9% in real terms before tax). CRE may allow this rate to be raised to 12% for a period of time limited to 5 to 10 years, for certain types of investments, which are of nature of

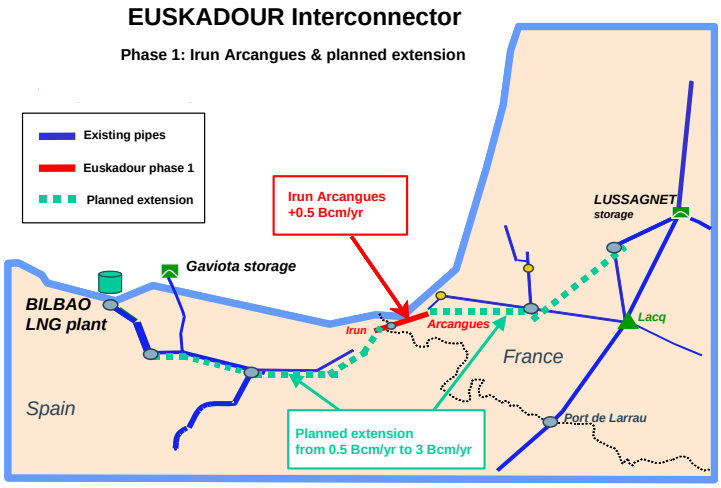
[5] http://www.ofgem.co.uk

contributing significantly to a more efficient market: creation of new entry points on the national network (interconnections), de-bottlenecking (reduction in the number of balancing zones).

In March 2004, GSO (Gaz du Sud Ouest) applied for a 12% enhanced rate of return for the "Euskadour project phase 1", which provides for the construction of a new interconnection between Spain and the South-West of France (0.5 bcm/year, operational from October 2005). The first phase of the project will enable suppliers to meet an increase in demand in the Bayonne area. Eventually, if GSO decides to proceed with phase 2, the pipeline may be extended in order to complete the 3 bcm/year interconnection between the Bilbao LNG terminal and Lussagnet (see map).

CRE's decision, issued in March 2004[6], allows GSO to benefit from a 12% rate of return for a period of 5 years. As explained in CRE's decision, this new pipeline will create an additional entry point in the South West of France, where competition is particularly slow to develop.

This period will be extended to 10 years if the connection Bilbao-Lussagnet is completed. CRE has asked GSO to follow-up with the feasibility studies for phase 2 of the project, in cooperation with TSOs involved in Spain.



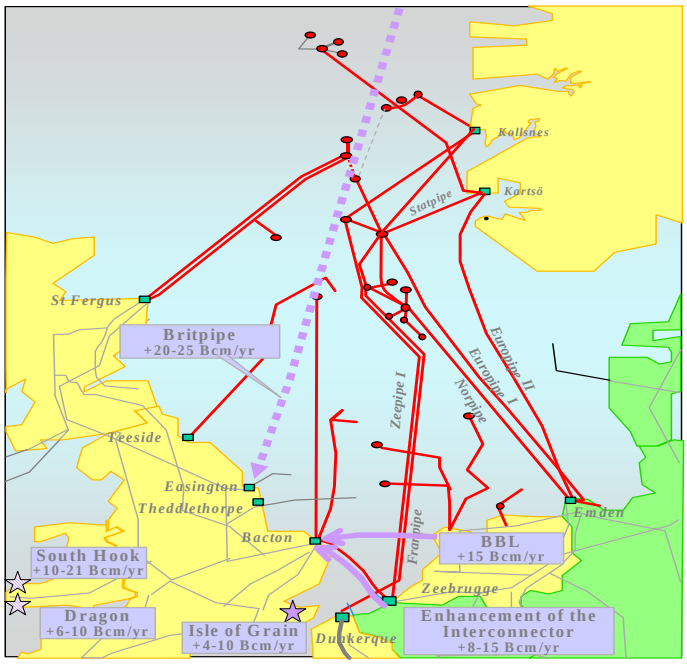
Source: GSO, CRE

Exemption to TPA (article 22): the Balgzand-Bacton (BBL) interconnector project

In the UK, Ofgem and relevant authorities in the Netherlands have chosen another instrument to promote the construction of the BBL interconnector between Balgzand (Netherlands) and Bacton (UK). In September 2003, Ofgem issued an initial views paper on a draft application that had been received from Gas transport Services (GTS), for the proposed Balgzand Bacton pipeline project (BBL). The draft application requested early informal non-binding guidance as to the likely regulatory treatment of BBL project, pending new legislation arising from Directive 2003/55.

[6] Délibération de la Commission de Régulation de l'Energie sur l'attribution d'un taux de rémunération majoré au projet « Euskadour phase 1 » de Gaz du Sud-Ouest, 18 March 2004 (http://www.cre.fr)

The BBL project provides for the construction of a new interconnector between Balgzand in the Netherlands and Bacton in the UK (see map of UK investments). The size of the pipe was still unknown at the time Ofgem received GTS draft application. GTS has since then indicated that the pipeline will have a 16 bcm/year capacity and will run one-way (from the Netherlands to the UK), at least initially, even though the possibility of reverse flow in the future has not been ruled out. GTS has conducted an open-season, prior to requesting an exemption under article 22 of the new Directive.



Source: CRE

After carrying out an informal consultation in relation to the GTS application, in parallel with Dte from the Netherlands, Ofgem issued its final views in November 2003[7]: Ofgem "currently envisages granting an exemption from certain aspects of the gas Directive for the capacity of the underlying contracts that will be negotiated by GTS for the BBL. [Ofgem] would currently expect to grant exemption for the full duration of the contracts underlying the investment. Further, assuming that other contracts with different durations and/or starting points may be concluded with shippers, and in order to create similar conditions between shippers at any point in time, an exemption for 15 years, covering all initial contracts, would be considered appropriate. In this scenario, GTS has confirmed that any such available capacity during the period of the exemption would be offered back to the market".

According to Ofgem, there are two aspects that may enhance GTS application as and when Ofgem comes to formally consult: further capacity sales should enhance the effect on UK competition and separation of GTS beyond the requirements of the gas Directive would also enhance the effect on UK competition.

[7] Gastransport Services Draft application for an exemption for the Balgzand Bacton Pipeline project (BBL), November 2003 (http://www.ofgem.co.uk)

GTS interpretation of the risk condition

Degree of exemption

An exemption according to article 22 relates to the access regime and tariff oversight only. The specific risks that need to be addressed are the volume risk (including the risk of competing pipelines) and the price risk. Other risks (e.g., leaks in pipes, permission to cross the dunes etc.) are not influenced by an (partial) exemption and are not taken into account in judging the criteria of article 22. The present assessment lacks a clear comparison of the risk in various regimes such as:

a. full exemption;
b. partial exemption (e.g., for a specific period and or for a part of the capacity); and
c. no exemption.

Next to giving comfort that an exemption will be given, the regulators and/or Governments could also give comfort with regard to the method of regulation in case of a partial exemption. One such method is to set a tariff that ensures a proper return on investment of 'used and useful' assets. To make a proper decision on an exemption, GTS needs to specify under which regulatory system it has assessed the risks of the project. GTS should assume several scenarios for the method of regulation.

EZ, EC, DTi, DTe and Ofgem envisage that not all risk will be covered in long term contracts. This means that part of the capacity will be regulated; the exemption will be limited in time, or a combination of both.

Impact of the risk

In each of the above mentioned three regimes, the impact of risk on a 'go-no go' decision needs to be assessed. If the risk level is the key argument for not investing in a project, this means that either:

a. the risk is too high for the potential investor; or
b. the combination of expected cash flows and risk is such that the expected net present value (NPV) of the project becomes negative.

In case GTS claims that the risks are above their own guidelines for such investments, this need to be supported by a prior strategic decision by their Board regarding their risk agreed exposure. To be able to make this judgement, GTS needs to provide the decision-makers with the cost of capital assumptions. This should include the risk level for the BBL in various regimes, and the level of risk that GTS is willing to accept. Moreover, as mentioned above, the risk level for BBL needs to be given for a certain method of regulation. These methods could be the current method for gas infrastructure, or a rTPA system such as currently in use for electricity.

In case GTS judges that the net present value of the project is negative, it should give the assumptions under which this decision is made. The NPV for GTS is probably the highest when all capacity is booked in such a way that the investment is fully recovered. However, in that case the Government may still want to regulate in order to limit the monopoly rent of GTS for equity reasons. With part of the capacity sold in short term contracts, the expected future free cash flow and the risk will both be different. Such a partial exemption will probably lead to a lower, NPV for the project. However, the resulting NPV may still be positive (or zero) in certain regulatory regimes.

Dte notes that the need for a clear and stable regulatory framework can also be met in advance by agreeing a certain approach by the regulators. For instance, GTS claims the need for a clear and stable regulatory framework as a result of price reviews is perceived as high. However, it should be noted that in the case of BBL, one could set the regulatory asset base in advance at a fixed value including a WACC for a set period.

Dte also points out that GTS could quantify its statement that there is competition from other pipelines by benchmarking the indicative tariffs of the BBL with for instance the tariffs of the Interconnector. The combination of an open season and competing pipelines could mean that the BBL tariffs are market-based and therefore no need for tariff regulation at this moment.

The European Commission finally confirmed the views expressed by Ofgem, and in May 2004, GTS took final investment decision on BBL. The 16 bcm/year pipeline should be laid by December 2006 and will enable GTS to honor a major contract it has with Centrica (8 bcm/year for 10 years). Most of the rest of the pipeline's capacity seems set to be booked by Wingas and Ruhrgas, although it is still unclear exactly how much they will take. A separate company, the BBL Company, has been set up to manage the BBL interconnector, with Gasunie as the major shareholder (60%), and the participation of Ruhrgas (20%) and Fluxys (20%).

6.3 New gas supply projects

Default regime for new gas supply projects: several LNG projects in Europe

The building of some LNG terminals have been decided, backed by long term capacity reservation such as Fos Cavaou in France (see above) or the extension of the Zeebrugge LNG terminal.

In summer 2004, Fluxys LNG, an affiliated company of Fluxys has decided to double its Zeebrugge LNG terminal from 4.5 bcm/year to 9 bcm/year. Work is expected to be completed in 2007.

As of 2007:
- ExxonMobil and Qatar Petroleum have booked a capacity of 4.5 bcm/year over 20 years;
- Distrigaz has booked a capacity of 2.4 bcm/year over 20 years;
- Tractebel LNG has booked a capacity of 2.1 bcm/year over 20 years.

Exemption to TPA (article 22): some LNG terminal projects in the UK and the Nabucco project

Some LNG terminal projects in the UK will be subject to partial or total TPA exemption for the "own use" of their sponsors. Ofgem has granted exemptions to the "South Hook" project for a new LNG terminal at Milford Haven, sponsored by QP/ExxonMobil and the Grain LNG project for a new LNG terminal at Isle of Grain, sponsored by National Grid Transco (see map of UK investments). Ofgem has also granted an exemption to the "Dragon" project for another new LNG terminal at Milford Haven, sponsored by Dragon LNG company.

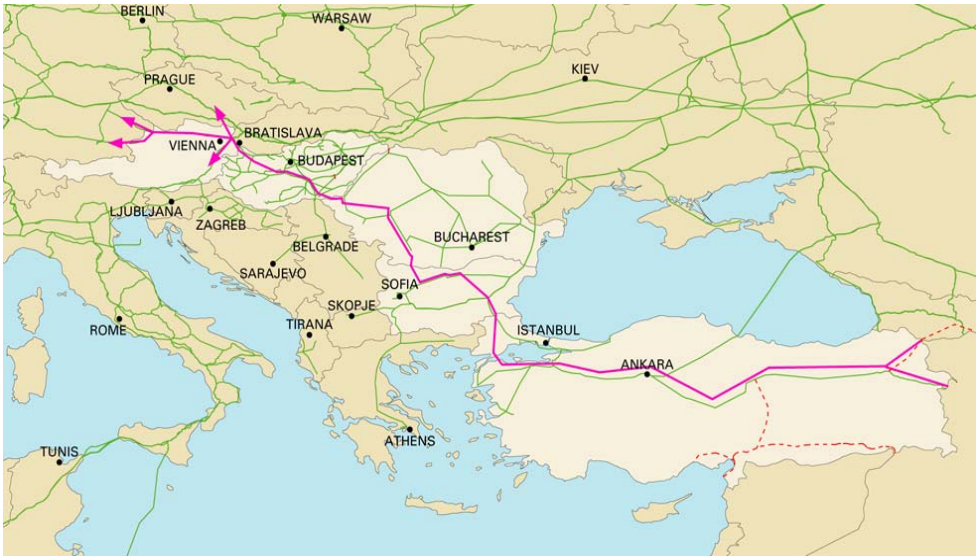
Ofgem has confirmed the current grounds on which an exemption, once granted, could be expected to be modified or withdrawn:

- A material breach of exemption criteria by either the terminal operating company or the throughputters;

- A proven breach of EU or UK competition law either by the terminal operating company or the throughputters;
- Insolvency of one or more of the throughputters where this is likely to lead to capacity in the terminal remaining unused; and
- Merger/acquisition of the Sponsors or the terminal operating company that would have a material impact in relation to the terminal exemption.

In 2005, the European Commission has confirmed the "South Hook" and the "Isle of Grain" projects.

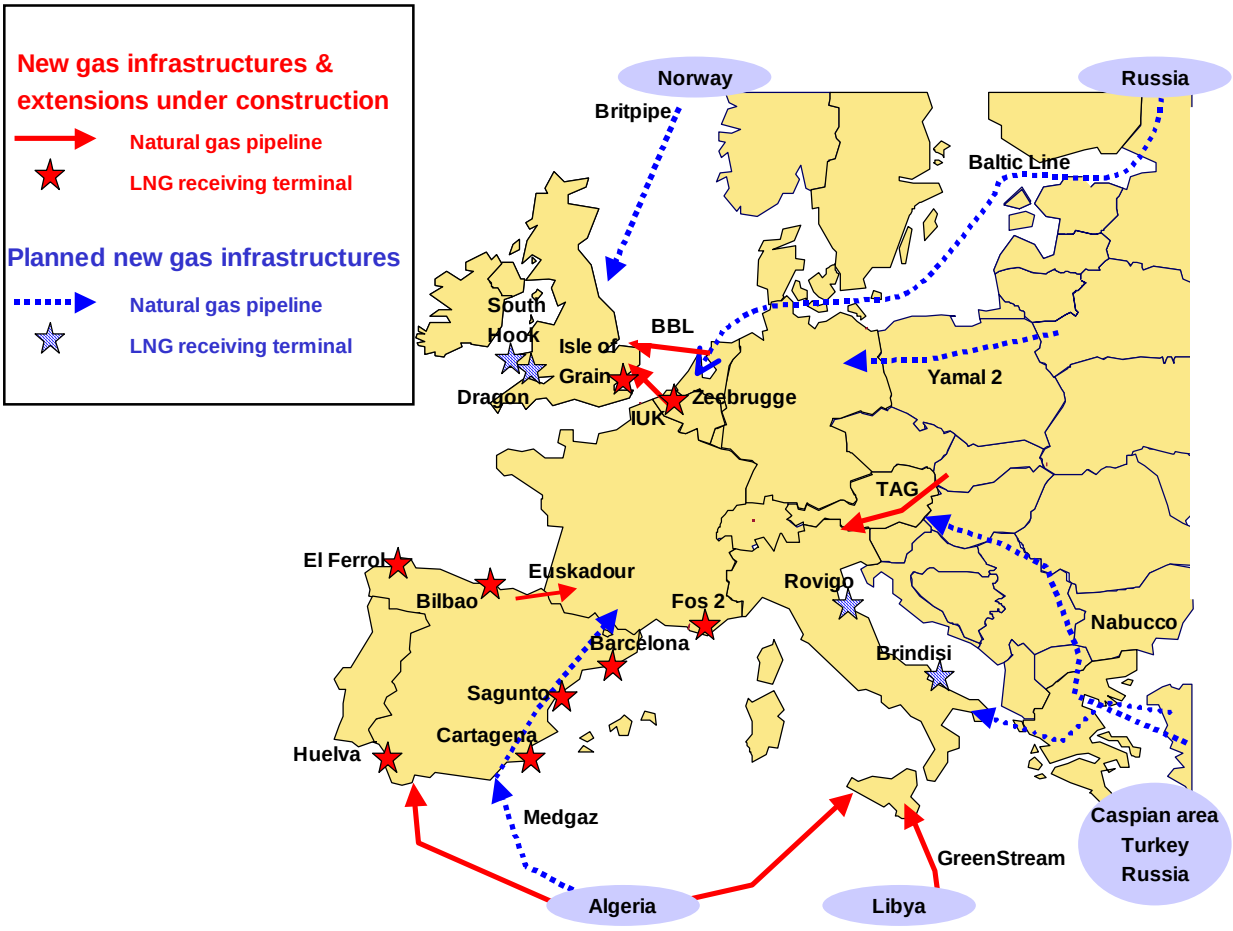
In Austria, the sponsors of the so-called Nabucco project, Austrian OMV Gas, Turkish Botas, Hungarian MOL, Romanian Transgaz and Bulgarian Bulgargaz are planning to realize a new gas pipeline system connecting Turkey and Austria (via Bulgaria, Romania, and Hungary) and thereby connecting the Middle East (Caspian gas reserves) with the demanding gas markets in the Balkans and the Central and Western European gas market. Feasibility studies are under way. E.Control has recently been informed that the sponsors would apply for an exemption according to article 22.



Source: OMV Erdgas GmbH

Three main observations should be made as a synthesis of the CEER members' responses to this benchmarking enquiry (see Tables K, L & M in annex):

- The ongoing program of development of new infrastructures is extremely active across Europe and should cover "on the safe side" the expected market growth.
- The enquiry shows that a large number of important new gas supply projects have already been engaged, which will quite significantly increase the volume of potential supplies to Europe. If we consider only the projects due to enter into operation before 2008 (the final completion dates of such projects are however still subject to administrative and environmental authorizations), they amount respectively to:
  - 4.5 Bcm/year in Belgium (LNG);
  - around 27 Bcm/year in Italy (13 for LNG and 14 for pipeline gas);
  - around 8 Bcm/year for France (LNG);
  - around 30 Bcm/year for Spain (LNG);
  - 36 to 46 Bcm/year for the UK.
- In the longer run (2010 and beyond), many new supply projects are contemplated, which will ensure the long term security and diversification of supply of Europe. These new pipeline gas or LNG projects originate from Russia, Qatar, Nigeria, Norway, the Caspian area, Algeria… and some of them are prioritized under the TEN-energy program.



7 Conclusion and recommendations

7.1 Conclusion

The development of a liquid and competitive gas market and the security of supply in the EU heavily depends on the capacity of the regulatory framework to nurture a steady flow of new investments in gas supply projects and infrastructures. Promotion of investment and protection of regulated investment are among the core duties of the national regulatory authorities.

The study shows that national regulatory authorities have, in their own country, the legal capacity to contribute to the development of the necessary infrastructures for the importation, transmission, storage and distribution of natural gas and LNG, however, only, insofar as they are in a position to:

- Facilitate the development of the infrastructures and in particular those presenting a higher degree of risk, by mitigating this risk through specific regulatory tools ;
- Address the need for a clear and stable regulatory framework attached to long term projects.

New investments are coming on stage in the framework of the creation of the European gas markets. In different countries, regulation has been adapted to circumstances and a large number of new investors have appeared.

Table 5: Emergence of new sponsors in new large gas infrastructure investments

Selected "Inter-regional" investments						
Country	***Project***	***Status***	***Annual capacity***	***Entry in operation***	***Estimated cost of investment***	***Promoters***
Belgium/ United Kingdom	**Enhancement of the IUK reverse capacity** (from Belgium to UK)	Approved	+8 bcm in December 2005; +7 bcm in December 2006	December 2005 and December 2006	£150m	**Gas producers & gas suppliers** IUK: BG, BP, ConocoPhillips, Distrigas, E.ON Ruhrgas, Gazprom, Total, ENI..
Neth.	**BBL** (Balgzand-Bacton) (Interconnection Netherlands-UK)	Approved	Around 16 bcm	2007	EUR 500m	**3 TSOs** 1 "incumbent" TSO + 2 "foreign" TSOs BBL company: GTS, Fluxys, and Ruhrgas

Selected New gas supply investments						
Country	***Project***	***Status***	***Annual capacity***	***Entry in operation***	***Estimated cost of investment***	***Promoters***
Belgium	**Zeebrugge LNG** terminal extension	Approved	Extension of capacity from 4.5 to 9 bcm	2007	EUR 165m	**Fluxys LNG (The major shareholder is the TSO Fluxys**)
France	**Fos-Cavaou** LNG terminal	Approved	8.25 bcm	2007	na	**1 TSO+ 1 gas producer** GDF T + Total
Italy	**Rovigo** LNG facility	Admin authorisations granted	4.8 bcm with possible extension to 8 bcm	2008	na	**2 gas producers + 1 gas supplier** ExxonMobil, Qatar Petroleum & Edison
Italy	**Brindisi** LNG facility	Admin authorisations granted	8 bcm	2008	na	**1 gas producer + 1 power company** British Gas, Enel
Spain	**Barcelona** LNG terminal	Various projects at various stages (from under construction to planned)	5 bcm increase of capacity	2006	EUR 245m	**1 TSO** Enagas
Spain	**Cartagena** LNG terminal	Various projects at various stages (from under construction to planned)	5 bcm increase of capacity	2007	EUR 175m	**1 TSO** Enagas
Spain	**Huelva** LNG terminal	Various projects at various stages (from under construction to planned)	7 bcm increase of capacity	2006	EUR 250m	**1 TSO** Enagas
Spain	**Mugardos** LNG plant	Admin. authorisations	7 bcm increase of capacity	2006	EUR 326m	**Various power companies and gas supplier** Union Fenosa, Endesa, Sonatrach
Spain	**Sagunto** LNG plant	Under construction	6.5 bcm	2006	EUR 342m	**Various power companies** Union Fenosa, Endesa, Iberdrola, Oman
United Kingdom	Isle of **Grain LNG** facility	Under construction	5 bcm for the first phase	2005	na	**1 TSO** Transco
United Kingdom	Milford Haven "**Dragon LNG** facility"	Planning permission	6 bcm for the first phase	2006/2007	GBP 250 million	**Independent sponsor + gas producers** Petroplus, BG, Petronas
United Kingdom	Milford Haven "**South Hook"** LNG facility	Planning permission and regulatory approval	10.5 bcm for the first phase + 10.5 bcm	2007/2008	na	**gas producers** ExxonMobil, Qatar Petroleum

The former exclusivity granted to incumbent TSOs to invest in new large gas infrastructure has been abolished: "alternative" investors have appeared. Many new developers' projects are under

construction, planned or in discussion in Europe. Actually, there is an increasing degree of sponsors' diversity:

- Incumbent TSOs,
- Other TSOs developing services not only for national markets but also for regional markets,
- International oil and gas producers and private gas producers,
- Traditional, recent or new EU gas exporters,
- Power companies.

The study evidences that the liberalisation process has enlarged the number of actors that now have the possibility to contribute to the development of new infrastructures across the EU.

New gas investments need to be made on time to ensure security of gas supply. This security will increase with the additional investments. These investments allow for a more fluid market necessary to deal with the interruption of a supply source.

The regulatory regime applicable to new large gas infrastructures is different in across EU Members.

Table 6: Different regulatory approaches for new large gas infrastructure investments

Selected "Inter-regional" and New gas supply investments					
Country	***Project***	***Status***	***Annual capacity***	***Regulatory regime***	***Capacity allocation***
Belgium/ United Kingdom	**Enhancement of the IUK reverse capacity** (from Belgium to UK)	Approved	+8 bcm in December 2005; +7 bcm in December 2006	**Neg.TPA**	**Open season**
Neth.	**BBL** (Balgzand-Bacton) (Interconnection Netherlands-UK)	Approved	Around 16 bcm	**Exemption under art. 22**	**Open season** *Long term reservations, possibility to trade capacity on the secondary market, UIOLI mechanism*
Belgium	**Zeebrugge LNG** terminal extension	Approved	Extension of capacity from 4.5 to 9 bcm	**Reg. TPA** ***Enhanced rate of return with multi-annual Tariffs***	**Open season** *Long term reservations*
France	**Fos-Cavaou** LNG terminal	Approved	8.25 bcm	**Reg. TPA rate of return to be decided**	**90% reserved to sponsors ; 10% reg. TPA (FCFS) for other shippers**
Italy	**Rovigo** LNG facility	Admin authorisations granted	4.8 bcm with possible extension to 8 bcm	**Exemption under art. 22**	**80% of capacity reserved to sponsors for 25 years 20% for other shippers**
Italy	**Brindisi** LNG facility	Admin authorisations granted	8 bcm	**Exemption under art. 22 requested**	**80% of capacity reserved to sponsors for 20 years 20% for other shippers**
Spain	**Barcelona** LNG terminal	Various projects at various stages (from under construction to planned)	5 bcm increase of capacity	**Reg. TPA default regime**	**FCFS 25% for short-term contracts**
Spain	**Cartagena** LNG terminal	Various projects at various stages (from under construction to planned)	5 bcm increase of capacity	**Reg. TPA default regime**	**FCFS 25% for short-term contracts**
Spain	**Huelva** LNG terminal	Various projects at various stages (from under construction to planned)	7 bcm increase of capacity	**Reg. TPA default regime**	**FCFS 25% for short term contracts**
Spain	**Mugardos** LNG plant	Admin. authorisations	7 bcm increase of capacity	**Reg. TPA default regime**	**FCFS 25% for short term contracts**
Spain	**Sagunto** LNG plant	Under construction	6.5 bcm	**Reg. TPA default regime**	**FCFS 25% for short term contracts**
United Kingdom	Isle of **Grain LNG** facility	Under construction	5 bcm for the first phase	**Exemption under art. 22**	**Open season Long term reservations Full TPA exemption (UIOLI)**
United Kingdom	Milford Haven "**Dragon LNG** facility"	Planning permission	6 bcm for the first phase	**Exemption under art. 22**	**Open season Long term reservations Full TPA exemption (UIOLI)**
United Kingdom	Milford Haven "**South Hook**" LNG facility	Planning permission and regulatory approval	10.5 bcm for the first phase + 10.5 bcm	**Exemption under art. 22**	**Long term reservations Full TPA exemption (UIOLI)**

The regulatory regime for new large gas investments can vary according to different regulatory approaches between:

- Standard regulated TPA (default regime as in Spain),
- Regulated TPA with an enhanced rate of return to compensate for higher risks, with in some cases multi annual tariffs (the enhanced rate of return may be considered on a case-by-case basis),
- Specific TPA regime (as in Italy),
- Partial or total TPA exemption through article 22.

Initial capacity allocation procedures for new investments in the EU Members States differ between:

- FCFS mechanism,
- The reservation in advance by sponsors of a large part of capacity,
- “open seasons” procedures,
- auctions,
- in specific cases, the allocation of the full capacity to sponsors without “open season”.

Investments in new large gas infrastructures require long term stability and visibility. Long term commitments and long term ship or pay contracts continue to be used to allow for large investments. The rules for accessing long term and short term capacity need to be clear, transparent and they have to respond to the needs of market participant.

The availability of short term capacity is essential to the development of competitive market. This can be achieved via regulatory tools (a minimum capacity share reserved for short term bookings), auctions or secondary capacity trading. Capacity contracted on long term basis should be subject to a use-it-or-lose-it regime.

The large majority of capacity of the new gas supply projects described in the Table above has been reserved or will be reserved by new competitors to the regional incumbent suppliers. Despite the relative immaturity of market opening in Europe, recent years have witnessed new large investments being realized by new suppliers willing to challenge former monopolistic companies in the future. This is a major benefit for the development of an internal energy market, the Security of Supply through increased diversity of supplies and the development of effective competition in Europe.

The broad range of measures which are being implemented facilitate investments may lead to a situation where the rules of the game may differ substantially between different regulatory areas if not within single regulatory areas. At the EU level, the study suggests that there remains areas where national regulatory authorities may want to make practices more convergent with regard of issues of common interest, which encompass not only the inter-regional projects as new interconnectors, but more generally, the long-term regional development of the interconnected networks, the derogations to standard TPA regime, and the construction, through hubs and regional market places, of a more integrated gas market. Regulatory practices shall be harmonized or at least co-coordinated to facilitate where necessary the design of new projects and meet the need for a clear and stable regulatory framework.

7.2 Recommendations

CEER key issues to promote the development of new gas infrastructure Europe (it should be noted that, according to the respective national legislations, all the following items may not fall under the responsibility of national regulatory authorities):

1) Tariffs setting

- Promoting close contact and communication between market players and system operators,
- Guaranteeing a high transparency of investment process,
- Ensuring that system operators and others sponsors be appropriately incentivised to invest efficiently in network infrastructure and to respond to market needs and signals,
- If necessary, national regulatory authorities should provide early guidance to all market players on the likely regulatory regime for new gas investments and the likely terms of exemption (if any) from this legislation.

2) Regulation

- Harmonizing or at least coordinating regulatory practices in Europe in order to facilitate the development of the internal energy market
- Consulting with the other national regulatory authorities, sharing experience and identifying best practices at European level in order to :
  - Meet the need for a clear and stable regulatory framework and give visibility to investors;
  - Promote and facilitate inter-regional projects,
  - Carefully consider the instruments at their disposal in order to balance the need for new investments and the development of competition;
  - Ensure that there is a level playing field for investors all over Europe;
  - Ensure that decisions are made in time, as excessive delays may deter the realization of new infrastructures.

3) Market design

- Ensuring that an effective unbundling is established to ensure no conflict of interest when making investment decisions,
- Promoting the publication of system operators' investment plans and the consultation with system users on their future requirements,
- Guaranteeing the transparency of initial capacity allocation procedures of new investment projects,
- Ensuring that long-term commitments however do not threaten competition by hoarding unused capacity,
- Facilitating the possibility for all market players to identify where physical congestion can occur in the existing infrastructure,
- Requiring effective transparency of flows and available capacities,
- Ensuring that capacity is released to the market on a non-discriminatory and market oriented manner,
- Guaranteeing the establishment of anti-hoarding mechanisms,
- Facilitating congestion management mechanisms,
- Promoting the development of hubs and trading centers in Europe to provide price transparency.

ANNEX

[Questionnaire on "Investments in new gas infrastructures and the role of EU national regulatory authorities" in the CEER Members (Issued March 2004)]

Based on questionnaires received from Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Hungary, Ireland, Italy, Netherlands, Slovak Republic, Slovenia, Spain, Portugal, United Kingdom

This part of the document results from the feedback received from the CEER members to a questionnaire aiming at gathering the relevant information on procedures and incentives for investments in new gas infrastructures, in their respective countries.

It was intended to explore the four following subjects through the questionnaire:

- The possible consequences of the *national energy policies* on the development of new infrastructures, in particular of obligations to the industry on measures such as:
  - Maximum share allocated to any single source of gas (or country) in the supply pattern;
  - Minimum number of entry points in the national grid imposed to any supplier;
  - Storage obligations for national security of supply reasons;
  - Mandatory balancing of supply resources imposed to any supplier between LNG and pipeline gas.

- The *approval process for new infrastructures* and its timing requirement, and the respective role in this process of:

  - The sponsor(s) of the project;
  - The government;
  - The national regulatory authorities.

- The *regulatory regime applicable to new gas infrastructures* on the main terms of reference applicable to the strategic and economic factors commanding the decision to invest:
  - The rules/constraints that may be imposed to the sponsor(s) to ensure that the new project will foster competition:
    - The diversification of shareholders;
    - An "open season" procedure for long-term capacity reservations;
    - A minimum capacity share reserved for short-term bookings;
    - Rules for allocation of unused capacity.

  - The rules/considerations followed by the regulator to opt for a special regulatory regime for new large infrastructure projects (like an LNG terminal or a new interconnector), and those that may govern the respective selection between:
    - Standard regulated TPA regime;
    - Regulated TPA regime including the granting of an enhanced rate of return to compensate for higher risks and/or specific subscription regime;
    - A regime of TPA exemption, under article 22 of the 2003/55 CE Directive.

- The general conditions under which article 22 of the Directive is implemented, in particular how the five criteria are taken into account to evaluate whether projects may be eligible to TPA exemption.

- The *case-by-case review of the main gas infrastructure projects* in Member States, with a view to assessing the status of the projects and the range of regulatory terms and conditions implemented by the national regulatory authorities to sustain the development of new investments, in particular of the projects that are considered as having the highest potential contribution and value for:
- Fostering the completion of a more liquid and integrated gas market in the respective countries;
- Increasing the convergence of regional markets through cross-border trade.

1. The national energy policy in your country and its consequences on the development of new gas infrastructures

As an overall rating, it appears that only the countries of Southern Europe (France, Italy and Spain), which are also the more dependent on gas imports, have fixed legal constraints to suppliers concerning one –or several- of the following aspects of the safety of supply:

- *The maximum share allocated to any single source of gas in the supply pattern*: only France and Spain have set legal dispositions on the diversification of gas supplies and it is fair to acknowledge that these dispositions should not have a negative impact on the creation of new infrastructures. On the contrary, insofar as such dispositions tend to limit the penetration on each market of the closest production source, they are expected to facilitate the creation of new transit lines and interconnectors extending the marketing area of such sources;

- *The minimum number of entry points into the national grid:* only France has set an obligation in terms of minimum number of entry points in the grid for any individual supplier (respectively 2 or 3 entry points for a market share in excess, respectively, of 10 or 20%);

- *Storage obligations for security of supply reasons:* Italy, Portugal and Spain have fixed quantitative storage obligations for suppliers, respectively 10% of the annual sales for non-EU countries suppliers in Italy, 20 days in Portugal and 35 days of firm sales in Spain. This should constitute an incentive for the development of new storage capacities;

- *Other*: other national energy policy measures are likely to have an impact on the development of new gas infrastructures, including:
  - Implementation of a pro-active congestion policy by the TSO (Belgium, Austria);
  - Obligation placed on the TSO to meet market demand (Belgium);
  - Preparation by the national regulatory authority of an indicative plan for natural gas supply every three years (Belgium);
  - Incentives placed on the TSO to respond to demand to build additional capacity at entry points (higher returns) (UK);
  - Long-term planning of necessary capacities and possible bottlenecks based on supply forecast by TSO, which has to be approved by the regulatory authority every year;
  - Recovery of adequate investment cost in regulated grid charges (Austria).

Altogether, it is obvious that these measures should constitute more an incentive than a deterrent to create more transmission and storage capacities in Southern Europe.

Table A : Maximum share allocated to any single source of gas in the supply pattern

	Y/N	*Description*
Austria	None	n.a
Belgium	None	n.a
Czech Republic	None	n.a.
Denmark	None	n.a
Estonia	None	n.a.
Finland	None	n.a
France	Yes	Suppliers to certain types of consumers to have several sources of supply
Hungary	None	n.a
Ireland	None	n.a
Italy	None	n.a
Netherlands	None	n.a
Slovak Republic	None	n.a
Slovenia	None	n.a
Spain	Yes	Maximum share in the supply and balance from any single country source of 60%
Portugal	None	n.a
United Kingdom	None	n.a.

Table B : Minimum number of entry points on the national grid

	Y/N	*Description*
Austria	None	n.a
Belgium	None	n.a
Czech Republic	None	n.a.
Denmark	None	n.a
Estonia	None	n.a.
Finland	None	n.a
France	Yes	Suppliers to certain types of consumers to have several sources of supply
Hungary	None	n.a
Ireland	None	n.a
Italy	None	n.a
Netherlands	None	n.a
Slovak Republic	None	n.a
Slovenia	None	n.a
Spain	None	n.a.
Portugal	None	n.a
United Kingdom	None	n.a.

Table C : Storage obligations

	Y/N	*Placed on*	*Description*
Austria	None	n.a	n.a.
Belgium	Yes	TSO	Storage capacity used in priority for distribution companies or non-eligible customers
Denmark	Yes	TSO	A portion of the two existing storage facilities is reserved for security of supply purposes.
Czech Republic	Yes	SSOs/TSO	Transparency requirements and safety requirements
Estonia	None	n.a	n.a
Finland	None	n.a	n.a.
France	None	SSOs	Transparency requirements
Hungary	None	n.a	n.a
Ireland	None	n.a	n.a.
Italy	Yes	Suppliers from non-EU countries	Shall reserve 10% of the annual quantity supplied
Netherlands	Yes	SSOs	A portion of the three existing storage facilities is reserved for security of supply purposes and for production from the Dutch small fileds
Slovak Republic	Yes	n.a	The energy policy of the Slovak republic recommends the construction of storage facilities
Slovenia	None	n.a	n.a
Spain	Yes	TSO/shippers	Shall maintain minimum security stocks equivalent to 35 days of their firm sales
Portugal	Yes	TSO	Shall provide strategic storage equivalent to at least 20 days of the last year consumption
United Kingdom	Yes	TSO	Fulfils a role to top-up storage to meet certain SoS output standards (1/20 obligation)

Mandatory balancing of resources between LNG and pipeline gas

In none of the countries surveyed there is mandatory balancing of resources between LNG and pipeline gas.

2. The approval process for new infrastructures

All new investments are subject to specific approval procedures in each of the EU countries, which are generally of a twofold nature:

- The administrative and environmental authorizations for the construction of the new facility, which are applicable to any industrial investment under the national and regional procedures;
- The licensing for the operation of the gas facility, which should be given by the government and/or the national regulatory authority.

The creation of new industrial sites or equipments in the EU has become more and more constrained over the last years, let alone for environmental reasons, but no element indicates that the procedures in force should result in deterring or delaying unreasonably the construction of gas infrastructures.

Table D: Overall approval procedure

	Duration	***Description***
Austria	2 years	Initial application by licensed operator; approval by government subject to a number of administrative authorisation
Belgium	3 years	Initial application by promoter; approval by government subject to a number of administrative authorisations
Czech Republic	n.a.	Initial application by promoter; approval by government subject to a number of administrative authorisations; National regulatory authority monitors the amount of money spent on the new infrastructure in relation to efficient increasing of capacity in general
Denmark	n.a.	Promoter needs to prove that there is sufficient need for development; approval by government
Estonia	60 days (licensing)	Initial application by promoters ; licensing by national regulatory authority
Finland	2 - 5 years	Initiated by TSO ; Approved by government
France		Initial application by TSOs/DSOs; approval by government
Hungary	2 – 4 years	TSOs and SSOs responsible for developing their infrastructures; licensing by national regulatory authority
Ireland	n.a	Initial application by TSOs; approval by the national regulatory authority
Italy	n.a.	Initial application by the promoters; approval by the government
Netherlands	n.a.	No approval procedure; any party free to develop new infrastructures
Slovenia	2 – 4 years	Initial application by promoters; approval by government
Slovak Republic	n.a.	Initial application by license holder; approval by the national regulatory authority
Spain		Mandatory energy planning (government, Parliament, national regulatory authority is consulted); direct authorisation or public tender organised by government
Portugal		TSO/DSOs responsible for developing their infrastructures ; approval by government
United Kingdom		Projects subject to local planning; interconnectors need a license

Table E: Role in the approval process of the promoters, the government and the regulator

	Promoters	***Government***	***National regulatory authority***
Austria	Decide and prepare application	Competent for approval and licensing of pipeline system	Involved in licensing TSOs
Belgium	Decide and prepare application	Competent for approval and licensing	Involved in licensing TSOs
Czech Republic	Decide and prepare application	Competent for approval	Monitors the amount of money spent on the new infrastructure in relation to efficient increasing of capacity in general
Denmark	Decide and prepare application	Competent for approval	No role apart from tariff assessment
Estonia	Decide and prepare application	No role	Competent for licensing and setting the tariffs
Finland	Decide and prepare application	Competent for approval of cross-border pipelines	No role
France	Decide and prepare application	Competent for approval and licensing	No role apart from tariff setting
Hungary	Decide and prepare application	Implements legislation	Competent for licensing
Ireland	Decide and prepare application	No role	*n.a*
Italy	Decide and prepare application	Competent for administrative and environmental approval	No role apart from tariff and access rules setting
Netherlands	Decide and prepare application	*n.a*	*n.a*
Slovak Republic	Decide and prepare application	No role	Competent for approval
Slovenia	Decide and prepare application	Competent for approval	No role apart from tariff setting
Spain	Prepare bid	Carries out mandatory planning; gives direct authorisation; organises tender; selects bids	Participates in the energy planning process; is consulted in the authorisation process (direct authorisation or tender procedure)
Portugal	Decide and prepare application	Competent for approval	Provides an opinion
United Kingdom	Decide and prepare application	Competent for approval	Competent for licensing interconnectors

3. The regulatory regime applicable to new infrastructures

The national regulatory authorities have been requested to describe the rules/constraints that may be imposed to the sponsor(s) of the regulated projects to ensure that they will foster competition, and also the policy followed in their respective countries to upgrade the conditions offered to the sponsor(s) for some specific projects, through the form of the granting of an enhanced rate of return to compensate for higher risks, or potentialy through partial or total TPA exemption.

Table F: Rules/constraints that may be imposed to the sponsors to ensure that the new project will foster competition

	Diversification of shareholders	*"Open season" for long-term capacity reservations*	*Minimum capacity share of the project reserved to short-term bookings*	*Rules for allocation of unused capacity*	*Other*
Austria	No	No	No	Yes	No
Belgium	No (1)	Yes (1)	No (1)	Yes (1)	No (1)
Czech Republic	No	Yes	Yes	Yes	No
Denmark	No	No	No	No	No
Estonia	No	No	No	No	No
Finland	No	No	No	No	No
France	No	No	10% for LNG terminals	Yes	No supplier should be allowed more than 2/3 of LNG terminal capacity(2)
Hungary	No	No	No	No	No
Ireland	No	No	No	No	In some cases, the regulator may sponsor a competition to build and operate new pipeline infrastructure
Italy	No	No	No	UIOLI	80% reserved to the investors
Netherlands	No	No	No	No	No
Slovak Republic	No	No	No	No	No
Slovenia	No	No	No	No	No
Spain	No	No	25% (No supplier shall have access to 50% of these 25%)	Yes	No more than 50% of the short term capacity can be booked by the same shipper
Portugal	n.a	n.a	n.a	n.a	n.a
United Kingdom	No(3)	Yes (but no in some cases) (4)	No	Yes	Transparency in terms of tariffs, use of capacity required

(1) Some rules (GGP2) defined in the "Code of Conduct". Answers in the table specific to the extension of the Zeebrugge LNG terminal
(2) CRE deliberation on the protocol between Gaz de France and Total
(3) Interconnectors must demonstrate they are legally unbundled from other licensed activities
(4) Nevertheless, infrastructures that demonstrates a positive competition assessment without an open-season would be considered for an exemption

Table G: Regulatory regime for new large infrastructure project

	Standard regulated TPA regime	*Specific enhanced TPA regime*	*Other*	*Article 22*
Austria	Yes	No	No	No
Belgium	No	Yes	No	No
Czech Republic	n.a	n.a	n.a	n.a
Denmark	n.a	n.a	n.a	n.a
Estonia	Yes	n.a	n.a	n.a
Finland	Yes	No	No	No
France	Yes	Yes	No	Yes
Hungary	Yes	No	No	*No*
Ireland	Yes	Yes	No	*No*
Italy	20% of capacity	Up to 80% of capacity reserved to the investor	The tariffs for the 20% of capacity are exempted from regulation for the first four years for the new storage facilities; the first year for new pipelines and LNG terminals.	Yes
Netherlands	Yes	Yes	Yes	*Yes*
Slovak Republic	Yes	No	No	No
Slovenia	Yes	No	No	No
Spain	Yes	No	No	No
Portugal	n.a	n.a	n.a	n.a
United Kingdom	Yes (NGT standard investment)	Yes	Upstream pipelines subject to DTI oversight and/or international treaties	Yes (only for import infrastructure and storage)

Examples of standard regulated TPA regime include:

- Pipelines between the UK and Ireland (Ireland).
- New LNG terminals in Spain (25% of capacity reserved for short-term contracts).

Examples of regulated TPA regime with an enhanced rate of return granted by the regulator include:

- The extension of the Zeebrugge terminal: long-term tariff regulation (20 years) and higher rate of return (Belgium);
- The Euskadour gas pipeline: 10 years and a rate of return of 12% (France);

Examples of TPA exemption under article 22 include (potentially):

- South Hook LNG facility at Milford Haven (UK);
- Dragon LNG facility at Milford Haven (UK);
- Grain LNG facility (UK);
- BBL interconnector (Netherlands/UK).

Table H: Main regulatory terms and conditions for TPA tariffs

	Main regulatory terms and conditions for TPA tariffs for new infrastructure
Austria	Same regulatory terms and conditions
Belgium	Long term tariffs. Bonus redistributed. In case of the malus, tariffs increased
Czech Republic	Market opening not until January 2005
Denmark	n.a
Estonia	n.a
Finland	Same regulatory terms and conditions
France	Rate of return for the transportation assets that will become operational from 2004: 9% (7.75% for existing infrastructures) Rate of return for a limited number of investments, which are of nature of contributing to a more efficient and competitive market: 12% for 5 to 10 years Rate of return for new LNG infrastructures: on a case by case basis
Hungary	Normal RAB
Ireland	All new infrastructures consented by the regulator form part with the RAB
Italy	80% of capacity reserved by the investors for 20 years: negotiated tariffs 20% of capacity for 20 years: regulated TPA regime
Netherlands	RAB for projects benefiting the Dutch consumer Outside RAB for projects not benefiting the Dutch customers (e.g. BBL) Negotiated tariffs for storage infrastructures
Slovenia	Same regulatory terms and conditions
Slovak Republic	Same regulatory terms and conditions
Spain	Same regulatory terms and conditions
Portugal	n.a.
United Kingdom	New energy bill under discussion New interconnector license will set down the regulatory requirements of the Directive but also Ofgem may grant exemptions for certain of these conditions Default regime (RTPA, NTPA) for LNG infrastructure and storage facilities Conditions under which LNG infrastructure and storage facilities can apply for an exemption Storage facilities will be able to apply for an exemption either where they can demonstrate that not economically necessary for efficient access or that they already have existing arrangements that promote competition

4. List of future gas infrastructure having the highest potential contribution and value

Table J: Storage investments

Upgrading/Extension of underground storage facilites								
Country	***Project***	***Promoters***	***Status***	***Annual capacity***	***Entry in operation***	***Estimated cost of investment***	***Regulatory regime***	***Capacity allocation***
Belgium	Expansion of the Loenhout storage facility	Fluxys	Feasibility study phase	Injection capacity to be increased to 625 km3(n)/h Withdrawal capacity increases to 350 km3(n)/h Storage capacity increases to 1bcm	2006/2007	confidential	Reg. TPA	Reg. TPA with order of priority for distribution companies or non-eligible customers
France	On-going extension of storage facilities	Gaz de France, Total						
Hungary	Extension of several storage facilities		Under construction	3 Mcm/d	2005	EUR 35m	?	?

New storage facilites								
Country	**Project**	**Promoters**	**Status**	**Annual capacity**	**Entry in operation**	**Estimated cost of investment**	**Reg. regime**	**Capacity allocation**
Austria	Haidach	RAG, Wingas, Gazexport	Feasibility study phase	n.a	2007	***250Mio.€***	nTPA	No details by now
Neth.	Zuidwending	Nuon, GTS	Feasibility study phase	180mcm capacity, 1.6mcm/h (injection or withdrawal?)	2009/2010	EUR 300m	Neg. regime, unless if both parties ask for exemption	At least some long-term contract
Portugal	Carriço	Transgas	Under construction	120 mcm (facilities 1&2) 30 mcm (facility 3) 45 mcm (facility 4)	2004 (1&2) 2006 (3) 2007 (4)	EUR 97m	n.a	n.a
Spain	Santa Barbara	Enagas	Research authorisation	1000 mcm capacity 416000m3/h withdrawal capacity	2007		Reg; TPA	
	Reus	Enagas	Research authorisation	1000 mcm capacity 416000m3/h withdrawal capacity	2006		Reg. TPA	
	Sarinena	Enagas	Research authorisation	1000 mcm capacity 416000m3/h withdrawal capacity	2006		Reg. TPA	
UK	Aldborough storage (North)	Statoil	Planning permission	170-230 pcp storage capacity	2007/2008			
	Aldborough storage (South)	Scottish and Southern Hornsea Ltd Energy	Planning permission	170 mcm capacity	2007/2007			
	Cheshire storage - Byley	Scottish Power	Public enquiry held	170 mcm	2007/2008			
	Humbly Grove storage facility	Star Energy Ltd	Planning permission being sought	280 mcm	2005/2006			
	Welton storage facility	Star Energy Ltd	Pre-planning	280 mcm	2005/2006			
	Lancashire storage facility	Cantaxx	Pre-planning	Not yet determined				

Table K: "Inter-regional" investments

Country	*Project*	*Promoters*	*Status*	*Annual capacity*	*Entry in operation*	*Estimated cost of investment*	*Reg. regime*	*Capacity allocation*
Belgium/ United Kingdom	Compression facility in Zeebrugge (extension of Interconnector capacity) (Interconnection Belgium-UK)	IUK	Approved	Increased to 23.5 bcm (+8 bcm in December 2005; +7 bcm in December 2006)	December 2005 and December 2006	£150m	Neg.TPA	Open season
France	Euskadour (Interconnection France-Spain)	Total	Approved	500 mcm	October 2005	17,8 MEuros	Reg. TPA	FCFS
Neth.	BBL (Balgzand-Bacton) (Interconnection Netherlands-UK)	GTS (60%), Fluxys (20%) and Ruhrgas (20%) through the BBL company	Approved	Around 16 bcm	2007	Eur 500m	Exemption under art. 22	Open season Long term reservations, possibility to trade capacity on the secondary market, UIOLI mechanism
Spain	Interconnection France-Spain	Sociedad de Gas de Euskadi	Admin. Auth.		2004	EUR 3m	Reg. TPA	

Table L: New gas supply investments (transmission and interconnection pipelines)

Country	*Project*	*Promoters*	*Status*	*Annual capacity*	*Entry in operation*	*Estimated cost of inverstment*	*Reg. regime*	*Capacity allocation*
Austria/ Hungary	Nabucco (Austria/Turkey interconnection via Bulgaria, Romania and Hungary)	OMV, BOTAS, MOL, Transgaz, Bulgargaz	Feasibility study under way	4,5-25,5 Bcm	2010	4,4 bil.€	art. 22 requested	To be decided
Austria/ Germany	WAG-expansion	BOG/OMV	Feasibility study under way	4,4 bcm	2007	260 Mio.€	NTPA (transit)	n.a
Austria/ Italy	TAG expansion	TAG GmbH (ENI)	No final decision	6,5 bcm	2008	n.a	rTPA/nTPA (transit)	n.a
Italy	Greenstream (new pipeline from Libya)	Snam Rete Gas in the Italian territory	Under construction	8 bcm, with possible extension to 10 bcm	2005		Standard rTPA	Capacity reserved to long-term contracts negotiated before Directive 98/30; remaining capacity allocated to other contracts
	Strength-ening import pipeline from Russia	Snam ReteGas in the Italian territory	Under construction	6.5 bcm in the Italian territory	2007		Standard rTPA	Capacity reserved to long-term contracts negotiated before Directive 98/30; remaining capacity allocated to other contracts
Spain	Medgaz	Cepsa, Sonatrach, Bp, Endesa, Gaz de France, Iberdrola, Total	Feasibility study	8 bcm	2008	-	Project outside EU	Project outside EU
United Kingdom	Ormen Lange (southern piepeline from Sleipner to Easington)	Norsk Hydro/Shell Norge...	Principles for pipelines agreed 2 October 2003	25 – 30 bcm	2007/2008			

Country	Project	Promoters	Status	Annual capacity	Entry in operation	Estimated cost of inverstment	Reg. regime	Capacity allocation
Turkey Greece, Italy	New pipeline connecting Turkey and Italy via Greece	DEPA Botas Edison	Feasibility study					

Table M: New gas supply investments (LNG regasification terminals)

Country	Project	Promoters	Status	Annual capacity	Entry in operation	Estimated cost of investment	Regulatory regime	Capacity allocation
Belgium	Zeebrugge LNG terminal extension	Fluxys LNG	Approved	Extension of the throughput capacity from 4.5 bcm to 9 bcm	2007	EUR 165m	Reg. TPA	Open season
France	Fos-Cavaou LNG terminal	Gaz de France (2/3), Total (1/3)		8.25 bcm	2007		90% RTPA (promoters); 10% reg. TPA	90% reserved by the promoters ; 10% reg. TPA (FCFS)
Italy	Rovigo LNG facility	Edison, ExxonMobil, Qatar Petroleum	Admin authorisations granted	4.8 bcm with possible extension to 8 bcm	2008		Exemption under art. 22	80% of capacity reserved to sponsors for 25 years
	Brindisi LNG facility	British Gas, Enel	Admin authorisations granted	8 bcm	2008		Exemption under art. 22 requested	80% of capacity reserved to sponsors for 20 years

Country	Project	Promoters	Status	Annual capacity	Entry in operation	Estimated cost of investment	Regulatory regime	Capacity allocation
Spain	Barcelona LNG terminal	Enagas	Various projects at various stages (from under construction to planned)	5 bcm increase of capacity	2006	EUR 245m	Reg. TPA	FCFS (25% for short-term contracts)
	Cartagena LNG terminal	Enagas	Various projects at various stages (from under construction to planned)	5 bcm increase of capacity	2007	EUR 175m	Reg. TPA	FCFS (25% for short-term contracts)
	Huelva LNG terminal	Enagas	Various projects at various stages (from under construction to planned)	7 bcm increase of capacity	2006	EUR 250m	Reg. TPA	FCFS (25% for short term contracts)
	Mugardos LNG plant	Reganosa	Admin. authorisations	7 bcm increase of capacity	2006	EUR 326m	Reg. TPA	FCFS (25% for short term contracts)
	Sagunto LNG plant	Sagunto	Under construction	6.5 bcm	2006	EUR 342m	Reg. TPA	FCFS (25% for short-term contracts)
United Kingdom	Isle of Grain LNG facility	NGT	Planning permission and regulatory approval	5 bcm for the first phase	2005		Exemption under art. 22	Open season Full TPA exemption (UIOLI)
	Milford Haven "Dragon LNG facility"	Petroplus, BG, Petronas	Planning permission	6 bcm for the first phase	2006/2007		Exemption under art. 22	Open season Full TPA exemption (UIOLI)
	Milford Haven "South Hook" LNG facility	ExxonMobil/QP	Planning permission and regulatory approval	10.5 bcm for the first phase + 10.5 bcm	2007/2008		Exemption under art. 22	Full TPA exemption (UIOLI)