

**THE COMMISSION FOR ENERGY REGULATION
AN COIMISIÚN UM RIALÁIL FUINNIMH**

**CONSULTATION ON NATURAL GAS POLICY
FRAMEWORK**



Commission for Energy Regulation

An Coimisiún um Rialáil Fuinnimh

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FOREWORD

The Gas (Interim) (Regulation) Act, 2002 was signed into law on 10 April 2002 and with effect from 30 April 2002, the Commission for Electricity Regulation was renamed the Commission for Energy Regulation (the “Commission”). At the same time, the Commission assumed new gas regulatory functions relating principally to:

- Third party access arrangements;
- Consents for the construction of gas pipelines;
- Tariffs for the transmission and distribution of gas;
- Charges for gas supplied to customers;
- Licensing of gas undertakings;
- Codes of operation;
- Gas capacity statements; and
- Disputes regarding third party access arrangements.

The new Act lowered the consumption threshold for eligible customers from 25 million cubic metres a year to 2 million cubic metres a year with immediate effect.

With the additional duties and functions in mind, the Commission, with the assistance of its advisers, has begun work on putting in place all the necessary arrangements to enable it to meet its new responsibilities.

These new arrangements must contribute to the achievement of the Commission’s objectives, these include the promotion of competition in the supply of gas, the maintenance of a safe, secure, and reliable gas system, ensuring that there is sufficient capacity in the gas system to enable reasonable expectations of demand to be met and the promotion of safety and efficiency on the part of gas undertakings. In carrying out its functions and in the proposals it makes the Commission will always keep in the forefront its duties under the new Act: (1) to protect the interests of final consumers of gas and electricity or both, as the case may be and (2) not to discriminate unfairly between holders of licences or consents and Bord Gáis Éireann (BGÉ) or between applicants for consents or licences.

The attached document is designed with these objectives and requirements in mind and aims to identify the principal areas of the framework for the gas industry in the coming years and invite comments as appropriate.

The Commission is publishing this document with a view to giving it wide circulation and hopes to elicit views from as many of the current and potential participants in the gas industry as possible. All responses will be given due

consideration. Details of how to respond are given at the end of the introduction section.

The Commission intends to hold a public meeting on ***Tuesday 2 July 2002*** to discuss the issues raised in this document and inform respondents and other interested parties of the comments received and where appropriate, the Commission's immediate response. Details of the venue and time will be posted on the Commission's website shortly (www.cer.ie).

Tom Reeves
Commissioner

The information contained herein may be derived from a variety of sources. The Commission has attempted to ensure that the information contained in this document is correct. The Commission accepts no responsibility or liability whatsoever for any damage howsoever caused by reliance upon the information contained within this document.

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1. INTRODUCTION

This Consultation Document identifies the principal areas that will form the *Policy Framework* for the natural gas industry in Ireland and about which the Commission is seeking views from interested parties. Following the period of consultation, the Commission will draw on these views to propose a Policy Framework that is intended to form the basis for new arrangements for the gas market over the next few years. The framework will assist the Commission in the fulfilment of its duties and functions that are set out in the Gas (Interim) (Regulation) Act, 2002 (“the 2002 Act”). The 2002 Act transfers to the Commission the necessary powers to act as the independent regulator for the gas industry (in a similar way as it has done for electricity since 1999).

This consultation document is intended to cover not just immediate changes to the necessary arrangements but be sufficiently robust to address likely requirements in the medium term. This will include though not be limited to the further extension of the category of eligible customers before 2005 as discussed at the Barcelona Council of European Ministers in March 2002 and eventual full retail competition for all gas consumers from 2005, as announced by the Government in January 2002.¹

The Consultation Document is structured as follows:

- Section 1: introduction;
- Section 2: the objectives of the reform the Commission suggests should govern changes to the gas market framework;
- Section 3: an overview of the current situation in the gas market in Ireland;
- Section 4: proposals for reform of the gas market arrangements to meet the objectives of reform;
- Section 5: an outline of the new regulatory framework necessary to implement the new gas market framework;
- Appendix A: description of the Irish natural gas market; and
- Appendix B: summary of the current legal and regulatory framework.

¹ Dail Debates Official Report – 30-01-02, Gas (Interim) (Regulation) Bill, 2001 [*Seanad*]: Second Stage.

This document sets out for discussion the following:

- An outline of the likely overall structure of the gas industry going forward, the activities which comprise the industry and the requirements for the necessary unbundling and separation of activities;
- The likely roles and responsibilities of the various gas industry participants – buyers, sellers, providers of gas transportation and gas storage, and the regulator;
- How gas market operations might be developed – including the trading of natural gas and gas capacity; and
- The likely regulatory arrangements – including what needs to be regulated, by whom and how.

Following the period of consultation, the Policy Framework will form the basis for the subsequent stages of the reform of gas market arrangements, which will involve work by the Commission in the following areas:

- Gas balancing and trading arrangements (including trading rules, access arrangements, consents for new pipelines, Codes of Operation, metering);
- Tariffs and charges (including price controls and tariffs for gas transportation and gas supplies to consumers, policy and charges for connections);
- Security of supply (including an annual gas capacity statement, performance and security standards); and
- Licensing and Regulation (including unbundling, protection of consumers, dispute settlement as well as the licences required for gas transportation, gas supply and gas storage).

All interested parties, including existing and potential gas industry participants and customers, are invited to comment on the proposals and issues set out in the Consultation Document. Comments should be sent to the Commission ***no later than Friday 28 June 2002.***

The Commission would prefer comments in electronic format. These comments should be sent to:

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The Commission is planning to make these comments public, and would encourage respondents to do the same. Any information that respondents wish to submit in confidence may be submitted separately, clearly marked as such. The Commission would however prefer public comment wherever practicable.

2. OBJECTIVES FOR THE REFORM OF THE GAS INDUSTRY

2.1. Summary of Objectives

In enacting the Gas (Interim) (Regulation) Act, 2002, the Government signalled its intention to introduce a new legal and regulatory framework for the gas industry with responsibility for this framework undertaken by the Commission for Energy Regulation.

The Commission has a number of functions and duties including:

1. To advise the Minister on the development of the gas industry;
2. To promote safety and efficiency on the part of natural gas undertakings;
3. To secure that there is sufficient capacity in the natural gas system to enable reasonable expectations of demand to be met;
4. To secure the continuity, security and quality of supply of natural gas; and
5. To promote competition in the supply of natural gas.

In carrying out its functions, the Commission will always keep in the forefront its duties under the 2002 Act: (1) to protect the interests of final customers of gas and electricity or both, as the case may be and (2) not to discriminate unfairly between holders of licences or consents and BGÉ or between applicants for consents or licences.

The Commission will oversee the extension of competition in gas supply and continue the process of restructuring and reform of the gas industry. In taking on these new responsibilities, the Commission has the following objectives in mind:

- To promote competition in gas supply by facilitating the entry of players into the gas market, ensuring access to the gas network on a transparent and non-discriminatory basis, to encourage the efficient operation of the gas industry. At the same time ensuring the development and maintenance of a safe, secure, and reliable system for the supply of gas, which meets appropriate performance standards and where investment is based on appropriate commercial criteria;
- To provide transparent price signals to consumers and gas market players to enable efficient matching of gas supply to consumer demand for gas;
- To provide a framework that encourages investment in the gas industry and secures that there is sufficient capacity in the gas system to enable reasonable expectations of demand to be met; and
- To ensure that any market arrangements for the gas industry are consistent with the competitive market arrangements for the electricity industry.

We discuss each of the objectives in more detail below.

2.2. Promotion of Competition

Progress has been made in promoting competition in the gas market in Ireland, but there is further to go. The changes are aimed at (1) enabling the entry of new gas suppliers and shippers into the gas market, (2) giving all customers the freedom to choose their gas supplier by 2005, and (3) encouraging the continued development of new markets for gas.

Promoting competition will mean allowing consumers access to the gas network on terms that are fair, reasonable, and non-discriminatory. This will mean reviewing the existing terms and conditions for access and extending these to ensure they apply to all parts of the network.

2.3. Transparency of Price Signals

The new Policy Framework will be designed to ensure that there are clearer price signals to consumers and all gas market players than at present. An important aspect will be the need to ensure a greater distinction than now between prices for gas as a commodity and prices for gas transportation capacity. The separation of the two for large eligible gas customers has begun but it clearly needs to be extended to include transportation charges for the use of the distribution network.

There needs to be clearer price signals with respect to provision of balancing gas within the system and for capacity rights in the pipeline system. In order to provide the desired price signals, the policy framework will support transparent gas trading. It will also support establishing a mechanism for balancing gas and a market for trading capacity rights in the pipeline system by reviewing, and where appropriate building on, the existing system for such trades.

2.4. Enabling Investment (including Private Investment)

The market rules and regulatory framework need to be sufficiently clear to allow potential investors to judge relative risk and financeability of investing in particular assets. Subject to the need to ensure that licence holders are fit and proper persons and meet appropriate financial and operational (including safety) criteria, there should be no barriers to investors in specific new assets such as pipelines and local gas networks.²

² Subject to the requirement of section 12(4) of the 2002 Act whereby the Commission may refuse consent to the construction or operation of any new distribution or transmission pipeline where it determines that the capacity of existing or proposed pipelines represents adequate provision for expected demand.

2.5. Support for the Electricity Market Framework

The current competitive market framework for electricity has been in place since February 2000. The Commission is concerned that there should continue to be competitive gas supplies available to power generators. Natural gas is the single largest source of fuel for power generation and will almost certainly remain so for the foreseeable future.

An important priority of the gas market arrangements, therefore, will be to ensure that all participants in the electricity industry have access to competitive sources of gas on suitable commercial terms. The Commission through the policy framework and subsequent more detailed gas market arrangements will aim to ensure that this objective is met and that there are no material conflicts between the market rules for the two sectors.

3. CURRENT SITUATION

This section briefly describes the existing natural gas industry in Ireland as follows: the characteristics of demand and supply, the transportation system, main participants in the industry, transmission tariff, market operation and the legal and regulatory framework. Appendix A and Appendix B set out this information in more detail.

3.1. Demand and Supply

Demand for natural gas in Ireland has increased rapidly in the last few years, and this increase is expected to continue. The share of natural gas in Ireland's Total Primary Energy Requirement has grown from zero in 1978 to 22 per cent in 2000. Power generation and the use of gas as a feedstock have essentially driven this growth. The power sector's increasing demand for gas, driven by the systematic increase in electricity demand and the switch from coal and oil fired plant to gas fired plant, is the key driver behind current forecasts of strong and sustained growth in natural gas demand in Ireland.

At present the Kinsale Head gas field, the Ballycotton gas field and the South West Kinsale Gas field are the only sources of indigenous gas supply in Ireland. Imports through the Moffat-Dublin interconnector satisfy the remaining demand (currently about 80 per cent). Production from Kinsale has been declining over recent years, and is expected to cease entirely within the next few years. While the Corrib gas field will come on stream by 2004, Ireland will remain heavily dependent on imports from the United Kingdom (UK).

3.2. The Transportation System

The existing transmission network begins on the Scottish mainland where the Irish line connects to the United Kingdom's National Transmission System. From here, flow passes into the interconnector, which makes landfall at Loughshinny to the north of Dublin. The transmission network links Dublin to Waterford, Cork, Limerick and Dundalk.

Given the anticipated strong growth in gas demand, a second interconnector from Scotland to Ireland is under construction, as well as a pipeline to the west of the country, which will form a high pressure ring main. A transmission line is also being constructed from Mayo to Galway to facilitate the Corrib development.

Recently the number of customers connected to the distribution network has been increasing at a rate of some seven per cent per annum. As new transmission lines are built, new markets for distribution will be opened up in the Midlands and West of Ireland.

3.3. Industry Participants

The main participants in the Irish gas industry currently include:

- Bord Gáis Éireann (BGÉ). Established under the Gas Act 1976, as the State Gas Development Agency, to develop and maintain a system for the supply of natural gas. BGÉ is currently responsible for supply to franchise (or non-contestable) customers and for all transmission and distribution of natural gas in Ireland. BGÉ also competes to supply eligible (or contestable) customers.
- Electricity Supply Board (ESB). ESB is the single largest consumer of natural gas in Ireland and has contractual arrangements in place with BGÉ for the supply of natural gas to its four gas-fired power stations in Ireland.

Since 1995 and until 30 April 2002, customers consuming in excess of 25 million standard cubic metres of gas per year have been eligible for third party access (TPA). While this represents between 70 per cent and 80 per cent of the total gas market in Ireland, only eight sites, each connected to the transmission network, consume in excess of this threshold.

Under the Gas (Interim) (Regulation) Act, 2002, the TPA consumption threshold for eligible customers drops to 2 million standard cubic metres of gas per year as from 30 April 2002. In addition, gas-fired electricity generators are eligible for TPA. Through this change, approximately 80 additional customers become eligible, with around 40 of these connected to the distribution system. The aim is full liberalisation by 2005.

3.4. Transmission Tariffs and Market Operation

Transmission tariffs are currently based on an entry-postalised exit system. While shippers pay for entry and exit capacity separately, in effect they purchase capacity from “point to point” on the system. The entry-exit system retains a link to physical capacity by insisting that shippers reserve matching entry and exit capacities. Under the present arrangements BGÉ aims to build infrastructure in anticipation of expected future demand.

The principal rules behind the operation of the gas market to date, are set out in the Code of Operations for the transmission system. In summary, the market involves:

- Daily balancing within predetermined imbalance tolerance levels;
- Imbalance trading between shippers and the aggregation of imbalances across exit points (subject to meeting imbalance tolerance levels at individual exit points);

- Trading of capacity between shippers (with the authorisation of BGÉ); and
- Reservation of capacity for at least one year by shippers and the levying of over-run charges in the event a shipper exceeds its reserved capacity.

3.5. Legal and Regulatory Framework

The Gas (Interim) (Regulation) Act, 2002, ("the 2002 Act") transfers certain powers and functions of the Minister for Communications and Natural Resources to the Commission, providing for the independent regulation of the gas industry in Ireland. The Commission has responsibility for three key areas:

- The Commission has the power to grant consent to lay on-shore transmission or distribution pipelines;
- The Commission may make regulations concerning agreements (charges and terms) between a pipeline operator and persons eligible for TPA to the system; and
- The Commission has the power to licence gas undertakings. There are three licensable activities:
 - The supply of natural gas to eligible customers;
 - The operation of distribution and transmission pipelines; and
 - The storage of natural gas.

A summary of the 2002 Act, as well as the other relevant regulatory instruments in force, is provided in Appendix B.

4. NEW GAS MARKET FRAMEWORK

This section identifies the principal areas of the Policy Framework for the gas industry in Ireland. The section consists of 5 parts:

- Key Roles in the New Gas Industry
- Gas Transportation Services
- Market Operation
- System Operation
- Gas Storage

4.1. Key Roles in the New Gas Industry

Reform of the gas industry in Ireland will create new functions as well as clarifying existing functions within the sector. The main participants in the industry going forward will be:

- Gas Transporters
- Storage Operators
- Gas Suppliers
- Gas Shippers
- Eligible Customers

Each of these key roles is discussed in turn.

4.1.1. Gas Transporters

Under section 16(1) of the 2002 Act the operation of a distribution or transmission pipeline (other than an upstream pipeline) is an activity that is licensable by the Commission. It is anticipated that there will be separate transmission and distribution licences. A transmission or distribution licence may apply to (1) a set of pipes, or (2) a particular geographic area.

The 2002 Act allows any party to apply for a licence to operate a transmission or distribution pipeline. This requirement will apply to all existing pipelines. At the same time, there are a number of towns located close to, but not yet connected to, the transmission system that may require distribution networks to access natural gas. As part of its objective of encouraging new participants in the gas industry, and to assist in the efficient and speedy extension of the gas network, the Commission is considering whether it is appropriate to set up a competitive process to determine who will (construct and) operate such new distribution networks.

4.1.2. Storage Operators

This is a new element in the gas industry in Ireland. The storage of gas is a separately licensable activity under the 2002 Act. Different elements of the storage service may be regulated, and storage licence conditions may overlap with the conditions in transmission and distribution licences.

The Commission anticipates that there will be the potential for commercial storage facilities to be made available to the market.

4.1.3. Gas Suppliers

The 2002 Act confers on the Commission the power to grant licences for the supply of gas to parties eligible for TPA to transmission and distribution pipelines.³ Licensed suppliers will also be able to sell gas to other suppliers and export gas. Gas suppliers will arrange the delivery of gas to eligible customers. Non-eligible customers will continue to receive gas from BGÉ Energy Supply Unit or from any other holder of an order under section 2(1) of the Gas (Amendment) Act, 1987, as amended.

4.1.4. Gas Shippers

Gas shippers enter into agreements with gas transporters for the transport of gas through the pipeline network. As the threshold for contestability is reduced, it is likely more parties will choose to participate in the market as shippers (most are likely also to be gas suppliers).

In the 2002 Act, shipping falls within the definition of “supply”. Therefore, shippers will be regulated under the supply licence.

4.1.5. Eligible Customers

Eligible customers can organise their own purchase of gas commodity and transport by contracting with a supplier, or becoming a supplier in their own right. Given the associated transaction costs of becoming a supplier (contracting for commodity and transport) it is likely to be economic only for customers taking sufficiently large quantities of gas. Those customers most likely to consider becoming suppliers are large users such as electricity generators and industrial firms. Residential and smaller commercial/industrial customers are likely to want to purchase delivered gas from a supplier.

³ The Act defines these parties as: holders of gas licences, persons (including Bord Gáis Éireann) who are covered by an order made under Section 2(1) of the Gas (Amendment) Act, 1987, gas producers, operators of gas fired power generating stations (regardless of size) and final consumers with an annual consumption of at least 2 Mscm per annum (this threshold can be reduced by the Minister).

As suppliers, eligible customers also have the right to sell (and resell) gas within Ireland (this includes sales to traders and other suppliers) and export gas. The ability to resell gas provides flexibility in gas contracting practices and gives additional opportunities to manage fuel supply risks.

4.2. Gas Transportation Services

This Section discusses a number of issues relating to the way in which transportation works in a fully liberalised gas market. In so doing, it is necessary to take account of future developments of the pipeline network and any modifications to the existing arrangements that may be necessary. Before discussing these issues, however, the policy context determining the way in which the transportation arrangements need to be developed is discussed.

4.2.1. Open Access and Competition

The main thrust of Ireland's current policy towards the gas industry is clearly in the direction of further liberalisation together with the promotion of competition in the supply of gas. With the whole gas market, including supply to the retail sector, due to be open to competition in 2005, the nature of the transportation services provided will need to develop from the present position in a number of ways if genuine competition is to emerge.

Where it is feasible, as a general matter, competition is more effective than regulation at keeping prices low and quality higher. Thus, competition is an essential element in the efficient working of markets for goods and services, and in general works in the interest of consumers.

However, competition is not possible in all parts of the gas sector. In particular, the physical transportation of gas itself has strong natural monopoly characteristics, due to the inefficiency of having competing pipelines operating over the same route as opposed to a single larger pipeline (economies of scale), and hence is not readily amenable to competition.

A competitive gas industry can only be realised if there is a sufficient number of players and buyers in the market. The gas transportation arrangements need to be aimed at:

- Allowing consumers and shippers access to the gas network on terms that are fair, reasonable, and non-discriminatory;
- Encouraging the entry of new shippers and suppliers in the gas market;
- Allowing customers the freedom to choose their gas supplier on the basis of a "level playing field"; and
- Encouraging the economic development of new markets for gas, while minimising unnecessary costs and complexity to participants.

It is also necessary to ensure that the arrangements are flexible enough to take account of the evolution and development of the gas market over time without unnecessarily restricting currently unforeseen developments, and without compromising the safety, reliability and security of gas supply.

At the same time, the arrangements need to recognise the reality of the current situation. The Irish gas market is a relatively small market, in terms both of ultimate volume and number of players, and is still developing. The fact that Ireland is dependent to a considerable extent on imports through a long under-sea inter-connector from the UK impacts upon the costs of natural gas in Ireland.

4.2.2. Separation (or “Unbundling”) of Gas Trading from Gas Transportation

Currently, BGÉ is an integrated gas utility with businesses involved in all aspects of the downstream gas industry. In particular, BGÉ is currently a major player in gas supply as well as being the only on-shore gas transporter.

One of the main issues faced by all gas utilities involved in extending open access is the unbundling of business activities and especially the separation of the trading (or purchase and sale of gas) from the transportation (or piping) of gas.

The aim of unbundling is to avoid discrimination, cross-subsidisation and the distortion of competition. In principle, there are three different types of separation (or unbundling):

- Separate accounts for separate businesses;
- Separate business *units* within a single corporate structure; and
- Separate legal entities.

BGÉ has undertaken the second of these. The draft Second European Gas Directive, if implemented in its current form, would require the third option for transportation activities. There are two main reasons for such legal separation.

First, gas transportation is a non-contestable monopoly activity, and therefore the transporter needs to be prevented from exploiting market power. This can only be achieved if gas transportation and system operation are completely independent of the activities of shipping, supplying and trading gas and the monopoly transporter is prohibited from engaging in competitive activities or having affiliates engaging in these activities.

Second, the creation of a competitive gas market also requires the strict separation of competitive activities from the transportation of gas and system operation. Experience shows that giving consumers the freedom to choose their gas supplier requires that they have access to the network on terms that are open and non-discriminatory.

Without separation of BGÉ’s transportation and supply businesses, there will always be a concern on the part of existing and prospective shippers of gas that BGÉ as transporter will in some way favour its own gas shipping and supply business, and so competition will be discouraged. The operation of transportation

needs to be independent of trading interests, to ensure that a level playing field both exists and is perceived to exist.

The Commission believes that BGE's transportation businesses should not be engaged in other activities in which a conflict of interest could arise. BGE's transportation businesses, or any other transporter, would only transport gas on behalf of third parties.

4.2.3. Contract Carriage and Common Carriage for Open Access Transmission

Central to the concept of open access on pipeline facilities is the nature of the rights that users obtain when they pay for open access. In order to make capacity rights meaningful, the terms and conditions of that right need to be clearly defined. This is an essential prior condition for successful trading of capacity. Another important condition is to ensure that the full amount of the capacity right reserved by a shipper will be available to the shipper over the term of that capacity right. Thus, the prorating of the capacity of existing users in order to grant access to a new user, or the over-selling of physical capacity, should not be allowed.

Two broad high-level sets of arrangements have been developed in different parts of the world for allowing open access to transmission pipelines. These are often distinguished under two general headings: contract carriage and common carriage. Under common carriage, the transporter is primarily responsible for determining expansions in the transmission pipeline network. Under contract carriage, shippers are primarily responsible for making commitments for transmission pipeline capacity expansions. Ireland to date has operated a form of common carriage.

At this stage the Commission is considering its position with respect to these two broad sets of arrangements and would welcome comments on the appropriate approach. To help with discussion by the industry, we give a brief overview of these two sets of arrangements below.

4.2.3.1. Common carriage

- The traditional definition of common carriage is that the service provider is obliged to serve all comers and to reasonably anticipate future demand. As a practical matter in modern gas markets, common carriage refers to a service arrangement whereby pipeline owners sell certain short-term—up to one year—capacity slots but do not extend reservation rights, or rights to a certain tariff, beyond that period.
- Under common carriage, the transporter is primarily responsible for determining expansions in the transmission pipeline network, whether specific expansions are explicitly approved by the regulator (as with section 39A consents in Ireland) or not (as, for example, in the UK).

- Physical capacity, once it is built, is sold to shippers via a system of usually annual reservations at the discretion of shippers. This obviously implies (a) that individual shippers' capacity entitlements can vary from year to year, and (b) that shippers may not book all of the physical capacity available in any year.
- It also implies that capacity trading between shippers is necessarily restricted to trades of short-term, within-year, capacity.
- The tariffs for annual capacity bookings are regulated and may be subject to a periodic price cap, as in the UK. The average level of tariffs over a period of time will clearly depend on the proportion of physical capacity that is booked by shippers – assuming full cost recovery for the transporter (see next bullet).
- If too much capacity is installed, the excess costs would be expected to be passed on to shippers in jurisdictions where the government or regulatory authority has an explicit role in approving all new transmission pipelines (as in Ireland currently). However, where this is not the case (as in the UK), the transporter is exposed to the risk that the regulator will not allow the full costs of construction to be passed on to shippers over the lifetime of the investment.

4.2.3.2. *Contract carriage*

- Contract carriage refers to a commercial arrangement whereby pipeline companies sell durable property rights—in the form of transportation contracts—to use their pipeline facilities. Such rights can carry with them commitments to specific prices or pricing formulas contingent on the use of specific pipeline facilities. Such durable rights to transport are the basis for the most vigorous examples of secondary capacity markets, such as in the US.
- Under contract carriage, shippers are primarily responsible for making commitments for transmission pipeline expansions. Typically, shippers indicate to the transporter when they will need capacity, and how much of it they require. At the same time, they commit to paying for it. The transporter then holds an “open season” in which other market players can commit to buying capacity rights in the future pipeline. This ensures that economies of scale in building pipelines are obtained. The transporter thus constructs the new pipeline capacity on the order of, and under contract to, the shippers who require the capacity, with no central organisation deciding on capacity investment.
- The physical capacity that is built is “rented” back to those shippers under long-term contracts, which fix price and service terms for the duration of the contract. The commercial arrangements are similar to the concept of renting “space” on the transport company's pipeline on a contractual basis (not

unlike renting space in an apartment or office building). In this way, shippers obtain a contractual right over a given proportion of the physical capacity of a defined section (or sections) of transmission pipeline. The cost to a shipper of reserving that space is proportional to the amount reserved.

- Trading of reserved capacity between shippers can be long-term (up to the life of the capacity contract) as well as short-term (within-year). Under contract carriage, enabling shippers to sublet their capacity rights in a “secondary” capacity market is fundamentally important. Capacity trading enables the capacity holdings of individual shippers to vary in response to changing circumstances over the term of the contract. It thus offers additional options to shippers, and can provide competition for the transporter’s offerings of primary capacity. Competition between new pipeline capacity and existing capacity traded on the secondary market helps to ensure that customers pay a competitive price for the available capacity. The secondary market also sends price signals to market participants about the value of “traded” capacity, which will be an important parameter for future investment decisions. We discuss capacity trading further in Section 4.3 below.
- Reservation charges are regulated but in principle allow the transporter full cost recovery of its annual costs, as determined by its regulatory accounts, including a regulated rate of return. The level of reservation charges thus depends only on the original cost of the pipeline and the regulatory accounting rules. The pricing methodology for capacity and throughput is defined at the time that the long-term capacity right is purchased by the shipper, which is likely to provide shippers with greater commercial certainty than annual tariffs.
- If the pipeline is underused and there is excess capacity, the shippers who hold reserved capacity bear the cost in proportion to their holdings of capacity rights.

4.2.3.3. *Discussion*

Contract carriage is possible in gas because capacity rights in a gas transmission pipeline, unlike electricity transmission wires, can readily be defined and allocated. New investment can then be driven not by the transporter but by the shippers who are prepared to pay the investment costs in exchange for the rights to use the new capacity and to take the risk that the pipeline will not be fully utilised.

However, common carriage may be more suitable for complex networks where usage or cost responsibility for individual pipeline usage is harder to define. (Hence, common carriage is the normal arrangement for distribution networks, where neither the level of metering precision, the size of users nor the specificity of distribution paths makes for a reasonable extension of contracts and property rights, as such.)

As noted above, the Commission makes no recommendation on the issue at this stage, but welcomes comments on the appropriate approach for allowing open access to the transmission pipes.

4.2.4. Network Expansion: Section 39A Consents and Section 2(1) Orders

The extensions to the gas network are currently regulated in Ireland. Section 39A Consents (or exemptions), under the Gas Act, 1976, are required to construct new pipelines and Section 2(1) Orders, under the Gas (Amendment) Act, 1987 (as amended), may be used to confer on an operator certain rights relating to transmission, distribution and supply activities. Under the 2002 Act, the Commission may institute a competition to determine who best should obtain such consents. Technical and safety regulation is clearly necessary for all new pipelines, but economic regulation (i.e. the regulator deciding whether proposed expansions should go ahead or not) is not essential and does not occur at all in many other open access jurisdictions.

The Commission does not foresee competition in transmission investment being a major feature of the Irish gas market, at least in the short run. Entry by another transporter is permitted under current legislation, but the incumbent gas transporter is in most cases likely to be able to provide the most economic transmission investments due to economies of scale and scope. However, separate transmission pipelines cannot be ruled out in certain circumstances.

Allowing for the possibility of independent transporters, whether or not interconnected with BGE's network, may also act as a useful competitive check on BGE as the principal gas transporter.

For the time being, it is the Commission's default presumption in granting Section 39A Consents that new pipelines should be interconnected with existing lines where possible, but exceptions should not be ruled out.

The position is somewhat different for investments in distribution systems, which may be subject to Section 2(1) Orders.

Although distribution systems are natural monopolies within the areas that they cover, they do not raise monopolistic concerns beyond their own area. Thus, there is in general no economic reason why separate distribution systems should not be owned and operated by companies independent of BGE (and each other), subject to there being full open access, if they can demonstrate that they can serve the area most efficiently.

The Commission will review its consents policies in the context of the general framework for open access. We ask for comments on more specific proposals in section 5.2.2 below.

4.2.5. Interruptible Transportation Service

In a well developed and well functioning gas market, whether under common or contract carriage, interruptible transportation service provides a valuable tool for promoting the efficient use of pipeline capacity at off-peak times.

Pipelines are typically sized in order to meet the peak *firm* demand requirements of customers. However, when economic pricing principles are employed (including secondary market trading), firm transportation is expensive during periods of peak use. The expense of peak-period firm transport service, as opposed to off-peak interruptible service can provide an important price signal to users to avoid consuming at peak times, such as via the installation and usage of dual fuel technology.

Also, to the extent that capacity “hoarding” is a competitive threat, the sale of interruptible transportation service by the transporter can provide an automatic check against it. If a party holds capacity for which it has no use, then another shipper can purchase cheaper interruptible service from the gas transporter, secure in the knowledge that he would not be interrupted.

If capacity costs are collected through reservation charges from firm customers (which are typically charged uniformly over the year), then it follows that those able to accept gas transportation service on an interruptible basis do not contribute to the costs of capacity. These customers should pay at least the short-run marginal cost of service. Whether and to what extent they should also pay a contribution to fixed costs will depend on the extent to which (a) interruptible usage is to be encouraged and the benefits of having interruptible load should accrue to interruptible consumers in the form of low variable cost-based prices, (b) the transporter is allowed to capture some of that benefit, or (c) the benefit should accrue to firm customers who are bearing most of the cost of the capacity through firm charges.

When there is more than sufficient pipeline capacity to provide all customers with firm service, “interruptible” customers would never be interrupted. In these circumstances, most customers would choose interruptible service (at interruptible prices) if it were available and effectively receive firm service without paying the price for firm service. Therefore, the transporter should not be *required* to offer interruptible service unless all physical capacity is booked. However, it is for consideration whether shippers should, even in conditions of excess capacity, be able to contract for short-term firm service from the transporter at regulated prices.

The Commission will examine the general provision of interruptible service as well as the role of short term firm service as part of its review of the Code of Operations.

4.2.6. Shrinkage

Shrinkage is the difference over a period of time between the measured total amount of gas that is input into the system and the measured amount of gas that is taken off the system, after taking into account the change in line-pack over the same period. Reasons for the existence of shrinkage would include:

- The transporter's own fuel usage, such as any compressor fuel;
- Measurement errors;
- Leakages of gas from the system;
- Theft of gas from the system; and
- Other unaccounted-for gas.

Under the current arrangements, BGÉ is responsible for purchasing gas to cover system shrinkage and is able to pass on the full cost of such purchases to shippers. This arrangement does not give BGÉ any incentive to minimise the total cost that is passed on to shippers, either in terms of the amount of shrinkage that exists on the system (which is largely under BGÉ's own control) or in terms of negotiating the best price for the replacement gas. At the same time, it confuses the respective roles of gas transporter/system operator responsible for shrinkage on the network and gas trader/purchaser.

Possible alternative arrangements are:

1. The transporter remains responsible for replacing shrinkage gas, but is given an explicit financial incentive through a formula to minimise the cost that is passed on to consumers. The formula would reward the transporter if it were successful in reducing shrinkage costs but at the same time would require the transporter to share some of the costs if shrinkage exceeded a pre-determined benchmark. Such an arrangement would overcome the incentive problems described above, but would mean that the transporter would still remain a trader/purchaser of gas.
2. The responsibility for replacing shrinkage is transferred to shippers. This overcomes the incentive problem with regard to minimising the price of the replacement gas but does not by itself provide the transporter with any incentive to minimise the amount of shrinkage. This option therefore requires a separate arrangement for providing the necessary incentive, such as including an explicit allowance for shrinkage in the transporter's overall regulatory price cap.

In most other liberalised jurisdictions, option 2 has been adopted on the grounds of maintaining a strict separation between the roles of transporter and trader of gas, and the Commission believes that option 2 is the most appropriate option for Ireland for the same reason.

4.2.7. Connections Policy

Connection charges are levied to recover the costs of the network assets installed to serve a new customer. This includes the cost of the assets connecting the existing network to the customer's site, as well as the cost of any reinforcement of the upstream network required to accommodate the new load. "Shallow" connection charging involves paying for the former only, with the costs of any required reinforcement being paid by all consumers, while "deep" connection charging involves the newly connected party paying for both.

In general, a customer should be responsible for meeting the full costs that he causes by virtue of connection, when those costs can be identified. Identifying the proportion of system augmentation costs associated with a new consumer is generally simpler for consumers connected to the transmission network than for those connected to the distribution network. Thus "deep" connection charges may be easier to establish for connections to the transmission network. By definition, contract carriage involves "deep" connection charging. Common carriage may be twinned with either "deep" or "shallow" connection charging.

The Commission intends to review the existing connection policy in the gas industry, with a view to determining the extent to which there should be a greater degree of direct customer responsibility for the costs imposed by connections.

Comment is invited on:

- Whether BGÉ's transportation activities should be legally separate from BGÉ's competitive activities.
- The appropriate high-level approach for allowing open access to transmission pipelines – common carriage or contract carriage.
- The appropriate pricing policy for interruptible services.
- Whether shippers should, even in conditions of excess capacity, be able to contract for short term services from the transporter at regulated prices.
- The suggestion of transferring the responsibility for replacing shrinkage gas to shippers.
- Whether connection policy should be based on the principles of "deep" or "shallow" charging.

4.3. Market Operation

This section discusses how the gas market, as opposed to the physical system, should operate. The section discusses first the trading of gas and then the trading of capacity.

4.3.1. Gas Trading

The ability for parties to trade gas commodity supplies promotes and facilitates competition. An immediate question that arises is the extent to which this gas trading should be left to develop on its own as against the authorities putting in place a formal trading mechanism.

Bilateral contracts (both long term and short term) are likely to be the main form of trading for the foreseeable future, as this is likely to be the preference of the trading parties. The Commission believes that a formal spot market should *not* be established, and that its development should be left to the private sector and not driven by the Commission or by any business regulated by the Commission.

Long-term contracts have long been the foundation of gas industry development, particularly for new investments in both gas production and pipelines. There is an obvious reason for this in that it is unlikely that any gas producer would develop new gas supplies and construct pipeline facilities to transport the gas without first having in place a long-term contract with one or more gas users—they would be unwilling to undertake the large sunk-cost expenditures on an at-risk basis.

Short term bilateral trading is also likely to take place in Ireland's future gas market. There will be a number of shippers with long term contracts for gas, and the amount of gas in any shipper's long term contract may not always be exactly the same as the amount that party wants to use at any given point in time. Thus, there is the potential for short-term bilateral trading between shippers.

Both long and short-term gas trading should be competitive activities in Ireland, as it is in many other countries. Regulatory intervention in the way gas is traded would be unduly restrictive, unnecessary, and economically inefficient. The position is different from that in electricity, for reasons that are discussed below.

Short term bilateral trading is different from a formal spot market. A formal spot market usually involves the trading of a standard contract with a market operator or exchange taking counter party risk.

The Commission does not believe that a formal spot market would be financially viable in the early years of full open access, because the volume of transactions is likely to be too small. This is partly because of the small size of the Irish gas market, the fact that existing shippers/suppliers have gas supply contracts in place, and also because of the limited number of market participants. The number

of market participants will probably be limited to a relatively small group of shippers and a handful of very large users for some years. With no formal spot market, there will be no requirement to designate a market “operator” in the gas industry.

Even if such a market were established - and subsidised, say through a PSO - unless there were a sufficient volume of transactions (trades), the market is unlikely to be deep enough to provide sufficient liquidity. Thus, such a market would not produce meaningful price signals. It would also be at risk of being manipulated by trading parties.

Although, the Commission does not think that initially there will be sufficient demand for a robust formal spot market for gas in Ireland, this may change in the future. When there is sufficient demand, a formal spot market would tend to increase market efficiency by increasing transaction options to buyers and sellers. The longer-term development of a formal spot market - when the demand for it is sufficient for it to be financially viable and robust - should therefore not be discouraged.

The Commission does not see any compelling need for BGÉ’s transportation businesses, or the Commission, to take responsibility for determining when a formal spot market should be established, or for the design and implementation of that spot market. Gas trading arrangements should be allowed to develop naturally when it is economic to do so as a result of initiatives by shippers and suppliers and not by the authorities. The Commission’s role, as economic regulator, should be limited to ensuring that there are no unwarranted obstacles preventing the establishment of a formal gas spot market. Potential obstacles that have precluded the development of energy markets in other countries have included the exercise of market power.

Leaving decisions over when and how to create a spot market to industry participants has the effect that the risk that the market might fail is left with these industry participants. In that case, if the market were established prematurely, before there is sufficient demand for it to cover its costs, then the losses would be borne by those that set up the market. If the Commission or the transporter had set up the market, on the other hand, then the costs would probably ultimately be borne by gas consumers.

There may appear to be some tension between the Commission recommendation that a gas spot market should not be imposed by regulatory (or government) initiative and the fact that EirGrid operates the trading arrangements for electricity in Ireland following a Ministerial Direction.

This difference arises because of fundamental differences in the physical nature of the gas and electricity industries. One important difference is that in the electricity industry, there is a need for central co-ordination to ensure that the amount of generation fed onto the system matches demand on a real time basis. To decide

which generators should run, generators are required to submit offers to generate to EirGrid. Consequently, EirGrid is involved in despatching the generators, determining the market price and carrying out the financial settlements. Imposing a market operator and a short-term market is essential for full competition in electricity generation.

The Commission's view is that in the gas industry, there are no technical reasons for imposing a central organisation to co-ordinate short-term trades, and hence these can be left to commercial decisions between the parties involved.

4.3.2. Capacity Trading

Capacity trading is an important feature of liberalised arrangements. Some short-term trading of capacity can already occur on the Irish system, but the Commission wishes to see capacity trading develop as open access widens and competition develops. A secondary market for capacity trading offers the following benefits:

- The secondary market helps establish market pricing for pipeline capacity;
- It reallocates unneeded capacity to shippers who value it most;
- Traded capacity can offset the need to build new facilities; and
- The transporter and shippers benefit from higher utilisation of its system.

Allowing pipeline capacity to be traded enables the changing capacity needs of shippers to be addressed in a manner that is market-based, in that the regulator need not approve (or deny) contractual terms between two trading parties. However, the Commission may need to exercise a general oversight role regarding the procedures, terms and conditions for trading capacity and operation in the "secondary capacity" market, to ensure a competitive market framework.

Capacity trading also allocates risks in an efficient way. Preventing capacity rights holders from trading would leave them exposed to greater risk than if they could trade.

Secondary market prices send signals to the primary capacity market regarding whether it would be economically efficient to construct new capacity:

- Secondary market prices may exceed both the cost of new capacity and the regulated, cost-based price of existing capacity. In this case new investments would be prudent unless the demand is short-term in nature.
- Secondary market prices may lie between the cost of new capacity and the regulated, cost-based price of existing capacity. In this case, we could expect to see firms holding capacity rights reselling these at a price higher than they are currently paying the transporter. These trades would be

economically efficient, and not result in the regulated company making excessive profits.

- Lastly, secondary market prices may be less than both the cost of new capacity and the regulated, cost-based price of existing capacity. In this case, we could expect to see firms holding capacity rights reselling these at a price lower than they are currently paying the transporter. These trades would be economically efficient, but would not affect the regulated company financially.

Capacity trading is determined by commercial considerations, that is by whether the capacity rights holder values the capacity more than another. The end result is that those most valuing the capacity are those that hold the rights to use it. As these transactions take place without involving the regulated gas transporter, the transporter is not exposed to the changing economic conditions of its customers, over which it has no control.

At present there is some scope in the current market rules for capacity transfers between shippers. However the Commission believes the capacity trading arrangements need to be developed to allow for a more liquid capacity trading market with a number of players, particularly if there is trading of capacity long-term as well as short-term. For example, the bulletin board concept can require vigorous information and reporting requirements in order to maintain a level playing field between all parties (and to provide market abuse watchdogs with the information they need to adjudicate disputes and bring action).

The Commission will consider such capacity trading arrangements as part of its review of the Code of Operations.

Comment is invited on:

- Whether a gas spot market is likely to be viable in the near future.
- Whether gas trading arrangements, and in particular the creation of a spot market should be the responsibility of shippers and suppliers as opposed to the Commission.
- Ways in which the trading of capacity rights might be improved and which role, if any, the Commission may play in capacity trading.

4.4. System Operation

4.4.1. System Operator

Operation of the current gas system is undertaken by BGÉ as transporter. The Commission believes that BGÉ as a transporter should continue in its role as system operator providing there is effective separation of transportation activities from other activities particularly supply. It is most efficient both operationally and financially, and thus best for gas consumers, to have the same party as owner and operator of the system. Separating the two roles in the gas industry would only serve to complicate operations and add unnecessary transaction and contractual costs, which consumers would ultimately have to bear. The Commission's view is that not only the current gas transportation system should continue to be operated by BGÉ as gas transporter but also any future transportation pipelines should be operated by the organisations that own them.

4.4.2. Daily vs. Shorter-term Balancing

Under the current Code of Operations, balancing is performed on a daily basis. The existence of line-pack assists BGÉ with balancing the system within-day in normal current circumstances.

However, the Commission may need to review the current balancing period arrangements in the event that within-day variations in demand increase over time. Similarly, if the UK switches to a balancing period shorter than a day as currently being proposed by OFGEM, the Commission would also need to assess the issues arising from such a change on the operation of Irish gas system.

The Commission will consider this issue further as part of its review of the Code of Operations.

4.4.3. Point-to-Point or Entry/Exit Balancing

Under the current Code of Operations, balancing is undertaken on a point-to-point basis, i.e. from a specified transmission entry point to a specified transmission exit point. This means that each exit (entry) point has in effect to be balanced separately if a shipper off-takes (inputs) gas at more than one exit (entry) point.

The main alternative to this would be balancing on a generalised entry/exit basis where balancing takes place at a National Balancing Point (NBP) that has no specific location. Under this arrangement, all entry points are considered as equivalent for balancing purposes, as are all exit points.

There is some read-across here to the common carriage/contract carriage issue. Entry/exit balancing tends to be associated with more complex systems, which also tend to have common carriage regimes (though this link is not a necessary one). Similarly, separate balancing points tend to be associated with contract carriage

regimes, where capacity is defined for specified sections of pipeline within a relatively simple network, so that balancing can sensibly take place over each specified section (though again this is not a necessary feature).

Either entry/exit balancing or point-to-point balancing would be suitable for a largely linear pipeline system. However, point-to-point balancing may become less suitable as pipeline systems become more complex.

The Commission will consider this issue further as part of its review of the Code of Operations.

4.4.4. Gas Nominations

Gas nominations are the short-term gas flow instructions sent to BGÉ as the transporter by shippers. Nominations are the means by which shippers request to use transport capacity, and give notice of how much gas the shipper wishes to transport, when and for how long the shipper wants the gas transported, where the gas will be entering the pipeline system (entry point), and where it will be delivered (delivery point). Nominations are therefore required to balance. Essentially, BGÉ fills the orders of shippers, consistent with the shippers' capacity rights and with the operational limitations of the physical system.

The regulator with the assistance of the industry can set common procedures to facilitate the nomination process. Such procedures can enable interaction between multiple transporters, including those of interconnected systems.

The nomination process should give shippers as much flexibility as is physically possible, and be as consistent as is feasible with the nomination and scheduling process in the electricity market.

The actual nomination and re-nomination rules will be considered as part of our review of the Code of Operations.

4.4.5. Gas Balancing

Shippers may find that their actual injections as measured after the event did not precisely match their withdrawals, so there is a need for them to have a means to balance their physical gas accounts. Balancing provisions also give the transporter as system operator the ability to ensure system security in a way that conveys to shippers what the cost consequences will be of the transporter having to balance the system.

The basic features of a sound balancing regime are that (1) shippers have efficient incentives to be in balance, and (2) the gas transporter has a reasonable expectation of recovering all of the costs it incurs in its efforts to stay in balance. It is not always appropriate for the gas transporter to be *guaranteed* full recovery of

its balancing costs, since that would give it no incentive to minimise the costs of balancing that are passed on in full to shippers.

Shippers should generally be able to trade imbalances amongst themselves. The trading of imbalances, whether in real time or after the event, gives shippers more control over the price they pay in order to restore their balance.

Even after trading amongst themselves, some shippers will remain out of balance. “Small” imbalances generally neither create a problem for the gas transporter nor impinge upon others’ capacity rights. Thus, shippers should be allowed some gas balancing tolerance, based on the physical realities and limitations of the system, within which they would restore their balance level by adjusting their subsequent nominations.

For sufficiently large imbalances, shippers should be required to bear the costs they impose upon the rest of the market (but no more than these costs). In this way, shippers will have a built-in incentive to engage in efficient behaviour. Setting the prices for the cash-out of negative imbalances (off-takes exceeding inputs) too high or of positive imbalances (inputs exceeding off-takes) too low, will lead to unnecessary real costs being incurred as shippers undertake inefficient activities in order to avoid incurring penal imbalance charges.

Currently, material imbalances are dealt with by BGÉ trading in gas under a specific “balancing gas” contract. However, the Commission’s view is that this arrangement will be inappropriate for full competitive open access, under which shippers and other players in the competitive sector should be responsible for the purchasing and selling of gas, rather than the system operator or transporter.

The Commission therefore proposes that balancing gas should be provided through a real-time market mechanism involving parties submitting bids which the gas transporter can call on in order to maintain system security. The mechanism could be operated by the transporter, or by a third party holding no trading interests. Such a mechanism would provide balancing prices that are market-determined, and these are in principle superior to administered prices that merely aim to reflect average balancing costs (as opposed to penal charges, which we have already argued are inefficient).

To be effective, a market mechanism for balancing the system when shippers as a whole are out of balance requires that a number of parties are able to offer competitive prices to the balancing mechanism, and that they are able to do so at peak times. BGÉ, as the pipeline system operator, should provide and operate the bulletin board to post bids received from players who wish to buy or sell gas for the purpose of balancing.

The Commission will consider the future balancing regime as part of its review of the Code of Operations.

4.4.6. Scheduling Charges

Scheduling charges are levied by BGÉ when a shipper's gas flows, as allocated ex post either at entry or exit points, differ substantially from nominations. Small divergences do not normally impose significant real costs on the system, and some tolerances are allowed. In principle, charges for scheduling errors beyond the tolerance should reflect the real costs that they impose on the system rather than attempt to penalise such errors.

The Commission will consider this issue as part of its review of the Code of Operations.

4.4.7. Overruns

Overrun service relates to gas transportation quantities taken in excess of the contracted or booked capacity. Currently, all overruns are treated as unauthorised and attract a penalty charge. However, overruns that pose no problems for the transporter could be authorised in advance, so that if a shipper requested excess transport quantities for a day, the transporter would authorise the shipper to take such quantities if there is sufficient capacity available. The price of transport for those extra quantities would be charged at a predetermined rate high enough that users do not choose to become too reliant upon this service (in place of firm service or purchasing capacity on the short-term market), and low enough so as not to be economically inefficient.

Unauthorised overruns, however, should carry penalties. These penalties exist to ensure that the market for capacity rights is not disrupted by routine violation of transport rights.

The Commission will consider this issue as part of its review of the Code of Operations.

Comment is invited on:

- Whether a balancing period of less than a day would be appropriate for the Irish natural gas market over the longer term.
- The appropriate approach for balancing – on a point-to-point basis or entry/exit basis.
- Whether the current nominations process needs to be changed, and if so how.
- Whether a real-time market mechanism for increasing and/or decreasing gas on the system should be created.
- Whether current scheduling tolerances and charges reflect the costs imposed on the system by nomination divergences.
- Whether BGÉ, as a transporter, should authorise overruns when there is capacity available, and the appropriate charge for authorised overruns.

4.5. Gas Storage

4.5.1. Storage Licensing

Section 16 (1)(c) of the 2002 Act provides for the licensing of storage separately from transportation and supply. However, there is no provision barring holders of gas transport or supply licences from also holding a storage licence.

Storage facilities might become available and/or economic over the longer term. In principle, storage services may be provided either competitively or under monopolistic conditions, and so the question of whether prices need to be regulated or whether restrictions need to be placed on cross-holdings of different types of licences can be taken on a case-by-case basis.

However, the Commission proposes that *all* storage facilities should be open access facilities in order to support the competitive market. If some shippers/suppliers have access to storage services that are not available to others on equal terms, then competition will be distorted.

Given the present uncertainty about how storage services might or might not develop in Ireland, it would be wrong to impose a blanket ban on the cross holding of storage and other licences at the present time. This would leave the Commission to consider each case on its merits in the light of the prevailing competitive position. Having said that, it seems unlikely that there will be significant economies of scale or scope between storage and transmission capacity. If this is correct, there would be no economic advantage in a transporter being able also to undertake licensed storage activities.

4.5.2. Line-Pack Storage

Under the current Code of Operations, all line-pack between system entry and exit points passes into the possession of the transporter, ensuring that it is available to the transporter for within-day operation of the system. The Commission currently sees no reason for changing this situation, at least until a reasonably liquid short-term market for gas has been established in Ireland.

However, this issue could be looked at as part of our review of the Code of Operations if necessary.

Comment is invited on:

- Whether storage facilities should be open access facilities.
- Whether the transporter should be allowed to undertake licensed storage activities.
- The Code of Operation's current requirement regarding all line-pack passing into the possession of the transporter.

5. REGULATORY FRAMEWORK

5.1. Introduction

In this section, we look at the regulatory framework that will need to be developed by the Commission, after appropriate discussion with interested parties. The Commission will need: (1) to meet the relevant requirements of the 2002 Act concerning licensing and regulations and (2) to implement changes to the gas market framework that have been outlined for discussion in the previous section and consider appropriate to implement together with any other reforms the Commission sees as necessary.

We first describe the principal regulatory instruments that will need to be discussed and put in place. We set out an outline of the main instruments and invite comment while bearing in mind that the specific licences and regulations discussed below will be the subject of separate consultation.

We then outline how the Commission proposes to fulfil its duties and functions with respect to economic regulation of the industry. This principally concerns the regulation of gas supply and gas transportation charges. Finally, we outline the main areas of technical and safety regulation that the Commission will be concerned with in its new role as independent gas industry regulator.

5.2. Principal Regulatory Instruments

In this section we set out the means by which the Commission is planning to implement the gas market framework as discussed in the preceding section. The Commission will use the various powers granted to it by the 2002 Act. These include the making of regulations and the drafting and issue of licences, which the Act requires anyone carrying on specified activities in the gas industry to hold. In this section, we look first at how the Commission expects to carry out its principal functions and then make suggestions regarding the three principal activities of: pipeline consents, third party access (TPA) and licensing.

5.2.1. Functions of the Commission

In carrying out its new functions under the 2002 Act (as outlined earlier in Section 3.5) the Commission will be guided by the principles of accessibility and fairness in its dealings with all parties, and of proportionality and transparency in its decision-making. In particular it will, wherever possible and appropriate:

- Consult widely on all major issues;
- Be responsive to all serious representations;
- Signal its policies in advance; and

- Give reasoned decisions in public.

The three central activities of the Commission concerning the implementation of reforms of the gas market, in which it will need to seek appropriately to apply those principles, relate to:

- Pipeline consents;
- Third party access; and
- Licensing.

These are considered in turn below.

In the key areas of market liberalisation and competition policy a number of important decisions remain to be made, and these will further shape the proposals outlined here. Chief among them are:

- The speed and extent of market opening - full market opening is expected to occur by 2005 and the Commission is aiming to ensure that whatever it proposes will have that timetable in mind and will aim to deal with all the consequences of that market opening where appropriate as well as the more immediate concerns resulting from the lowering of the threshold for eligible consumers to 2 Mscm a year from 30 April 2002; and
- The use of non-exclusive, or competitive, structures in conferring rights on both pipeline operators and gas suppliers - where the presumption is that the extent of any monopoly functions will be no greater than the irreducible minimum.

5.2.2. Pipeline Consents: Section 39A of the Gas Act, 1976

The granting of pipeline consents (other than upstream pipelines), which was previously the function of the Minister for Communications and Natural Resources, has been transferred by the 2002 Act to the Commission. The Minister, however, is required to specify by regulations the criteria in accordance with which an application for consent to construct such pipelines may be determined by the Commission, and the Minister has recently made such regulations.

The Commission is considering the approach to adopt regarding the granting of pipeline consents, as noted in section 4.2.4. In this regard, the 2002 Act provides that the Commission shall, where it considers it appropriate, or at the request of the Minister, conduct a competitive process for the purpose of selecting an applicant from whom an application for consent shall be considered, and may make regulations for that purpose.

The Commission will be developing a set of criteria for this competitive process.

Under section 12(2) of the 2002 Act the Commission may make regulations exempting certain pipelines or classes of pipelines from the requirement to obtain a section 39A consent. The Commission proposes to consider exemptions as part of its development of the above criteria. Existing exemptions have, however, been conferred by the Minister disapplying obligations to obtain pipeline consent in respect of pipelines below 4 bar pressure. These exemptions will continue to apply.

Comment is invited on:

- The circumstances in which a competitive process for granting pipeline consents should be held; and
- The criteria which should be used in that competitive process.

By virtue of the Gas (Amendment) Act, 1987 (Section 2) Order, 1987 (S.I. 283/1987), BGÉ currently holds a monopoly position in transmission, distribution and supply to the non-eligible market in large areas of Ireland to which gas has not been brought and where there is no existing infrastructure.

The Commission wishes to harness competitive forces in order to encourage the maximum rate of build-out of gas distribution and accordingly will be consulting separately as to whether the areas covered by this existing Section 2(1) Order should be revisited and, if so, how.

5.2.3. Third Party Access

The speed and extent of further market opening will have a major impact on how decisions made now are implemented. In particular, as the eligible market is extended to smaller customers, there is likely to be a strong case for the use of model clauses and standard form agreements for Third Party Access (“TPA”), as well as some other more detailed provisions in relation to licensed supply to such customers. This would not only ensure equality of treatment but also narrow the potentially very wide field for disputes.

The licensed pipeline operator would be required by its licence to offer fair, reasonable and non-discriminatory terms for access to its infrastructure - i.e. for connection and transportation; and to prepare a statement of its charges in a form approved by the Commission. It would have to draw up a schedule of information about the system, which enabled a system user i.e. gas shipper, to form a reasonably reliable view of the opportunities for connection, and transportation and the costs associated with them. This would complement the Commission’s overall Gas Capacity Statement.

The Commission envisages that detailed regulations governing the methods of charging, the form of charges and the information to be provided to users would be set out in separate regulations in only two sets of circumstances:

- In order to correct or to impose constraints on emerging inconsistencies of approach or practices and arrangements found to be unfair, exploitative or anti-competitive; and
- In order to specify a standard method of dealing with particular issues such as the accounting conventions to be used in calculating charges; piggy-backing (second-comers contributing to the remuneration of the investment of a first-comer); and deep versus shallow connection.

In relation to dispute resolution, the Commission envisages the regulations setting out the basic requirements for the existence of a *bona fide* dispute; the avenues that the parties should have explored before coming to the Commission; and the information to be provided to the Commission.

Comments are invited on:

- The Commission's intention to have model clauses, etc. for TPA arrangements.
- The Commission's intention to set out in some detail the framework for determining terms and conditions for those requiring access to a licensed operator's network.

5.2.4. Licensing

Licence holders have certain statutory duties imposed on them through the 2002 Act, including, for example, the duty to operate, maintain and develop under economic conditions, systems required to carry out their licensed activities with due regard to the environment and public safety.

The Commission will publish details of the information that will be required from an applicant for a licence to carry on a licensable activity consistent with the criteria for the Commission's determination of licence applications as specified in regulations made by the Minister.

Licences, through the conditions which will be attached to them, will be an important tool with which the Commission will be able to regulate and monitor the activities of licence holders, and in particular of BGE (as incumbent).

Licence conditions will also allow the Commission to elaborate on how licence holders are to behave in order to comply with the duties outlined in the 2002 Act. The Commission will consult separately with potential applicants and other

industry representatives on the form that licences should take and the conditions to be attached to them. However, since licences are already required to carry on the licensable activities, pending completion of the consultation process and finalisation of the content of full licences the Commission intends to grant interim licences.

These interim licences will authorise the relevant activities for an initial period of six months, and will be replaced by more comprehensive, full-term, licences. The interim licences will include the minimum conditions which the Commission considers essential for this initial period.

The Commission will grant separate licences for each of the licensable activities (namely, supply, transmission, distribution and storage)⁴. The Commission does not currently anticipate exempting any classes of licensable activities from the licence requirement.

5.2.4.1. Licence duration

The Commission proposes that the licences should have a minimum initial period and thereafter be of indefinite duration subject to a minimum notice period. In the case of electricity licences, the minimum initial period is thirty years including a minimum notice period of fifteen years.

Licences will be revocable by the Commission in specified circumstances. It is anticipated that these will include: where the licensee fails to comply with orders or directions under statutory enforcement procedures; where the licensee becomes subject to insolvency proceedings; where there is an un-notified change in control of the licensee, or where a change in control makes it inappropriate for the licensee to continue to hold the licence.

5.2.4.2. Licence conditions

The Commission envisages that certain conditions will be included in full-term licences for all licensable activities. These can be grouped into the following broad categories:

- *General service obligations:* These may vary according to whether the licensee is the dominant incumbent (BGÉ) or a new entrant. They may include, for example, requirements on supply licence holders to offer terms for supply or to make arrangements for the availability of emergency

⁴ Shipping falls within the definition of “supply” under the 2002 Act and will therefore be regulated under a supply licence. Whilst it is unlikely that a significant number of *pure* shippers will participate in the Irish market, it is important to recognise that shippers have a distinct role within the market.

services. In the case of infrastructure operators, these provisions will concern access to their systems. In addition, the 2002 Act allows the Minister to direct the Commission to impose specific public service obligations on natural gas undertakings and to provide for the recovery, through a levy, of consequential costs, which are not otherwise recoverable. It is not currently anticipated that any obligations would be imposed which would justify a levy.

- ***Financial reporting and ring-fencing:*** Integrated natural gas undertakings are required under the 2002 Act to keep separate accounts for each of their licensed activities and, where appropriate, consolidated accounts for other non-gas activities, in order to avoid discrimination, cross-subsidisation and distortion of competition. Licence conditions will elaborate on those statutory requirements. These provisions will be accompanied by ring-fencing of commercially sensitive information from other businesses which might benefit from it, and, where relevant, appropriate ring-fencing of assets and Commission control over the disposal and charging of assets.

The Commission may require the establishment of a suitable compliance regime that would include the appointment of a Compliance Officer. In the event that there is such a regime, that officer would be required to establish codes of conduct for all employees to ensure that there is full compliance with the ring fencing arrangements, quarantine of staff moving between areas of the company and publication of an annual report on the operation of the regime. In addition to other reporting lines, the compliance officer would also be required to refer certain matters directly to the Commissioner.

- ***Fair trading:*** This category of conditions would govern the general economic behaviour of the licensee and would include where appropriate the prohibition of cross-subsidies, discrimination, anti-competitive behaviour and abuse of dominance.
- ***Industry arrangements:*** Licensees will be required to make the necessary arrangements for delivering a safe, efficient and co-ordinated overall system of supply. For example, licensees will be bound to abide by relevant codes of operations and other common standards and codes of practice.

In addition, consideration will be given to what further obligations are appropriate in the context of each licensable activity.⁵

⁵ For example:

- Where an undertaking is only involved in shipping, the Commission envisages that the shipping function could be authorised and regulated by a streamlined supply licence.
- In the case of the Storage Licence, the Commission proposes to include conditions that will ensure that all storage facilities should be open access in order to support the competitive gas market.

Comment is invited on:

- Whether the gas licence should be of the same, or similar, duration as electricity licences (30 years minimum initial period, indefinite duration thereafter subject to minimum 15 years notice period).
- The broad outline of licence content bearing in mind the specific consultation on licences that is to follow.
- Whether the ring-fencing arrangements and accompanying compliance regime proposed for integrated natural gas undertakings including BGÉ are likely to ensure adequate separation between its transportation and supply/shipping businesses.

5.3. Economic Regulation

In undertaking its functions and duties, the Commission has responsibility for the economic regulation of:

1. Prices for the supply of gas to non-eligible (or franchise) customers, currently supplied exclusively by BGÉ Energy Supply Unit; and
2. Charges for gas transportation services supplied by BGÉ Transmission and Distribution Units.

Below we set out how the Commission proposes to approach the regulation of gas supply prices before considering the principles to apply to economic regulation of gas transmission and distribution, the options for the form of regulatory control, and the process for considering gas transportation charges.

5.3.1. Regulation of Gas Supply Prices to Smaller Customers

Under the 2002 Act, any consumer using less than 2 Mscm a year (i.e. a non-eligible or franchise consumer) will continue to be supplied by BGÉ Supply Unit or any other supplier authorised under the Gas (Amendment) Act, 1987. As such any supply to these customers will be under a monopoly franchise and the Commission will continue to regulate gas supply prices to them.

The Commission intends to review current gas supply prices and in particular proposals that BGÉ is expected to forward to it for changes to these prices. At the same time, the Commission is aware that the Government may lower the threshold for eligible customers before 2005 to include most of the smaller industrial and commercial customers. Full retail competition is expected to follow in 2005. The Commission will consider any implications of further changes to the eligibility threshold as regards gas supply prices and terms at the appropriate time.

Following that review, the Commission will publish a consultation document setting out how it intends to regulate this part of the gas market going forward.

5.3.2. Principles of Good Regulatory Practice

The Commission circulated its general regulatory principles for electricity transmission and distribution in October 1999. These principles stated the Commission's belief that economic regulation should:

- Enable businesses to attract capital from investors;
- Encourage efficiency in operations and in investment; and
- Minimise the extent of regulatory intervention in the day-to-day decision making of the businesses.

The Commission further believes that any system of regulation must:

- Be cost reflective, to provide a reasonable assurance that the capital invested in the business will earn the necessary rate of return and that the principal will, in due course, be recovered along with any operating costs;
- Provide management with a relatively stable and predictable set of incentives for efficient management decisions; and
- Specify regulatory constraints in terms of medium to long-term rules for setting cost reflective prices, and requirements to offer services.

The Commission believes that these objectives continue to be appropriate and should be applied to the economic regulation of the gas industry in Ireland.

5.3.3. Form of Regulatory Control

Economic regulation of monopoly service is necessary because if left unfettered, monopoly enterprises would tend to restrict output below an economically efficient level by raising prices above costs and to discriminate between customers on the basis of willingness to pay rather than the cost of supply.

A trade off exists between eliminating excess profits earned by the monopoly company and providing adequate incentives to efficiency. There is a spectrum of regulatory approaches reflecting a different balancing of this trade off. These approaches range from “cost-based” to “incentive” regulation.

Under cost-based regulation (often referred-to as “traditional US cost-of-service regulation”), cost controls are applied as the main form of regulatory restraint. The most common regulatory mechanism of this kind is control of the rate of return on capital earned by the business. Cost-based regulation, generally used in conjunction with contract carriage arrangements for new capacity, is employed in the US.

Under incentive regulation the form of control is usually a limit on profit or revenue. There are a variety of mechanisms of this kind, e.g. “price caps” with some form of periodic review. Regularly used in combination with common carriage arrangements for new capacity, incentive regulation is now common in many jurisdictions in the UK, elsewhere in Europe and in Australia.

5.3.4. Regulation of Transmission and Distribution Charges

5.3.4.1. Current Situation

The Commission recognises that the Department for Public Enterprise undertook its own review for setting gas transmission tariffs only relatively recently. This review was assisted by the work undertaken by the Brattle Group. As a result of

this review, the Minister published directives in November 2001 that cover gas transmission revenues and charges for three parts of the pipeline system in Ireland: the onshore transmission network, the Scotland to Ireland Interconnector, and the Inch entry/exit.

At present, the directives require that the components of the price formula are examined each year and new tariffs agreed by the Commission. On this basis, new tariffs need to be agreed for the annual period beginning 1 October 2002.

5.3.4.2. Review of Charges

The Commission is aware of the very substantial financial commitments that have been made by a number of investors, both private and public.

In particular, BGÉ Transmission is committed to expanding the gas transmission network to increase the capacity of the system to meet the expected growth in demand for gas in Ireland, as well as to transport new sources of gas from the Corrib terminal. There are very substantial investments being made by the developers of the Corrib gas field to bring new gas on stream by early 2004.

In considering its approach to the regulation of gas transmission charges, the Commission will take into account these investments and the need of investors for a suitable degree of stability in the approach to gas transportation charges, especially given that the current regime was introduced less than 12 months ago.

The Commission currently proposes to:

- Review and approve the transmission charges for the gas year starting 1 October 2002 based on the existing formula established by the Ministerial directive;
- Review and approve proposed distribution charges for the gas year starting 1 October 2002; and
- Undertake a review of the charging regime for gas transmission and distribution in time for the gas year starting 1 October 2003.

5.3.5. Regulatory Accounts

Regulated companies should be subject to a uniform system of accounts to facilitate the tariff-setting process. The Commission proposes that a Uniform System of Accounts using Regulatory Accounting Guidelines (“RAGs”), consistent with those being developed for the electricity industry in Ireland, be developed for BGÉ and any other regulated entity. These accounts should be issued to eliminate uncertainty in the function of the regulator, to eliminate subjectivity in the decisions of the Commission, and to provide users of regulated services greater assurance regarding the prices they will pay. The aim of using these accounts is to

distinguish the regulated from the unregulated activities, to protect the regulated company by allowing for the recovery of its costs and investments, and to facilitate the task of the Commission.

Experience in other countries shows it is difficult for regulators to analyse the information provided by regulated companies unless those regulators also specify, and have control over, the nature of the data they need to perform their functions. Under the 2002 Act, the regulated gas companies in Ireland are required, periodically, to send accounting and fiscal data to the Commission.⁶

Comment is invited on:

- The steps to be taken in the review of transportation charges.
- Whether a Uniform System of Accounts using Regulatory Accounting Guidelines should be adopted.

5.4. Technical and Safety Regulation

Under the 2002 Act, the Commission assumes responsibility for the technical regulation of the onshore gas sector. The three key areas of technical regulation are: consents, gas safety and security of supply. Each of these is discussed in turn below.

5.4.1. Consents

The Commission is required to issue technical guidelines covering the award of consents for the construction of new pipelines. Such guidelines will address issues of:

- Environment compliance;
- Engineering Design compliance;
- Construction compliance;
- Operation and Emergency compliance; and
- Decommissions.

It is important to emphasise that the new regime for consents will henceforth be industry-wide, implying that the standards set are no longer BGÉ-specific and that BGÉ should not have responsibility for setting them. The guidelines will apply to the construction of pipelines, which may or may not be undertaken by BGÉ.

⁶ Section 17(4) of the Gas (Interim) (Regulation) Act, 2002.

5.4.2. Gas Safety

At present, BGE Distribution Unit operates an emergency response to reported gas escapes. Under the restructured market, the agent responsible for such escapes may be a different operator. Similarly, for gas appliance installation and use, in a liberalised market with a number of suppliers, responsibility for gas safety within a property may be unclear. To avoid confusion, emergency response is best provided by a single point of contact.

The responsibility for providing a gas emergency service should lie with the gas transporter (i.e. as a transmission or distribution system operator as appropriate). The service should comprise a trace and repair service for any leakage on any part of the whole network up to and including the consumer's meter. The responsibility of the transporter beyond the meter, over and above "making safe", should be reviewed and minimised. It is for consideration whether the transporter should be allowed to recover the costs of action beyond the meter from the customer concerned or it should continue with the present arrangements and recover its costs in other ways, for example, through transportation charges.

5.4.3. Gas Security

Ensuring security of supply involves combining efficient long-term system development with safe and efficient day-to-day operation. Gas system design and operation must be able to manage safely any gas supply emergencies and severe weather conditions as appropriate.

Maintenance of gas within the system requires:

- Adequate design capacity of the high pressure pipeline network, compression and storage;
- Daily forecasting and provision of gas within the network;
- Requisite controls and powers held by the system operator covering supply emergencies and severe weather; and
- Adequate design of low-pressure networks to ensure capacity to supply peak winter loads.

Currently BGE is the system operator, managing gas supply and the provision of margins for network operation. In a deregulated market others may build and operate transmission and distribution networks, and the overall gas system design must ensure that supply integrity is maintained.

Comment is invited on:

- The issues to be covered by the technical guidelines for consent.
- Whether the transporter should be allowed to recover the costs of action beyond the meter from the customer concerned.

APPENDIX A. IRISH GAS MARKET

This appendix provides a more detailed description of the existing natural gas industry in Ireland, as follows: the characteristics of demand and supply, the transportation network, transmission tariffs and market operation, the organisational structure of Bord Gáis Éireann (BGÉ), current transmission tariffs, connection policy, and metering.

A.1. Natural Gas Demand

The demand for natural gas has grown rapidly during recent years in Ireland. The contribution of natural gas to Ireland's Total Primary Energy Requirement (TPER) grew from zero percent in 1978 to 21.72% in 2000. Power generation and feedstock (IFI) have driven this growth in the main. In fact, these two sectors provided the initial commercial basis for developing the Kinsale Gas Field (in 1978).

Power generation (including CHP) currently represents around 53% of total natural gas demand. The power sector's demand for natural gas is expected to continue growing, given the systematic increase in demand for electricity and the potential decline in output of existing coal and oil-fired stations (due to environmental reasons).

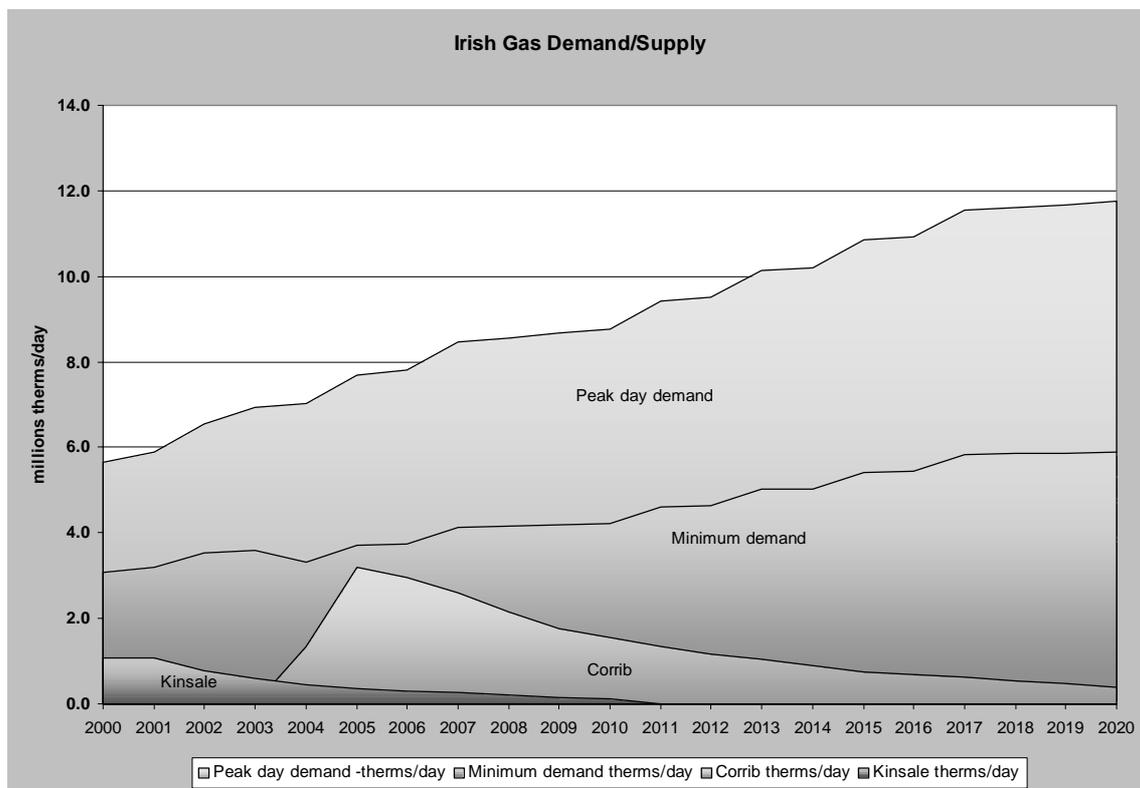
Both, BGÉ and the Economic and Social Research Institute (ESRI) have forecast a strong and rapid growth of gas demand in Ireland, mainly driven by a strong growth in gas-fired power generation, with more modest contributions from the residential, commercial and industrial sectors.

A.2. Natural Gas Supply

The Kinsale Head Gas Field, the Ballycotton Gas Field and the SWK Gas Field are currently the only sources of *indigenous* natural gas in Ireland. The Kinsale Head Gas Field has been in production since 1978 and has provided a high proportion of Irish gas demand, the balance being provided by imports from UK (approx 80%). Production from this area has been declining for several years and it is expected to cease entirely within the next few years. However, the potential of gas coming on stream from the Seven Heads Gas Field via the Kinsale facilities would influence the timing of cessation of production from the Kinsale Area Fields. Marathon International Petroleum (Ireland) Limited (MIPIL) manages these offshore fields.

As Figure A.1: shows, even though by 2004 the Corrib field will supply natural gas to the Irish gas market, Ireland will remain heavily dependent on imports from the UK.

**Figure A.1:
Natural Gas Demand and Supply**



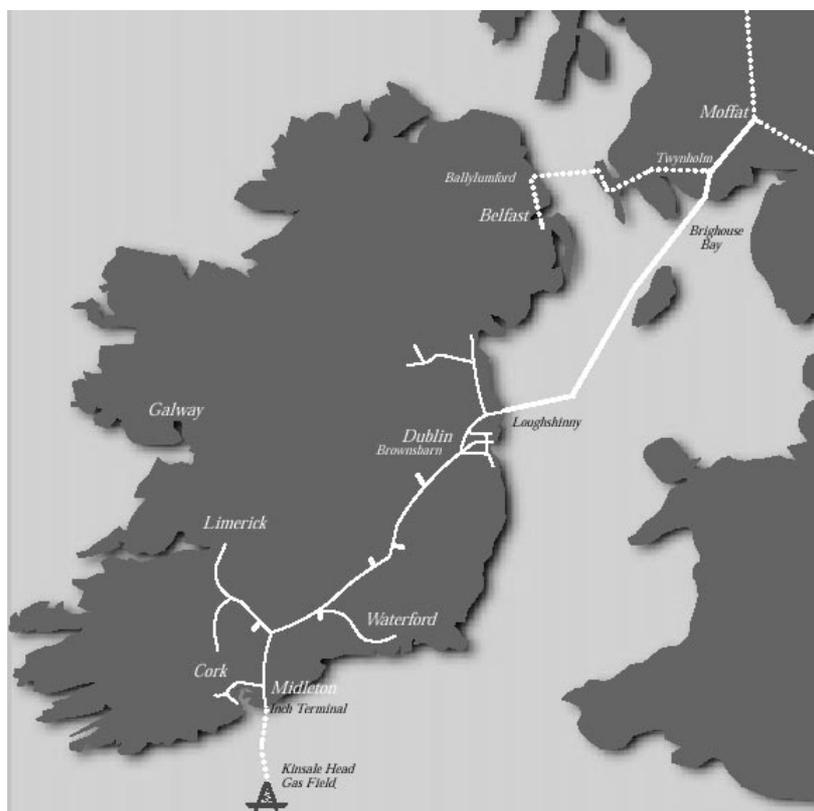
Source: Enterprise Energy Ireland

A.3. Existing Gas Network

A.3.1. Transmission Network

The existing transmission pipelines have a length of 1,250 km and operate at a pressure of up to 70 bar. The transmission network begins on the Scottish mainland where the Irish line connects to the UK National Transmission System. From this connection point flow passes via two compressor stations, Beattock and Brighthouse Bay, into the first Interconnector. This interconnector makes landfall at Loughshinny to the north of Dublin. From here it links to the existing transmission network that connects to Waterford, Cork, Limerick and Dundalk. The current transmission network is illustrated in the figure below.

**Figure A.2:
Current Transmission Network**



Source: BGE

In the light of the anticipated strong growth in natural gas demand several pipeline projects are under development. The current key pipeline construction projects are as follows:

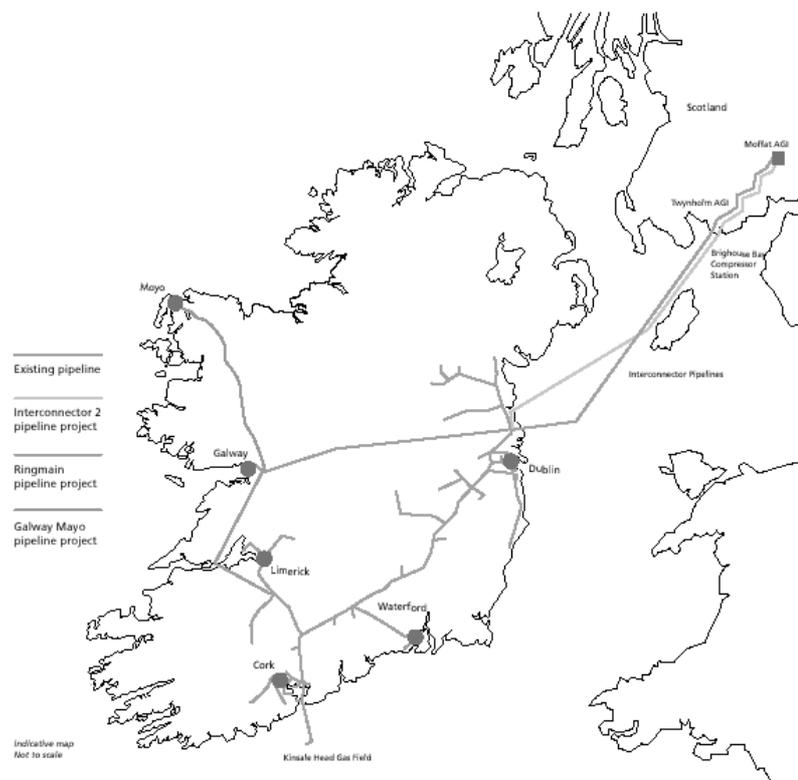
Second interconnector from Scotland to Ireland is currently under construction. The project is due for completion by the end of 2002.

A Pipeline to the West is being constructed, which will connect Dublin, Galway and Limerick. This line will give the Midlands, Western and Mid-Western regions access to natural gas. This new pipeline will also form a high-pressure ring main around the country improving the security of supply to the south. Construction is scheduled for completion by the end of 2002.

Mayo – Galway line is being constructed to facilitate the Corrib development off the North West coast. The pipeline will run from Galway to Corrib's terminal in Mayo.

The map below illustrates the transmission network projects discussed above.

**Figure A.3:
Irish Transmission Network**



Source: BGE

A.3.2. Storage and Line-pack

In a strict meaning of the term, there is no storage on the Irish network other than operational line-pack. In the past, all load management has been by way of contractual swing and interruptible contracts made possible through fuel switching in large power generation. However, a facility has been developed by Marathon in the South West Kinsale Field to allow for re-profiling of contracted production from the Kinsale Head Field.

The interconnector and the onshore transmission system carry some line-pack system storage due to the ability to alter the pressures within the high-pressure transmission network over a diurnal cycle. By this means within day variation in demand may be catered for by the network to some extent. Currently, the BGE transportation businesses use all line-pack in the transportation network for the operation of the system.

A.3.3. Distribution Network

The Irish distribution network receives gas at 70 transmission offtake stations located close to the points of supply. The gas flows at a pressure of about 4 bar. However, there are a small number of 7 bar networks. There are currently around 7,500 km of installed distribution pipe. The distribution system currently supplies approximately 395,000 customers. Recently the number of customers connected to the distribution network has been increasing at a rate of 7% per annum. The increase principally comprises supplies to new towns, new housing estates and one off connections to existing property close to existing mains. As new transmission lines are built, new markets will be opened up in the Midlands and the West of Ireland.

A.4. Market Opening

Since 1995 and prior to 30 April of 2002, customers consuming in excess of 25 million standard cubic metres (Mscm) of gas per year have been eligible for TPA. While this represents between 70% and 80% of the total gas market in Ireland, only eight sites, each connected to the transmission network, were consuming in excess of this threshold.

Since the 30 April of 2002, the TPA consumption threshold for eligible customers was reduced to 2 Mscm of gas per year. In addition, all gas-fired electricity generators are eligible for TPA. This reduction means that in excess of 80% of the gas market is eligible for TPA.

A.5. Transmission Tariffs and Allocation of Transmission Capacity

At present, transmission tariffs are based on an entry/postalised exit system. Currently, there are two entry tariffs (for Inch and the interconnector) and one exit tariff for the onshore network.

At present Ireland operates under a common carriage type of model where infrastructure is built in anticipation of future demands with the cost of such infrastructure being added to the regulatory asset base.

Shippers sign a Standard Transportation Agreement (STA) with BGÉ, which defines the quantity of reserved capacity that a shipper is entitled to, and specifies an entry and an exit point in relation to that capacity. In effect, although shippers pay for entry and exit separately, they purchase capacity from “point to point” through the system. That is, the Entry-Exit system retains a link to physical capacity, by insisting that shippers reserve Entry and Exit capacities that match.

All capacity relating to the transportation system at the Inch Entry Point has been reserved for BGÉ Supply Unit because of pre-existing legal arrangements. A request to change the Code of Operations to allow capacity to be available to other

Shippers has been submitted to the Transporter. This has been designated Code Mod 6.

A.6. Connection Charges

A.6.1. Transmission Connection Charges

New loads with a choice of location (e.g. new Combined Cycle Gas Turbine) are required to pay the identifiable cost of connection, including upstream reinforcement, if any. New loads with no choice of location, e.g. existing plants, face an economic test: Where the NPV of the revenue receivable (when evaluated over 7 years) is insufficient to cover the capital cost, a connection charge equal to the difference between the capital cost and the NPV of the revenue is applied. Where the NPV of revenue exceeds the capital cost there is no connection charge. Where the economic test is applied BGE Transmission requires a guarantee from an entity with an investment grade credit rating equal to the NPV of revenue.

A.6.2. Distribution Connection Policy

Currently, new consumers wishing to connect to the distribution network do not pay connection charges if they are within 15 metres of the distribution mains network. In such cases, BGE Distribution Unit recovers connection costs through distribution charges (i.e. the costs are in effect paid by all customers connected to the distribution network).

BGE is currently developing proposals for a distribution connection policy to apply to the 2 Mscm annual consumption threshold for TPA.

A.7. Operation of the Market

A.7.1. Code of Operation and Standard Transportation Agreement

The current rules and principles of the operation of the Irish gas market are outlined in the Code of Operations and STA. The main rules established by the current version of the Code of Operation can be summarised as follows:

- **Balancing period:** Shippers are required to balance their inputs and offtakes of natural gas on a daily basis.
- **Tolerance:** (a) +/-8% for shippers in a consumption range of 260,000 - 1,500,000 MWh per year, and (b) +/-3% for shippers whose demand is greater than 1,500,000 MWh per year. Non-TPA gas is not subject to a tolerance level.
- **Trading of imbalances:** Shippers are allowed to trade their imbalances within the tolerance.

-
- Trading of capacity: There is some scope for secondary trading of capacity. However, if a shipper wants to transfer its exit rights to another shipper, it must have BGÉ's authorisation.⁷ In this way BGÉ ensures that entry and exit rights are not de-linked in a way that could be problematic for the system.
 - Reserved capacity: Shippers are required to reserve capacity at the requisite exit points for a fixed period of at least one contract year.
 - Overrun charges: if a shipper exceeds its reserved capacity, it pays penalties in the form of overrun charges.

A.8. BGÉ Organizational Structure

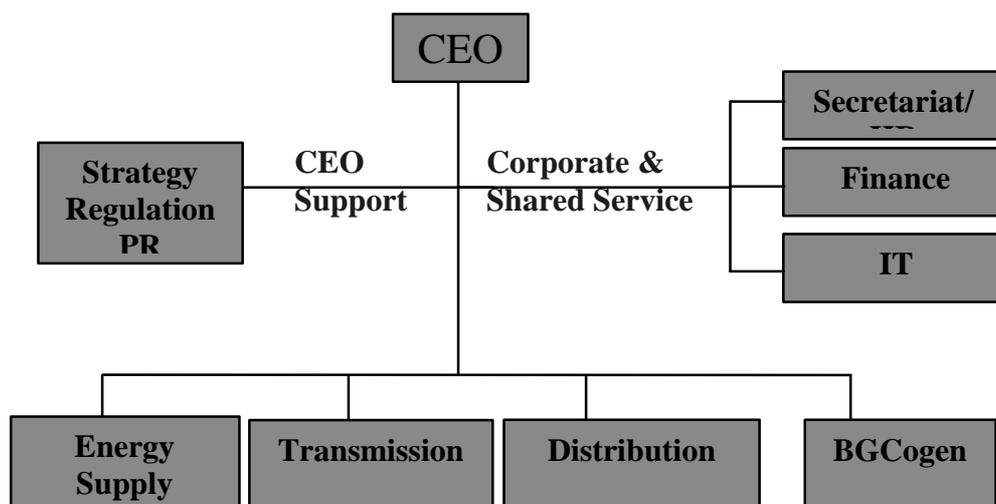
BGÉ is structured into four *separate business units* as follows:

- *Transmission Business Unit* responsible for the major gas pipelines including the interconnector.
- *Distribution Business Unit* Responsible for low-pressure networks.
- *Supply Business Unit* responsible for buying and selling gas to the franchise and eligible gas markets. Currently there is no separation within the BGÉ Supply Business Unit of the franchise and competitive markets.
- *BG CoGen*: responsible for investments in the cogeneration market.

The current structure of BGÉ is summarised in figure A.4 below.

⁷ The procedure for applying for a transfer of capacity is set out in the Code of Operations, section 2.4.

**Figure A.4:
BGÉ Current Structure**



Source: BGÉ

In January 2002, BGÉ prepared a Code of Conduct to govern the interaction and relationships between BGÉ's business units.

A.9. Metering

A.9.1. Meter Ownership and Type

Large industrial customers and power stations receive gas supply directly from the transmission network. These sites are fitted with meters that supply telemetered information continuously to the Gas Transportation Management System. This within day flow information is required for both commercial and system operational (balancing) reasons. The meters are owned and maintained by BGÉ Transmission Unit.

Meters are also installed at principal offtakes from the gas transmission system that feed into the distribution system. These devices are primarily for the purpose of determining system load and behaviour, to meet operational needs.

The meters for residential and small industrial and commercial customers supplied from the distribution system are of the diaphragm type. Meters for larger industrial and commercial customers connected to systems fed from the distribution system are a mixture of turbine and rotary types. Ownership of these meters lies with the BGÉ Distribution Unit. The Distribution Unit also manages the installation, maintenance and replacement of the meters, and deals with issues concerning meter accuracy.

At present, meters fed from the distribution system do not provide telemetered information and do not log or record consumption on a daily basis.

A.9.2. Meter Reading

BGE is responsible for meter reading. Residential and small industrial and commercial customers are read and billed six times per year, however a move to five times per year has been planned. There are 12,000 large industrial and commercial customers that are read and billed monthly.

Each meter is assigned to a meter point and the meter point used to derive a daily meter reading order. A mixture of direct and contracted labour undertakes the meter reading process itself. Data is gathered on hand held terminals and downloaded nightly.

APPENDIX B. SUMMARY OF THE LEGAL AND REGULATORY FRAMEWORK

This appendix summarises the changes in the legal and regulatory framework brought about by the 2002 Act, and the other relevant regulatory instruments in force.

B.1. Summary of the Main Provisions of the Gas (Interim) (Regulation) Act, 2002

B.1.1. Functions of the Commission

The 2002 Act transfers certain powers and functions of the Minister for Communications and Natural Resources to the Commission for Energy Regulation (the “Commission”), formerly the Commission for Electricity Regulation, providing for the independent regulation of the natural gas sector in Ireland. The Act also amends a number of the existing provisions of the Gas Act, 1976.

The functions and duties of the Commission include:

1. To advise the Minister on the development of the gas industry as appropriate;
2. To promote safety and efficiency on the part of natural gas undertakings;
3. To secure that there is sufficient capacity in the natural gas system to enable reasonable expectations of demand to be met;
4. To secure the continuity, security and quality of supply of natural gas; and
5. To promote competition in the supply of natural gas.

B.1.2. Pipeline Consents

Applications for consent to lay transportation or distribution pipelines will now be made to the Commission. The Commission has the power to attach conditions to the granting of consents, including consents granted to BGÉ, and may make regulations dealing with the procedures to be followed with regard to applications for, and the granting of, such consents (excluding consents for upstream pipelines, which will remain with the Minister for Communication and Natural Resources). The Commission’s functions relating to the construction of pipelines also cover compulsory acquisition orders, the granting of orders to acquire land or rights over land, and the extinguishment of rights of way.

The Commission has the power to make regulations concerning the exemption of certain pipelines or classes of pipelines from requiring consents. The regulations may also specify conditions relating to the construction of such pipelines. The Commission currently has no plans to use this power in the short term. The

Commission may refuse consent to the construction or operation of any new distribution or transmission pipeline where it determines that the capacity of existing or proposed pipelines represents adequate provision for expected demand. The power to set out the criteria in accordance with which consents for pipeline construction are granted lies with the Minister.

The Commission may direct pipeline operators to publish a Code of Operations in respect of the technical aspects relating to connection to and operation of their pipelines and to give directions to pipeline operators concerning the Code of Operations. This will be dealt with in licences (see below). The Commission may also direct consent holders to discontinue or refrain from specified practices.

B.1.3. Third Party Access

A supplier or customer is eligible for Third Party Access (“TPA”) if he: is licensed to supply natural gas; operates a gas-fired generating station (irrespective of its annual consumption); or has an annual rate of natural gas consumption of at least 2 million standard cubic metres. The Minister has the power to reduce this specified rate by order.

The Commission may make regulations concerning agreements between a pipeline operator and persons eligible for TPA. A pipeline operator has the right to refuse a request from an eligible person on the basis of: a lack of capacity in its pipeline (unless it is economical for the operator to make the necessary enhancements to the pipeline); a lack of connection to that pipeline (unless the eligible person is willing to pay for the connection); risk of contravention or breach of relevant regulatory obligations; and refusal by the eligible person to be bound by the operator’s code of operations. The Commission has the power to resolve disputes between pipeline operators and any person who is, or claims to be, an eligible supplier or customer.

The Commission may make regulations regarding pipeline operators’ methods of charging, the form of charges and the nature of information to be provided to applicants. A pipeline operator must comply with these regulations.

B.1.4. Licensing

The 2002 Act gives the Commission the power to license gas undertakings. There are three licensable activities:

- The supply of natural gas to eligible customers;
- The operation of distribution and transmission pipelines; and
- The storage of natural gas.

It is a criminal offence to undertake any of these activities without a licence. However the Commission may exempt certain classes of activity from the requirement to be licensed.

Anyone who was undertaking licensable activities before the Act came into force must apply for a licence within three months or such period as the Commission may agree. An application by such an undertaking may not be refused.

The Commission may determine the form of applications for licences and determine application fees for licences, and the Minister may specify the criteria by which the Commission may determine applications for licences. Unsuccessful applicants may use the appeals procedures set out in the Electricity Regulation Act, 1999. The Commission may also amend such licences (either with the consent of the licence holder or, following an appeals procedure, on confirmation from the Appeal Panel) and may direct licence holders to discontinue or refrain from specified practices.

B.1.5. BGÉ

BGÉ's primary duty, to develop and maintain a gas supply system, is now restricted to the area of the market where the company continues to enjoy a monopoly, essentially the supply of natural gas to medium to small commercial customers and domestic users.

Under section 2(1) of the Gas (Amendment) Act, 1987 the Minister may, in effect, nominate a company to be the integrated gas company for a particular area. BGÉ is currently the subject of such an Order including areas to which gas has not yet been brought.

The Minister has the power to give BGÉ general directives concerning its financial objectives and how its profits should be applied. The Minister also retains control over the pricing policy of the Board with regard to that part of the market where it maintains a monopoly.

B.1.6. Accounts and Forecasts

Integrated natural gas undertakings are required to keep separate accounts for their gas activities and, where appropriate, consolidated accounts for other non-gas activities, in order to avoid discrimination, cross-subsidisation and distortion of competition.

The Commission is obliged to prepare and publish annual forecasts of gas capacity, including information on demand forecasts. Natural gas undertakings are obliged to supply any information to the Commission that it reasonably requires.

B.1.7. Public Service Obligations

The Minister may make regulations in relation to the imposition of public service obligations on natural gas undertakings. A public service obligation may have regard to security, including security of supply and technical safety, regularity, quality and price of supplies, and to environmental protection. The Minister may also impose a levy on customers to cover any additional costs incurred by natural gas undertakings in carrying out public service obligations.

B.1.8. Levy

In order to meet its expenses, the Commission may make an order imposing a levy under the Electricity Regulation Act, 1999 (as amended) on each class of gas undertaking. Any revenue received by the Commission in excess of its expenses for the same year must be applied in the following year, and must be taken into account in setting the levy for that year.

B.2. Other Regulatory Instruments in Force

B.2.1. Gas Act, 1976

The Gas Act, 1976, is the principal Act regulating the industry. The Act establishes BGÉ and sets out its principal functions and its powers. It also contains provisions for consent to the construction of pipelines and the conditions of TPA (both as amended by the Gas (Interim) (Regulation) Act, 2002).

B.2.2. Gas (Amendment) Act, 1987

BGÉ's functions were extended under the Gas (Amendment) Act, 1987 to include functions corresponding to those of the town-gas companies that had become insolvent, such as Dublin Gas and Cork Gas, in relation to public gas supply. The Act transferred their responsibilities in regard to the supply, transmission, distribution and sale of gas in the geographic areas in which they operated to BGÉ.

B.2.3. European Communities (Environmental Impact Assessment) Regulations, 1989 (S.I. No. 349 of 1989)

Regulation 20 of these regulations inserts section 40A into the Gas Act, 1976. This imposes an obligation on any person proposing the construction of pipelines to carry out an Environmental Impact Assessment. When an application is made to the Commission for consent to the construction of a pipeline, the applicant must submit an environmental impact statement. This statement is then used as the basis for a public consultation, which the Commission must take into consideration when reaching its decision.

B.2.4. Energy (Miscellaneous Provisions) Act, 1995

This Act provided for TPA by the insertion of a new section 10A into the Gas Act, 1976. This provision has since been supplemented by a Ministerial Directive dated 22 August, 2000, and amended by the Gas (Interim) (Regulation) Act, 2002. It effectively implements the requirements regarding access to the system contained in the EU Gas Directive 98/30/EC.

B.2.5. European Directive 98/30/EC

The Directive established common rules on the storage, transmission, supply and distribution of natural gas. It sets out the rules on the organisation and functioning of the natural gas sector, including liquefied natural gas (LNG), market access, and the criteria and procedures that apply to the granting of licences for the transmission, storage, distribution and supply of natural gas, together with the operation of systems.

B.2.6. Gas (Amendment) Act, 2000 and Gas (Amendment) Act, 2000 (Section 2) Regulations, 2000

This Act establishes a framework for the allocation of scarce gas capacity in Ireland, and gives the Minister the power, in consultation with the Commission, to make regulations setting out the criteria and method to be used to allocate scarce capacity until the construction of new supply infrastructure is completed.

The detailed provisions are set out in set out in the Gas (Amendment) Act, 2000 (Section 2) Regulations, 2000. These regulations provide that the Commission must select who is to have rights to the capacity, and the amount. Applications are made to the Commission, which are then evaluated in accordance with the criteria set out in the regulations. In particular the Commission must have regard to the total demand for electricity, and the need to maintain competition in the electricity market.