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COMPETITION IN THE NATURAL GAS INDUSTRY

-- Ireland --

This note is submitted by the Delegation of Ireland to the Working Party No. 2 FOR DISCUSSION at its next meeting on 23 February 2000.

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COMPETITION IN THE NATURAL GAS INDUSTRY

Ireland

Basic Industry Characteristics

1. Following the first discovery of commercially exploitable indigenous gas reserves in Ireland in 1973, the Gas Act 1976 was enacted to establish Bord Gais Eireann¹ (BGE) as the statutory body with responsibility to purchase, transmit, distribute, sell and supply natural gas in Ireland. BGE is not given statutory monopoly for all its areas of operation, but has a *de facto* monopoly resulting from the statutory protection which it does have. While gas production and supply are potentially competitive, gas transmission and distribution are essentially natural monopolies. While new entrants to the pipeline business may emerge in the future, there are limits to what can be expected in the Irish market. However, there are large parts of the country that are not served by the existing network which could potentially be served by a new entrant. At present BGE is divided into four business units:

- Transmission Operations(management of the major gas pipelines)
- Distribution Operations(management of the low pressure pipelines)
- Customer Products
- Asset Development

2. The Energy (Miscellaneous Provisions) Act 1995 provides for the introduction of partial competition in the natural gas market, however it is minimal and will only affect a handful of BGE's largest consumers. Therefore regardless of what competitive pressures BGE may face in respect of sales to its top few customers, it is relatively unconstrained in its ability to set prices and terms for the rest of its industrial and domestic customers. Nonetheless, in volume terms, this is over and above what is required under the EU directive on competition in the natural gas sector. It is intended that BGE will remain vertically integrated with the advent of competition, however, BGE's transmission activities must now be operated independently in management terms from its other activities. This entails keeping separate sets of accounts for transmission activities, applying the same charges to its own activities for the transmission of natural gas, and maintaining any commercially sensitive information gathered in the course of the transmission business within that division.

3. Natural Gas now contributes twenty per cent of Ireland's total primary energy requirements, compared to six per cent in 1980 (see Table 1). Gas faces some competition from alternative fuels such as electricity, oil and LPG. However, cross elasticities of demand are low in the short run, particularly in the household market. This is because consumers have made sunk investments in central heating systems which are generally fuel specific. [BGE would argue however that it is the price of fuel which determines the type of system which is put in place in the first instance and that the base price of gas is set so as to be competitive with other fuels.] Cross price elasticities tend to be higher for those, mainly industrial users, who can quickly and cheaply switch to alternative fuels. Studies of Irish data by Scott et. al. suggest cross price elasticities between fuels are relatively low. UK data suggests that long-run elasticities are somewhat higher but the evidence does not suggest that inter fuel competition at the aggregate level is strong.²

Table 1: Breakdown of Irelands Primary Energy Demand 1998

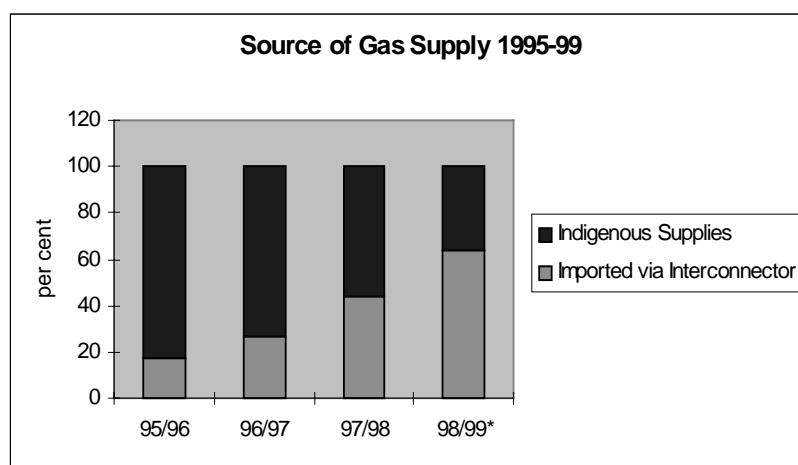
Energy Type	Percentage of Primary Energy Demand 1998
Oil	51
Gas	20
Coal	17
Peat	10
Other	2

Source: Department of Public Enterprise

Gas Infrastructure

4. Figure 1 shows the extent of the existing natural gas network in Ireland. There are two indigenous offshore gas reservoirs in Ireland - Kinsale Head and Ballycotton. It is estimated that both indigenous sources will be depleted by 2004. After this time all gas demand in Ireland will have to be met by imports, unless there are further indigenous gas discoveries.

5. In 1993 Bord Gáis built a sub-sea interconnector pipeline from Loughshinny in North County Dublin to Moffat in South West Scotland. Natural Gas is now imported via the interconnector to supplement the supply of gas to the Irish market. Figure 2 shows the increasing dependency on imports via the interconnector in recent years.

Figure 2

Future Sources of Supply

7. Several studies³ have been undertaken evaluating Ireland's infrastructural options for meeting gas demand up to 2025. The preferred option at present seems to be a 'twinning' of the existing interconnector between Scotland and North County Dublin. However, any indigenous discoveries would most definitely postpone the development of a second interconnector. Enterprise Oil Ltd has announced gas discoveries 60km off the coast of Mayo in what is known as the Corrib field and is currently carrying out feasibility studies. Confirmation of a commercial gas find in the Corrib field would provide additional indigenous gas supplies but additional infrastructure would be necessary to transmit such supplies. The Department of Public Enterprise (DPE)⁴ have stated that any decision concerning major capital investment in import pipelines will be delayed pending clarification of the position concerning the Enterprise gas discovery.

Storage

8. Storage of natural gas is required to meet the fluctuating seasonal and peak demand periods. There is no storage of natural gas in Ireland. However, BGE provide for fluctuations in demand through supply contracts which can avail of storage facilities available in the UK.

Gas Demand

9. Demand growth has been strong for natural gas in Ireland in recent years. When the Scotland/Ireland interconnector was built in 1993, it was forecast to meet the demand for gas in Ireland until 2015. However gas demand has greatly exceeded these forecasts. Advancing the installation of compressors on the interconnector by up to ten years is expected to enable most demands to be met until 2003-4, but new infrastructure will have to be put in place by 2004 at the latest.

10. BGE's two largest customers, ESB and NET⁵, collectively accounted for 70 per cent of sales in volume terms in 1998. However, in terms of turnover they only contributed 40 per cent as gas is supplied to the ESB and NET at well below market rates. Table 2 shows the contribution to sales in volume and turnover terms by category of customer in 1997.

Table 2

	Volume %	Turnover %	Price per therm
Domestic	11	30.0	73p
Commercial/Industrial	21	26.9	34p
NET	19	7.6	7.8p
ESB	49	35.5	18.1p

Source: BGE and Authority's calculations

11. A key driver of gas demand has been for power generation which accounted for 48% of the annual demand in 1998. It is expected that gas will have increasing importance in this sector in future years because of the efficiency of combined cycle gas turbine generating sets; and because of the relatively benign environmental impact of gas emissions. In advance of the partial opening of the electricity market to competition in February 2000, BGE has received applications for capacity in the natural gas network which, in aggregate significantly exceed the capacity which is available in the immediate short term. The applications received by BGE relate to the provision of network capacity for some 4,000 MW⁶ of new electricity production, i.e. about 90 per cent of existing installed electricity production capacity in circumstances where only 28 per cent of the electricity market is being opened to competition in the first instance.

12. Directive 98/30/EC concerning common rules for the internal market in natural gas provides that Member States may, in the general economic interest, impose public service obligations on natural gas undertakings. The Government has stated that the establishment of clear procedures for the allocation of gas network capacity to ensure the early development of power generation capacity is in the general economic interest and warrants regulatory intervention. It is intended that the procedures will be placed on a statutory footing and will be administered by the Commission for Electricity Regulation. Available capacity in the natural gas network has been reserved specifically for the purpose of fuelling new gas powered power stations and will be allocated to selected power producers on an ex ante evaluation of 'first to market' basis.

13. There is also ongoing increase in gas utilisation in domestic households. In 1998 natural gas was available to over 79 per cent of urban households and 46 per cent of all Irish households. This reflects increasing availability of gas through both network development and ongoing new household development. While gas is also widely used currently for industrial purposes, this demand will increase and will include further growth of combined heat and power applications in this sector.

Legislation

Energy(Miscellaneous Provisions) Act 1995

14. To some extent the partial opening of the gas market to competition has preceded EU measures. The passing of the Energy (Miscellaneous Provisions) Act 1995 reflected a growing realisation by government that greater competition in the natural gas industry may be beneficial to the economy at large. This act provides a framework for granting third party access [TPA] to the natural gas transmission network which is owned and operated by BGE. Gas consumers using not less than an annual amount of 9 million therms qualify for TPA. On the basis of that figure 75 per cent of BGE's market (in volume terms) is opened up to competition. Only 28 per cent of the market is required to be opened under the EU directive. Therefore while this Act already meets those obligations, the number of eligible customers is less than ten. Competition therefore will begin in only the heavy industrial sector and there are no proposals at the moment to facilitate the emergence of a competitor in the domestic consumer market.

BGE has around 10,000 industrial customers whose average annual consumption of gas is 22,000 therms. It will therefore continue to enjoy a monopoly position in respect of such customers as well as all domestic customers. Tables 2 and 3 show the different categories of BGE customers. Those classified as 'large industrial' will be the only customers to benefit from TPA.

15. The Authority has serious concerns about the extent of the introduction of competition in the sector and has raised some of these issues in a submission to the DPE⁷. The Authority believes that competition should be introduced on a much wider scale. This is particularly so, given that in a few years time, the State may be reliant on imports for all of its supplies of natural gas. It sees no justification for retaining BGE's monopoly in respect of the vast majority of gas users in such circumstances. Rather than retaining BGE's monopoly rights so that it can import gas from overseas suppliers, it believes that such suppliers should be allowed compete in the market and supply Irish customers directly. There can be no justification for granting BGE a captive market. Rather it should be required to win the right to supply customers on the basis that it is the most efficient supplier in the market. The Authority has proposed that the threshold for Third Party Access to the transmission and distribution system should be reduced from 9m therms to 25,000 therms in two years time and should be further reduced to 2,500 therms after four years. It believes that full scale competition for all gas consumers should be introduced after 6 years.

Table 3

Customer Category	Annual Consumption	
	Kilowatt hours	Therms
Small Commercial	900,000	30,709
General Commercial	900,000 - 9 million	30,709 – 307,092
Large Commercial	9 million - 30 million	307,092 – 1,023,638
General Industrial	30 million - 260 million	1,023,638 – 8,871,533
Large Industrial	Over 260 million	Over 8,871,533

Source: BGE

Table 4

Customer Category	Total Number of Customers
Small and General Commercial	9,125
General and Large Commercial	791
General Industrial	168
Large Industrial	5

Source: BGE

Access Pricing

16. The Energy(Miscellaneous Provisions) Act 1995 also provides for the giving of general ministerial directives to BGE relating to transmission and pricing aspects of TPA. In 1998 the DPE published draft directives for issue to BGE laying down the conditions under which TPA would operate [covering access to, and the cost of, transport within the BGE transmission system]. The directive proposed a rate of return postalised system of pricing [same charges apply irrespective of the point of delivery] for the BGE system and published an indicative tariff based on forecasts at that time. While issues such as access pricing are typically handled by a sector specific regulator, no such regulator has been established for the gas sector as of yet. Therefore, it is likely that they will ultimately be decided in the absence of a regulator and instead the Minister will set access terms which will be invoked by statutory instrument.

17. TPA charges were set so that BGE recovered the cost of operating its transmission network, including a rate of return of 7.5 per cent on the relevant transmission assets. The figure of 7.5 per cent is derived from the weighted average cost of capital for BGE. BGE's transmission costs were to be recoverable through two different charges. The primary charge, through which 90 per cent of costs are to be provided relates to the amount of capacity reserved by shippers. The second is related to the volume of gas throughput on behalf of the shippers and accounts for 10 per cent of BGEs allowable costs.

18. Subsequent to the publishing of these draft directives the DPE became concerned that the TPA pricing proposals may, inter alia, have the effect of distorting economic signals in relation to building new pipelines and may not be sustainable in circumstances where independent pipelines are deployed. However, the main contentious issue under the current draft directive on access charges, is the proposed postalised tariff structure. There is a concern that the postalised system may not provide appropriate incentives for the promotion of offshore exploration and the exploitation of indigenous natural gas discoveries. This is especially significant in view of speculation of new indigenous gas discoveries which could be used to serve the Irish market. Gas producers argue that the current postalised system is unfair because it burdens indigenous gas with transportation tariffs that includes costs associated with the UK-Ireland interconnector. For example, Enterprise gas should be cheaper to bring to market than gas from Scotland, because the pipe from the west coast to Dublin will be shorter than the Scotland-Ireland pipeline. Therefore the gas should have a competitive advantage in the market. However, if the price is postalised back to the well head, it will be lumbered with some of the costs of bringing gas in from Scotland. This will make it less commercially attractive for Enterprise to develop their fields. More widely, gas suppliers will be indifferent as to where they bring their gas from, because they know that their costs will be covered by the postalised tariff. Therefore, fields may be developed in areas which are uneconomic, or gas may be brought from more expensive areas, and the extra cost will be paid by competitors and ultimately consumers.

19. In July 1999 the DPE requested BGE to conduct a fundamental review of the form of the tariff. BGE have now published a review of the tariff structure for access to the natural gas network. A number of alternative systems were examined⁸:

- Full Postalised - current draft directive proposal
- Separated Postalised - separate charges for use of onshore transmission network and interconnector
- Distance-related tariffs - customers pay a tariff based on distance from source of gas
- Zonal Structure - different tariffs for predetermined geographic zones
- Entry/Exit model - point to point tariffs based on a combination of the entry point of the gas to the transmission system and the exit point/zone in which the customer is located

20. The different tariff structure options were evaluated against eight tariff design criteria. Of the tariff structure options considered, the full postalised model was still considered to give the most acceptable tariffs from a consumers perspective but not from a gas producers perspective. The Irish Entry/Postalised exit model was considered by BGE to offer an equitable solution for gas producers and was favoured over the Separated Postalised Model. This report will now form the basis of further public consultation on the setting of access charges.

Gas (Amendment) Bill 1998

21. The purpose of this Bill is to amend section 37 of the Gas Act 1976. Section 37 provides that 'all natural gas landed in the state, or got within the jurisdiction of the state, for consumption therein, shall be offered for sale to BGE on reasonable terms'. The section also provides that any gas which is offered to and purchased from BGE shall be disposed of by the board for consumption in the State unless the

Minister of Public Enterprise give consent to the export of the gas. In fact, all natural gas produced to date from indigenous reserves has been consumed in the state and no consents have been sought or given.

22. The Bill has been instigated on the basis that section 37 is anti-competitive and in conflict with the competition provisions of the Energy Charter Treaty which Ireland signed in December 1998. In order to ratify the treaty all contracting parties must ensure that their domestic laws and regulations are compatible with its provisions. Section 37 would have to be repealed in any case to bring the Gas Act in line with EU competition rules.

EU Legislation

23. Directive 98/30/EC establishes common rules on the storage, transmission, supply and distribution of natural gas. It provides for the immediate opening of the market by 20 per cent, rising to 28 per cent in 2003 and 33 per cent in 2008. The DPE is preparing legislation to transpose the directive into national legislation.

Gas(Capacity Allocation) Bill

24. The government has decided to fast-track a bill which will decide which of the companies planning power stations in Ireland will be allocated gas capacity on the existing gas inter connector between Ireland and Scotland. At present there is only available capacity for two power stations and the allocation is likely to decide which of about 10 operators will be in a position to build a station.

Gas and Electricity

25. While a Commission for Electricity Regulation has been established to regulate the sector, no regulator has been established to oversee the introduction of competition in the gas industry. It has been envisaged that the commission may expand to include a gas regulator, but separate legislation would have to be introduced for this. Many commentators feel it is wrong to regulate electricity and not to have regulated gas in tandem. This is a concern since most Independent Power Producers (IPPs) will use natural gas, and BGE is interested in entering the electricity market. However there is not enough gas to provide the needs of all potential IPPs. Therefore, there is a real potential conflict of interest here.

Vertical Separation of BGE

26. While some degree of competition is being introduced it is intended that BGE should remain vertically integrated. BGE has stated that its 'natural gas transmission activities will be independent in management terms from its other activities and a separate Management Division within the integrated organisation has been established.' It has also given guarantees about the confidentiality of commercially sensitive information obtained in the course of carrying out its transmission business and stated that it will charge its own trading arm for transmission services on the same basis as other users of the network. Nevertheless there are strong incentives for a vertically integrated firm such as BGE to restrict competitors' access to its transmission and distribution network. The Minister for Public Enterprise has set out rules for setting access charges in an attempt to deal with this problem. Such measures may be insufficient since it is widely recognised that the question of determining access charges for use of the transmission and distribution network is made far more difficult where the network operator also competes in downstream markets as it has far more information about the business and a strong incentive to mislead the regulator.

27. The Authority has called for BGE's transmission and distribution business to be established as a wholly independent state-owned company. It believes that the keeping of separate accounts is not sufficient to eliminate the potential for anti-competitive behaviour. Vertical separation of networks would reduce some of the problems associated with regulating such activities since independent operators of transmission and distribution systems do not have the same incentive as a vertically integrated to discriminate against new firms providing services in competition with the incumbent over their networks. In the absence of further commercial indigenous discoveries Ireland's natural gas requirements will have to be imported. BGE's trading arm will therefore be one of potentially several importers and in such circumstances it is not clear why it should not be established as a totally separate company to the transmission system operator.

Other Markets in which BGE is active

Telecommunications market

28. BGE's plan to diversify into the telecommunications market has been marked by Aurora Telecom; a joint venture between BGE and the Norwegian state telecoms company Telenor. Aurora plans to use the old town gas networks⁹ as ducts for high speed broadband networks as well as making 'live insertions' into existing mains for this purpose. Aurora has received a general telecoms licence from the Office of the Director of Telecommunications Regulation and is said to be targeting the SME market. However the new venture has been seriously delayed because the Gas Act 1976, explicitly states that BGE cannot get involved in businesses outside its core area. The legislation to remove this barrier is currently going through the preliminary stages.

Electricity/Power generation

29. The demand for power generation is forecast to grow by 6 per cent per annum. With the liberalisation of the electricity market, opportunities in gas fired power generation are available. Although BGE has decided to branch into the electricity market with plans for its own power generation station, the new Gas(Capacity Allocation) Bill may deny BGE access to the scarce capacity on its own pipeline¹⁰. Capacity is to be allocated on a first past the post basis, with three different consortia¹¹ already having passed the planning permission stage. However it is still possible that another operator choosing an uncontentious site might be favoured.

CHP

30. BGE is active in the Combined Heat and Power market. CHP is being marketed by BGE through its subsidiary Conservation Engineering Limited. Estimates of minimum efficient plant size for CHP plants range from 50 to 350MW, while some authors suggest it may be even lower¹². BGE have stated that for CHP to be technically and economically feasible, it generally requires a simultaneous demand for heat and electricity on the premises for a minimum of 14 hours per day or 5,000 hours per annum. The Electricity Regulation Act 1999 provides for the opening up of the electricity market by 28 per cent in 2000 and 32 per cent by 2003. When the Act was being drafted CHP was defined as an alternative energy which meant that CHP producers would have 100 per cent access to the electricity market from the start. However, it was argued that this definition would result in CHP projects being approved that were not in practice operating as such, but rather as electricity generators, thereby undermining the parameters of competition envisaged by the Act. Following extensive lobbying an amendment was made to the Bill so that CHP was no longer defined as an alternative energy source. CHP is now defined as being where an overall thermal efficiency of 70 per cent is achieved.

Enforcement Issues

31. In 1997 the Authority received a complaint about BGE in respect of the construction of a combined heat and power plant in an industrial premises. The Authority held discussions with BGE to clarify BGE's obligations under the Competition Acts. The Authority indicated that, in its view, BGE could not charge different prices to firms buying similar quantities of gas where those firms were in competition with one another, nor could it offer more favourable terms to a firm which it had an interest where doing so placed a rival firm at disadvantage. In addition, the Authority indicated that in setting charges to competitors for the use of the interconnector and the gas pipeline, BGE could not set charges which were less favourable than those applying to itself. The Authority had ongoing discussions with BGE regarding the setting of access charges for use of the transmission network. During 1998 the Authority commenced a second investigation into the prices and terms on which BGE supplied gas to certain of its industrial and commercial customers in order to ensure that BGE's terms were not discriminatory. This investigation is still ongoing.

Government Objectives for the Natural Gas Industry

Physical Infrastructure - Meeting energy requirements post 2004 means putting the required infrastructure in place to deal with the increases in demand.

Regulatory Infrastructure - Designing an appropriate regulatory framework for implementation of the EU Directive and third party access to the transmission and distribution network.

Environmental Obligations - Gas makes a major contribution to enabling Ireland meet its obligations under a number of international environmental treaties and air pollution protocols.

Privatisation of BGE? - Although no government decision to privatise BGE has been announced, the flotation of Telecom Eireann and stated government intentions to proceed to divest State interests in Aer Lingus, suggest that privatisation of the state gas company could arise over the next few years.

NOTES

- 1 Irish Gas Board
- 2 UK Department of Energy, The Demand for Energy, in D. Helm, J.A. Kay and D. Thomson eds., (1989), *The Market for Energy*, Oxford, Clarendon Press.
- 3 Gas 2025 Study
An Economic Evaluation of Infrastructure Options for Meeting Gas Demand up to 2025, DKM Economic Consultants
- 4 Department with responsibility for the sector.
- 5 Electricity Supply Board and Nitrigin Eireann Teoranta
- 6 DPE
- 7 Competition Authority Discussion Paper No. 5, Competition in the Natural Gas Sector, November 1998.
- 8 Review of Tariff Structure for access to the Natural Gas Network, Arthur Andersen and Bord Gais, December 1999
- 9 Ireland has a long tradition in town gas which supplied many urban houses since the early 1800s. However by 1980 many of the small town gas companies had shut down. Following the failure of these companies considerable lengths of abandoned pipeline existed, which were purchased by Bord Gais.
- 10 It is estimated that there is only sufficient capacity for two such power generators.
- 11 The three consortia are Ireland Power Energy, ESB/Statoil and Viridian/CRH.
- 12 Competition Authority, Discussion Paper No.7