

Competition and Customer Empowerment:

The Next Steps in the Northern Ireland Electricity Market

A Consultation Paper by the Director General of Electricity Supply

March 2003

Introduction

It is the policy of the British and Irish Governments to enable customers in gas and electricity to benefit to the greatest possible extent from the energy market liberalisation which has occurred in both Northern Ireland and the Irish Republic as a result of the European Union's Gas and Electricity Market Directives.

Liberalisation is already affecting the relationships between customers, suppliers and producers in the two parts of Ireland and it is also beginning to affect the way in which electricity is traded between the two parts of Ireland. It is public policy in both jurisdictions to ensure that the potential of an island-wide energy market, with strong interconnection with Great Britain, to reduce energy costs is fully realised.

The benefits of more cross border trade and the development of a single energy market have not yet been quantified. The steps taken to date have however conferred benefits on customers in both jurisdictions in terms of greater security of supply and lower costs. Moreover, the organisation and structures of an island-wide energy market have yet to be described. The assumptions in this paper are firstly that cross border trade in energy will continue to grow while it is in the interests of customers and companies that it should grow; secondly that over time the island will increasingly tend to develop as a single trading area; and thirdly that we should develop the market in Northern Ireland quickly so as to bring forward in time our ability to benefit from an island-wide energy market. This will reinforce pressure for interconnection and common rules for trading.

In the immediate future it is clearly desirable not to raise fresh obstacles to the development of a single trading area. At the same time Regulation in Northern Ireland must continue to be pre-occupied with the high cost of electricity here.

The purpose of this paper is therefore threefold. It is:

- (1) to clear the way for Northern Ireland to participate - to the extent that it is in Northern Ireland customers' interests to do so - in an island-wide electricity market whatever form or shape that market takes. The paper proposes doing this by completing the liberalisation of the generation market here quickly in a way which facilitates the development of an island-wide generation market;
- (2) to ensure that the liberalised market does not increase pollution. It must be CHP and renewable friendly and not exclusively fossil fuel focussed;
- (3) to produce lower cost generation by ensuring that all generators are able to tap fully their potential.

An island-wide electricity market will only be in the interests of Northern Ireland customers if it produces on a long term basis even lower cost, cleaner energy than we can produce on our own. Logically this should be the case unless there are distortions in the market which prevent the scale benefits from being properly realised. We need, with colleagues in the Republic, to explore this fully over the next two years as we implement the proposals in this paper.

Once the following proposals are implemented we will be better placed to more fully develop with the Republic an island-wide electricity market which will deliver lower prices than we could achieve on our own.

The key objective of the measures proposed in this paper is that of ensuring that we do not close off any of the range of possible energy futures which we might embrace or fetter ourselves in the search for that future which would suit us best.

Background

There is a general presumption that competitive markets are the most effective way of empowering customers by maximising choice and minimising cost. While this view has been accepted in the developed economies of Western Europe and North America for the best part of two centuries as far as most commodities are concerned, it is only very recently that it has been applied to electricity. Electricity was regarded as being different for three reasons. It was an undifferentiated product; it was strategically important for the survival of civilised life and therefore could not be allowed to fail; and it was essentially a monopoly product which could not be stored and had to be produced and consumed simultaneously.

In the course of the last two decades this view has changed. First of all, it is now possible to separate the electricity supply industry into those parts which are natural monopolies - that is those bits which it makes no economic sense to duplicate such as the transmission and distribution networks - and those parts which can exist in multiple form. There is no natural impediment to power stations competing to find buyers for their output and at the retail end of the business there is no reason why there should not be competition from suppliers to find customers.

A second reason why the view has changed is because the costs of the traditional vertically integrated monopoly were opaque. There was no effective way of knowing if things were done efficiently because there were no mechanisms for challenging either the industry's costs overall or the individual components of the cost structure. The political importance of the industry further militated against the ability of managers to operate it as efficiently as they would have managed a business in a competitive market. Costs were what they were and customers having nowhere else to go simply had to bear them.

A third driver for change was European integration. When the state was the reference framework for all policy decisions the electricity supply industry developed within national structures. But an electricity industry which remained cocooned in each member state might be inefficient in a single European market. Europe's continued economic success requires European businesses to be able to access the least cost supply of electricity available and not be forced to pay high prices to a national producer when there is a lower cost producer with a surplus to sell just over the border.

The arguments in favour of a competitive market for electricity are clear and compelling. But the reason for moving in that direction is that it empowers customers; it should not be done merely to provide opportunities for electricity companies.

The focus for public policy makers - Energy Departments and Regulators - must be on outcomes and not processes. Policy makers have an overwhelming responsibility to customers to design competitive markets which place customers in a more advantageous position than they were before the electricity market was opened to competition. This is the test by which Ofreg expects the steps which it has taken to promote competition to be judged.

CHAPTER 1

Northern Ireland's Competitive Market - progress to date

Competitive markets affect the two ends of the electricity supply chain - generation and supply to final customers. It is important to distinguish between these two distinct competitive arenas.

The arrangements which were put in place at privatisation in 1992 in principle made possible the development of competition at the supply end of the chain. Any customer - down to the level of the individual householder - could purchase electricity from any supplier and there are currently 14 companies which hold supply licences in Northern Ireland. However the privatisation arrangements gave NIE a monopsony position in regard to the purchase of electricity from generators. All power had to be sold to NIE's Power Procurement Business (PPB) and anyone selling electricity to a customer had to buy it from the PPB. Moreover even if a customer wanted to buy from a supplier other than NIE there was no low cost way of transferring from NIE to another supplier. The privatisation arrangements led to zero competition and customers were no more empowered than they had been in the days when NIE was a state owned utility.

The breakthrough came with the European Union's Internal Market in Electricity (IME) Directive. That Directive required some customers to be able to choose their own suppliers. In Northern Ireland we used the Directive to open up the market to generation competition. By 1 April 2001 - two years ahead of the Directive's requirement - thirty five percent of Northern Ireland's electricity demand was fully open to competition at both the generation and supply end of the electricity supply chain. In practice this means that the 720 largest users of electricity can buy from the suppliers of their choice who in turn can buy from the generators of their choice on whatever terms the parties agree. These large customers - through their suppliers - are free to source their electricity from Northern Ireland, Great Britain or the Irish Republic. The extent of market opening set by the European Union has now been increased to 100% by July 2007; this is a target, which Northern Ireland should be able to achieve easily.

Creating a competitive market is not simply a matter of changing the rules. The systems have to be in place to enable the market to work. Some of the pre-requisites for a text book competitive market simply do not exist in Northern Ireland at present and may never be present in the form and scale that text book competitive markets require.

The first requirement is the systems to enable customers to switch supplier and for generators and suppliers to nominate the amounts of electricity they want to put on the system and take off it. Such systems can become very expensive - especially when large numbers are involved. NIE's System Operator (SONI) and T&D business put these systems in place efficiently and cost effectively.

But competition also requires competitors. There is, at present, no major source of electricity generation within Northern Ireland that is not contracted to PPB though this will change by 2005. Generating units which were uncontracted and which did function for some time in the competitive market have closed down because they could not compete - in a minor way anticipating the recent closure of uncompetitive plant in GB. Suppliers have to purchase their power either from PPB or from Scotland, or the Irish Republic or from minor sources of generation such as renewables or Combined Heat and Power (CHP) plants. While there are 11 licensed suppliers in Northern Ireland, there were at one stage only two actively competing in the eligible customer market; there are currently three but from 1 April we will be back to two.

There is no reason to believe that these circumstances will change in the near future. Northern Ireland only has a requirement for about three major power stations plus good interconnection or

possibly four power stations if interconnectors are used more for export and security than for importing power. Northern Ireland's next power station will be a combined cycle gas turbine at Coolkeeragh. While it is not contracted to PPB it is closely allied to one of the Northern Ireland's few active suppliers ESBIE. Nor can there be any certainty that the number of actively competing suppliers will increase significantly. In any event it is from lower generation costs and not from competing supply businesses that customers have most to gain.

Renewables and CHP

In describing the competitive market in Northern Ireland it is necessary to look at the whole picture because there are factors other than the number of generators or suppliers which contribute to customers' empowerment and therefore help to make the market more competitive.

Electricity customers can generate their own electricity. The most cost effective way of doing this is through a CHP plant by which the plant owner not only produces electricity but heat that can be used on his premises, or indeed exported to neighbours. For CHP to be a viable option, a customer normally would need a good heat load and about 5000 hours a year of electricity usage. There are many potential applications for CHP in Northern Ireland - hospitals, hotels, residential homes, leisure centres that have swimming pools as well as industrial applications. CHP plants can range from tens of Megawatts to a few kilowatts and micro CHP plants may soon be viable for the individual house.

Both the UK and the Irish Republic have failed to develop the CHP opportunity to the scale of other EU member states even though this technology is widely extolled both for its economic efficiency and for its potential to assist countries to meet their greenhouse gas reduction targets. Hitherto Northern Ireland's take-up of CHP has been disappointing though the number of CHP units has been increasing steadily in recent years. At present there are about 25MWs of CHP in Northern Ireland across 35 sites. New CHP plants are being added at an average of about 7 sites a year but the majority are small in scale – around 100 KWs.

The right to generate their own electricity does give electricity customers some additional leverage when it comes to buying power. For this right to be effective it is important that the regulatory regime is at least neutral towards CHP and preferably favourable.

The climate for CHP in Northern Ireland is improving. The increasing availability of gas across Northern Ireland should help more customers to opt for CHP should they so desire though gas is by no means the only primary fuel option for CHP. CHP can also benefit from Climate Change Levy exemption which in effect gives it a subsidy of almost 0.5p per kW/h. CHP plant can of course also sell any surplus to other suppliers or "wheel" power to affiliated companies through NIE's wires. Finally NIE's recent T&D price control incentivises NIE to contribute to the cost of a CHP plant at no cost to the plant owner where by doing so NIE can avoid the need to invest in network re-enforcement.

Later in this consultation paper I will be asking about further steps which might be taken to strengthen the role of CHP in Northern Ireland's competitive electricity market.

Renewables

Electricity customers in Northern Ireland have had an absolute right to buy renewable electricity since 1998 when NIE launched its "Eco-energy" tariff. This led to a modest expansion of renewables which was reinforced by the amended Supply Price Control of 2000 under which the Supply business accepted the target of producing 25 Gigawatt hours of renewable electricity a year for its customers by 2005. The initial premium charged for this product has been reduced in

two phases and now green electricity is available at the same price as tariff electricity to any customer who takes the trouble to lift the phone and ring NIE.

In practice - with the exception of a few small generators who had their own customers - renewable electricity was only available from NIE; there was no competitive market in renewable electricity. In 2002 that changed. The market for renewables was fully liberalised for all non domestic customers. This means that about 55,000 customers can now buy from the renewable supplier of their choice. Three suppliers are active in this market and by the end of 2003 several thousand small businesses will be powered by renewable electricity - mostly wind - and enjoying lower electricity bills.

Ofreg has said that the growth in this market must be backed by the growth of renewable generation. It would not be acceptable to have suppliers selling what purports to be green electricity but what, in reality, is fossil fuel electricity with a non-enforceable promise that at some point in the future it would be replaced by green energy. In order to initiate this process with a supply of genuinely green energy, PPB auctioned its portfolio of renewable electricity which it had been obliged to acquire under the Non Fossil Fuel Obligation. These auctions will continue to be held for at least another two years while new sources of renewable generation are constructed. These however are coming on line and by the autumn of 2003 an additional 46 MWs should be connected to the network giving us 75 MWs of renewable capacity and capable of meeting about 4% of Northern Ireland's electricity requirements in a full year of commercial activity. Suppliers are of course also entitled to import green power from Great Britain or the Irish Republic and in the immediate future it is anticipated that some of our renewable electricity will be imported from the Irish Republic increasing still further the proportion of our requirements which will be met from non- polluting sources.

In order to maximise the sources of supply of renewable energy and empower small producers in rural areas PPB has an obligation to act as an aggregator purchasing at a price of 3p any power which a small - under 100 KWs - producer puts on to the system. This power can then be sold on to renewable suppliers. PPB acts as purchaser of last resort. Ideally the market should lead to a supplier becoming an aggregator and buying up the surplus output of small producers for a higher price than PPB offers.

As with CHP, it is essential that renewable producers and suppliers operate within a stable and friendly regulatory environment. At the same time it is the duty of the Regulator to protect as far as possible electricity customers in Northern Ireland from extra costs arising from the development of renewables.

Renewables benefit from two cost advantages over fossil fuel power stations. The first is the Climate Change Levy (CCL) exemption. The second is that as they are connected to the network at sub transmission voltages they avoid having to pay the Transmission Use of System (TUoS) charge. Together, these two cost advantages are the equivalent to a "subsidy" of about 0.8p. It may be expected that the first benefit at least will grow in real terms over time especially if it evolves into a carbon tax.

The regulatory regime for renewables is supportive. The commercially dominant form of renewables is wind energy. Wind generators and suppliers are normally exposed to the intermittent nature of wind and the consequent risk of having to pay top up charges when the wind does not blow. To enable wind generation to develop, this risk has been taken away from the supplier and placed on the broader customer base. Wind producers are required to put on to the system over the course of a year 120% of the demand of their customers. They are not in return exposed to any further balancing or top up charges. It is too early to say if this support mechanism will succeed in its objectives but at present all the indications are that the only

obstacle to a steady growth in market share for wind power is the time it takes Planning Service to process planning applications.

The recent T&D price control alluded to above, in the section dealing with CHP, is also potentially supportive of renewable embedded generation though this is not likely to be particularly relevant to wind unless it is associated with some storage mechanism. It could however be very relevant to dispatchable forms of renewables such as biomass.

Ofreg hosts a Trading in Renewables Implementation Group (TRIG) which will continue to look at ways of assisting all renewable technologies to increase their presence in the electricity market. Having put in place a mechanism for wind, and initiated an experiment into the effects of net metering for very small producers, it will focus this year on the framework needed to support biomass and hydro.

The Competitive Market and the Franchise Customer

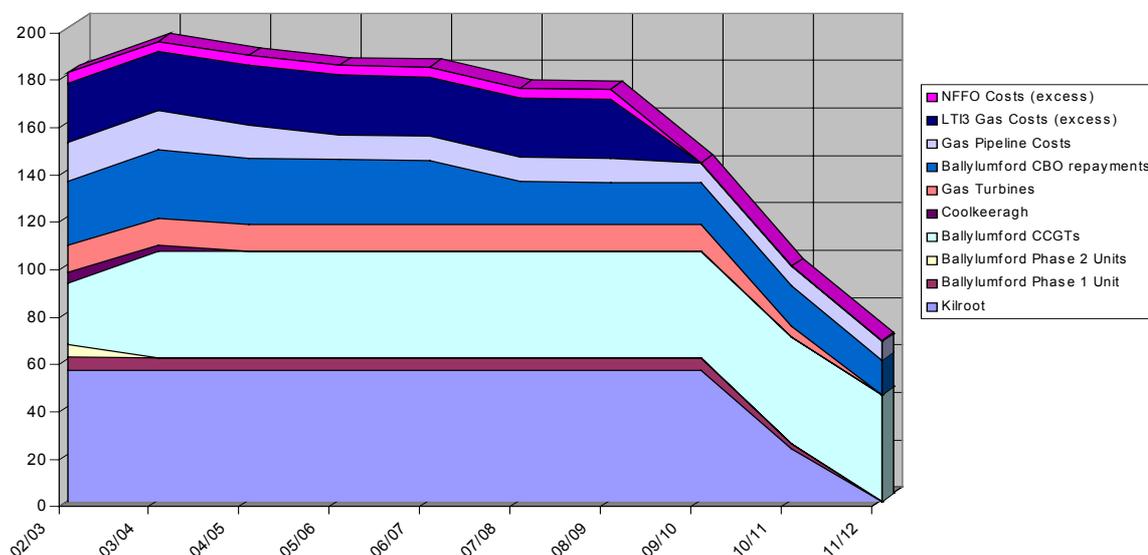
To complete this review of the development of the competitive market to date it is necessary to look at those who are in effect excluded from it - the domestic customer. Domestic customers and small industrial and commercial customers represent 99% of customer numbers and 65% of total electricity consumption. Of these about 55,000 are small industrial and commercial customers who constitute about 25% of total demand. These customers have now been allowed access to the competitive market in renewables where they can choose between competing renewable suppliers and enjoy some discount on standard tariffs.

Domestic customers have no access to the competitive generation market. The competitive market has however developed without increasing prices to domestic customers. Electricity prices for generation, T&D and Supply have been on a downward trend in real terms since 1997. This trend was interrupted at the beginning of 2001 as a result of the substantial increase in fuel prices but the eligible customer market suffered disproportionately more from this than the franchise market.

Nevertheless it remains the case that franchise customers in general, and domestic customers in particular, are now bearing the brunt of the high cost of the privatisation arrangements. Moreover an argument could be made that prices for franchise customers are higher than they would have been without market opening. The problem of high costs is demonstrated by the graph at Fig 1 on the next page.

This graph shows the fixed costs faced by Northern Ireland electricity customers before they buy a single unit of electricity. As the graph shows these costs decline steeply after 2009 showing the extent to which the privatisation arrangements did load excessive costs on to Northern Ireland's electricity customers. Clearly the greatest short term benefit for domestic customers will come from reducing these fixed costs. Unfortunately because of their nature they cannot be competed away. In addition *customers must be protected from having any additional costs imposed on them during the next few years.*

Fig. 1. Northern Ireland Fixed Costs in the Electricity Sector, £m, 2002/03 prices



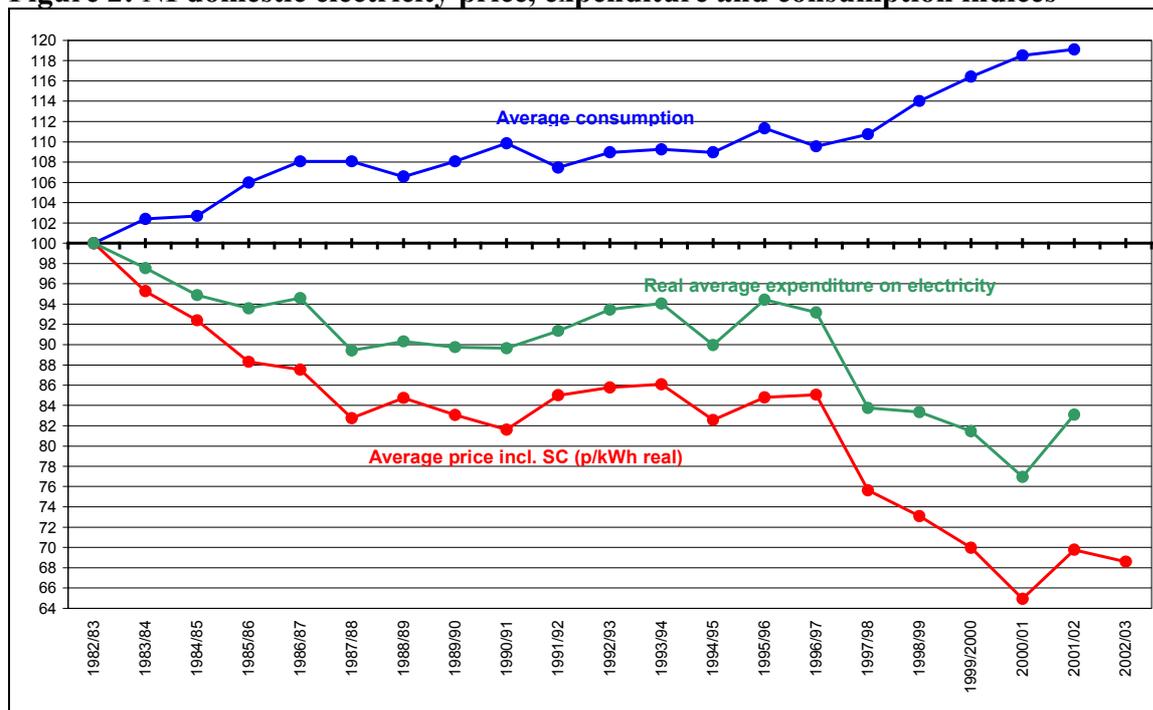
The excess cost component of these fixed costs is disproportionately but not exclusively borne by franchise customers. This is justified because they are also the recipients of the services which these fixed costs cover. These include the excess cost of gas at Ballylumford, the front loading of the cost of Ballylumford and Kilroot power stations, the cost of the early buying down and replacement of the old plant at Ballylumford and the cost of the gas pipeline to Scotland. The fixed costs which are shared by all electricity customers in Northern Ireland include the excess cost of developing renewables, the cost of the system operator, the cost of ancillary services, the cost of fuel diversity and the cost of gas turbines.

Franchise customers will be the largest gainers from the T&D price control which should see an annual 5% real unit price reduction in the cost of transmitting and distributing electricity over the next four years since typically T&D charges represent almost 40% of a domestic customer's bill compared to 20% of a large industrial customer's bill. Supply charges will also continue to fall by 3% in real terms for the next two years. (I am currently consulting on the scope for extending the length of the Supply price control so that it becomes co-terminus with the T&D price control and full market opening as required by the EU Directive.) A consultation paper on this issue was placed on Ofreg's web site in early February.

The cost of generation which is borne by franchise customers is a pass-through cost. At this particular juncture in the industry's development franchise customers have obviously much more to gain in the immediate future by taking costs out of the industry's cost base than from accessing the competitive market.

Fig 2 on next page shows the falling real cost of electricity before and since privatisation. The average domestic customer has not only enjoyed a long term falling unit price in real terms but also rising electricity consumption. Until the world fuel price rise in 2000 the trend has been one of accelerating improvement. This year saw a resumption of the downward trend which will continue into 2003/4.

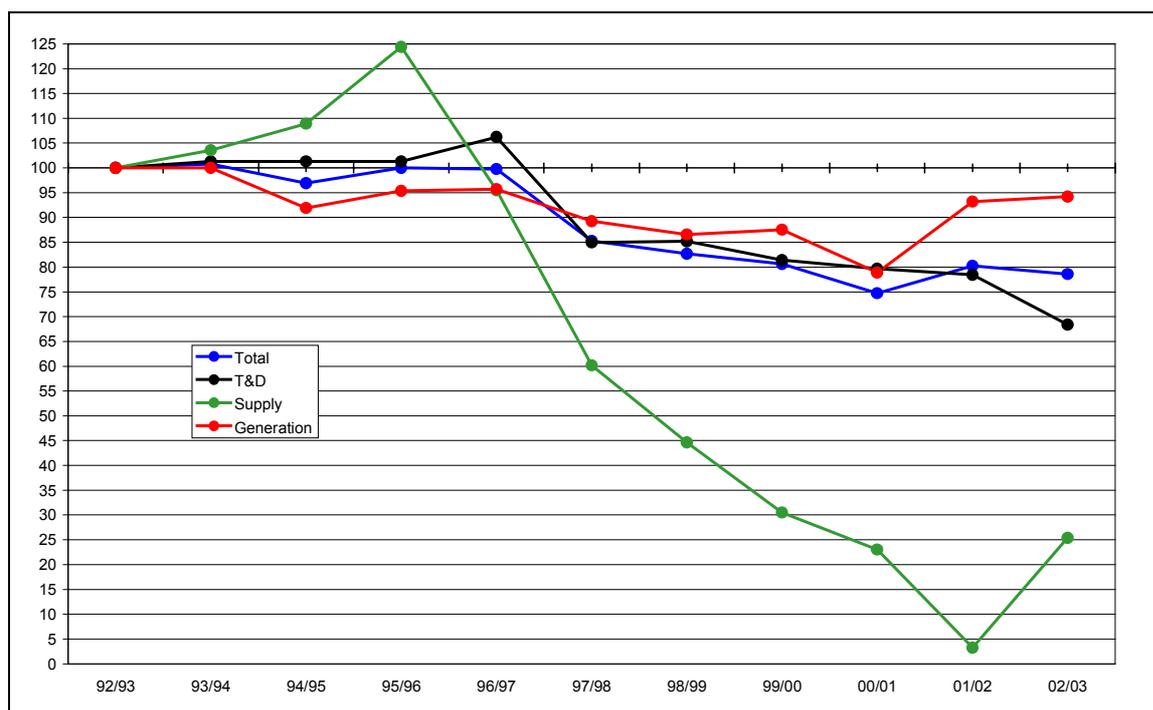
Figure 2: NI domestic electricity price, expenditure and consumption indices



But although generation costs, even for franchise customers on BST, have fallen in real terms the percentage fall has been greatest in transmission, distribution and supply.

Clearly, electricity costs are a decreasing burden for most households but the electricity bill, as a proportion of the typical Northern Ireland household budget, has still a long way to come down to achieve bills comparable to those in Great Britain. Fig 3 below demonstrates that although generation costs have improved since privatisation – despite recent fuel price rises – it is generation costs that continue to hold electricity bills so far above the level in Great Britain.

FIGURE 3: REAL ELECTRICITY COMPONENT PRICE INDICES FOR 3,300 KWH ANNUAL DOMESTIC CONSUMPTION



That is why this paper is focussed on the necessity of tackling these high generation costs.

CHAPTER II

The Next Steps in Developing a Competitive Market

Introduction

This chapter deals with the steps which need to be taken over the next couple of years to advance the development of a competitive electricity market in Northern Ireland in a way which maximises overall benefit, leaves no sections of the consumer body worse off than they are at present and is fair and equitable as between different categories of consumers.

To do this it is necessary to look at all the factors which will make for a more efficient competitive market. These include the market participants, market mechanisms, the costs of transactions and who should bear them, the structure of the market, the impact of energy efficiency, renewables and CHP, the relationship with Scotland and the Irish Republic and the position of NIE and in particular the current bar on its owning generation capacity in Northern Ireland.

Generation and the Competitive market

The point which is most central to any discussion of competition in the Northern Ireland market is that in the short and medium term at least the stock of available generators is fixed. The generation capacity which will produce most of the power which customers will use will be the same irrespective of whether the market is made up of franchise customers obliged to buy from the PPB or consists of customers free to choose their suppliers and indirectly their generators. The question is therefore *is it possible to access the existing and planned generators in a way which provides customers with lower cost electricity, both in the short term and on a sustainable basis?*

Northern Ireland's power stations are at present all contracted to PPB. Coolkeeragh will be out of contract by 2004 and in any case is at present only contracted for 120MWs. Ballylumford and Kilroot are contracted to PPB by long-term contracts. In the case of Kilroot the contract runs to 2024 but can be cancelled in 2010 by the Regulator. In the case of the new CCGT at Ballylumford the contract can be extended for two five-year periods if it is in the interests of customers to do so.

Northern Ireland's next power station will not be in service until 2004/5 and it will be the 400MW CCGT being constructed by ESBI at Coolkeeragh. The Northern Ireland market can also be accessed from Great Britain through the Moyle interconnector which allows 400 MW flows. In principle, flows are also possible from the Irish Republic though at present south-north flows are severely restricted for technical reasons. Trade can however take place through what is known as "super position". In effect this involves swapping electricity so that physical flows which would otherwise come from Northern Ireland are reduced and used to supply customers in Northern Ireland and are replaced in the Republic by electricity generated in the Irish Republic. From 1 April 2003 cross border trade using super-position will be facilitated as a result of an agreement between the two regulators and the two system operators. But the capacity on the Louth interconnector should increase in the future and enable real energy flows to take place. Of the Moyle capacity 125MWs are currently under contract to PPB and will remain under contract until 2007.

The generating capacity in Northern Ireland can only vary in the short term through investment in renewables, CHP and demand side management measures (DSM) such as load management and energy efficiency. However once investment in any of these categories is made it is likely to

constitute a sunk cost, ratcheted into the market and is unlikely to be withdrawn in response to subsequent market changes.

The peculiarity of the Northern Ireland market is the extent to which PPB's contracts represent unavoidable costs which must be recovered however the market is constituted. As only a maximum of 275 MWs of non PPB contracted capacity can access the Northern Ireland market it is evident that in the short term at least customers have to buy most of their power from PPB and there is no reason why PPB should not recover sufficient in the market to meet its contractual obligations. However it is desirable that PPB should seek to re-structure its contracts so that when it does face greater exposure to competition from other sources of generation it will be able to compete effectively and recover sufficient in the market to meet its contractual obligations.

The growth of alternative generation sources to PPB will develop with the increase in renewable and CHP capacity, the introduction of Coolkeeragh in 2005, the loss of its Moyle energy contract in 2007 and the increase in the capacity on the Louth North South Interconnector which is likely to be progressive over the next ten years. This is shown in Table 1. The figures are illustrative of a trend and reliance should not be placed on these as definitive for any one year.

Col 1	Col 2	Col 3	Col 4	Col 5
Event	Year	PPB	Other capacity	Competitive challenge Col 4/ (col3+col 4)
Renewables CHP	2003	1352 MWs	400 MWs	22.8%
Renewables CHP	2004	1352 MW	450 MWs	24.9%
Coolkeeragh	2005	1232 MWs	850 MWs	40.8%
Louth	2006	1232 MWs	980 MWs	44.3%
End Moyle ToP	2007	1107 MWs	1105 MWs	49.9%
Renewables CHP	2008	1107 MWs	1200 MWs	52.1%
Renewables CHP	2009	1107 MWs	1300 MWs	54.1%

The assumptions about the growth of other sources of generation to challenge PPB are conservative though they are in part dependent on the existence of sufficient generation in both Scotland and the Irish Republic for there to be generators interested in exporting.

From the above analysis of the evolution of the generation park it is evident that there should be enough generation to meet Northern Ireland's generation requirements for the next ten years even if no additional conventional fossil fuel generation is added to the system. And such growth is possible. A further CCGT could be added as well as lignite generation. The latter is a particularly strong possibility if appropriate mechanisms on an island wide basis are put in place to facilitate security of supply and fuel diversity.

The principal issue is therefore not the long term dominance of PPB. The questions which need to be addressed are:

- (a) can this generation capability be accessed by customers in a way which through appropriate competitive market structures drives down prices on a sustainable basis;*
- (b) can this be managed so that no category of customers is worse off; and*
- (c) can PPB raise sufficient revenue in the market to fully cover the cost of its contracts?*

At present Northern Ireland has 14 licensed second tier suppliers (STS). However, two companies - Energia and ESBIE, dominate supply to eligible customers. Supply competition in the industrial and commercial (I&C) renewable market is dominated by Energia, Airtricity and ESBIE.

There is a noticeable trend emerging in Great Britain in which the two competitively exposed parts of the electricity supply chain - generation and supply - require to be linked together to be able to compete successfully. In Northern Ireland this trend is also discernible. ESBIE is building its own station at Coolkeeragh; Energia has its affiliate's station at Huntstown. (Scottish Power also has generating capacity though it can only realise the value of this if it secures capacity on Moyle and it has been unsuccessful in securing Moyle capacity for 2003/4.) If this were the shape of the future market it suggests that the scope for there to be many more new entrant suppliers would be limited by the nature of their access to generation given the present bi-lateral contract market structure. With this market structure a new entrant supplier would have to either:

- (1) build a power station; or
- (2) have medium to long term secure access to interconnector capacity; or
- (3) take over one of the PPA contracts held by PPB.

To date there is little sign of an appetite among investors for taking market risk with new generation in either Northern Ireland or the Republic. Interconnector capacity providing access to GB generation is certainly a possibility but it is limited and is likely to be contested. It seems unlikely that a fourth supplier could secure more than 50 to 100 MWs of Moyle interconnector capacity until the PPB take or pay contract runs out in 2007. This would not be enough to build a strong market position, and on the evidence to date none of the remaining major GB supply businesses feels that an expansion into Northern Ireland would be sufficiently material to their business as to be worth the investment in time, effort and resources.

In the renewable sector there also seems to be a tendency for supply and generation to be linked so as to limit the risk exposure of both. Obviously the costs of entry and the commercial risk with renewables are much smaller than with large conventional power stations and it is not inconceivable that a market for renewable energy could develop in a way which is much closer to a classic competitive market.

Supply margins in Northern Ireland have been small. The MMC set the supply margin for Northern Ireland Electricity plc (the PES) - which has "captive" franchise customers - at one half of one per cent on turnover - which was a much tighter margin than English companies

were allowed at the time. By virtue of its efficiency gains the PES has improved its margins but it is still under continuous regulatory pressure to cut its revenues by 3% per annum in real terms as well as to improve the range and quality of services to its customers. STSs in competitive markets carry substantially greater risks - including bad debts and contracts which become out of market. Since these costs and risks cannot be recovered from a captive customer base shareholders are ultimately at risk and will naturally require a higher return for carrying this risk.

The Next Stage

It should be evident by now that the capacity which will be available for supplying the next phase of market opening is already in place or planned; that the market players are, for the most part, those already here and that the majority of the costs which must be covered are unavoidable contractually committed costs. The next phase of competition will only reduce total costs borne by customers if it:

- a. facilitates greater utilisation of contracted assets;
- b. puts competitive pressure on uncontracted assets; and
- c. puts some competitive pressure on suppliers' margins.

To do this effectively involves considering the Northern Ireland market in its wider interconnected context as well as re-enforcing the competitive pressure which CHP and renewables can apply to the eligible customer market.

It is therefore proposed to move to full generation competition in two steps. The first step would allow suppliers selling to non-domestic customers to purchase from the generator of their choice; that is, they would no longer be required to buy from PPB's Bulk Supply Tariff (BST).

There are some 55,000 non-domestic franchise customers but about 10,000 account for about three-quarters of the electricity demand of this sector. It is proposed that in order to exercise the entitlement to migrate from the PES a customer would have to install a half-hourly meter and a modem. This would - it is expected - modulate migration to those for whom the competitive market could offer savings. And it would not be a one way ticket as they could always move back to the PES. Requiring the half hourly meter avoids the socially indefensible situation whereby all customers - including the majority who cannot benefit from it and many of whom are on low incomes and are officially classified as "fuel poor" are required to subsidise those who are able to benefit from migrating.

Renewable suppliers could continue to serve Industrial and Commercial (I&C) customers without half hourly meters giving them an edge especially with smaller I&C customers who are least likely to benefit significantly from switching supplier. (Modelling by NIE would suggest that about 10,000 I&C customers - representing about three quarters of the demand of I&C customers who are still tied to the franchise market - would find it worthwhile to install half-hourly meters - or have them installed by their suppliers. This would leave about 45,000 small I&C customers who become the niche market for a vigorous and competitive renewable sector which can compete successfully and without additional supporting measures against the PES.)

At the same time since suppliers selling to I&C customers would require to buy at least some of their power from PPB it will be necessary for PPB to sell to any supplier on the best terms it

can obtain.

As a second step, in order to complete generation competition it is further proposed that PES would no longer be obliged to buy all of its power from PPB. Ideally this should also be from 1 April 2004. This would give the PES the option of purchasing power directly from other generators if it could do so advantageously.

Under this arrangement PPB would be in direct competition with generators in the Republic and Scotland to maximise its sales and its revenues and to do so by selling where appropriate to customers in the Republic and Scotland as well as customers in Northern Ireland.

In these circumstances some of the excess costs of the privatisation arrangements which are currently recovered under the BST should cease to be recovered by PPB sales but should be recovered from all customers. These costs include:

- (1) the cost of the Ballylumford buyout (average £24m per annum until 2012);
- (2) the value of capacity in the contracted plant ie., availability when not generating. The form that this takes will be the subject of a separate consultation paper)
- (3) the above market cost of LT 13 gas for Ballylumford - (until 2009).

Other costs formerly recovered in the BST are now recovered in Public Service Obligations (PSOs) and System Support Services (SSS) which all customers pay. These include the cost of system operations, ancillary services, gas turbines and the costs of supporting renewables.

On this basis, the cost of the two PPB contracts should be recoverable in the market place. For existing eligible customers, however, the critical question will be whether this will lead to an increase in the price of electricity which is already excessively burdensome for companies that have to compete in world markets. This is a critically important question and *Ofreg regards it as axiomatic that the avoidance of price increases for Northern Ireland's hard pressed manufacturing sector is a matter of the greatest importance. It is Ofreg's view that with an appropriate market design, changes to the generation contracts, the reduction in some of the industry's fixed costs and modern efficient generation, full market opening should be a benefit rather than a threat to large industrial consumers.* This matter will, however, need to be kept carefully under review and tested against every step along the way to full market opening.

A major element in managing the transition to a fully competitive generation market is sorting out the Kilroot contract.

Kilroot - Fuel Diversity and Lower Prices

The AES Kilroot contract is the one major piece of the original privatisation contractual arrangements that remains to be tackled. The following paragraphs discuss the relevant issues and describe the way forward that I have discussed with AES.

The station is largely financed by a bond which runs to 2010. The bond principal will be partly repaid in annual instalments starting in 2006. The station's income is assured by a contract held by NIE's Power Procurement Business (PPB) and is paid subject to the plant's being available to generate electricity. The annual cost of the contract is now about £57m per annum indexed to inflation. This includes the payments for two peaking Gas Turbines. The annual payment was reduced as a result of a partial buy down of the contract by DETI.

The plant can run on oil or coal. As an oil burning plant it can run at 520 MWs; on coal it is contracted at 390 MWs. As coal is at present the lowest cost fuel, Kilroot normally runs on coal except when demand is high and the system is short of generating capacity. Fuel cost is basically a pass through cost. As the coal handling facilities are inadequate for handling large ships, delivered coal prices are higher than they should be. Even so, the current low price of coal relative to oil and gas means that the fuel price of electricity from Kilroot will be lower than the fuel price of electricity from the new CCGTs (provided the current fuel price differential is maintained) despite the fact that these plants are more efficient.

AES have proposed that in return for removing the early cancellation clause they will offer customers the output of the plant after 2010 on terms which provide for security of supply, diversity of generating fuels and environmental benefits as well as electricity at a substantially lower cost than to-day. The issues which need to be taken into account in considering this proposal are:

- security of supply - ie., does Northern Ireland need a non-gas power station and if so, is Kilroot the least cost option to satisfy that need?
- cost of electricity - ie., is the proposed arrangement the least cost way of meeting Northern Ireland's requirements within the parameters of energy policy?
- competition - what effect will the proposed arrangements have on generation competition?
- diversity of supply - how important is it to avoid dependence exclusively on gas and renewables?
- environment - there are environmental requirements to reduce emissions and in particular SO₂ and NO_x. Do these pose cost threats to customers?

Security of Supply

Without the capacity Kilroot represents, Northern Ireland will have only 1000 MWs of good quality generation after 2010, comprising the Coolkeeragh and Ballylumford CCGTs. This is clearly inadequate given that the recent peak demand was approximately 1620 MWs. If Kilroot is not available after 2010 alternative capacity will be required. If Kilroot represents the least cost way of meeting that capacity need then it should be retained.

Diversity of Supply

Northern Ireland - in common with much of the rest of the world - is going to have a substantial proportion of its electricity produced by CCGTs. In competitive markets, CCGTs represent the lowest capital cost and operating cost as well as the lowest risk of environmentally based taxation of any fossil fuel plants. Left to itself the market would ensure that all new plant, including a replacement for Kilroot, would be CCGTs. Northern Ireland has no indigenous gas supplies and is arguably more exposed on gas than other regions being at the end of long supply lines so not only are supply costs higher but the risk of interruption for physical or commercial reasons must be greater.

Government policy is to maintain fuel diversity. Not long ago, Kilroot applied for permission to

convert from coal burning to gas burning. Permission was refused on fuel diversity grounds. If the policy decision is that Northern Ireland's third station has to use a fuel other than gas, the question then becomes a comparison of the costs of Kilroot with those of the least cost alternative non-gas power station.

Environment

The Large Combustion Plant Directive will require a decision to be made by 2004 as to whether or not Kilroot will fit Flu Gas Desulphurisation (FGD). This would clean up emissions from Kilroot removing in excess of 90% of Sulphur Dioxide emissions - reducing thereby Northern Ireland's power stations SO₂ emissions from about 90,000 tonnes per annum in 1992 to about 3000 tonnes after FGD is fitted. There are two options. To fit FGD and continue as a base load generator or not to fit FGD and reduce total running in the period 2008 to 2015 to 20,000 hours. This would mean that Kilroot would have to reduce its load factor from around 95% to - at most - 33%. On this basis, either an additional plant would be required or the competitive edge would be taken off the market and Kilroot would close no later than 2015. It would then have to be replaced by another non-gas plant.

Competition

Competitive pressure in the market is increased by having more sellers. Without a third power station, customers would have no option but to buy all of the output of the CCGTs and whatever Scotland and ROI could export. The third power station is essential to create a competitive tension between indigenous generators and external generators who rely on interconnectors. In addition to having a sufficient number of market participants to create competitive pressure markets also require a degree of confidence that a market position can be built up and sustained without being subject to unmanageable and random risks. A third Northern Ireland power station is essential to provide suppliers with that degree of confidence that it would be worth their while investing time and resources in building up a market position.

The cost of electricity

The question here essentially is whether Kilroot is going to offer a lower cost option than any other non gas generation. In considering this, it must be remembered that Kilroot represents a substantial sunk cost. Customers are committed to paying around £500m to Kilroot between now and 2010 and these payments will meet all of its capital costs other than some FGD costs.

The question then is whether Kilroot's costs after 2010 will be less than those of an alternative non gas new power station.

The Kilroot contract

The Kilroot contract is for the period 1992 to 2024. However, the Regulator may cancel it in 2010. The Regulator may also remove the early cancellation date or push it back. This power has been exercised in all the power station contract changes which have been made to date. If this power is to be exercised with regard to Kilroot it would need to be exercised as an element in a new contractual relationship before a decision on FGD is made. Although the power station was expected to have a life of more than 30 years, the early cancellation date meant that the purchasers had to recover their capital by 2010. Consequently, customers will have already, by 2003, repaid about half of the capital cost of Kilroot. Under the existing contract the PPB has the right to all the plant's output for up to 390 MWs on coal and 520 MWs on oil. Kilroot also has two 29 MW gas turbines which provide system support and which are in effect contracted to the system operator.

Kilroot proposals for contract change

Kilroot had proposed that it would re-profile its contract over the period to 2024 and burn Orimulsion instead of coal which would also have allowed the station to produce its full contracted capacity (520 MWs) at international coal prices. The suppliers of Orimulsion are not currently prepared to offer a long-term contract, which would deliver Orimulsion to Kilroot at the price of international coal delivered to a deep-water port, which is the concept around which the original Kilroot proposal had been based.

Proposals for re-profiling i.e., reducing prices now but requiring customers to make a contribution to the capital cost of the plant in the period 2010-2024 when raised in earlier consultation papers were regarded unfavourably in some quarters. NIE did not want the exposure to market risk, as they saw it, in the context of increasing customer migration in response to further market liberalisation. Thus if NIE continued to hold the Kilroot contract through PPB and the market price of electricity post 2010 was low they would, in conditions of full market opening, be exposed to a stranded cost risk.

Conversely if NIE ceased to own PPB and customers were in some way obliged to make up any shortfall in the revenue from the sales of Kilroot electricity then customers were at risk. These two risk positions were of course mutually exclusive in that NIE and customers could not both be fully exposed to this risk at the same time. Neither customers nor shareholders will be exposed to this risk if the price of gas relative to the price of coal remains at its present level.

The new proposal

With the Orimulsion option apparently no longer available, the present proposal based on coal is an incremental approach which, starting from the economic fundamentals of the Kilroot contract, delivers a platform on which more developed solutions can be constructed.

The proposal is based on recognising the three key characteristics of Kilroot:

- (a) that the present contract will pay off the capital cost by 2010;
- (b) that the plant's economic life extends beyond 2010 to 2024 and possibly beyond;
and
- (c) the contract must either be cancelled by the Director by 2010, or else be modified to ensure lower prices to customers.

Kilroot therefore proposes that in the first instance the contract should continue at its present level until 2010 and that, in return for removal of the early cancellation clause, availability payments would reduce substantially beyond 2010. Kilroot would also receive payments for system support (or ancillary) services including the provision of fast start gas turbines, spinning reserve capability, re-active power, black start capability, 130 MWs of reserve oil capacity and fuel diversity. These would not be additional to the present PPAs since they are currently "bundled up" in the PPAs. Stripping them out and transparently paying for each of the separate services contained in the PPA would identify the real cost of the PPA. The revised PPA contract would initially be negotiated between NIE and AES with final approval and consents being given by Ofreg.

The following provisions would continue to apply:

- (a) AES would still bear plant risk. If the plant did not operate AES would not be paid;
- (b) AES would fit FGD when required to do so and the cost would pass through to customers;
- (c) AES would be at liberty to develop other generation products;
- (d) AES would retain an equity stake in the plant and the post 2010 price would be determined on the basis of negotiations between AES, NIE and Ofreg and ultimately agreed with the final counterparty to the contract;
- (e) AES would investigate options for reducing the price of delivering coal to Kilroot and commit to delivering the option that was least cost.
- (f) change in law provisions would flow across into a fuel diversity levy arrangement.

STAGE II

The above proposal would establish a clear framework for the station which could be developed further. The post 2010 cost structure is one with which should be attractive to potential off-takers since it should be able to recover from the market and levy arrangements all the revenue needed to cover the cost of the contract.

However, this structure does nothing to reduce the cost of electricity before 2010. It would therefore be incumbent upon the parties to see what more might be done to ensure that those using Kilroot pay a reasonable contribution to its capital cost after, as well as before 2010. This will require a balance between benefits for customers pre-2010 and increased market risk for the counterparty post 2010 unless any out-of-market costs are effectively dealt with via the levy. But at this stage it is not possible to be prescriptive about the form Stage II refinements should take or whether there should be a Stage II. Factors, which will influence this, will include the scope for reducing the cost of capital and the need for ensuring a fair and competitive generation market.

Increasing the Sources of Competition

In order to increase competitive pressure in the electricity market three further steps are proposed:

1. allowing NIE to compete on equal terms in the generation market;
2. encouraging CHP;
3. encouraging renewables.

Each of these is dealt with below.

Allowing Viridian to Participate

At the time of privatisation NIE was prohibited from owning generating capacity other than 5 MWs of renewables as it was felt that giving NIE generating capacity would give it undue weight in the new system. (Recently I exercised my power to give a Direction to the company increasing its renewable limit to 50 MWs.) We now have the strange situation in which NIE's holding company, Viridian, can own generation anywhere in the world but Northern Ireland. Moreover, it

can import power from generators it owns outside Northern Ireland subject to securing interconnector capacity or by super position. Indeed, in 2003 power from Viridian's Huntstown Power Station in the Republic will be traded in Northern Ireland. NIE's principal competitor - ESB - will have generation in both jurisdictions.

This situation seems unfair as well as short-sighted since Viridian, as a prospective owner of generating capacity in Northern Ireland, would increase competitive pressure in the market here.

Accordingly, I believe that the limitations in NIE's licence that restrict Viridian's right to own generation should be removed.

Stimulating CHP

It is desirable to facilitate CHP for its own sake but it is also desirable to ensure that CHP is, in appropriate circumstances, able to offer a sound, cost reflective option to the competitive market. This does not mean that CHP should be subsidised but rather that all facets of CHP to deliver economic benefit both to its owners and electricity customers should be identified and rewarded.

At present CHP plants can wheel through the NIE system to affiliated plants but the arrangements are complicated and discouraging. CHP plants can also "spill" but the reward may in some cases be less than their marginal fuel cost.

The current T&D price control allows NIE to support CHP plant that avoids the need for network reinforcement by removing peak demand growth from the network. In principle, many potential CHP schemes could fit into this category. This could be particularly true of schemes in the eastern half of Northern Ireland.

The output from "qualifying" CHP is exempt from Climate Change Levy. Moreover, it can be assumed that CHP plants are connected to the system at below transmission voltage.

In order to make CHP more effective/competitive the value of the electricity exported from the host site to the satellite site needs to be identified and properly rewarded so that the investment becomes more attractive.

At present the entitlement to wheel to an affiliate site is discouraged by the cost and complexity of metering and billing arrangements and much of the value "leaks" out into the cost associated with metering and billing. The least bureaucratic approach is a "single buyer" - one under which all exports from CHP plant would be bought at a price related to its value to the satellite site. In order to prevent gaming, a high price should only apply to power exported between 7 am and 11 pm. Initially, at least PPB would fill this role and the CHP plant would have to have an agreed running regime with the system operator. PPB would be able to sell on its CHP electricity - possibly bundled with renewable electricity - as a CCL exempt energy product. Any loss to PPB would have to be recovered transparently through a PSO, rather than as at present, opaquely through the BST. There would of course be nothing to prevent an STS stepping in to fill this role.

This is not a perfect solution to the problem but it does take out expensive transaction costs that serve no useful purpose but which destroy value for investors in CHP. It is Government policy to promote CHP and there is an obligation on Ofreg to manage this in the least cost way. The objection to this type of solution is that it imposes costs on other franchise customers because PPB would be buying from the CHP plant at substantially more than the marginal cost of the fuel for its contracted plants. This is true but it is also true with the wheeling arrangements already in place. This solution at least eliminates the additional metering and transaction costs of wheeling, which add no value whatsoever. Moreover, the cost to the franchise customer from the loss of

contribution to the fixed cost contracts will be at least partly dealt with by a market structure which allows the PPB to sell all of its output in the market place and removes from franchise customers the cost of foregone PPB sales.

An alternative approach would be to require all suppliers to buy a small proportion of their supply of electricity from CHP plants. This could be managed so as to include location signals and to encourage biomass. The most efficient way of promoting that might be to require PPB to manage all the contracts and distribute the resultant electricity to suppliers and collect the costs through a PSO. This is however a second best, as it could encourage CHP which is not efficiently associated with an appropriate heat load unless PPB and/or SONI were entitled to decline to sign on poor quality CHP.

Improving the Renewable Regime

The regime currently in force for renewables does allow renewables to give an effective challenge to fossil fuel producers for at least a substantial part of the market and I&C customers are saving money against the PES tariff which they would otherwise be paying. The limiting factor for renewables may be the supply of low cost renewables as the best sites are developed and the system may require significant additional expenditure to be able to cope with more renewables. However, as costs for non-renewables continue to fall it may be necessary to take further steps to ensure the continuing competitiveness of renewables. These might include:

- (a) linking energy efficiency and renewables by establishing a mechanism for financing energy efficiency measures for renewable customers;
- (b) reducing the cost of capital for renewables by a renewable generators' bond;
- (c) exempting renewable customers from some levies which might not be appropriate, such as the excess cost of renewables;
- (d) developing technology focussed mechanisms that stimulate specific renewable technologies. NIE is developing programmes to stimulate pilot projects in "near market" technologies. Given its current costs, biomass should be a growth area. It is only the absence of a customised support framework that is holding it back. Hydro and tidal streams might also benefit from customised support frameworks.

At this stage, while Northern Ireland's fossil fuel energy price is high cost, it may not be necessary to take additional steps to enhance the competitiveness of renewables. The extent to which renewables will require further regulatory help will depend in large measure on the rate at which the Government moves to carbon based taxation of energy and the cost of fossil fuel energy falls. If the renewables current market advantages are eroded then some form of obligation will be unavoidable. Should this be necessary, the obligation should be customised to minimise costs and maximise utility.

Meanwhile, both the renewable industry and their customers should be able to act in the confidence that the same regulatory vigilance to assist them to reduce costs will pertain for renewables as pertains for fossil fuel energy. And while there may not be pressing competition grounds for seeking to reduce the cost base of this sector of the electricity supply industry there are always good economic efficiency grounds for doing so.

The Competitive Generation Market: A recapitulation

Northern Ireland can move over the next two years to full generation competition in which

competition between generating sources is increased by strengthening the competitiveness of CHP and renewables. Competition would then be provided by three efficient power stations: Kilroot, Ballylumford and Coolkeeragh; by generators in the Republic and Scotland, using interconnectors and at the margins by CHP and renewables.

The organisation of the market is at present based on bilateral contracts between generators and suppliers with PPB acting as the source of system balancing power. In principle, this can continue for the immediate future. In the medium to longer term there needs to be discussion on the form and structure of the generation market and in particular whether it will operate as a single market across both jurisdictions and trading with GB, or whether it will develop as two separate generation markets which converge in price with increasing trade, with the growing ease of access of generators and suppliers to trading partners in both markets. Included in that discussion must be the role and status of PPB.

PPB is incentivised to maximise its sales and its revenue. Throughout the year 2003/4 it will retain almost as large a captive customer base as it has at present. In 2004/5 about 25% of total customer demand will be able to exit PPB but as this will not affect the total amount of generation accessible to Northern Ireland customers neither this nor the move to 100% generation market opening should inhibit the ability of PPB to raise sufficient revenue to cover its contracts.

Post 2010 in the case of Kilroot and 2012 in the case of Ballylumford, PPB's contracts should earn surpluses for customers. If customers are not to pay twice over for generation it is essential that PPB's contracts are re-aligned with the lifetime value of the contracts. *There is in fact one particular nightmare scenario for customers post 2010 which is that Northern Ireland becomes a net exporter to GB through Moyle thereby allowing prices in Northern Ireland to move upwards. Customers would then be four time losers. They would have paid too much for generation in the period before 2010 because the contracts were too dear and front loaded; they would be paying for Moyle through their use of system charges; they would be paying over again for the capital cost of the generators in Northern Ireland because they would be paying the post 2010 market price and finally the market price would be higher than the local market would set it at because of the generators' scope for exporting. An energy policy, which led to that outcome, would be much more unforgivable than the privatisation arrangements of 1992.*

Generation Competition and the Island-wide market

Within the Internal European market for Electricity, Northern Ireland inescapably forms part of the small regional European market which is the island of Ireland. It is therefore impossible to consider the evolution of the Northern Ireland market without taking into account developments in the Irish Republic. Moreover, to attempt to do so would be a disservice to customers in Northern Ireland who have much to gain from the development of a well designed competitive all-Ireland market in electricity generation.

At the time of writing it is not clear what form such a market should take and it is prudent not to be rushed into market structures which have not been thoroughly thought through. What is clear is that by freeing Northern Ireland from the privatisation shackles we will maximise our scope to participate fully and effectively in an island-wide structure. We need to put our own house in order first but do so with our eye firmly on the bigger and slightly longer term prospect of an island-wide generation market.

The debate on the future of generation competition in both parts of Ireland has to a considerable extent been overshadowed by the experiences of Great Britain. There, the England and Wales Pool has been replaced by the New Electricity Trading Arrangements (NETA) which will, in

2005 be extended to Scotland. These arrangements - like our own - are based on bi-lateral trades.

However, our situations are entirely different. Competition in England and Wales has been built around a substantial excess of generation capacity, the ruthless elimination of surplus plant and prices, which are generally acknowledged to be too low to induce new entrants to come into the market.

Apart from the difference in scale and the greater homogeneity in fuels and technologies both parts of Ireland and hence the island as a single market, differ from Great Britain in not having the excess of supply over demand which enables the GB market price to be sustained at close to fuel price.

England and Wales's scale - with ten times the number of customers of the combined Northern Ireland and Republic of Ireland markets - enables it to operate successfully as a bilateral market. They have several market players. In Ireland ESB and NIE/Energia are the only two substantial players and both are small by GB standards. In our bi-lateral market we have to live with a de facto duopoly where supply and generation businesses support each other. In these circumstances supply competition is unlikely to develop because there is a massive barrier to entry i.e. the need to acquire a power station.

These considerations point to the need to develop a trading mechanism across the island which is more akin to a pool. This would allow customers to benefit from having generation dispatched on merit order. It could provide an environment in which efficient new generation could be enabled to enter the market as required and it would enable new suppliers to enter the market without facing a massive entry cost thereby increasing the prospects of serious supply competition.

The proposals in this paper would enable all Northern Ireland's indigenous generation whether or not contracted to PPB and GB generators using Moyle to sell their output into an island pool.

In the absence of transmission constraints this should lead to the lowest achievable generation costs which would be harmonised across the island or identify the economic benefits of further investment in transmission links to improve electricity flows between generators and customers.

CHAPTER III

Stranded Costs

It is Ofreg's view, that stripped of obligations which are properly system obligations, the Ballylumford and Kilroot contracts are, over the life time of the plants, in market and do not constitute stranded contracts. However the ability to participate in an all-Ireland pool would properly test this issue. If the sales of PPB's energy in an all-Ireland pool do not raise enough to cover the cost of contracts there would by definition be a stranded cost. However should this be the case because market prices have moved downwards customers will be better off than anticipated and should have no objection to meeting any shortfall in PPB's revenues through a levy. The only remaining question would be the extent to which PPB's contracts should be re-structured so as to minimise the incidence of stranded costs. Even in the event of participation in an island-wide pool any stranded costs would be levied only on customers in Northern Ireland.

Supply Competition and Customer Empowerment

As has already been noted supply competition has been possible since privatisation. However in the absence of generator competition this has remained a right which is more theoretical than exercised.

Supply competition is now a practical reality for large customers and for any other customers who are prepared to install - or whose suppliers are prepared to install – half-hourly metering and a modem. Until 2004 suppliers have to buy their energy from PPB for all but their 720 largest customers and possibly until 2005 for all their domestic customers.

Half-hourly metering is the most efficient way of charging customers for their electricity supply as it allows the bill to reflect the high cost of supply at peak times and the low cost at non peak times. It thus provides customers with price signals informing how they can obtain most value from their electricity supply. Competition based on profiling, on the other hand, does nothing to improve energy efficiency or protect the environment. Its effects are in fact inimical to all public policy objectives relating to energy in so far as it focuses exclusively on price. It is therefore likely to increase the consumption of electricity derived from fossil fuels.

Requiring customers or their suppliers to install a meter makes the decision to switch a rational economic decision and does not impose costs on other customers - though they may in the long term benefit if the half hourly meter customer moves to a more economic use of electricity throughout the year.

Non-domestic renewable customers can however chose to switch without a half hourly meter. It is universally recognised that renewables need some additional support not because overall - including negative externalities - they are more expensive than fossil fuel plants but because a system designed for fossil fuel generation does not adequately recognise their virtues while penalising their weaknesses. The renewable supplier, in any event, does not have his generation ranked in merit order to be dispatched in response to demand changes throughout the day and, while it would be helpful to the system if renewable customers minimised their use of electricity at peak, the rationale for sending renewable customers time-of-day price signals, while compelling, is less well developed than for fossil fuel electricity users.

Supply competition is essentially about empowering customers. It is not primarily about providing supply companies with additional opportunities though that will be a consequence. The domestic supply competition model which applied in Great Britain placed considerable emphasis on customer transfer mechanisms. These were free to customers at the point of use though

customers have been obliged to pay for them whether they wanted to use them or not - a policy that is in fact a denial of freedom of choice.

For this sort of “free at the point of use” transfer arrangement to be of value to customers, five conditions need to be satisfied:

- (a) there must be excess profits in supply and generation which can be competed away;
- (b) the total benefit in price reductions must exceed the total system costs of transferring;
- (c) there must be a number of competing suppliers who will give customers an effective choice;
- (d) customer information must be clear, simple and trustworthy so that customers do not make choices which work against their best interests; and
- (e) there has to be no collateral damage to customers’ enjoyment of a safe, secure and reliable electricity supply.

The last point is particularly important with the growing evidence in Great Britain of fraudulent mis-selling and confusion about billing. While in time these problems will be sorted out they are in the meantime reducing aggregate customer value.

In the immediate future none of the conditions will necessarily be met in Northern Ireland. In the meantime the cost of half hourly metering is likely to fall. Even before that happens NIE will have carried out an experiment using Key Pad with time of day pricing to see if some customers have an appetite for using electricity more economically by switching demand from peak to lower cost periods.

If the priority is customer empowerment then it is evident that imposing additional costs on all customers without clear benefits is a form of dis-empowerment.

Forms of Customer Empowerment

Customer empowerment has been pioneered by NIE’s introduction of the Eco-energy renewable electricity tariff. This enabled customers who wanted to reduce their CO₂ emissions to do so.

NIE could be required to develop customer empowerment by offering a further range of products. These could include a greater choice of sources of generation. For example, if customers wanted to support a specific form of generation - such as a local biomass or bio-gas plant - there is no reason why NIE should not buy the amount of electricity those customers required from that plant. This would allow prospective new generators the right to build up a demand for their product and oblige NIE to meet that demand. This type of community empowerment could make such projects bankable for the first time.

Secondly, NIE could be obliged to offer an energy service product for an agreed price by which they would deliver a specified amount of power to a household but be free to determine the combination of energy efficiency measures and mains electricity which should be employed to meet its obligations. This would enable low income households to acquire energy efficiency appliances without having to find the money “up front”.

Thirdly, the entitlement of customers to produce some of their own electricity - for example by photovoltaics - and both import from and export to the grid on fair terms could be developed and codified. (NIE have agreed with Ofgem to carry out experiments on the costs and benefits of net metering).

Fourthly, customers who felt they wanted to take the chance of buying in the market at the sum of half hourly market prices instead of from the standard domestic tariff could be allowed to buy on these terms from NIE, with the clear understanding that they were fully exposed to price risk. Such tariff options exist in some states of the United States.

Fifthly, a residential community - such as a village, an apartment block or a housing estate - that wanted to opt out of PES's tariffs could do so and supply its own electricity at whatever price it could achieve.

Sixthly, all customers need to be offered payment methods and exercise control over their electricity consumption. NIE's Keypad system does this but it is only at present available to 100,000 customers – rising to 125,000 by 2004. There are an estimated 170,000 households in Northern Ireland at risk of fuel poverty and there may be many more who would be eager to be empowered in the way that Keypad allows. It is therefore essential that all customers who need the empowerment that Keypad gives, will have this technology in their homes before they are exposed to the temptations of other suppliers whose offers they may not fully understand, and who may prove less capable than NIE of helping customers who have difficulty budgeting for their electricity.

Finally, Keypad – as mentioned above - itself might be developed as a cruder but lower cost version of time-of-day pricing. It could provide customers with the option of paying less in the afternoon, mid, or early morning and at night and paying more at peak so that customers could save money by moving around discretionary load. NIE will shortly be carrying out a Keypad trial with this kind of time of day pricing.

Customer empowerment places the customer in charge and makes the electricity supply company the customer's agent. It does not entail doorstep salesmen or forging customers' signatures. Coupled with the right to switch, if and when it is in the customers' interest to do so, this approach builds on what has been achieved to date. In this respect the Key Pad time- of-day tariff trial will be particularly interesting. Key Pad costs a fraction of the capital cost of half hourly meters at present.

This approach to supply competition and customer empowerment minimises costs to customers in the immediate future and maximises options in both the short and longer terms.

Conclusion

This paper is about generation competition and customer empowerment. Generation competition, by ensuring that the most efficient source of generation is fully utilised, provides the best opportunity for cutting total costs.

This paper proposes:

- (a) moving to full generation competition in Northern Ireland by 2004;
- (b) exploring the benefits of Northern Ireland generators participating in an island-wide pool;
- (c) enhancing competition by complementary measures that enable CHP and renewables to offer further competitive pressure round the edges of the market;
- (d) driving down costs by aligning contracts better with the economic life of the power stations; but
- (e) accepting the need for a stranded cost levy if - after these changes and any appropriate adjustments to the contracts - PPB is unable to recover the costs of the long-term contracts in the market place.

Customer empowerment is a concept based on guaranteeing customers the right to chose different options and not be confined to the cosmetic competition of choosing between different – and in the event possibly only two - suppliers of a single identical product. It will make the competitive market creative and diversive, rather than monotone and one-dimensional.

Responses are sought to the following questions:

- (1) Should lower generation costs be achieved by firstly allowing all suppliers to chose any producer and as a corollary allowing PPB to sell on whatever terms it can to any supplier?
- (2) Should the longer-term proposals for the future of PPB ensure that customers do not pay twice for the capital costs of the generator contracts?
- (3) Should Northern Ireland generation participate in an all-Ireland pool if this maximises for customers the value of their long-term contracts?
- (4) Should NIE Supply Business be required to offer a greater variety of products to customers to entrench customer empowerment before effective domestic supply competition?

Responses to this consultation paper should be sent to:

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or FAX 028 9031 1740 or (email orla.mullan@ofregni.gov.uk)
by 30 April 2003

Replies will only be treated as confidential if the respondee clearly indicates that they should be so treated.