Trading in Renewable Electricity

A Consultation Paper issued by the Director General of Electricity Supply For Northern Ireland

February 2002

Introduction

The market for buying and selling renewable electricity has been open in Northern Ireland since 1998. Cross-border trading in renewable electricity has been possible since 2000 when the market in the Republic was fully opened for trading in renewable electricity.

Full market opening for renewables had two purposes. The first was to allow customers who wanted to make their contribution to a better environment to do so. The second was to allow generators and suppliers who wanted to produce and supply renewable electricity to develop a market for environmentally benign electricity in Northern Ireland.

The first objective was quickly realised. NIE produced their Eco-energy tariff which enabled any customer in Northern Ireland to take 10/50% or 100% of their electricity from renewable sources. This renewable energy product is now a fast-growing brand and is one of the most successful renewable tariffs in the United Kingdom. It is not price controlled and at present represents about 0.5% of total electricity sales in Northern Ireland. The second objective has not been realised. No other suppliers entered the market to compete with NIE.

In order to identify the problems preventing the market developing and to deal with other aspects of trading renewables, Ofreg convened a Trading in Renewables Implementation Group (TRIG) in 2001. This brought together the existing and some prospective players in the renewable market together with Ofreg, NIE, and the Department of Enterprise Trade and Investment. TRIG considered the issues both with regard to the large scale producer and what might be regarded as the cottage industry in renewables - the small scale producers with a few kilowatts of production capacity but who have, at least some of the time, electricity surplus to their own requirements.

A consultation paper summarising the findings of TRIG was published in August 2001 and comments were invited.

In the light of those comments and their discussion by a reconvened TRIG

meeting, I am now publishing this interim decision paper.

The Parameters

This decision paper relates to wind power only. Wind is the most developed renewable technology and provides the main renewable source currently in use in Northern Ireland. There is a lot of wind power "waiting in the wings" and it could be developed quickly giving confidence and credibility to the market as well as assisting the overall supply balance at a time when, in both parts of Ireland, it is tighter than perhaps it should be.

Secondly, this decision is made in the context of a strong push by Governments, industry and regulators to realise the potential of an island-wide electricity market to improve the circumstances of electricity consumers. In this context it is necessary to avoid creating new sources of divergence between the two markets.

Thirdly, this decision is made against the background of a probable move to full market opening - certainly within the decade. The Republic has already committed itself to full market opening and this is also a requirement of a draft EU Directive. If Northern Ireland moves to full market opening then we will require complex metering and settlement systems based on customer profiles which are built on sound research. Renewable customers would be subsumed into this full market opening and its attendant systems. If renewable customers are to be supplied in the interim there is no point putting in place a system for them now, which would be redundant in a few years. What is required is something that works on an interim basis, is simple and has low costs.

Fourthly, it is generally recognised that renewable generators and in particular wind generators are exposed to unmanageable risks if they are required to accept the rules for top-up and spill which currently apply to conventional generators in Northern Ireland. This has been recognised by the system in the Republic under which top-up and spill are close in value. The Republic's regime has enabled green electricity sales to grow rapidly. As the two electricity markets move to compatibility, it is evident that the top-up and spill arrangements for renewables which will prevail across the island-wide market will have to be more akin to those

at present in force in the Republic than those which now apply in Northern Ireland.

The above considerations have informed the decisions contained in this paper.

Facilitating trade in Renewable Electricity generated by Wind

The problem for wind suppliers is that while it is a simple matter to require them to put the amount of energy - after adjusting for losses - on to the system that their customers take off the system it is much harder to balance the economic value of what they put on the system with what their customers consume. Balancing value is problematic because customers' demands tend to peak when electricity is most valuable and secondly, because wind output is not predictable.

Ofreg has examined the records for wind generators' output in Northern Ireland for several years and considered the scope for a mismatch between the value of the wind generators' output and the value of what the customer takes off the system.

Ofreg is satisfied that the mismatch between values can be overcome by requiring renewable suppliers to procure over the course of a year 120% of the amount required by their customers. This means that if a customer's annual demand is 10,000 KW/hs the Renewable supplier should be able to demonstrate that 12,000 KW/hs were put on to the system. The supplier would then be absolved from any responsibility to balance on a half-hourly basis the output of his wind farms and the power taken by his customers.

The risk of both gains and losses on this would be borne by the Power Procurement Business (PPB). The probability is that the PPB would not, itself, be at a loss because of this but if there were a loss it could be recovered in the following year through the D_t term of the PPB price control.

It would, however, remain open to a wind generator/supplier to elect to remain with the existing system of top-up and spill but not to change from one regime to the other except annually.

End of year balancing

It may not be realistic to expect the renewable supplier to put on to the system exactly 120% of his customers' demand. Various factors could cause this target to be missed. The market may grow faster or slower than expected, weather and other factors will affect both demand and output.

It is, however, desirable that suppliers make every possible effort to meet their obligations. Accordingly, suppliers will be required to notify the TSO and PPB each quarter of their estimates of demand, total output and the scope for adjustments. Shortfalls may be purchased from the PPB stock of renewables at a price equal to average BST. Excess production may be sold to PPB at PPB renewable purchase price. Imbalance of up to 10% of annual forecast demand may be carried forward into a subsequent year.

Renewable suppliers and generators may, by secondary trading amongst themselves, reduce their deficit/surplus.

Other matters - PPB as purchaser of last resort

The provision that suppliers must procure 120% of their customers' requirement should make it possible for commercial wind production to compete effectively in the market for at least some categories of customers.

Another measure is required to assist the micro-wind producers. Accordingly, I propose making a licence modification to NIE's licence requiring PPB to buy any renewable electricity offered for sale at a price to be set by the Regulator. The price for the year 2002/3 will be 3p and I envisage that it will not rise faster than inflation during the next PPB price control. Over the longer term I do not see this purchase price exceeding 90% of the market price of renewable electricity.

If markets work properly, PPB should not be required to buy any renewable electricity in its role as purchaser of last resort. The opportunity will clearly exist for others to aggregate and sell on renewable electricity from both wind farms and micro producers.

PPB as seller

The arrangements proposed in this paper will give PPB a sizeable amount of renewable electricity. This could be used to displace fossil fuel generation in which case it is worth the avoided fuel cost. Conversely it should have the market value of renewable electricity. In PPB's price control I will propose that the profits which PPB make from re-selling its renewable electricity shall be substantially retained by the company.

PPB should therefore be able to make a profit from its purchaser of last resort role. However, should it take a loss on its trade then it should be allowed to recover the loss.

Selling NFFO

In previous years the NFFO stock had a useful role in enabling suppliers to develop the market for renewables. Accordingly, for 2002/3 the NFFO supply should again be offered to purchasers for one year or longer if they want it.

The NFFO sale should take place by early March.

The NFFO sale this year will be - at least in the first instance - limited to the wind turbines. PPB will retain the output of the hydro and biomass plants.

Purchasers of NFFO output will have customers who will be in exactly the same position as a renewable customer of an Renewable Second Tier Supplier (RSTS) buying electricity from a Renewable Independent Power Producer (RIPP). Accordingly the NFFO purchaser selling to Northern Ireland customers will be required, unless he elects to face normal top and spill charges, to put back on to the system 120% of his customers' demand. Purchasers of NFFO for sale outside Northern Ireland will face no such requirement. This means that 120 GW/hs of NFFO sold exclusively in Northern Ireland would only support 100 GW/hs of customer demand.

Inevitably this will be reflected in the NFFO sale price. The headline NFFO price of the units sold will be lower as a consequence than the market price of a renewable unit with the additional value gained by the PPB in the free units returned to him.

Eco-energy

Logically the Eco-energy business of NIE which is not price controlled should no longer be part of the price controlled PES (Public Electricity Supplier). These new arrangements should enable Eco-energy to compete more effectively against the tariff price of electricity.

I do not wish to disturb the arrangements for Eco-energy for what should be a short-term transitional period even though logically, this business should be in the competitive market part of Viridian.

Accordingly, I will agree with NIE the steps which it needs to take to enable Ecoenergy to best exploit the expanding opportunities of the renewables market while ensuring that it is not placed in a privileged position by remaining within the PES.

Metering and Billing

The present arrangements for metering and billing work well for Eco-energy. New entrants will have the right to develop their own metering and billing system but in principle they should have access to the same services as Eco-energy. The lack of requirement for either half hourly metering or profiles for this transitional period should simplify data handling. Simplified procedures will be worked out over the next few weeks.

Must be 100% renewable

The arrangements covered by this decision will only apply to 100% renewable traders during the first year. However, the Eco-energy 10% and 50% tariffs may continue on the present basis of a premium, against tariff prices. Over the course

of the next 12 months options for hybrid renewable/fossil fuel products will be explored.

Start date

By convention, the new trading year in electricity in Northern Ireland begins on 1 April. It is therefore proposed that from 1 April 2002 a second tier supplier should be able to sell renewable electricity to any customer.

Future work of TRIG

This decision paper deals only with wind generated electricity. TRIG will be reconvened to consider how best to stimulate the market for other renewables.