



Commission for Energy Regulation

An Coimisiún um Rialáil Fuinnimh

Consultation Paper

**Funding of Grid Upgrade Development Programme for
Renewables**

30th January 2003

CER/03/016

Introduction

The Commission for Energy Regulation ('the Commission') has been requested by the Department of Communications, Marine and Natural Resources ('the Department') to investigate whether the Grid Upgrade Development Programme for renewables could be funded by ESB Networks and recovered through Transmission Use of System (TUoS) charging to customers. The Department has suggested that the funding may be viewed in the light of EirGrid's responsibility to take account of 'existing and planned generation' in developing the transmission network, as well as 'national and regional Government development objectives'.¹ Under Section 9(4) of the Electricity Regulation Act, 1999, the Commission in carrying out its duties should have regard to the need to promote competition, meet demands of final customers, promote the continuity, security and quality of supply and promote the use of renewable, sustainable or alternative forms of energy.

In view of this the Commission wishes to ascertain views on the Department's proposal.

Background

The Green Paper on Sustainable Energy, 1999, recognized that a key constraint to the development of renewable energy was the ability of the electricity system to accommodate it. In the Green Paper the Government undertook to establish a Renewable Energy Strategy Group ('the Strategy Group') to 'examine all aspects of, and obstacles to, the further deployment of renewable energy technologies'. In its Report "Strategy for Intensifying Wind Energy Deployment" the Strategy Group made the recommendation to use National Development Plan (NDP) funds to overcome the capacity constraints identified in both the Green Paper and its own report. A grid upgrade programme was recommended to alleviate certain impediments that could frustrate the attainment of a Government target under the Green Paper to develop 500MW of new renewable energy generation by 2005. In particular, by addressing difficulties faced by developers in funding the entire capital expenditure of any upgrade forming part of a (potentially shared) connection.

The Steering Group for the Grid Upgrade Development Programme ('the Group') was established by the Minister of State of the then Department of Public Enterprise (Joe Jacob T.D.) in November 2001 to advise him in relation to the identification and selection of grid upgrades in certain areas. The Group comprised representatives from the Department of Communications, Marine and Natural Resources, the Irish Wind Energy Association, Sustainable Energy Ireland and an independent expert. The Group received technical advice from ESB Networks, ESB National Grid and independent technical consultants.

A significant body of work was undertaken to establish areas within which clusters of renewable energy projects had either obtained planning permission or such applications were in progress. The Steering Group, through Sustainable Energy Ireland, contracted with EirGrid to undertake a feasibility study to establish how each cluster could be connected to the grid. In addition, the Steering Group examined

¹ Under Part 3, Section 8(6), SI No. 445, European Communities (Internal Market) Regulations, 2000

issues such as the conditions necessary for proceeding with any cluster, mechanisms to minimize delay in the event of planning permission for the infrastructure not being granted and charging principles.

The Steering Group concluded the following:

- The grid upgrades should be planned by reference to perceived demand for shared infrastructure;
- Perceived demand should be based on clusters with two or more projects with full planning permission intending to connect to the upgrade;
- The prioritisation of clusters for investment support should operate on a first come first served principle subject to compliance with minimum requirements with a fall back selection criterion in the event of simultaneous applications exceeding the available fund;
- The first come first served principle should apply to any project compliant with the qualifying criteria, at that time;
- Project developers should be charged under reasonable assumptions for the capacity reserved as a proportion of the grid upgrade built.

The Steering Group identified five clusters that had at least two projects with full planning permission in each cluster. Overall, there are 18 projects (totaling 271.66MW) with full planning permission within the five clusters selected for inclusion in the programme. It was anticipated that the fund would be a revolving one (i.e. expenditure on the shared connection assets would be recovered from the connecting parties and be used to fund other connections) and that the Steering Group would continue its work to identify suitable sites for development as funding allowed. The programme would be co-funded by the EU.²

Proposal

In the light of recent budgetary constraints the funding for the Grid Upgrade Development Programme for renewables scheme has not been provided for in the Vote for the Department. The Department has requested the Commission to consider that the scheme be underwritten by ESB Networks, who in turn would be kept whole through the transmission system revenue which is collected through TUoS charging to customers. It has been confirmed that EU co-funding under the Economic and Social Operational Programme will be available should ESB Networks undertake the necessary investment.

In relation to charging, each developer connecting to the transmission network under this programme would pay a proportion of the cost of the common connection equipment as well as 100% of the costs for connecting the development into the common connection equipment. It is proposed to modify the transmission connection charging policy for developers connecting under this scheme. In essence the proposal put forward by the Steering Group is that the connecting party's portion of common connection equipment costs are in proportion to the generator's output rather than the current policy where the common connection equipment costs are shared equally

² At a level of 70% in BMW regions and 50% elsewhere.

by the connecting parties. It is foreseen that the fund would be a revolving one with new clusters, identified by the Steering Group, developed as the fund was replenished.

Implications

The Steering Group determined that to commence the programme €300,000 would be required in 2003, €8,000,000 for 2004, €14,000,000 for 2005 and €7,700,000 for 2006, which totals to €30,000,000 over the period. The Commission has estimated the potential cost to the final customer were the Grid Upgrade Programme to be funded by ESB Networks and ultimately through TUoS charges. The results of this analysis and the assumptions used are in the Tables 1 and 2 below. In summary, in the most pessimistic scenario where only one wind farm connects in each cluster and the consumer carries the outstanding costs, the cost to the consumer could be up to €0.75M per annum.³ This is of the order of 0.0035c/kWhr or a 0.3% increase in TUoS charges. However this cost declines to zero should all wind farms connect as the costs borne by the consumer are paid back in full by the connecting parties.

The Commission invites comments and submissions, on this proposal, preferably in electronic format, to be received no later than close of business on the 19th February 2003.

Please direct any comments to Clare Beausang at cbeausang@cer.ie.

³ For a period of forty years.

Table 1: The Cost of Clusters - Most Optimistic

**Amount paid back:
113%**

Assumptions

1. All 5 clusters cost the same, 3 clusters receive 70% EU Funding, 2 clusters receive 50% EU funding
2. Expenditure of €30m to be spent on the clusters, €18.6m is from EU grants to be paid directly to ESB
3. Developer Contributions (including financing costs) are recovered evenly between 2004 to 2010
4. All costs are capitalised and recovered through TUoS
5. All wind farms progress, all capital outlay recovered (even financing cost)

Year	Total Expenditure at start of year €m	EU Grant rec'd, start of year €m	Net Expenditure added to RAB at start of year €m	Developer Contributions at start of year €m	Cost to the Consumer at end of year €m	Repayments required at the end of year €m
2003	0.30	0.19	0.11	0.00	0.01	0.12
2004	8.00	4.96	3.04	1.84	0.08	1.41
2005	14.00	8.68	5.32	1.84	0.31	5.21
2006	7.70	4.77	2.93	1.84	0.48	6.71
2007	0.00	0.00	0.00	1.84	0.40	5.19
2008	0.00	0.00	0.00	1.84	0.23	3.56
2009	0.00	0.00	0.00	1.84	0.06	1.84
2010	0.00	0.00	0.00	1.84	-0.10	0.00
Total	30.00	18.60	11.40	12.87		

Table 2: The Cost of Clusters - Most Pessimistic

**Amount paid
back: 20%**

Assumptions

1. All 5 clusters cost the same, 3 clusters receive 70% EU Funding, 2 clusters receive 50% EU funding
2. Expenditure of €30m to be spent on the clusters, €18.6m from EU grants - transferred to EirGrid annually
3. All costs are capitalised and recovered through TUoS
4. One wind farm per cluster developed (5 clusters, 4 wind farms per cluster, equal contributions) payment rec'd in 2005

Year	Total Expenditure at start of year €m	EU Grant rec'd, start of year €m	Net Expenditure added to RAB at start of year €m	Developer Contributions at start of year €m	Cost to the Consumer at end of year €m	Repayments required at the end of year €m
2003	0.30	0.19	0.11	0.00	0.01	0.12
2004	8.00	4.96	3.04	0.00	0.18	3.37
2005	14.00	8.68	5.32	2.28	0.45	6.82
2006	7.70	4.77	2.93	0.00	0.70	10.38
2007	0.00	0.00	0.00	0.00	0.78	11.06
2008	0.00	0.00	0.00	0.00	0.77	11.78
2009	0.00	0.00	0.00	0.00	0.75	12.54
2010	0.00	0.00	0.00	0.00	0.74	13.36
Total	30.00	18.60	11.40	2.28	Forty Year Liability to the Consumer	