Public Consultation - Request for Contribution by the

Departments of Public Enterprise and of the Environment and Local Government

National Greenhouse Gas Abatement Strategy

Submission by IWEA

(Irish Wind Energy Association)

In response to the call for submissions from interested parties on Tuesday 30th June '98 this paper sets out IWEA's views on the ERM report on Limitation and Reduction of CO2 and Other Greenhouse Gas Emmissions in Ireland.

In the context of the economic growth facing Ireland the management all of Ireland's energy sources and resources has a role to play in meeting the targets of Ireland's greenhouse gas abatement strategy. This will have to be co-ordinated with the other initiatives, including energy conservation, energy efficiency improvement and demand side management, that will impact energy demand without detrimental effects to our economy. Renewable energy is but one component of the overall solution matrix and Wind Energy is one significant indigenous element of that component.

IWEA notes that a greenhouse gas abatement strategy should be an integral part of a coherent, transparent, overall and ongoing national energy policy. This should be published regularly as already recommended in our submissions on Sustainable Energy and the Electricity Directive. Some of the issues raised in those submissions are raised again in this submission.

IWEA is confident that Wind Energy can be a positive and significant contributor to Ireland's Greenhouse Gas Abatement strategy and has put forward proposals for its orderly and timely development to mitigate the 2010 greenhouse gas predictions.

The conclusions outlined in this paper are focused on the Wind Energy aspects of the Greenhouse Gas Abatement consultation programme and are based on our analysis of the Irish Wind Energy Industry. However some of them should be applicable to other technologies.

1. CONTEXT

The context is the same as in the sustainable energy submissions:

· The current burden of CO2 in the earth's atmosphere has risen to 360 ppmv from the 280ppmv pre-industrial level and is increasing by 1.5 to 2 ppmv per annum. It is now recognised as the major factor to radiative forcing of climate change.

· Ireland is facing faster energy growth than its neighbours due to growth in population and economic output from the industrial and agricultural sectors.

· Ireland is mainly fossil fuel dependent, as a result faces a rise in greenhouse gas emissions, and a severe indigenous resource depletion by the year 2000 as its Natural gas runs out.

· As a consequence Ireland faces a substantial growth in CO2 and other greenhouse gases emissions well beyond the EU agreed limit of +13% if a business as usual strategy is adopted. The present projection for CO2 emissions is a 53% increase.

· EU has adopted a 12% target for renewable's share of primary energy by 2010 as part of its policy in the reduction of CO2 and other greenhouse emissions causing climate change.

· Wind Energy is proven to be Ireland's most viable and abundant renewable energy resource identified at 630,000 MW in the ESB/ETSU Altener Study.

· The AER 3 average benchmark price at 2.75 pence per kWh for large farms is lower than that of coal, oil,peat, hydro and nuclear.

· Wind Energy is a valuable indigenous energy resource that can also contribute to reducing dependency on energy imports and increasing security of supply.

As Wind Energy is clean energy it must now be recognised as Ireland's least cost indigenous source of sustainable electricity that truly meets the protection of the environment criteria. It can be one of the main contributors in meeting Ireland's renewable energy commitments and significantly contribute to a reduction of greenhouse gases.

2. COMMENTS ON THE ERM REPORT

2.1. General

IWEA acknowledges the extent of Greenhouse Gas issue outlined in the report that will face Ireland on its approach to the year 2010. This will be significant if Ireland carries on with its business as usual and least cost strategy to energy supply.

IWEA agrees that it is time for Ireland to set out its case on Greenhouse Gas Abatement strategy in order to achieve the most competitive result for the economy. This is especially important as the negotiations on Ireland's benchmark target of a +13% increase over the 1990 figures has been negotiated without the necessary detailed knowledge of how this can be achieved or the impact it will have on the different sectors of the economy.

IWEA is surprised to find that the role of renewables in the future Greenhouse Gas Abatement strategy is underplayed in the ERM report in a number of ways.

2.2. Existing Irish Government Wind Energy Programmes

The environment benefits of the of the programmes already in place and those already committed to in the government's policy to 2010 is understated and costs are overstated thus reducing the priority level of accelerating the wind energy programme. The generation cost figures for wind energy are overstated in the ERM report and appear non-competitive compared to fossil fuels. This does not compare with the reality of the recent AER competitions. This should be acknowledged in a revised publication.

2.3 EU Renewables Policy

The ERM report does not refer to the impact of or the further beneficial environmental impact of the EU renewable energy policy which commits Ireland to achieve a 12% contribution by renewable sources of energy to the gross inland energy consumption by 2010. This is the same as the Irish definition of Total Primary Energy Requirement (TPER).

As Ireland's TPER is approximately nine times greater than the Electricity (TFC) a significant change in the level of penetration of renewables is required. A revised target should be should be developed and evaluated. A new listing of possible measures should be produced. This EU target will assist wind energy penetration, and when implemented decrease the growth in emissions and displace fuel imports. This will elevate the significance of renewables as a measure in greenhouse gas abatement policy.

2.4 ETSU/ESB Renewables Report

This report confirms the huge practical potential for wind as an emission-free source of indigenous electricity, but underplays its significance due to the use of outdated cost data. The report states "the feasible (wind) resource is an installed capacity of 285 GW with an output of 689 TWh/y" (p.11)!

Historic equipment and financial costs are used in establishing the penetration of renewables. For wind energy this data is now positively superseded by the outcome of AER III with the reduced cost of electricity generation, equipment and financing costs.

On that basis the penetration of wind as presented by ETSU/ESB is understated and could be easily increased. Such an increase is significant to greenhouse gas abatement as wind energy is emission-free and commercially competitive with fossil fuels without any green credit.

2.5 Electricity Prices for Renewables in Ireland

Ireland and UK pay the lowest price for wind energy electricity generated and as a consequence Ireland has the least developed resource.

This is not consistent with Ireland’s late start in Wind Energy and the need to accelerate this aspect of renewables development. Nor is it consistent with current sustainable development criteria where the benefits to the economy and the environment must be both achieved and acknowledged.

Electricity prices paid to generators must reflect all the economic factors associated with wind as Clean Energy to foster development of this significant indigenous resource. The tariff should be set to provide an accurate reflection of the real value of the electricity kWh generated, the benefits of embedded generation and of greenhouse gas reduction. Current tariffs relate only to the kWh produced. The Wind Energy generator is the owner of any green credits or of any other tradeable mechanism relating to these benefits till a new tariff structure is agreed and implemented.

2.6 Full Life Cycle Assessment

IWEA believes that the end of pipe measurement of abatement in simple cost terms is not a correct measure of the overall impact. The full life cycle, downstream and associated costs with any measure should be identified. The direct and indirect economic costs and

impacts on the Irish economy from any measure must be researched to compare measures.

Wind energy has minimal negative impact and has a large potential benefit.

3. IWEA RECOMMENDATION

A new Wind Energy development initiative for Ireland with revised and improved targets for its development and deployment must now be devised and implemented.

A development initiative called a Rolling Competition for Sustainable Wind Energy to establish at least 100 MW per annum until 2010, on shore in Ireland, is recommended.

4. BENEFITS ACCRUING TO IRELAND

If IWEA's proposals outlined in the Sustainable Energy paper became Government policy and were successfully implemented until 2010, the following benefits would accrue to Ireland:

A. Contribution to Electricity Demand – 3.224 TWh p.a. (12% of total final electricity demand, 4.2% of ESB Primary Energy or 2.3% of Ireland's Total Primary Energy Requirement), assuming 1150 MW installed by 2010 32% load factor, 27 TWh = total Irish electricity demand in 2010
B. CO2 Emissions Forgone - 3,000,000 tonnes p.a. (6% of ESRI 2010 estimate), compared to similar production at moneypoint.
C. SO2 Emissions Forgone - 50,000 tonners p.a., compared to heavy fuel oil
D. Jobs Content – Equivalent to 640 people in direct and indirect employment, including 160 in full-time employment, including O&M, building, manufacturing, academic, and development personnel
E. Value of Electricity Sales from Windfarms - £106,000,000 p.a., assuming an average price of 3.3p/kwh
F. Imports Substituted - $26,000,000 p.a., assuming 0.73m tonnes of coal at a cost of $35 per tonne
G. Value Added in the Economy - £89,000,000 p.a., assuming £0.8m per MW installed, 35% import content, employment cost £30,000 per head, and $26m is value added
H. Export Potential - £60,000,000 p.a., assuming 100mw of wind built p.a.