

EPA Response to Section 6 of Department of Communications, Marine and Natural Resources (DCMNR) Consultation Paper on Energy Research Development and Demonstration

1 Introduction

The EPA welcomes the DCMNR Consultation Paper on Energy Research Development and Demonstration, which clearly recognises the important interface between environmental and energy research and the need for co-ordinating development and inter-linkage of research in these areas. In response to Section 6 of this paper, which “welcomes views on the energy/environment interface from a R,D&D perspective”, the EPA wishes to provide an outline commentary on issues that it considers to be important for these areas. The EPA is willing to have more in-depth discussions on this.

The EPA has a successful environmental Research Technology, Development and Innovation (RTDI) programme. This is funded by the Department of Environment, Heritage and Local Government via NDP and more recently the environment fund sources. Under this programme a number of small and large-scale research projects have been funded in co-operation with Sustainable Energy Ireland (SEI). These have focused on issues, which direct or indirectly relate to energy use and environmental impacts and aim to better inform policy development options.

It is the view of the EPA that this work has already provided benefits for the development of understanding of issues and challenges and that it will continue to do so. The EPA also considers that the inherent links between environmental protection issues and development of energy policy require that these links are developed and strengthened in the future.

2 Background

Energy availability and supply is crucial to maintaining current standards of living and its continued availability is required for future development. It is also recognised that, despite significant progress, considerable room remains to improve energy efficiency in current systems and practices. However, **current patterns of energy generation and particularly usage of fossil fuel have significant environmental impacts. These are not sustainable on a long-term basis.** It is also increasingly costly and gives rise to energy security issues.

A range of renewable energy sources such as; wind, wave, solar, photovoltaic, bio-fuels and geothermal have been identified as alternative energy sources. These are considered to have significant potential for Ireland and have significant environmental co-benefits. However, uptake of these has been slow. A range of barriers are perceived to have hindered fuller deployment of these. These include structural, administrative, fiscal, as much as technical, barriers.

It is likely that in the future increased levels of mitigation of emissions to the atmosphere of both greenhouse and acidifying gases will be required e.g. it is recognised that targets established under the Kyoto Protocol are not sufficient to achieve the climate protection objective of the UN Framework Convention on Climate Change and that more significant emissions reductions are required e.g. the EU heads of Government indicated that cuts in GHG emissions between 15-30%

below 1990 levels by 2020 should be considered by the group of industrialised countries. Further cuts are envisaged in subsequent decades.

Cost effective solutions and technologies are required to address these issues and ensure that likely future national targets are achievable. It is also recognised that solutions developed in Ireland can provide considerable rewards on international markets e.g. the development of clean or low to zero carbon emissions technologies.

3 Issues and synergies

Issues identified as being directly at the environment/energy research interface are considered to largely come under major international agreements/commitments on;

- Sustainable development
- Climate change
- Transboundary air pollution/acidification.

Further research and analyses of synergies is required to better inform national decision making in these areas as well as national engagement at EU and wider international levels.

Some specific linked topics under these broad issues are listed below. These may provide a basis for further discussion on this area but are not considered to be exhaustive or exclusive to consideration of either broader issues or more detailed analysis.

- Energy efficiency, potentials for energy savings and emissions reductions, clean technologies including carbon capture, storage, carbon sequestration.
- Analyses of energy distribution, energy storage systems, including development and integration of flexible and smart energy management systems into current or future national infrastructure.
- Profiling and demonstration of renewable energy projects, analyses of technologies and user requirements, analyses of capacity requirements, deployment options and schedules.
- Development potentials, economic analyses of abatement options, analyses of investment options for future energy infrastructures based on holistic analyses of energy and environmental objectives.
- Analyses of sectoral demands, development of Enviro-Energy modelling and projections development
- Education and publicity, development of national capacity and outreach programme, information communication and labelling

4 Conclusion

The EPA is willing to expand on and discuss these points and other issues with DCMNR. It is aware of the critical importance of research in informing decisions in these areas and the need for cross-cutting analyses. The EPA is currently planning for its future environmental research programmes and is in the process of establishment

of short medium and long term research objectives in relation to environment and sustainable development areas. The EPA would also welcome input on these from DCMNR and other stakeholders.