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Tomás Murray
Energy Planning Division
IERC Secretariat
Department of Communications, Energy and Natural Resources

Dear Tomás

University of Ulster
Response to the
Irish Energy Research Council
An Energy Research Strategy for Ireland
Professor Neil J Hewitt
Centre for Sustainable Technologies

On behalf of the University of Ulster, I must commend the Irish Energy Research Council on its forward thinking document and in attempting to create a strategy for energy research in Ireland.

The areas selected of Ocean Energy, Grid/Infrastructure, Energy in Buildings, Energy in Transport and Sustainable Bioenergy represent both opportunities and threats that apply in an all-island context and the emphasis on demand reduction, diversification from fossil fuels and carbon capture and storage apply equally to North and South. The University of Ulster's Centre for Sustainable Technologies is very active in the areas of Grid/Infrastructure, Carbon Capture and Storage, Energy Efficiency, Energy in Buildings, Energy in Transport and Sustainable Bioenergy and has secured significant national and international funding and reputation in the development and characterisation of elements of these systems. Planning and social constraints are also internationally recognised at Ulster through the integrated activities of the Built Environment Research Institute. An all-island context allows access to this expertise and to light and heavy engineering industry skills traditionally found in the North of Ireland.

Omissions that may have a future impact include wind and hydrogen. While wind is a commercial technology, the strength in Ireland in advanced materials and nanotechnology may have a bearing on new developments to ensure more advanced, lower maintenance units better suited to offshore exploitation may be developed. This when coupled with the traditional heavy engineering of the North of Ireland may lead to new supply chain opportunities spinning out from this research. Hydrogen is often quoted as the energy carried of the future and may have a role to play in transport as well as energy storage (necessary for large wind penetration scenarios). Hydrogen safety at the University of Ulster is one of our newest developments and has strong international recognition in this growing field.

With regard to the mechanisms by which an Energy Research Strategy for Ireland will be implemented, I must question the ratios attributed to the sector specific, fundamental, modelling/reserves and watching brief etc. While this document clearly states that there is a shortage of fundamental research, I disagree that this will emanate solely from nanotechnology etc and firmly believe that new research areas will arise

from firm decisions regarding the large scale deployment of wind etc and building energy efficiency. Thus I would suggest a redressing of the balance between sector specific activities and fundamental activities to a 45% and 25% from their current 50% and 20%. However, this is not to discredit the excellent fundamental research and broadening applications being developed in nanotechnology and advanced materials, an activity exemplified by the University of Ulster's Nanotechnology and Advanced Materials Research Institute. Furthermore the need for modelling and validation should receive a higher consideration as its role cannot be underestimated in delivering lower cost scaled up solutions rather than expensive pilot plants. Thus as previously, a 5% increase in this area at the expense of watching brief etc is recommended.

The role of SEI in assessing and implementing these matters needs to be augmented by a higher scientific council if all the benefits outlined in the strategy document are to be attained. As all-island cooperation is highly recommended to aid in the construction of a strong and dynamic energy research base in Ireland, strong representations need to be made to Northern counterparts to ensure cooperation and avoid duplication.

Thus in conclusion, I must reiterate that the University of Ulster welcomes this strategy and would hope that the comments made here are constructive both in terms of the strategy as well as capability to meet the strategy objectives.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Neil J Hewitt", with a long horizontal flourish extending to the right.

Neil J Hewitt (Professor)
Director