

We welcome the comprehensive strategy for energy research in Ireland. The need to respond to climate and energy security challenges is becoming more and more urgent. There are three areas of crucial importance to Ireland's sustainable energy consumption in the future. These are carbon capture and storage, exploration and development of Ireland's hydrocarbon resources (including gas hydrates) and the assessment of Ireland's geothermal energy potential.

There are niche areas of research in Irish universities and third level institutes that could be further developed to address these areas. The research effort and expertise required to explore and develop Ireland's hydrocarbon resources is the same as that required to evaluate the potential in Ireland for the geological sequestration of carbon dioxide and the assessment of deep geothermal energy. The scientific disciplines required are in geology, geophysics and reservoir engineering. While applied research in geology and geophysics exists in Irish universities the area of reservoir engineering is neglected. There is a need to strengthen the reservoir engineering research capability by promoting industry/third level co-operation with engineering departments in third level institutes that addresses energy issues such as modeling of carbon dioxide injection into saline aquifers and evaluating the geothermal potential of karstified hydrothermal systems at depth.

There is a need for north/south co-ordination and also co-ordination between industry and academia in EU funded research. Public funding to support the co-ordination and preparation of proposals for EU funded research will contribute to the development of niche capability in energy research in Ireland.

With respect to identifying and mapping Ireland's energy resources there is a critical need to acquire more data. Ireland's deep geology is poorly understood because there are few deep holes drilled beyond 2000 m. The potential for geological storage of carbon dioxide, on shore storage of strategic natural gas and geothermal energy potential cannot be assessed without drilling deep onshore test wells in strategic areas based on current understanding of the deep geology onshore Ireland.

There is a need for close contact between the energy research community and the energy related business sector. This might be achieved within SFI's extended remit to include sustainable energy by encouraging the business sector to provide data for fundamental and applied research in the area of carbon sequestration and gas hydrate evaluation.

Regards

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