

UCD Energy Institute Response to the NESC Shared Island Consultation: Climate and Biodiversity Challenges and Opportunities

05 March 2021

UCD Energy Institute welcomes the opportunity to respond to NESC Shared Island Consultation: Climate and Biodiversity Challenges and Opportunities.

UCD Energy Institute brings together researchers from a wide range of academic disciplines to tackle the challenges associated with the decarbonisation of energy. Focusing on energy systems, energy management, and energy in society, we drive Ireland's position as a world leader in the integration of renewable energy. We bring together the relevant Industry stakeholders with leading academics to develop solutions towards decarbonisation of our energy system.

UCD Energy Institute is a member of the All-Island Climate and Biodiversity Research Network (AICBRN) referenced in the consultation document. This is an important initiative to bring together researchers from a wide range of disciplines across the island of Ireland who are undertaking research in climate and biodiversity topics.

We strongly support the all island approach for integrated and collaborative solutions outlined in the consultation document. One of the key challenges to addressing Climate and Biodiversity challenges through a Shared Island approach relates to the area of funding. One of the key enablers is the ability to have integrated research programmes where the strengths of the researchers in different jurisdictions can be brought together. Research funding on an all island basis can help deliver this vision.

The paper sets out five broad areas that have potential for further exploration.

- i. Climate Policy: Shared Focus on Increasing Ambition for 2030.*
- ii. Resilience in Cities: Sharing Good Practice.*
- iii. Valuing Nature: Biodiversity Accounting, Policy and Engagement.*
- iv. Renewable Energy, Dialogue and Practice.*
- v. Local Wealth Building, Resilience and a Just Transition in Rural Farming Communities*

Questions to be considered:

- i. Is there one of the 5 areas identified which should be prioritised for more detailed consideration in a shared island context? If so, which one and why?*

The 5 areas identified all play an important role in addressing climate and biodiversity challenges. There are strong linkages between each of the areas and, as such, it is difficult to identify one area that should be prioritised. For example, a Shared Focus on Increasing Climate Ambition for 2030 will filter through to all the other areas outlined. At UCD Energy Institute our focus is in the areas of renewable energy, sustainable cities and communities, policy and the just transition, spanning a number of the areas identified.

The Energy Systems Integration Partnership Programme (ESIPP) – coordinated by the UCD Energy Institute – is a major Science Foundation Ireland-funded research programme focused on the



decarbonisation of our energy systems and the integration of electricity, gas, and water systems. It is delivered in partnership with industry and a multidisciplinary team of researchers from University College Dublin, Trinity College Dublin, NUI Galway, the Economic and Social Research Institute (ESRI) and Dublin City University. The research programme has three stands including addressing operational and technical aspects of the network, identifying energy solutions for people in their homes and businesses, and informing energy policy and infrastructure investment to enable energy decarbonisation. This multidisciplinary approach to tackling decarbonisation challenges is also required for the wider biodiversity and climate challenges outlined.

In relation to renewable energy, it is essential to consider this in a shared island context since the integrated Single Electricity Market (ISEM) operates on an All Island basis. For the efficient integration of renewable energy there is a need for alignment of policies, incentives and market structures across the island to ensure a safe, secure, sustainable and affordable electricity supply. BREXIT has resulted in challenges to efficient market operation, for example interconnector trading, and a shared island approach to resolving market inefficiencies will deliver value to the consumer and help support our climate mitigation objectives.

There remains a need for improved shared infrastructure to ensure efficient market operation and deliver value to the consumer. As we increase our investment in renewable energy technologies such as offshore wind, the need for an integrated approach to connection of offshore resources needs to be considered. Similarly with transport, the take-up of electric vehicles needs to be supported by charging infrastructure. With the level of cross border travel on the island, charging infrastructure will need to be available on an all-island basis if EVs are to be considered a real solution. In order to deliver this infrastructure there is a need for real community dialogue, to understand the needs and concerns of communities and identify where/how these can be addressed, and to create an awareness of the need for decarbonisation technologies and infrastructure. While it may seem counterintuitive, the development of infrastructure can provide opportunities to address biodiversity challenges, e.g. through the provision of no-fishing zones around Offshore Wind Parks.

Ireland's Just Transition: A Report on the Perceptions of Impacted Communities in Ireland finds that transitions require long-term planning and broad thinking. Without this, there is a risk that workers and communities in deprived regions will suffer disproportionately. In turn, this may lead to resistance for the energy transition, jeopardizing the chances of creating a just and more sustainable world. It is in the general interest to ensure that a just transition is just that.

The NexSys (Next Generation Energy Systems) research programme will focus on delivering Net Zero Carbon Energy in Ireland by 2050. NexSys, coordinated by UCD Energy Institute, will build on the success of other research programmes such as ESIPP, bringing together researchers from various disciplines and institutions across the island of Ireland to address energy research with a focus on energy decarbonisation. We will also work closely with our industry partners to tackle important challenges for the energy industry.

Our vision is to see Ireland transition to an energy system that supports Irish and European policies for net zero carbon energy in 2050, supporting broader societal goals such as improvements to

quality of life and the environment while maintaining a reliable, secure, and affordable energy supply for all citizens.

- ii. *Is there another area not listed in the 5 identified areas that should be considered for further exploration on a shared island basis? If so, what is it and why?*

N/A

- iii. *Are there any points of clarification required in this paper or new issues which should be considered in relation to climate and biodiversity in a shared island context?*

N/A

In conclusion, UCD Energy Institute strongly supports a Shared Island approach to Climate and Biodiversity Challenges and Opportunities. The area of all-island funding for research is a key enabler to this. We would welcome the opportunity to discuss our ongoing and future research activities with you.