

THE
**BRYDEN
CENTRE**

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OFFICIAL NEWSLETTER

MASTS



Many Bryden Centre PhDs and PDRAS were involved in the MASTS / Marine Scotland Floating Offshore Wind workshop held on the 6th and 7th of October, 2020. The purpose of this workshop was to understand how Marine Scotland's environmental evidence map for fixed wind energy could be applied to floating offshore wind, to identify evidence gaps, and to generate potential projects to address those gaps. The workshop was attended by >70 individuals from a mix of offshore wind energy developers, consultancies, technology organisations, academic organisations, government regulators, nature conservation bodies, and NGOs, and it included presentations by Scottish Renewables, Equinor, Marine Scotland, the Offshore Renewable Energy Catapult, and the Carbon Trust.

Raeanne Miller co-organised and led this workshop in partnership with Kirsty Wright from Marine Scotland. Lilian Lieber was an invited participant in the workshop, while Joe Onoufriou, Inne Withouck, and Emma Whettall participated as scribes for the breakout groups across the two days of the workshop.

A workshop report is currently under production, and will be published online as a Marine Scotland report and on the MASTS Marine Renewable Energy Forum website.

Welcome to the winter edition of the Bryden Centre eZine. The last six months has seen a great deal of activity and progress with the work of the Centre.

We have welcomed several new faces including:

- Joseph Onoufriou - Post Doctoral Research Associate (University of the Highland and Islands)
- Dylan Furszyfer - Post Doctoral Research Associate (Queen's University Belfast)
- Xinjin Liang - Post Doctoral Research Associate (Queen's University Belfast)
- Dean Harron - PhD Student (Letterkenny Institute of Technology)

And have said goodbye to:

- Gary Britton - Research Technician (Letterkenny Institute Technology)
- Raeanne Miller - Post Doctoral Research Associate (University of the Highland and Islands)

Clean Energy report

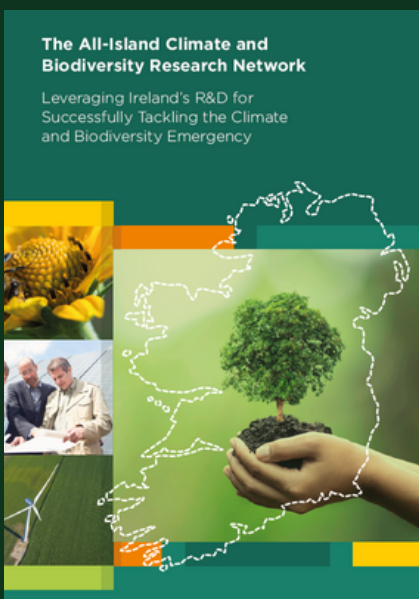
The Bryden Centre and the Centre for Advanced Sustainable Energy (CASE) responded to a paper from the Department for the Economy in Northern Ireland with a focused report showing how green, renewable energy could make a substantial difference to the region. The report, *Clean Energy – A positive future for Northern Ireland building on our strengths*, presents easy and simple options together with 'shovel-ready' projects in Northern Ireland that can help rebuild and expand the regional economy, helping Northern Ireland to become leaders in renewable energy and green industry sectors.

Northern Ireland's abundant natural resources (wind, wave, tidal and solar) in combination with a vibrant agri-food sector give great advantages in a clean, sustainable energy led future. Clean, renewable energy will make the Northern Irish economy more globally

competitive by lowering energy prices, enabling new industries to grow and directly benefiting our key sectors of advanced manufacturing, digital and life sciences. The report drew on the Bryden Centre and CASE's extensive industry network to present a number of case studies showcasing industry led projects at initial stages of development. Already since the report was launched these projects have advanced with significant investment forecast for 2021.



All-Island Climate and Biodiversity Research Network

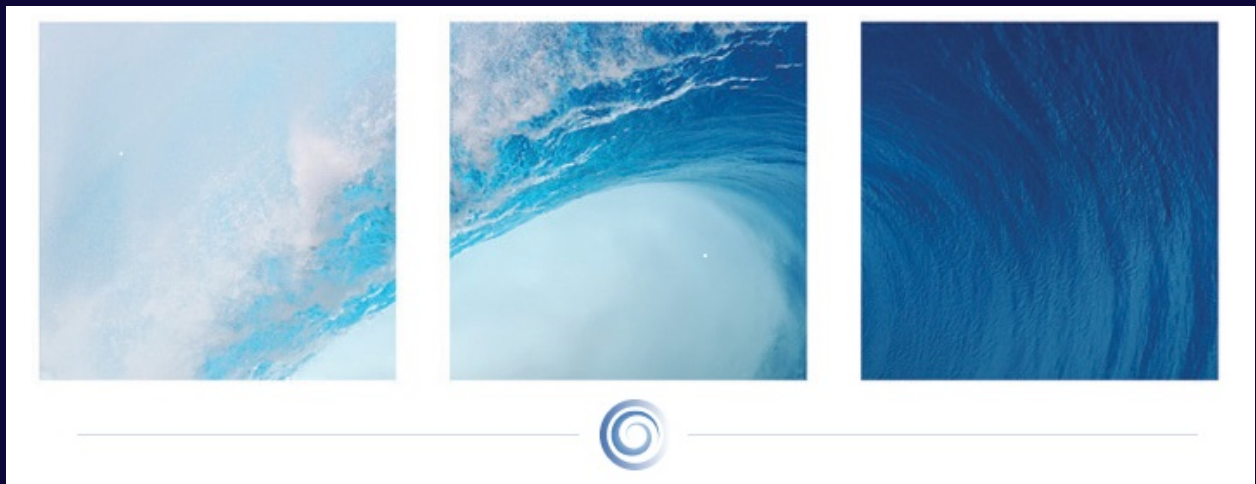


The new All-Island Climate and Biodiversity Research Network (AICBRN) is a major initiative bringing together leading research centre across the whole island of Ireland to tackle the climate and biodiversity emergency where a cross-border approach is essential. Researchers from all the centres across the network have come together to work with national, regional and local governments, communities and industry to effectively deliver solutions to climate, biodiversity and social challenges caused by global warming.

We will be investigating:

- Clean energy solutions and how to economically implement these to achieve a socially just transition away from fossil fuels
- Prevention of biodiversity loss, reversing degradation in ecosystems and how to make our natural environment more resilient to climate change
- Protecting and enhancing agriculture in Ireland and looking to achieve negative carbon emissions
- Improving climate predictions and the level of uncertainty to improve forecasting of adverse weather and flood risk

EIMR 2020



Environmental Interactions of Marine Renewables 2020

The Bryden Centre at UHI organised and hosted the Environmental Interactions of Marine Renewables conference in April 2020 (EIMR2020).

This biennial series brings together researchers from across the Natural and Social Sciences with industry and other interested stakeholders, to explore marine renewable energy technology interactions with the environment.

The COVID19 pandemic forced the cancellation of the original in person conference that was to be held in Oban Scotland, so The Bryden Centre at UHI re-focused to deliver an online programme of research contributions and opinion pieces.

The online conference went forward over the originally planned 21-23 April timeline, with 71 video contributions covering research themes ranging from presence and behaviour around devices, to novel monitoring techniques, artificial reefs and biofouling communities, marine policy and society.

Online participation at EIMR2020 was excellent, with a doubling in conference attendees from those originally registered, more than 8,500 page views of conference content, and 45,000 twitter impressions @eimr2020 allowing for real time discussion and feedback.

As Professor Ben Wilson of UHI and Chair of the EIMR2020 Scientific Advisory Committee commented, "It was a lot of work to retro-fit a pre-planned face-to-face meeting with an online version, but feedback has been excellent and has given us something to think about for future conferences".



Bryden Summer School 2020



Due to the COVID-19 restrictions the summer school due to be held May 2020 in Donegal had to be postponed. All events were held virtually instead but this didn't stop collaboration throughout the Bryden Centre and enjoyment of the summer school overall. The students feedback showed enjoyment of the summer school with good to excellent responses by the majority.

Four sessions of Bryden Summer School were opened by LYIT President Paul Hannigan on 14th May 2020 and ran for the next four weeks. The first session was an engaging session by Editor of the Elsevier Journal Renewable & Sustainable Energy Reviews and QUB reader in Mechanical and Aerospace Engineering, Dr Aoife Foley. The second session was conducted with Bryden Centre PDRA Dr Chris McCallum who facilitated the students through an innovation workshop on redesigning the water bottle using design style thinking. The students then completed a psychometric test prior to the third session on leadership and teamwork. The final session brought in Liam Kelly, author of Worried William, for a discussion on mental health. Each session provided a dynamic collaboration space with students and PDRAs able to head to breakout rooms for small discussions on topics.

We would like to extend a special thanks to the speakers, our session chairs; Peter Coyle and Prof David Rooney. A massive thank you to the entire Bryden Centre LYIT team especially to Marian Kerr, Chris McCallum and John Doran for for their organisational skills in bringing the endeavour together under such challenging circumstances.

Back to Fieldwork for PDRA's

After careful preparation of all necessary licences and risk assessments, Bryden Centre PDRAs Pal Schmitt and Lilian Lieber deployed a seabed frame to perform tidal height and velocity measurements at the entrance of Killough Harbour, Northern Ireland, as part of a Bryden Centre feasibility study.



The seabed frame is equipped with a Nortek acoustic Doppler current profiler (ADCP) and pressure sensors to develop a local tidal elevation and flow model which will be augmented by high-resolution bathymetry data derived from aerial drone surveys in collaboration with geographers in the School of Natural and Built Environment, QUB.



Eden Project Visit

The Eden Project, an educational charity, aims to connect us with the living world. Built on the site of a former clay pit in Cornwall, large Biomes house rainforest and other landscapes with exhibitions and other educational activities. A key objective is to inspire visitors to make the change to a more sustainable and ecologically friendly mode of living.



Dr John Doran, Dr Chris Mc Callum and Dr Ciarán Ó hAnnracháin were invited to Cornwall to see

how such a project would benefit Derry/Donagall with input from the communities and the higher education sector in the North West Region. The Eden Project Foyle will deliver a transformational vision for the Boom Hall and Brook Hall sites turning them into a stunning visitor destination and a home for research and learning. Some of the aims for the Eden Project - Foyle are:

- Create a world-class, year-round, iconic tourist attraction attracting 400,000 visitors per annum
- Establish educational partnerships with Higher and Further Educational establishments to help support research and training opportunities on the site with a focus on ecology, the environment, the circular economy and wellbeing.

Bryden at LYIT are enthusiastic about being a partner in this exciting community-based initiative for sustainable living in the 21st century.

Appointment to National Advisory Board



Dr John Doran, Academic-Regional Manager of Bryden LYIT, has been appointed to the National Marine Planning Framework Stakeholder Advisory Group. This is significant for Bryden to be represented in this group especially with the upcoming offshore developments in renewable energy and marine spatial planning regulations given our remit for bio and marine renewable energy for the Island of Ireland.

The role of the Group is to:

- Utilise professional and business acumen to provide advice on the strategic direction of marine spatial plans (MSP) and consider issues in a national context;
- Provide a platform in which to develop, test, review and refine ideas, scenarios and policy which will inform MSP and expected outcomes;
- Make recommendations and provide feedback to assist in shaping the preparation, content and implementation of MSP;
- Utilise expertise, resources and relationships of representatives and to provide data and material, where relevant, to inform discussions and ideas in the preparation of marine spatial plans;
- Assist and advise on alignment and linkages with other relevant initiatives/sectors and legislative requirements.