

MaREI ENGAGEMENT OVERVIEW

Our research programmes drive scientific breakthroughs, innovations and insights that allow us to respond to global challenges in the Energy Transition, Climate Action and Blue Economy areas. We firmly believe our success as a Centre requires the development of deep, long term strategic partnerships with our Industry Partners. We pursue an intensive programme of industry engagement that involves the co-creation and sharing of ideas, know-how and solutions to next generation challenges through a collaborative process.

We assist our industry partners in areas such as: developing new technologies, from design through to demonstration and commercialisation; lowering their overall carbon footprint and energy bills; and in developing strategies to harness the opportunities associated with the Energy Transition, Climate Action, and the Blue Economy. With significant investment in research capacity, infrastructure and systems, we focus relentlessly on Quality and Impact. MaREI delivers excellent science with societal impact by supporting industry, informing policy, and empowering society.

SUPPORT INDUSTRY



Enhance the capacity of industry across the energy, climate, and marine sectors to enable sustainable economic development, including the creation of new products, services.

INFORM POLICY



Inform energy, climate, and marine policy by increasing and improving the scientific evidence base for policy-makers

EMPOWER SOCIETY



Support societal engagement on grand challenges to facilitate participatory action on the energy transition, climate action, and the blue economy

MaREI AT A GLANCE



220+

multi-disciplinary researchers across our institutional partners



103+

industry partners including start-ups, SMEs and large enterprises



13

institutional partners combining Ireland's best talent in energy, climate and marine



36+

collaborating countries across industry, academia and government

HOST INSTITUTION



University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

PARTNER INSTITUTIONS



“ Enhancing the capacity of industry across the energy, climate, and marine sectors to enable sustainable economic development, including the creation of new products, services, companies, and jobs ”

www.marei.ie

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MaREI



Energy · Climate · Marine



A World Leading SFI Research Centre
Science Foundation Ireland
For what's next

SUPPORTING
INDUSTRY



MaREI OVERVIEW

MaREI is the SFI Research Centre for Energy, Climate and Marine research and innovation co-ordinated by the Environmental Research Institute (ERI) at University College Cork.

OUR RESEARCH PROGRAMMES

Global Challenge 1
// The Energy Transition

“Facilitate the transition to a low-carbon energy future through the provision of the underlying research and innovation, and the training of the highly skilled leaders of tomorrow”

Global Challenge 2
// Climate Action

“Enable positive climate action through the provision of leadership in the areas of climate mitigation, climate adaptation, climate science, and climate dialogue”

Global Challenge 3
// Blue Economy

“Better understand and sustainably utilise the potential of our significant marine and coastal resources”

Our strengths lie in the multidisciplinary nature of our research teams allowing us to combine insights across energy, climate and marine disciplines across our **12 partner institutions** and drawing on our expertise in the following areas; Offshore Renewable Energy Technologies, Bioenergy, Energy Policy & Modelling, Energy Management, Materials & Structures, Observation & Operations and Coastal and Marine Systems. Collaboration and teamwork are the forces that unite and strengthen us and allow our collective expertise to be leveraged by all stakeholders both nationally and internationally.



WHY PARTNER WITH MaREI?

- Access to world-class researchers and state-of-the-art facilities across our institutional partners
- Provision of innovative solutions to defined industry partner questions
- Access to co-funding opportunities for collaborative research projects
- Access to licensing/technology transfer supports to facilitate exploitation of outputs
- Access to our national and international networks
- Access to National/European proposals consortia and supports
- Increased competitive advantage, domestically and internationally, and access to new markets
- Access to potential pipeline of talented future employees

PROCESS TO ENGAGE



AVAILABLE FACILITIES

MaREI offers unique world-class infrastructure and testing facilities that allow the systematic identification and reduction of development risks through a structured ‘Technology Readiness Level’ (TRL) development cycle.

- Lir National Ocean Test Facility (Lir NOTF):** This includes state of the art wave tanks and electrical rigs that allow for scaled testing in a controlled environment; a 2,600m² tank hall which houses four different wave tanks; deep ocean wave basin (circa 1:15 scale testing) capable of producing waves of up to 1.2m high, an ocean wave basin (circa 1:50 scale testing); a wave and current flume with coastal/tidal testing capabilities (circa 1:50 scale testing). Lir mechanical/electrical workshops offering a range of electrical and energy storage infrastructure.
- NUIG Structural Research Laboratory:** The 375m² state-of-the-art high-bay is the largest and most advanced materials testing laboratory in Ireland. Team members possess extensive experience in designing and implementing full-scale testing of structural components and systems subject to static, dynamic, and cyclic loadings, complemented by significant numerical modelling competency.



- UCC Biofuels Laboratory:** Extensive laboratory facilities are available to researchers and industry partners to investigate digestion applications using innovative technologies such as Power to Gas, demand driven biogas and novel biogas upgrading technologies. Facilities include 48 x 2L batch digesters, 32 x 5L continuous digesters, 2 x 100L large bio-digester systems, gas chromatographs, autoclaves, electron microscopes, and all necessary ancillary measurement equipment.
- Mace Head Atmospheric Research Station:** Mace Head enables the monitoring of the long-term trends of atmospheric composition change, essential climate variables, and air pollution, and facilitates key-process research into the evolution of atmospheric composition and to its impacts on climate change. This includes access to Doppler (WindCube) LIDAR equipment, together with the high-frequency coastal observing radar system (CODAR), which recently expanded its infrastructure across the west coast of Ireland.
- UL Marine Robotics Facilities:** Facilities at the University of Limerick (UL) include two dedicated marine laboratories; comprising a Dry Lab (C0-045) equipped and used for control system development, simulation, and for electronics, integration and testing small systems; Wet Lab utilised for large systems, electrical and mechanical (ROV/AUV), integration and tank testing. Facilities include extensive Remotely Operated Vehicle (ROV) equipment and capabilities, specifically designed for operation in challenging environments.