



DP ENERGY



Offshore Wind Developments in Ireland

07 April 2022 – MIIN
Adam Cronin – Head of Offshore



Offshore Wind in Ireland – Policy & Drivers

Targets:

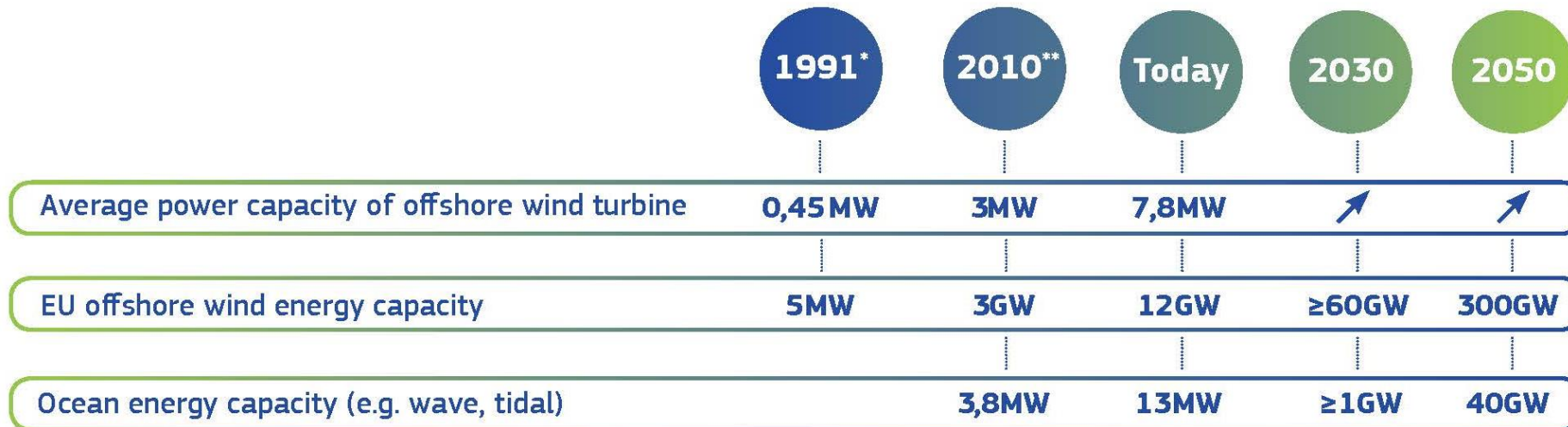
- 80% Renewable Energy by 2030
- Reduction in emissions of 7% p/a 2021-2030
- 51% reduction by 2030
- Net zero by 2050

Offshore Wind:

- 5 GW (At least) by 2030
- Plan at least 30 GW off Atlantic Coast
- Relevant Projects (Phase 1): 3 GW capacity? 2 GW capacity?
- Transition Period: Phase 2 Projects needed to meet 2030 targets



Offshore Wind in Ireland – EU Progress



* First offshore wind farm: Vindeby, Denmark.

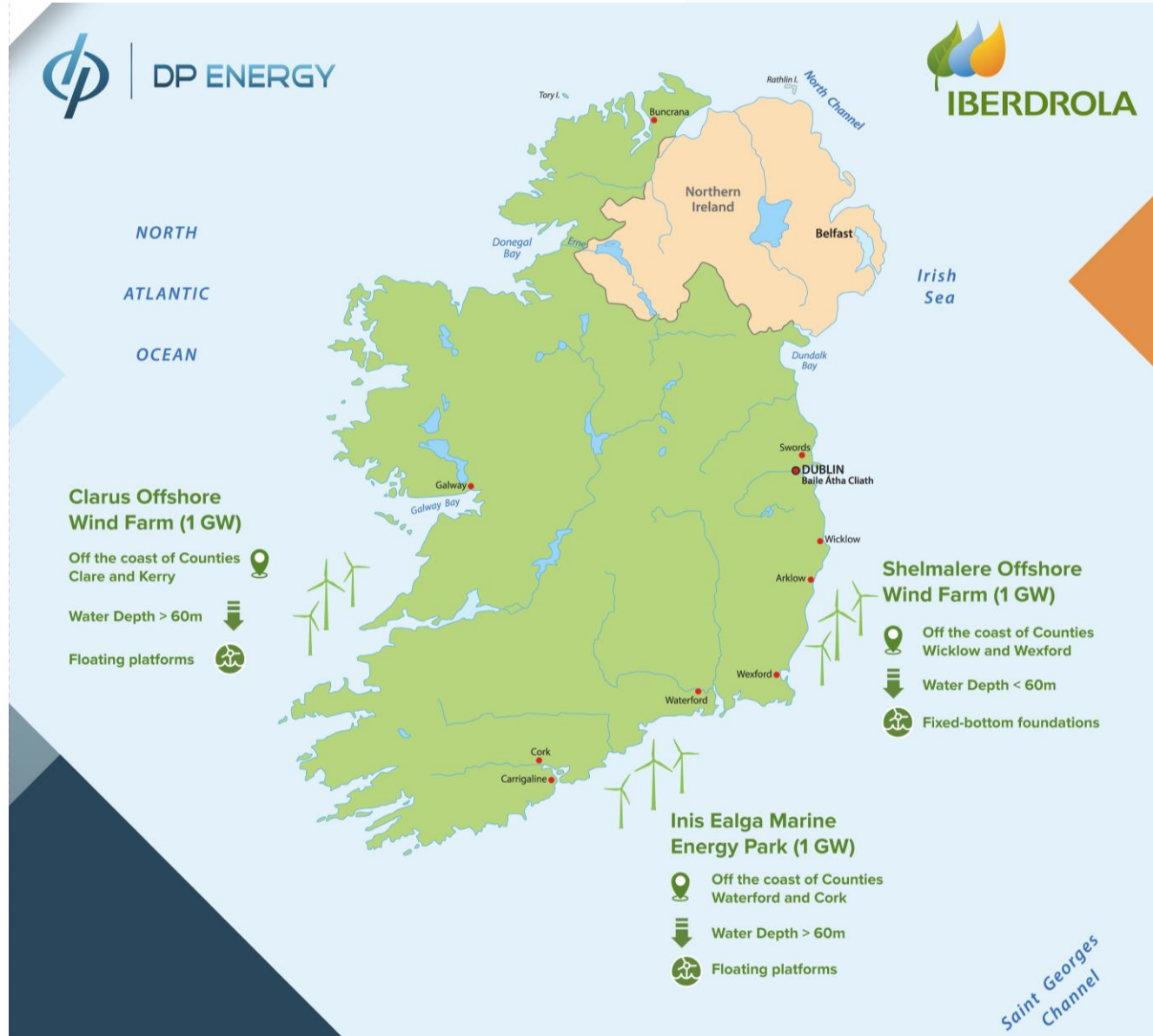
** Including UK

EU Offshore Renewable Energy Strategy (Nov. 2020)

Arklow Bank Wind Park: 25 MW



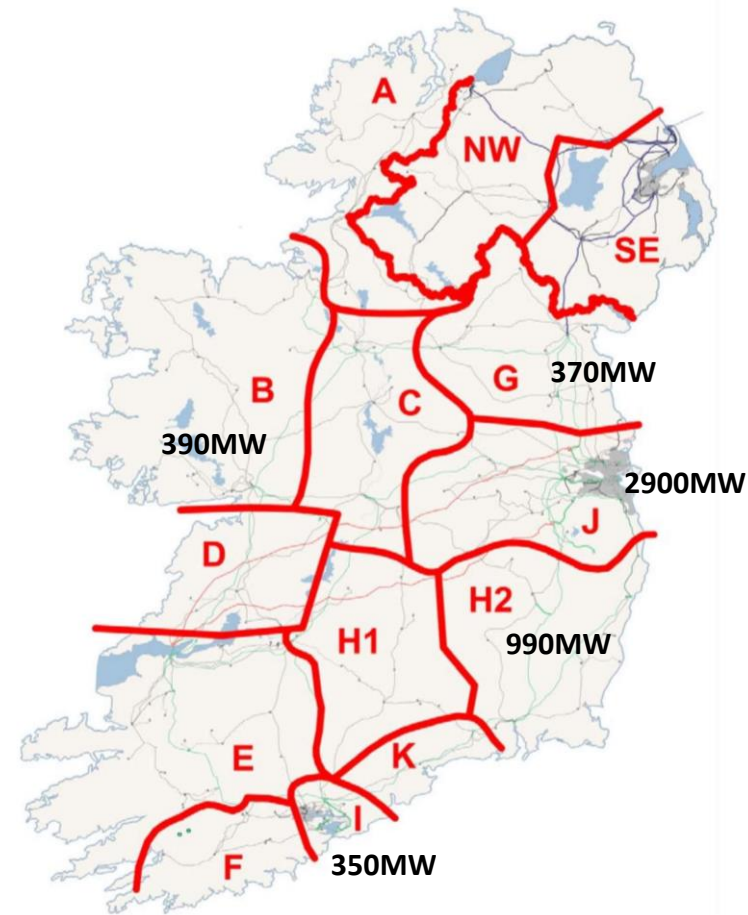
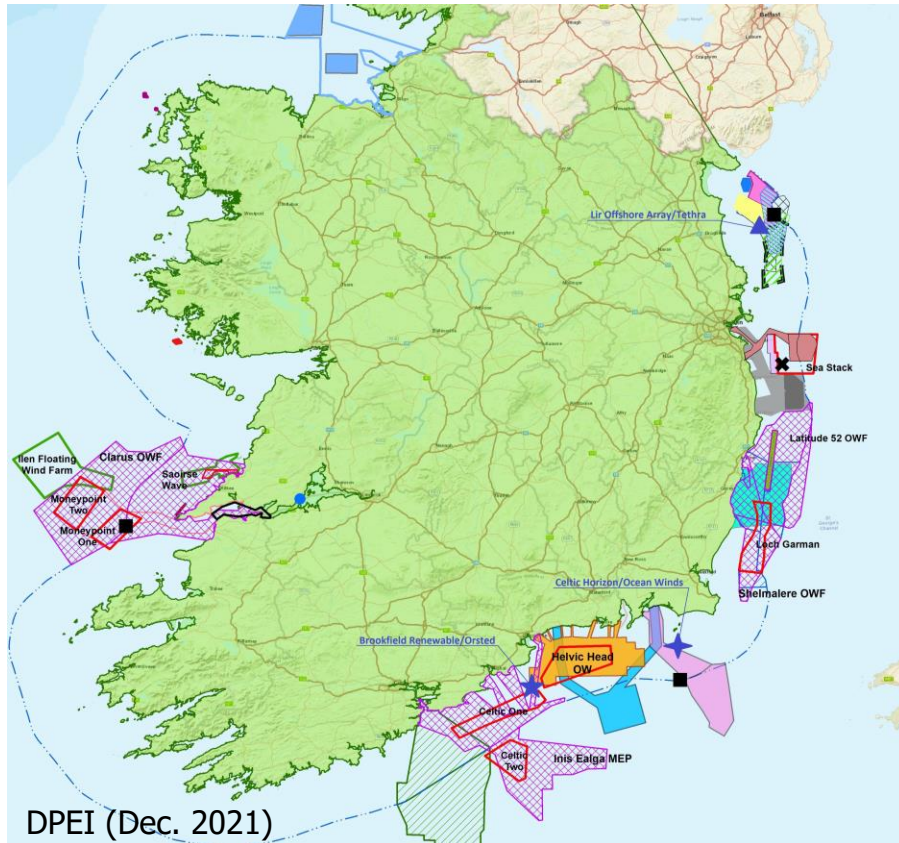
DP ENERGY



Programme



Offshore Wind in Ireland



Eirgrid SOEF (Dec. 2021)

Inis Ealga Marine Energy Park

Challenges & Thoughts

- Consenting (MARA/MAC, ABP)
- Technology Development (Floating platform/turbines)
- Grid/ORESS
- Public/Industry Acceptance
- FID/LCOE
- Construction Ports
- Supply Chain
- O&M
- Post 2030 – MPA's, DMAPS, Plan-led approach
- Foreshore Licences for Surveys
- MARA – Operational Q1 2023
- MAC Applications – Q1 2023
- Non-Grid Offtake
- Export
- OFTO

Offshore Wind in Ireland

Will Ireland meet it's 5GW offshore wind target by 2030?

Is Ireland serious about offshore renewable energy?



@energy_dp
@Iberdrola_En



DP Energy Group
Iberdrola Renewables



info@dpenergy.com

www.dpenergy.com

www.iberdrola.ie



Doyle Shipping Group

ORE future developments in Irish and N.I. Ports.

Belfast / Cork Harbour / Greenore Port.





Offshore Wind Projects Handled by DSG

2013-14 West of Duddon Sands – Siemens

2014-15 BALTIC II – Siemens / Sassnitz

2016-17 Burbo Bank ext / Vestas 7mw
Turbines

2017-18 Walney Ext / Siemens 8.25mw
Turbines

Terminal Ops, Ships agency, Stevedoring,
Crane and SPMT Hire.

Belfast Offshore Wind - DSG





Belfast Offshore Wind – DSG

- Blades being handled into D1 Terminal.
- Vestas Wind 2017



Belfast Offshore Wind – DSG

- Monopiles and Transition Pieces being handled in Belfast in 2013 – 108 Turbines @ 2.3MW each.
- Boskalis (Foundations) and Siemens Wind. (Turbines)



Belfast Offshore Wind - DSG

- D1 facility Belfast
- 50-acre site ideal for Marshalling and pre-assembly of Turbines and Foundations
- Harland and Wolff also available plus potentially new D3 site.

CORK HARBOUR

ENTRANCE TO CORK HARBOUR

NMCI CAMPUS

RINGASKIDDY
TERMINAL

DSG CORK TERMINAL

STRATEGIC LOCATION

DEEPWATER FACILITIES

CLOSE TO EUROPE'S MAIN SHIPPING LINES



Cork Dockyard - 2021

- Site previously used for building ships in the 80's
- 2000 people once worked on the site.
- Potential to employ hundreds on the site in construction and long-term O&M base.



Cork Dockyard – 2025 onwards

- Pre-assembly for Floating or Fixed Offshore Wind
- 12M Water planned.
- Close to 50 acres in size
- 22 / 25 x 15MW
Turbines can be stored on site at one time.



Cork Dockyard 2025 onwards

- 3 berths planned each circa 250m in length.
- Load bearing on heavy quays 50 m/tonnes per sqm at min.
- 25 x 15MW Turbines in storage on site at anytime.



Greenore Port – potential O+M Hub

- O&M Hub Planned
- Closest project 6 nautical miles from Greenore
- Potential to cater for at least 3 projects on site
- 8.5m of Water and 260m of quay length available.
- Pontoons to be constructed also.

Greenore
Port – The
future





O+M HUB

This is an aerial photograph of a coastal industrial and residential area. In the upper left, a long pier extends into the water with several small boats moored along it. A large cargo ship with a red deck is docked at a quay. To the right of the ship, there are two large white cylindrical storage tanks and a large paved area with many stacks of brown lumber. In the foreground, there is a large green golf course with several sand traps. To the right of the golf course is a residential neighborhood with many small houses and trees. The text 'O+M HUB' is overlaid in the center of the image.

Where are
DSG at
currently ??

In Cork we are engaged with 2 developers through NDA / MOU's.

Hope to put planning application in by Q3 of 2022

Hope to commence building the facility in 2024 subject to T+C's being agreed.

In Greenore we are in discussions with 3 developers for O&M.

Hope to also put in planning application by Q2 of 2022.

Hope to commence building the facilities in 2023.



Capt Brian FitzGerald
Director External Affairs
Simply Blue Group

MIIN, April 7th 2022



A JV between **Shell** and **SBG**
51% Shell : 49% SBG



A JV between **Shell** and **SBG**
51% Shell : 49% SBG

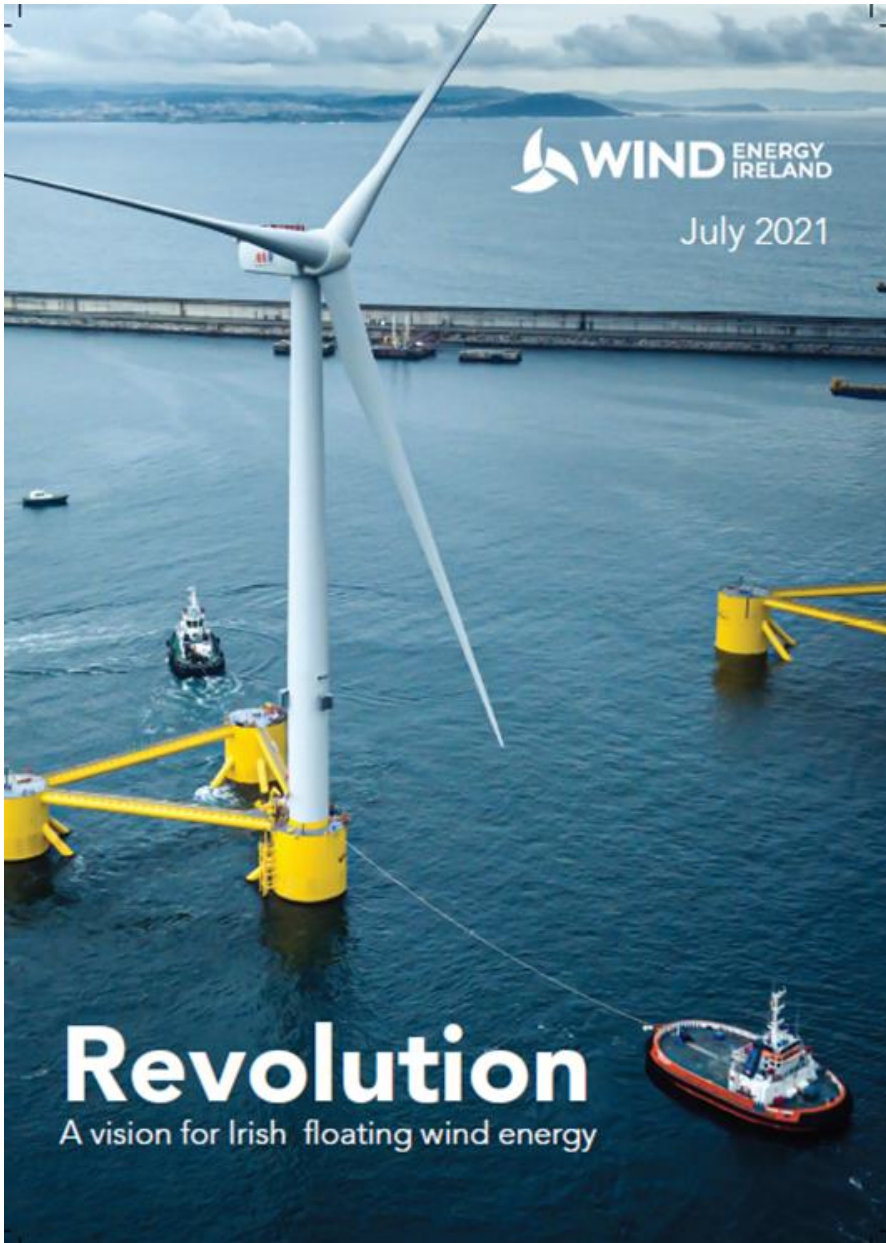


The **Emerald (1.3 GW) Floating Wind** project is planned for development 35km off the **Old Head of Kinsale in Cork**



The **Western Star (1.35 GW) Floating Wind** project is planned for development 35km off **Loop Head in Clare**





Above: The Revolution Report published by WEI in 2021 outlines the status of technology and cost reductions in Floating Wind

Floating Wind Technology

1. 30GW of floating wind in the PfG
2. REPowerEU: Joint European action for more affordable, secure and sustainable energy
3. Floating technology is ready to deliver commercially pre-2030
Scotwind is a game changer for Floating Wind (see slide 4)
4. Need to adopt an energy system approach in Ireland
5. Enterprise needs to take the helm instead of Climate and Environment



Above: The 50MW Kincardine Floating Offshore Wind Farm 15km off the coast of Aberdeen, fully operational in 2021. Image courtesy of Principal Power



Commission President Ursula **von der Leyen** said:
"We must become independent from Russian oil, coal and gas. We simply cannot rely on a supplier who explicitly threatens us. We need to act now to mitigate the impact of rising energy prices, diversify our gas supply for next winter and accelerate the clean energy transition. The quicker we switch to renewables and hydrogen, combined with more energy efficiency, the quicker we will be truly independent and master our energy system."

Our 'Ambition': Has Scotland Stolen a March on Ireland?



- **Scotwind leasing round has delivered a renewables revolution** – results announced in **Jan 2022**
- Leased 25GW of offshore wind capacity; - Enough to power 23 million homes
- Scotland needs circa 5GW of offshore wind to decarbonise
- **60% will be delivered by floating wind**
- 7,000km² of seabed leased
- 17 projects in 14 sea areas
- £700m upfront payment to the Crown Estate in option levies
- Not constrained by grid capacity
- Focus on local content in the Supply Chain
- Community funds benefit to local communities (e.g. Orkneys)

- Research suggests up to 50 GW of capacity off the south coast and 75 GW off the west coast of Ireland, will be unlocked by floating wind
- Ireland's target is for 5GW of offshore wind by 2030 (Climate Action Plan); with an ambition for 30GW of floating offshore wind (FLOW) in the Atlantic post 2030 (PfG)
- We need FLOW to unlock our offshore wind potential – or else this resource will be left untapped, and the potential benefits will be lost (i.e. Equinor's departure in Nov 2021)
- **As of yet, Ireland has no target or plans for floating offshore wind.... (In addition to Scotland, France, Norway, Spain have all declared FLOW targets). There is no enterprise development strategy yet.**

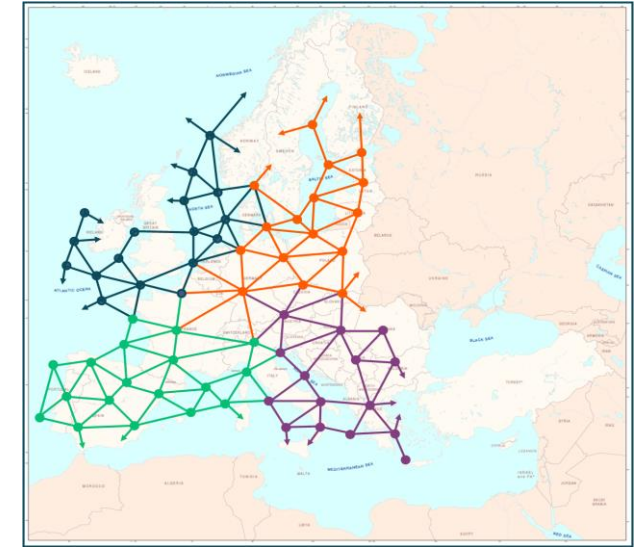
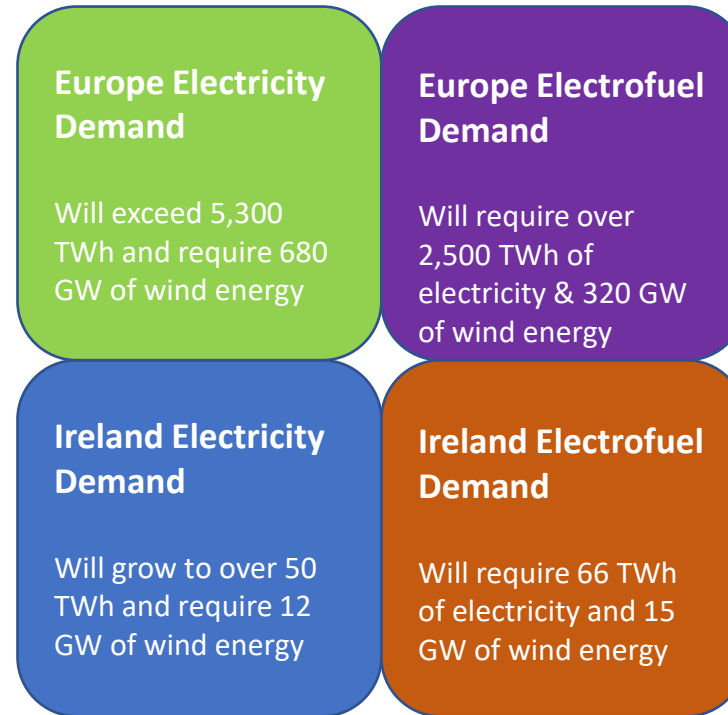


FLOW can provide the scale to power not just ourselves, but to export to Europe also

Energy System Approach to unlock Export Potential

Traditional renewable energy support schemes (Offshore RESS auctions) will help FLOW contribute to Ireland's electricity demand, but we need new ways to facilitate FLOW in its other three markets:

- Ireland's demand for electrofuels
- Supplying Europe's electricity demand and
- Europe's demand for electrofuels



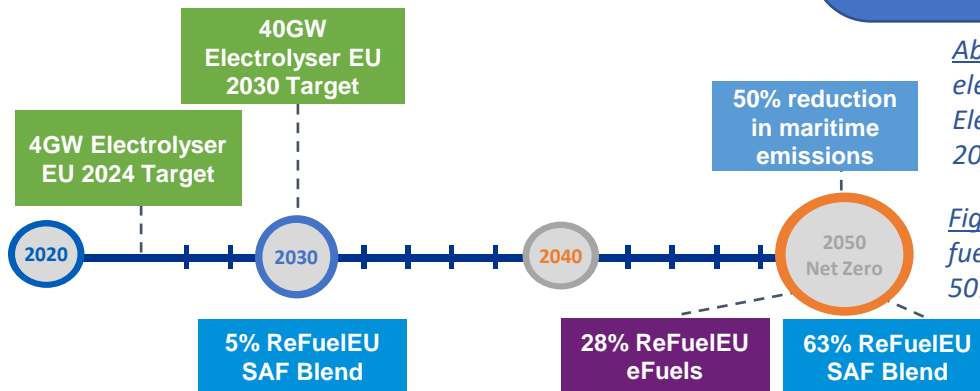
Enhanced cooperation between European States is required on offshore grid (see example of meshed grid image above).

FLOW will also be key to the production of green hydrogen and Electrofuels.

Opportunity for Green Energy Parks to integrate large energy customers with green energy production, storage and infrastructure solutions, inc. data centres.

Above Huge market demand for clean electricity and green hydrogen and Electrofuels to 2050 (WEI, Revolution, 2021).

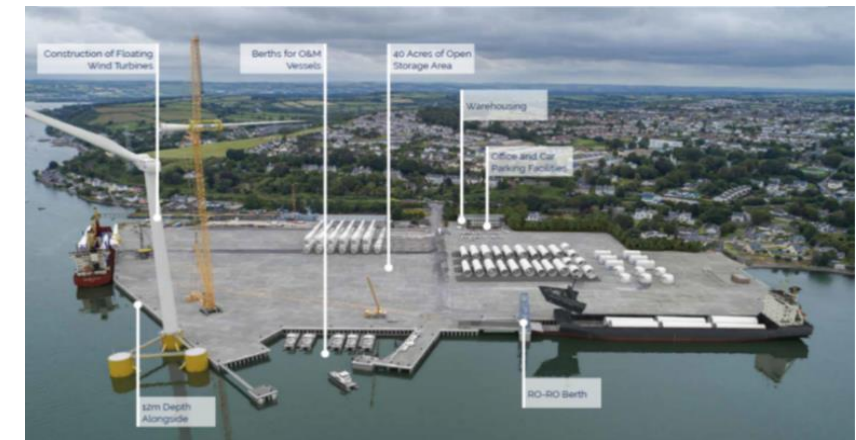
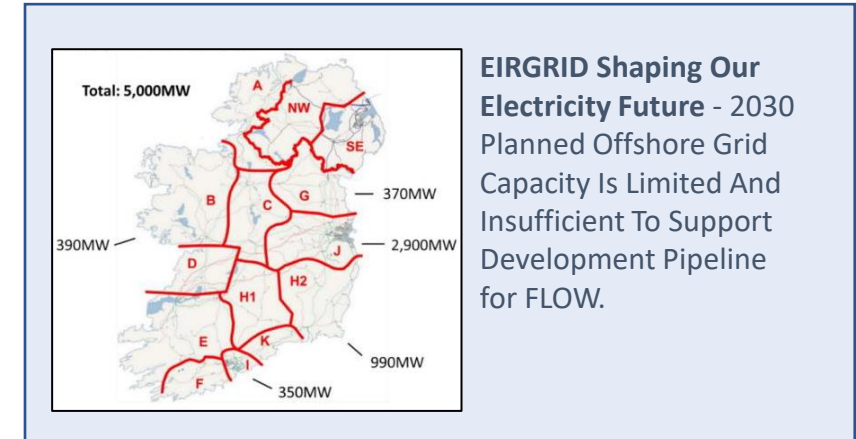
Figure left shows EU demand for sustainable aviation fuel & IMO aims to reduce GHG emissions by at least 50% by 2050.



Offshore wind in Ireland is a climate-led agenda; There is an urgent need for a complementary enterprise-led approach.

10-Points for an Enterprise *Strategy*

1. Provide a signal to the market/FDI that **Ireland is open for FLOW at scale this decade**
2. **Challenge existing targets** and the **limitations of the grid-centric approach** on development opportunities
3. **Support supply chain development** – Plan for **port enterprise zones** and **port industrial hinterlands**; **National Supply Chain study crucial** – (Carbon Trust Study, 2019)
4. Facilitate a **Route to Market Strategy for an Energy Export /Hydrogen Economy**, including MOUs with European Member States (European energy autonomy will be a major driver for engagement in 2022)
5. Develop a plan on how Ireland will overcome **Supply-Chain bottlenecks** (e.g. with Scotwind coming on stream)
6. Pursue **technology** (i.e. digitalization, automation and ICT solutions) and **energy hub** opportunities (including new locations for data centres)
7. Facilitate **training** programmes (implementation of the Future Skills Report)
8. Support the need for a **resource-plan** for relevant departments and agencies, inc ABP and NPWS) (Eirwind, 2019)
9. Engage with DECC and DHLGH on the urgent need to **expedite the establishment of MARA**, to **issue MACs**, and address the lacuna in **survey licences for FLOW projects** prior to the establishment of same
10. Promote the **job creation** potential of the sector to facilitate a **Social Licence to Operate**



Offshore wind will require a network of ports – [Doyle Shipping Masterplan](#) to service FLOW.

Key Messages from recent Seafarer Skills Conference:

- Ireland must build and sustain an agile maritime workforce to meet the skills needs for a zero-carbon economy.
- The offshore renewable energy industry and Ireland's fishing Industry must work together.
- The offshore renewable energy industry, Ireland's environmental network and relevant national institutions must work towards solving the biodiversity crisis in concert with the climate and energy security crises.
- Ensure that Ireland's fishing industry is enabled to thrive sustainably as a key element of our food security.
- A cross-Government approach to this maritime based economic opportunity is essential.
- In particular, Ireland should prioritise investment in building a supply chain.

Seafarer Skills Conference NMCI

4th March 2022





An Introduction to Green Rebel

Marine Ireland Industry Network (MIIN) Event

MARCH 2022



MARINE



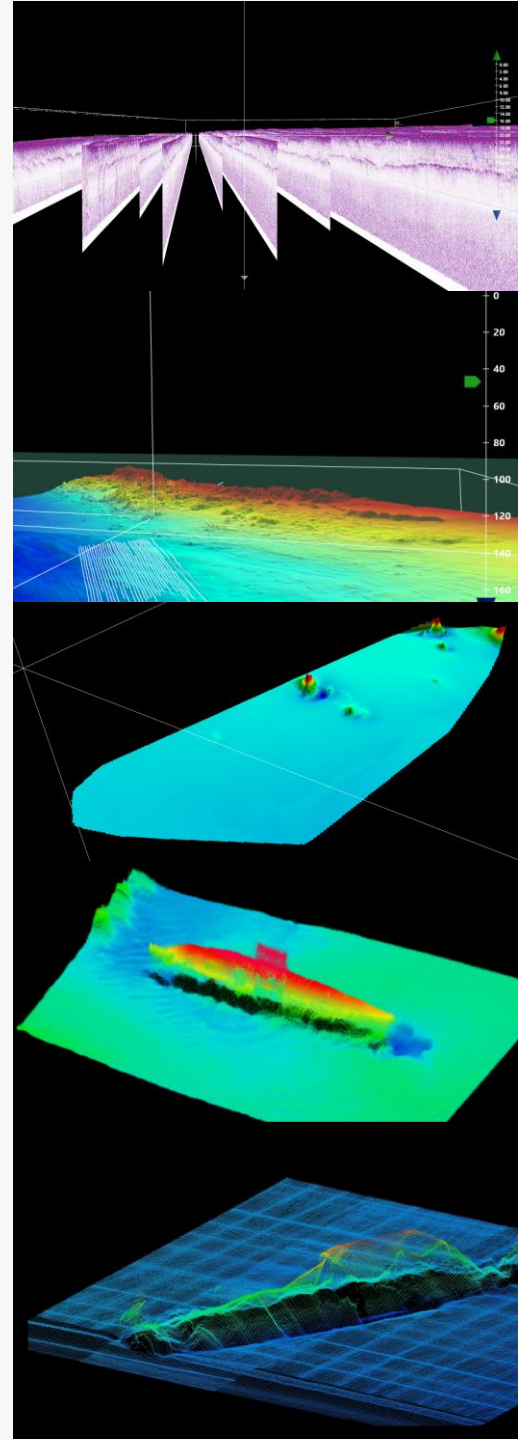
AERIAL



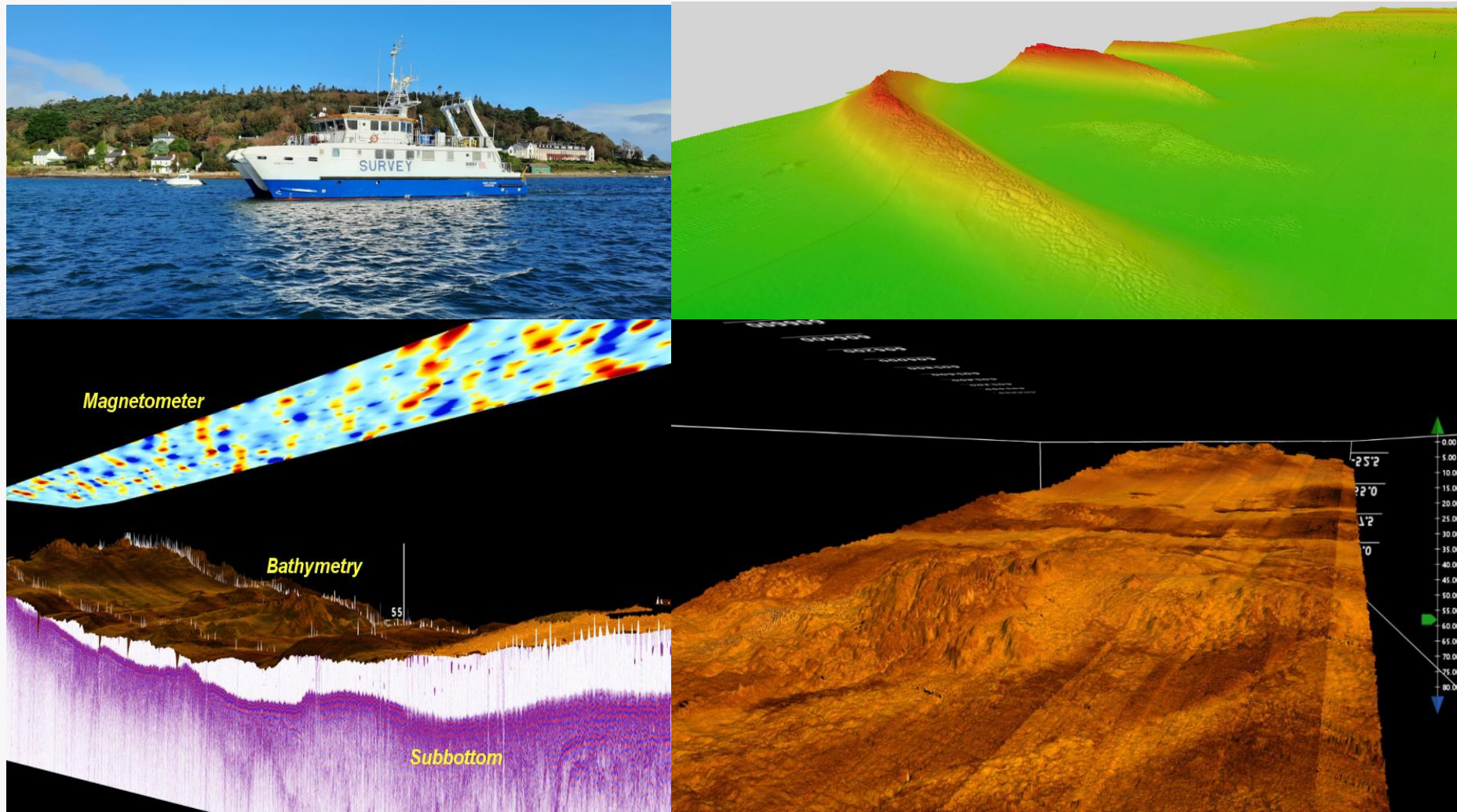
METOCEAN



- Providing site investigation and data services to the offshore wind sector across 3 divisions
- 75 employees based between Cork, Crosshaven and Limerick
- Local supply chain, operating to global standards

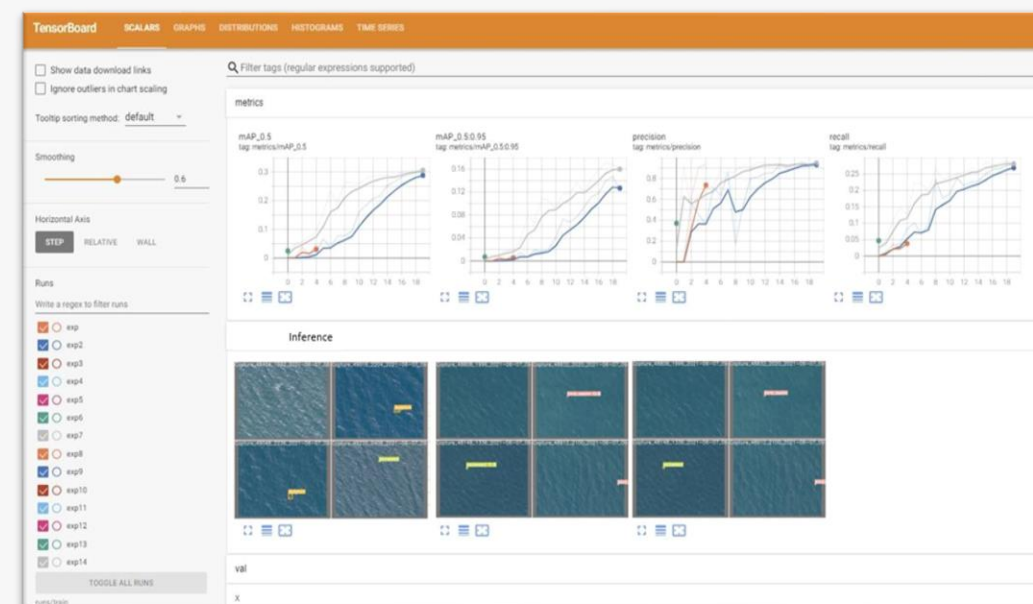
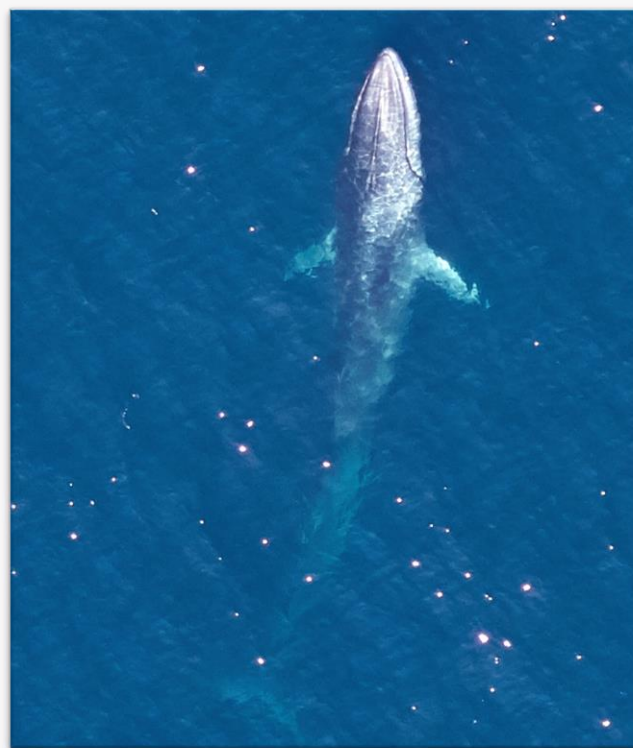
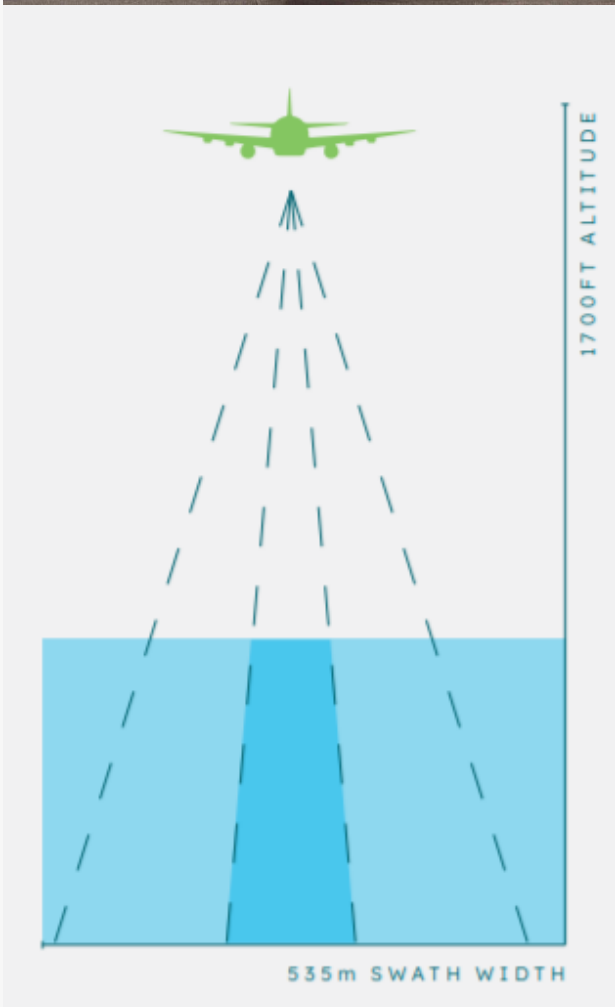


Green Rebel Overview – Marine / Geophysical

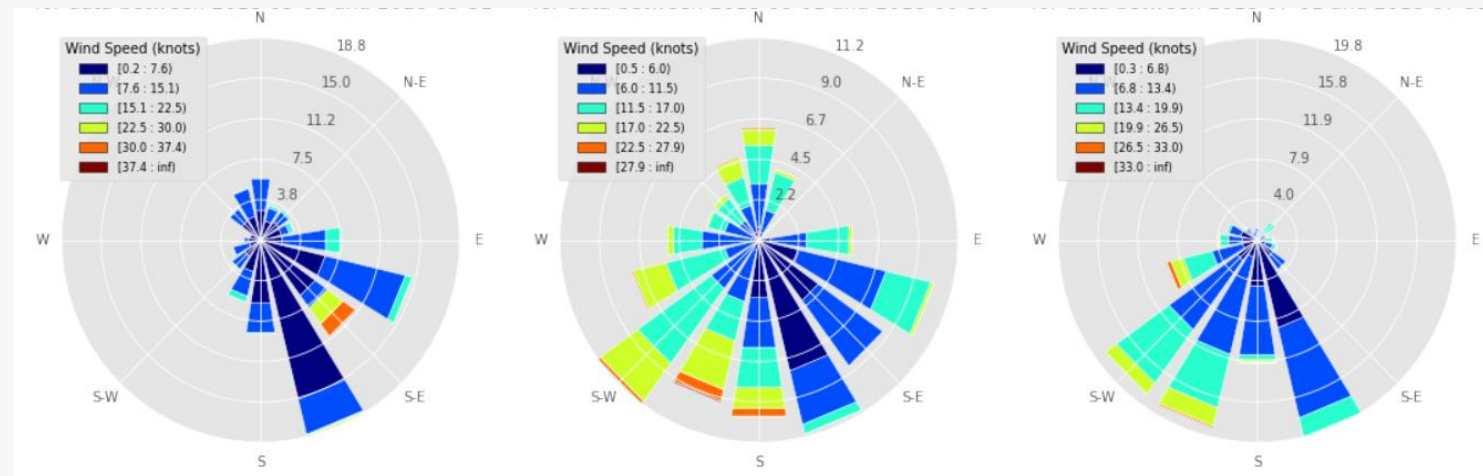
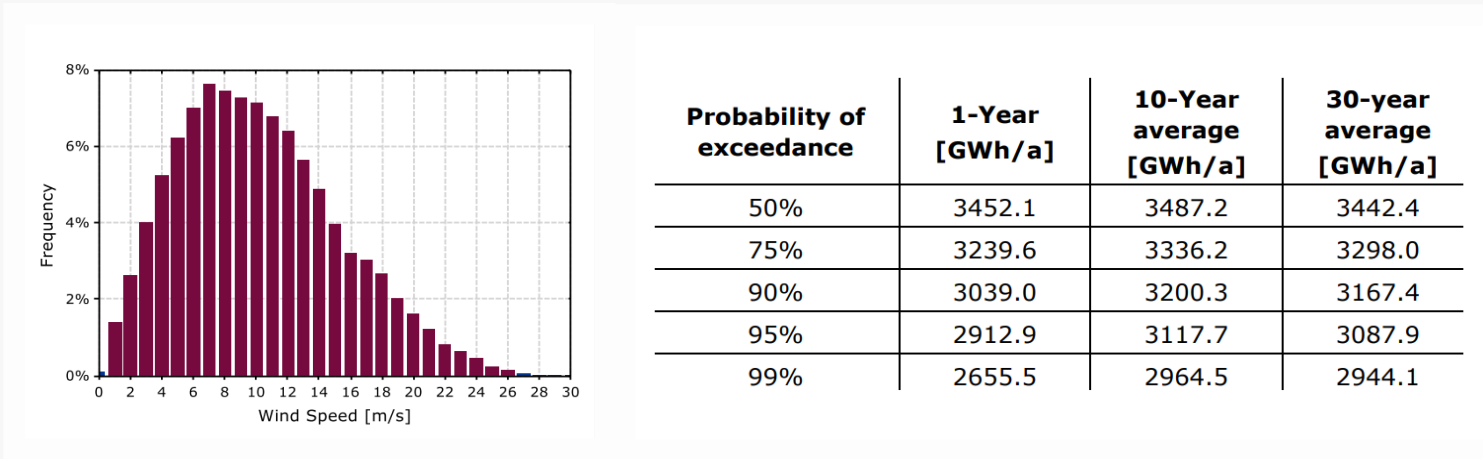




Green Rebel Overview – Aerial



Green Rebel Overview – MetOcean



Our purpose:

**“To enable the successful
harnessing of offshore wind
in Ireland and beyond”**



Thank You



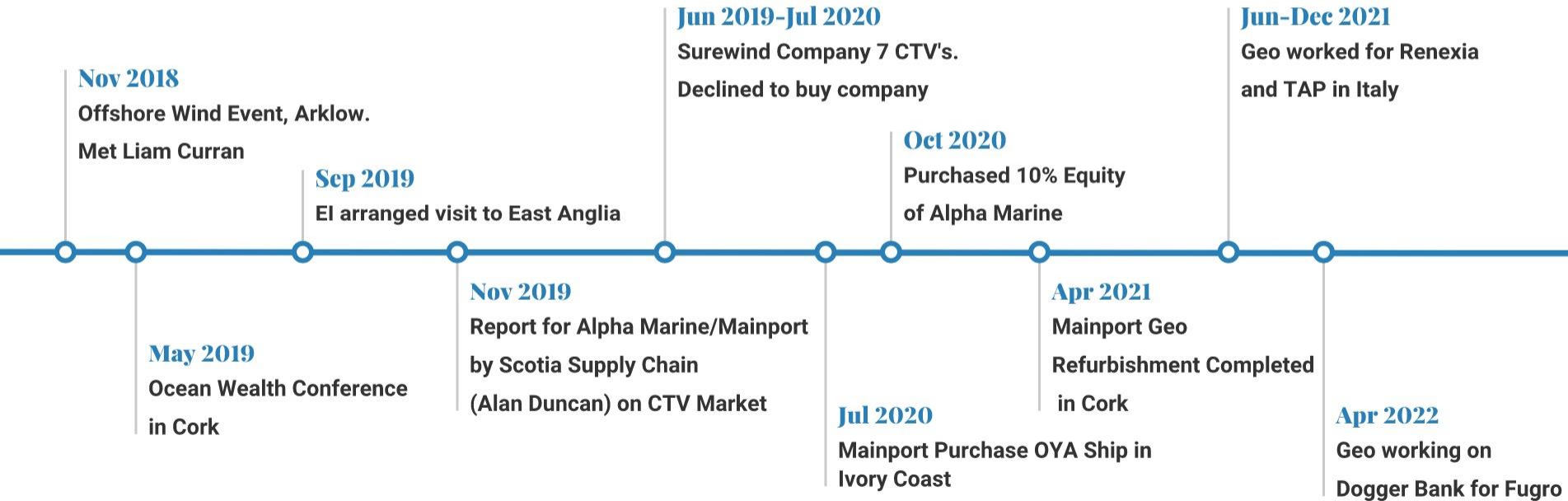


Presentation to MIIN at NMCI on 7 April 2022

by Dave Ronayne, CEO Irish Mainport Holdings



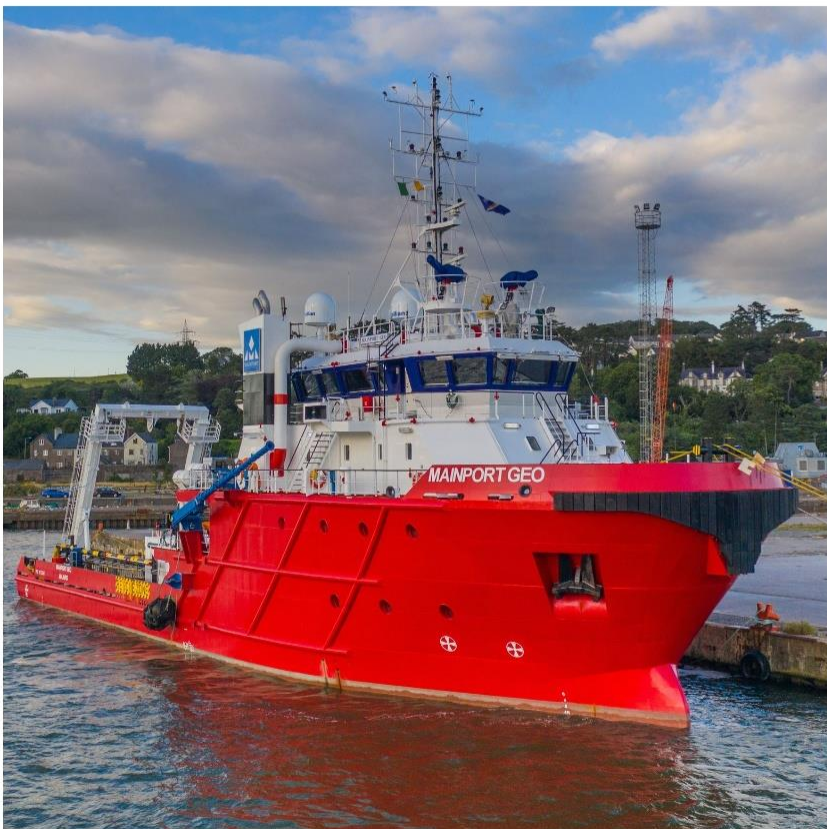
Timeline



Mainport entry into Offshore Wind Sector



- Purchase of ship OYA, built 2015, diesel electric , DP 2, 50 M LOA.
- Ship located in Ivory coast, in bank distressed sale, original construction cost of \$15 million.
- Arranged exit from Abidjan port, sailed to Cork, carried out her first 5 year Special survey, changed flag and upgraded ship.....all carried out in middle of COVID lockdowns.
- Retained existing experienced crew ; some Irish crew now added.



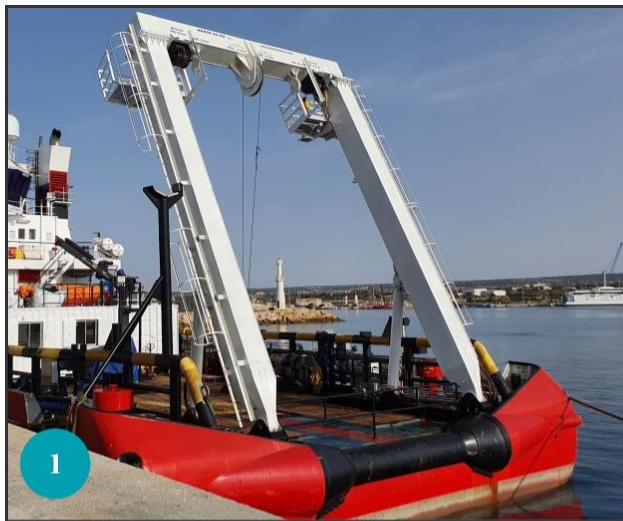
New Vessel - Mainport Geo

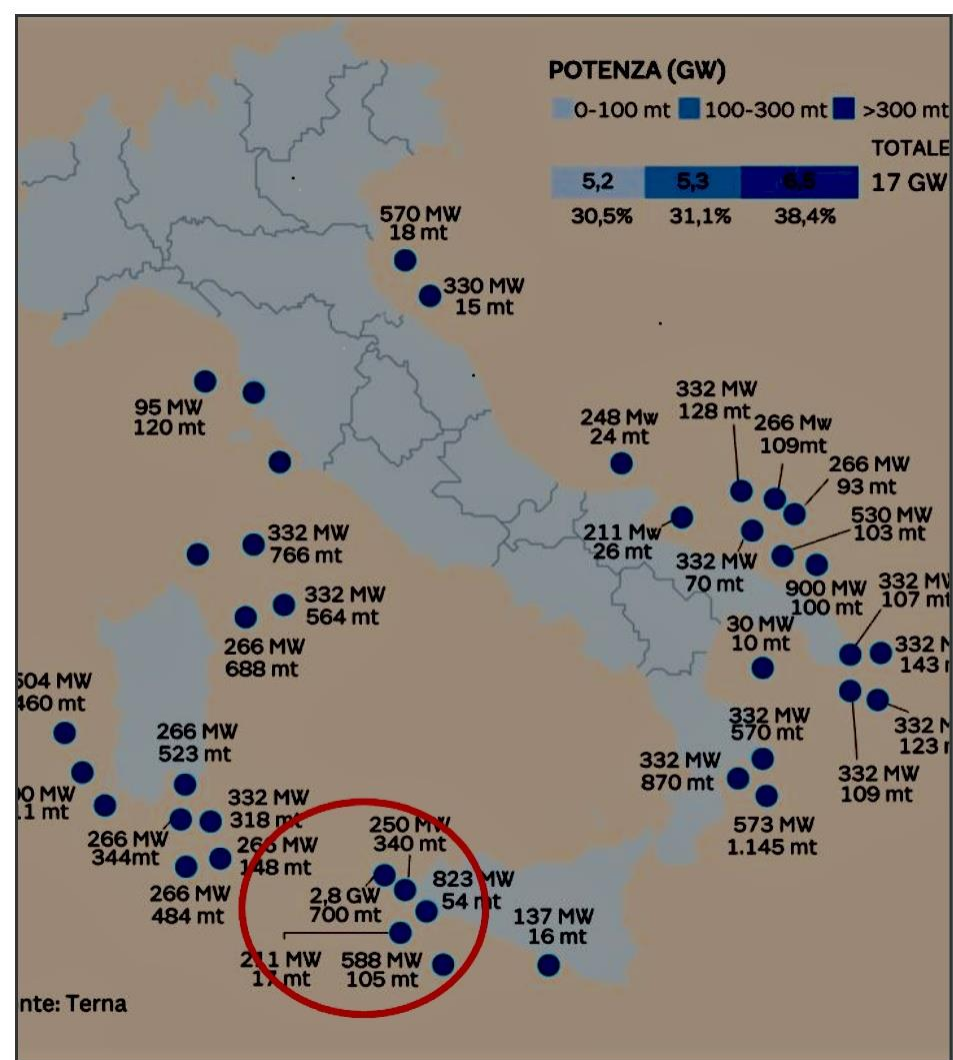
**BUILT: AKSOY GELIBOLU SHIPYARD
TURKEY 2015**

**CLASSIFICATION: BV
FLAG: MARSHALL ISLANDS
IMO NO.: 9723667**

Mainport Geo Retrofit

- Added new A frame.
- Installed USBL on hull.
- Added new wet and dry labs with services connections to bridge and engine room.
- Changed out and upgraded all Comms and navigation systems.
- Added new steel Mezzanine deck for ROV and LARS.





- Won contract via Mainport Med srl for Renexia, 2,800 MW field.
- No offshore wind farms already in the Med.
- Large market potential over next 5 years.



Renexia

Geo's Current Charter

Dogger Bank Wind Farm



Geo Leaving Cork



Geo is now working in Dogger Bank, established offshore wind farm in UK sector.



Ireland; Offshore Wind



**Potential yes,
but when?**



**Who takes the
weather risk?**



**Can there be an
effective policy
of supporting
local supply
chain in EU free
market?**



**Risk and
reward for the
ship owner.**



**Who is going to
fund the shore
based facilities?**

Marine Research, Technology and Business

Presenter : Liam Fitzgerald

Role : National Marine Incubation Manager

Institution : University College Cork



UCC

Coláiste na hOllscoile Corcaigh, Éire
University College Cork, Ireland

HOST INSTITUTION



PARTNER INSTITUTIONS



UNIVERSITY OF LIMERICK
Ollscoil Limerick

FUNDED BY:



WORKING ACROSS 13 ACADEMIC INSTITUTIONS IN **Energy · Climate · Marine**

Cork

University College Cork
Munster Technological University
Tyndall National Institute

Limerick

University of Limerick

Galway

National University of Ireland
Galway

Kildare

The National University of Ireland
Maynooth

Dublin

University College Dublin
Dublin City University
Trinity College Dublin
TU Dublin
The Economic and Social Research Institute
Dublin Institute for Advanced Studies

Louth

Dundalk Institute of Technology



The MaREI Centre



Global Challenge 1 // The Energy Transition

The energy sector is set for a period of revolution and rapid growth in the move towards a low-carbon economy, which poses a series of challenges, but also provides significant economic and societal opportunities. No single renewable energy technology alone will suffice, and instead, only the concentration of a diverse range of technologies, including energy efficiency and storage solutions, along the supply chains of electricity, heat and transport, will deliver on commitments.



Global Challenge 2 // Climate Action

The impetus for creating a sustainable society has never been clearer. Our economies are approaching the ecological limits within which they are embedded and we are already experiencing the consequences in areas such as climate change, biodiversity loss and resource depletion. Population growth, changing lifestyles and economic growth will compound challenges such as climate change. Hence, it is essential that our response to these challenges is coordinated into defined plans for positive 'Climate Action'.



Global Challenge 3 // Blue Economy

With one of the best but most challenging offshore renewable energy (wind, wave and tidal) resources in the world, comprising a sea area approximately ten times our land area, at 880,000km², it is recognised that sustainable marine growth is imperative in realising the potential of Ireland's marine space across a multitude of sectors. In this context, it is essential that we firstly improve our understanding of the complexities of the marine environment, and subsequently ensure that appropriate integrated marine governance is implemented to achieve efficient and better management of our marine space.

RESEARCH AREAS



Marine
Renewable
Energy
Technologies



Materials &
Structures



Observation
& Operations



Coastal &
Marine
Systems



Bioenergy



Energy
Policy &
Modelling



Energy
Management

My Role- Business Incubation Manager











**COMMERCIALISE YOUR RESEARCH
YOUR WAY**

FRIDAY JUNE 12TH | 12:00PM - 1:00PM




- Start Up Lab launched in February 2021– Led by MaREI in collaboration with UCC colleagues
- 7 week evening programme










The importance of Sustainable Business has never been greater.

DO YOU HAVE A SUSTAINABLE START-UP IDEA?

Start-Up Lab is back and this time in partnership with the MaREI Centre. The programme is open for applications and we are looking for people with sustainable start-up ideas that have potential for commercial or social impact. Start-Up Lab is run online over seven evenings, to help you explore your start-up idea. The programme is open to undergraduate & postgraduate students, researchers, recent graduates & others from any background or discipline.

APPLY ONLINE:



Take a pic of the QR code or visit: ignite.submit.com

Applications close: 8 February 2021 @ 12.00



Sustainable Business Ideas Masterclass Series and Competition

- 1000 people engaged, 50 entries to the competition, €15,000 in prizes



BUSINESS IDEAS FOR A RESILIENT AND SUSTAINABLE FUTURE

ONLINE MASTERCLASS SERIES AND START-UP COMPETITION

INTERESTED IN SUSTAINABILITY? HAVE YOU AN IDEA THAT YOU WANT TO EXPLORE?
CHALLENGE YOURSELF IN COLLABORATION WITH MaREI!





DO YOU HAVE AN IDEA FOR A MORE RESILIENT AND SUSTAINABLE FUTURE?

WANT TO BE IN WITH A CHANCE OF WINNING ONE OF SEVEN PRIZES OF UP TO €4,000 AND TARGETED FOLLOW ON SUPPORT?

SUBMIT A SHORT VIDEO ABOUT YOUR IDEA AND EVEN IF YOU DON'T WIN A PRIZE, YOU CAN GET ADVICE AND SUPPORT ON MOVING YOUR IDEA FORWARD

FULL DETAILS INCLUDING THREE MASTERCLASSES TO HELP YOU CREATE YOUR VIDEO AVAILABLE ON MaREI.ie

COMPETITION CLOSES FOR ENTRIES ON MAY 6TH








BUSINESS IDEAS COMPETITION AWARDS EVENT

JUNE 3RD 2021







- Blue Tech Ideas Lab – A six week online pre accelerator programme for Blue Tech Entrepreneurs
- 11 participants
- Projects in Marine Renewable Energy, Aquaculture, Seaweed & Maritime Transport



BLUE TECH IDEAS LAB 2021

Explore and progress your blue tech idea with proven approaches and tools.
Increase your chances of success



Simplify Machine Reliability



Reliability Engineering solutions for
critical systems in the energy,
marine, and pharmaceutical
industries

“Increasing uptime while reducing risk”

Products & Services:

- Oil Analysis as a Service
- Remote Machine IIOT Condition Monitoring
- Lubricant Management & Training
- Products to Support Condition Based Maintenance Programs



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ARQreliability



Customs & Transport SaaS platform

Connecting the Supply Chain adding value to your business

Bespoke System Integration, APIs & white labelling

SANDFISHER BARGE HYBRID POWER SYSTEM REPORT



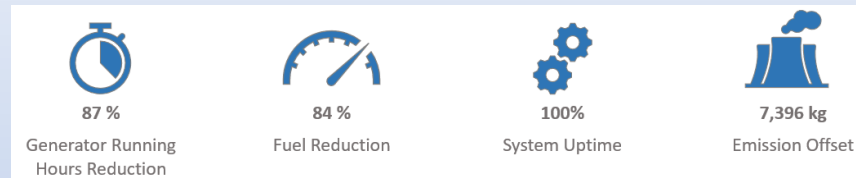
Full report available www.Daretech.ie

About

- Marine Hybrid Power Systems
- Systems operational offshore – controlled from Cork

Recent Project

- 50kWh Hybrid System for Sandfisher Barge – collaboration with BIM, & Bere Island Boatyard
- Results from 9-week trial



New Projects for 2022

- Commercial Projects
- RD&D - Hybrid Potential for Irelands Offshore Fleet
- Horizon Europe – Autonomous ocean platform for bird & biodiversity data acquisition



mèrèmer[®]

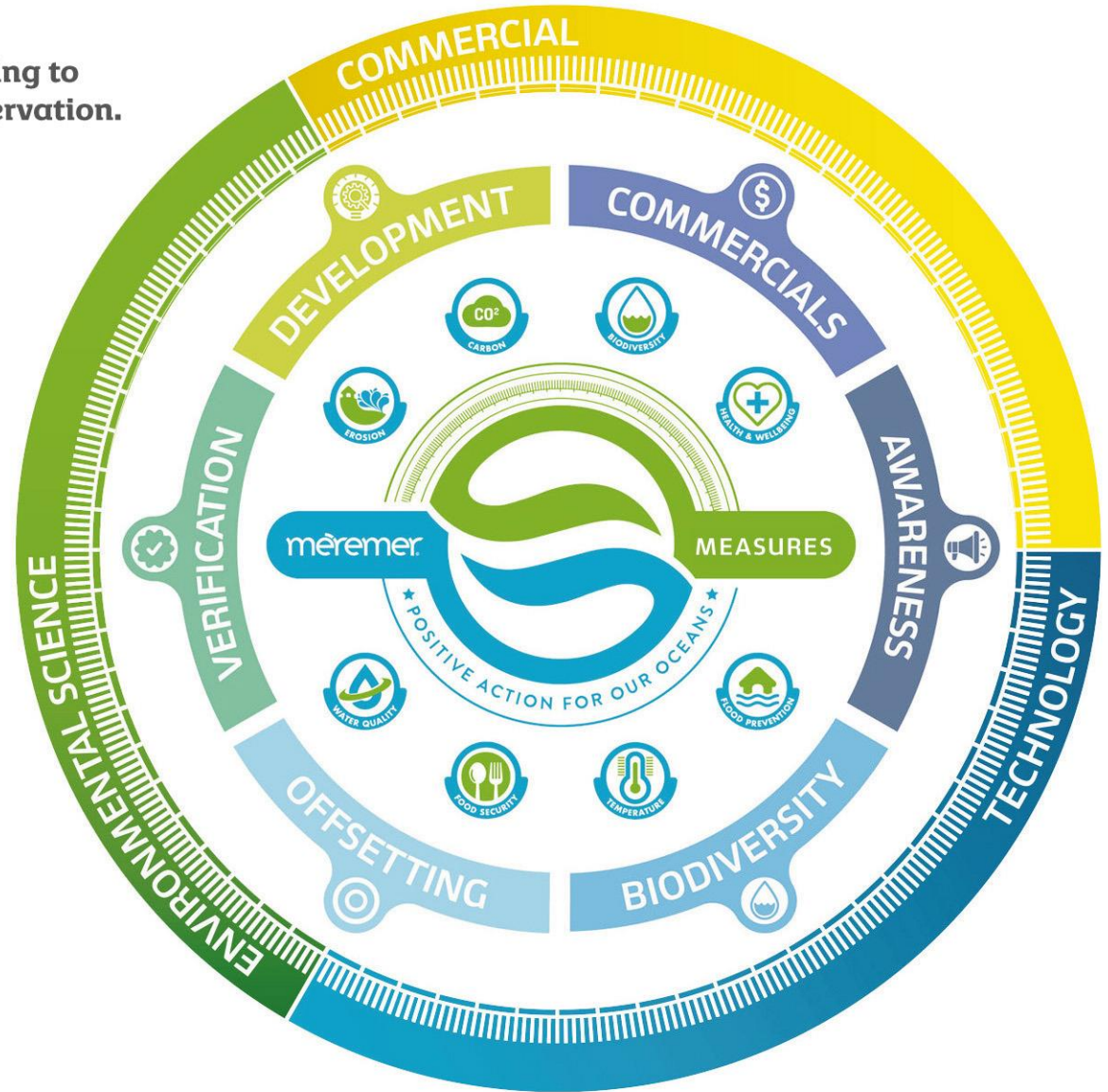
**Supercharging a blue
environmental revolution**

Operating at the intersection of Fintech and ClimateTech.

We automate Big Data, remote-sensing, and GIS with machine-learning to pioneer new standards which drive global investment to marine conservation.

- Solving the disconnect between 'projects' and 'commercials'
- Full-Stack Positive Marine Climate Action
- MèreMer Measures
- PRLs
- Seaweed Mariculture, Mangrove Forests, Oyster Banks, Salt Marshes, Seagrasses, Coral Reefs
- The most verified, audited, quantified and permanent marine climate-action platform ever created.
- 11 of the UN's 17 Sustainable Development Goals

Working in Offshore Wind Sector? Talk to us





OCEANЯ®



Liam Fitzgerald
liam.fitzgerald@ucc.ie
086 8582413



FUNDED BY:





NMCI Guest Wi-Fi
Username: miinguest
Password: 763Srlf1

National Maritime College of Ireland

This purpose built College is on a 10 acre campus and located 18km from Cork city, in Ringaskiddy.

The NMCI provides education services of the highest quality and includes Degree programmes in Nautical Science, Marine, Engineering, and Marine Electrotechnology.

Specialist spaces including survival facilities, seamanship and shipwrights' workshops, bridge simulators, fire-fighting/damage control, jetty and lifeboat facilities and engine room are provided.

Emergency Evacuation - Fire Alarm



- The general fire alarm, is a siren on site.
- A bell test is conducted on Friday mornings at 11:00
- If you hear the fire alarm sounder at any other time please evacuate the building immediately

Emergency Evacuation - Fire Response



If you encounter a fire whilst you are on campus please take the following action:

- Leave the space you are in and operate the nearest red fire break glass unit
- Proceed to exit the building via the nearest emergency exit – walk, don't run
- Once outside the building, make your way to the assembly point in the car park at the front of the building
- Notify your NMCI host of your presence
- Remain in place and await further instruction – do not go back into the building, to your car, or off campus

Fire action



1. Operate nearest fire alarm.



2. Leave building by the nearest exit.



3. Report to the assembly point.



1. DO NOT stop to collect personal belongings.



2. DO NOT re-enter until told it is safe to do so.

Emergency Evacuation – Assembly Point Location

**The assembly point is
located in the main car
park to the front of the
facility**



Emergency Response - First-Aid

To obtain First Aid immediately

► **Dial 5699 from any internal telephone.**

► From mobile/external phone dial

021-4335699

- State location
- Give details of accident/occurrence
- Provide any assistance you can.



Website Activity

What we shared on website Jan to December 2021

Marine News Articles: 110

Marine Funding News: 19

Marine Events: 140

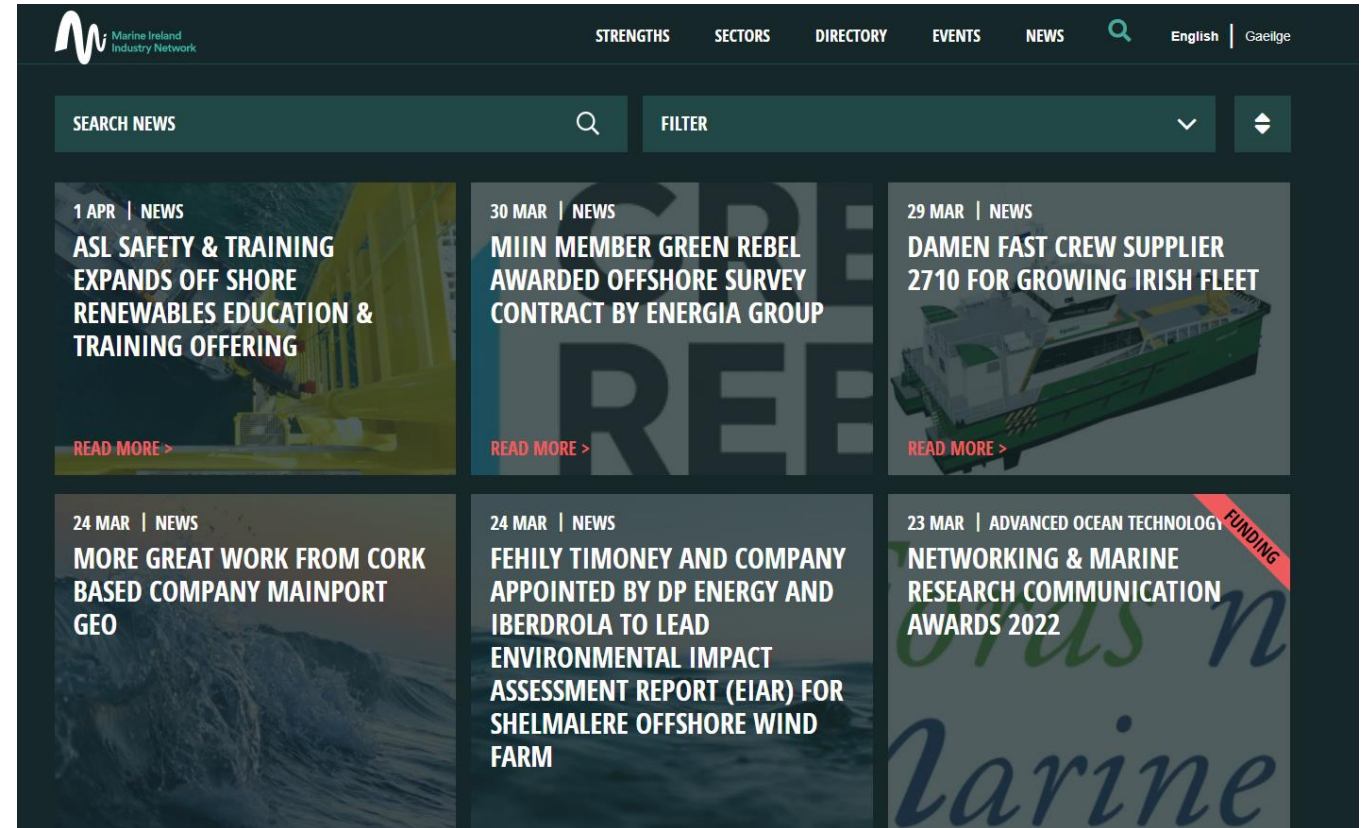
Marine Job adverts: 10

Online Directory members:

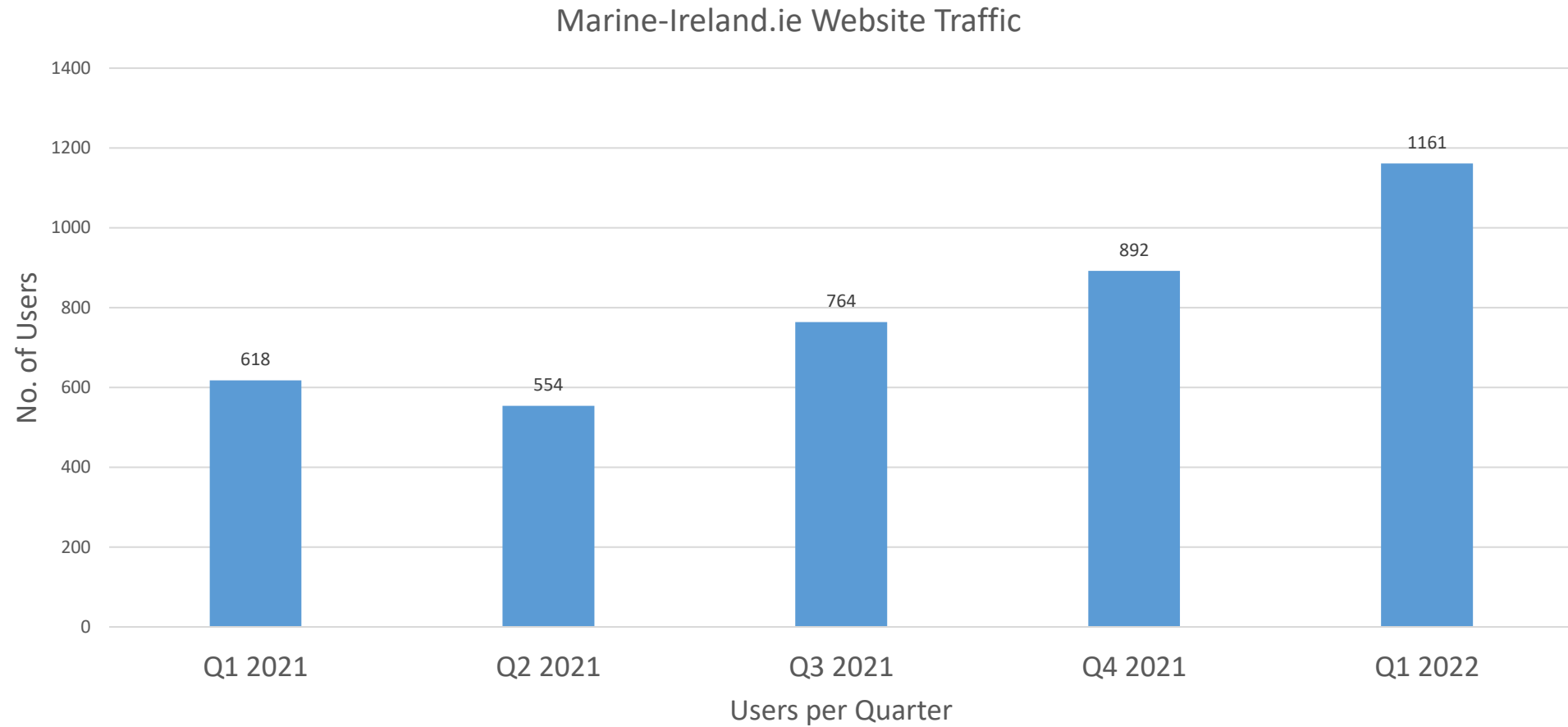
172 organisations by end of March 2022

Mailing list receiving our newsletter:

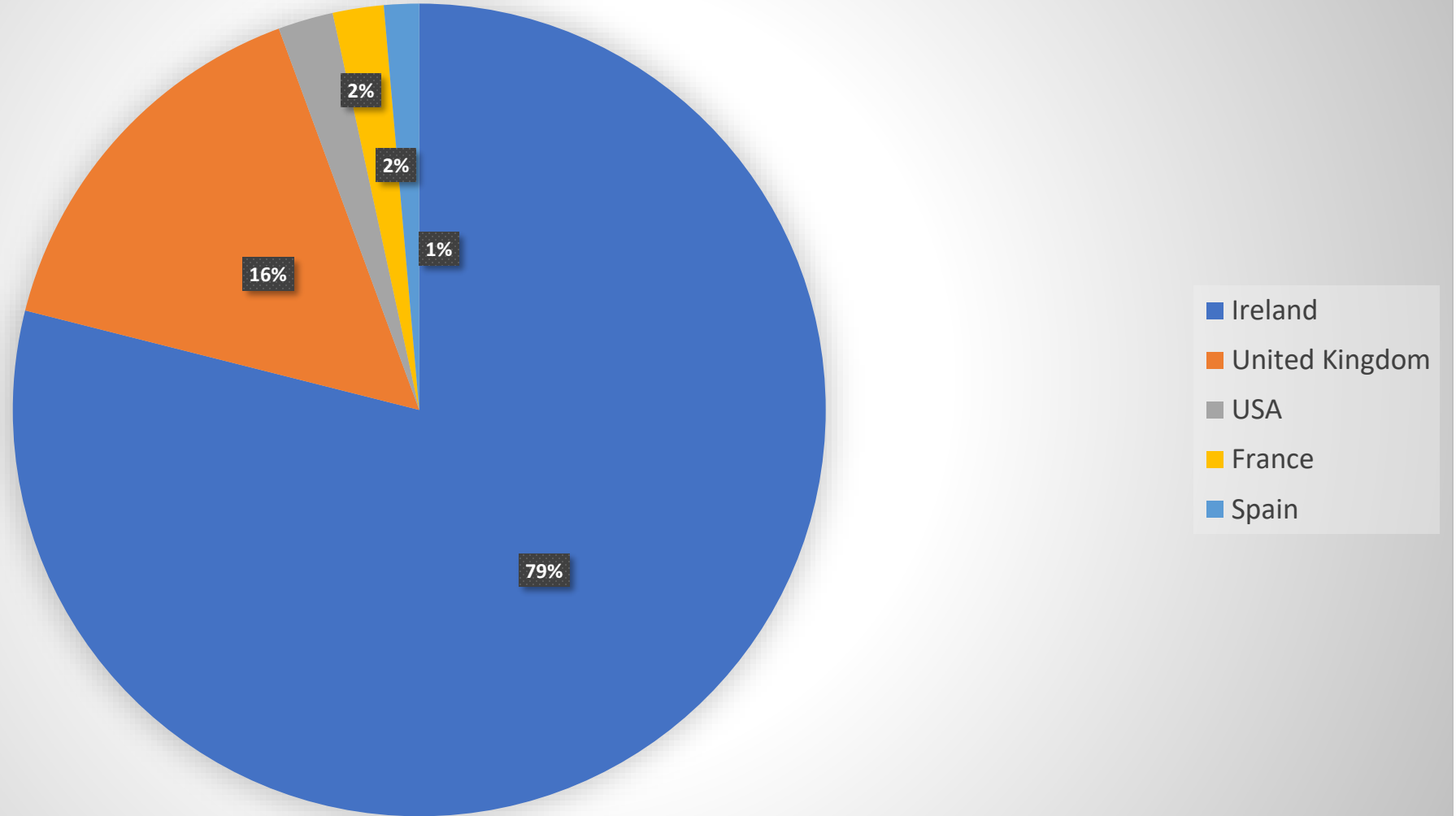
504 subscribers by end of March 2022



Website User per Quarter (01 Jan 2021 to 31 March 2022)



Website User Demographic Overview 2021





Send us your news items- We are happy to promote your marine news, events. etc



We can also feature your **marine job vacancies** on our news section. Filter by 'marine jobs'



Do you want to feature in our **Social Media Spotlight Series?** Get in touch.



We want your feedback! Look out for the MIIN **Feedback Survey** which will be sent to your mailbox in the next few weeks.



miin@bluewisemarine.ie



Marine Ireland Industry Network (MIIN)

646 followers

9mo •

MIIN Member Spotlight – [Alpha Marine](#)

Alpha Marine is a multi-disciplined marine organisation, based on the Ea ...see more



MIIN Member Spotlight – Alpha Marine

marine-ireland.ie • 4 min read

Gael Offshore Network - Strengths & Opportunity

El Gael Offshore Network – 65+ cluster members: [Offshore Wind - The Irish Advantage](#)

Immediate opportunity in the UK offshore wind industry for Irish SMEs. UK is the global leader in offshore wind, with more installed capacity than any other country.

UK to install 40 GW by 2030 (currently 10+ GW installed). This will require **£65bn+** infrastructural investment & interaction with international supply chain.

Close **engagement with relevant developers and tier one** contractors essential.

Bring that capability and experience back home to the Irish Sea/Celtic Sea/Atlantic Coast to ensure **Local Content** in the Supply Chain. This capability will also form the basis of the Supply Chain for **Floating Offshore Wind**.

Environmental/Planning
Assessments of
Proposed Sites

Onshore Civil
Engineering around
Ports/Harbours

Vessel Design & Vessel
Services

Subsea
Services/Diving/Cable
Repair

Wireless Comms
Solutions

Operations &
Maintenance

High Voltage
Engineering

IoT, Robotics, Data
Collection & Analysis





EI Offshore Wind Forum, June 8th/9th

- 1st day looks at UK Market –key projects, ports, onshore – what are the key opportunities for Irish Companies?
- 2nd day looks at the Irish Projects – Phase 1 and Floating, Ports, Skills/Training needs, how Irish SME's can be part of the Supply Chain.
- Entire Irish Supply Chain and other key stakeholders in the room over those two days!

Other Events:

- Irish Pavilion at Global Offshore Wind, Manchester, June.
- Market Study Visit to Aberdeen in October??