

Building the future of energy





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Ireland can be a global wind energy leader

Noel Cunniffe, CEO, Wind Energy Ireland

Ireland is a leader in the global renewable energy revolution.

Starting from a small wind farm built at Bellacorick in north Mayo, just over 30 years ago, we have created one of the world's most successful onshore wind energy industries, regularly providing a greater share of the country's electricity demand than anywhere else in the world.

And while some other places may have been quicker to develop offshore wind energy, the successful first auction earlier this year and the staggering potential of our enormous maritime area, means Ireland is one of the most attractive emerging markets.

That is why there is no better time to welcome you to Ireland's first ever Wind Energy Trade Show, which has brought together Ireland's growing domestic supply chain, the key players in the global wind energy industry, and cutting-edge research from here and internationally.

The 2023 Trade Show will showcase the exciting potential for new entrants into the Irish market and introduce to the world Irish companies that are not just competing here but are ready to compete – and win – internationally.

This event is a meeting place where the world's major players and key industry leaders will chart a vision for Ireland's energy future alongside a rapidly growing network of local and European suppliers all looking to invest in our energy revolution.

And unlike many other revolutions, this is one which can be confident it has the full support of the Government.

We are delighted that Minister Eamon Ryan, Minister Simon Coveney and Minister Dara Calleary can join us over the course of the two days and I would like to gratefully acknowledge the support from their departments for this event and from key Irish State agencies like Enterprise Ireland and the IDA. Their determination to decarbonise our energy supply and to build a thriving renewable energy industry which creates jobs, supports businesses and empowers communities is no less than ours.

Challenges

We face challenges. Projects languish too long in the planning system, our grid needs to be stronger and we need to invest in our supply-chain.

But here too industry and Government is working together to reform and resource our planning authorities, to support EirGrid and ESB Networks' strategies to reinforce and develop our electricity grid, and to develop an Industrial Strategy for Offshore Wind Energy.

I firmly believe that Ireland could have a zero-carbon electricity grid by 2035. This will not be easy.

It will require the transformation of our electricity system, the rapid development of new wind farms and supporting grid technologies and real leadership from industry, business, the climate justice movement and Government in every community, big and small, on this island.

Energy independence

But the prize is proportionate to the challenge, an Ireland that is energy-independent, with our own secure source of clean power. Warmer homes. Cleaner air. Thousands of new jobs in one of the world's most rapidly growing industries, a better country in which to grow old and in which to raise our children.

An Ireland which finally lives up to its potential to be a leader in the response to the global climate emergency, a future which we will build together, one wind farm, one wind turbine, at a time.



Meet some of our exhibitors





The Wind Energy Trade Show 2023 is a welcome reminder of Ireland's status as a leader in onshore wind, as well as one of the world's most exciting emerging markets for offshore wind.

Over the last three decades, we have built one of the most successful onshore wind industries in the world. No other country gets a greater share of its annual power supply from onshore wind than Ireland. The Irish companies that built our onshore wind farms are now bringing their expertise to new markets and to our own offshore wind energy revolution. We must find a way to leverage their capability in developing an offshore wind energy industry of an even greater scale.

The targets Ireland has set for our offshore wind sector are ambitious, but they are in recognition of our clear potential to become a global leader in the net zero transition.

To complement this, my Department is developing an Industrial Strategy for Offshore Wind, aiming to ensure that Ireland maximises the economic benefits arising from an offshore wind sector of scale. This involves identifying opportunities for Irish companies to play a major role in the development of offshore wind projects both at home and abroad. We will look to utilise Ireland's existing strengths in RD&I, supporting the sector to reach the cutting edge of future developments in offshore wind. In the longer term, the Industrial Strategy will consider routes to market for our abundant clean renewable energy, as well as assessing opportunities for strategic spatial development in our coastal areas and around our ports. It is my firm view that access to abundant supplies of competitively priced renewable energy will be a significant element of Ireland's attractiveness to international enterprise over the coming decades. The Strategy is being developed in close collaboration with the Offshore Wind Delivery Taskforce led by the Department of the Environment, Climate and Communications, and is guided by an interdepartmental group including Departments and Agencies key to the development of an offshore wind sector in Ireland.

Close collaboration with the offshore wind industry is equally important in developing an effective Industrial Strategy. My Department has convened an Industry Forum, providing an opportunity to participate in the development of the Industrial Strategy.

Beginning here on the 11th of October at the Wind Energy Trade Show, my officials, alongside colleagues from Enterprise Ireland and the IDA, are hosting a series of targeted supply chain workshops with industry as part of our effort to gather diverse views informing policy development.

A wider range of views will be considered as part of our public consultation issued in recent weeks.

To meet our target of 37GW of offshore wind by 2050, we will need to maintain strong and open dialogue across Government and with industry. The Wind Energy Trade Show 2023 is an excellent opportunity for this, allowing developers, supply chain participants, the research community and policymakers to foster the links and relationships that Ireland will need to fulfil our potential in the wind energy sector.

I look forward to working closely with you all as we continue to build the industry together.



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Ireland needs a secure, affordable and zero-carbon energy system. Whether we succeed in building one rests largely on Shaping Our Electricity Future 1.1, EirGrid's strategy for reinforcing and expanding Ireland's electricity grid which was published over the summer.

EirGrid's job is to operate, plan and develop the network of overhead lines, underground cables, substations and other infrastructure, working with ESB Networks, to ensure that when you enter your living room and flick the switch, a light comes on.

Keeping lights on

That is their most important job and, 24 hours a day, 365 days a year, there are men and women working in the EirGrid control centre to do just that.

Their new strategy sets out how they will upgrade and expand the electricity grid between now and 2030 to ensure the lights keep coming on but also, critically, to strengthen the network so it can accommodate more renewable electricity.

Our electricity system is changing. In the 20th century a handful of fossil fuel generators, often located close to our major urban centres, provided most of our power. Now we need to collect that same energy from hundreds of wind and solar farms located all over the island and move it through the grid to your house, your school, your farm or your business.

Build Our Grid

To support EirGrid's essential work a group of renewable energy, engineering and business organisations have come together to form

Build Our Grid (buildourgrid.ie), a campaign to ensure there is a loud, clear, voice highlighting the benefits of a stronger electricity grid to cutting our carbon emissions and cutting our bills.

Without this new grid infrastructure Ireland's wind and solar farms won't be able to get as much electricity on the grid, which will mean higher wholesale electricity prices. It also means we will need to keep importing gas to burn in our power stations.

Just last year, because of onshore wind farms, we spent €2 billion less importing gas into Ireland. That's good for the climate and good for the economy. Irish renewable energy creates jobs, supports businesses and empowers local communities. And we know we can do better.

There is an enormous, and growing, pipeline of wind and solar projects which can deliver the clean power Ireland must have if we are to decarbonise and to become energy independent.

We need grid projects like the North-South Interconnector, for example, which will connect Meath and Tyrone and is arguably the country's single biggest all-island infrastructure project, but also scores of smaller projects that will make our electricity grid stronger.

We know delivering infrastructure in Ireland is challenging but we all need to support these projects and speak up, to say to everyone in power, from Government buildings to your local County Council, that we need to **#BuildOurGrid**.

Find out more and sign up to the campaign at buildourgrid.ie.





Shipshape and ready to deliver

The wind industry in Ireland wants to build Irish offshore wind farms in Irish ports

Author: Lisa-Anne Crookes

Our members – both ports and developers – are united on this. That is the best way to create jobs at home and to deliver offshore wind energy at the lowest possible price. But we cannot build all of Ireland's offshore wind farms from a single port, Belfast Harbour. This is the only port ready to go today.

With this in mind, we spoke to some of the leaders in Ireland's port industry about their plans to be part of our offshore wind energy revolution and their wind involvement to date.

Colin McClements

Port Commercial Manager at Belfast Harbour

"Belfast Harbour was first to the market in the Irish Sea with a purpose-built offshore wind terminal coming into operation in 2013. Within the next five years we handled two thirds of the offshore wind capacity installed in the UK and Ireland region.

"Belfast Harbour is finalising plans for the delivery of a new D3 development. The D3 site will comprise a 340m long quay wall, a terminal for processing cruise ship passengers, and 175,000 sq metres of logistics space. This is ideally suited to the offshore sector.

"The image above shows the potential for the final assembly and loadout of floating foundation units as a potential use of the space.

"The D3 project received planning consent in 2019 and Belfast Harbour is in the process of procuring a contractor for the delivery of the new facility in 2026.

Opportunities

"During the initial years of offshore wind projects being facilitated by Belfast, a burgeoning sector of SMEs began developing products and services for the offshore wind industry, and thereafter exporting these skills and products across the global industry. The opportunity to accommodate further projects at scale will provide long term benefits for our local economy.

"There is a newly formed offshore wind cluster organisation for SMEs in Northern Ireland, aiming at gearing up the supply chain to be ready to service both the local and export markets for offshore wind activity so there is a tremendous appetite for the sector. Added to that, the visiting workforce from some of the specialist companies will eat, sleep and stay in our city, and offer opportunities to our local suppliers."



Pat Brennan Director, Doyle Shipping Group talks about Cork Dockyard's role

"Since 2000 we have handled turbines in nearly every deepwater port in Ireland and to date we estimate we have handled 4 GW of turbines. In 2013 we handled our first Offshore turbine, a 2.3 MW unit for Siemens in Belfast Harbour.

"Our future plans are based around Belfast Port where we hope to continue our close co-operation with Belfast Harbour and the various developers and turbine manufacturers that will utilise Belfast Port as a pre-assembly area for their offshore turbines.

"We also plan to develop Greenore Port on the East Coast into an 0&M Hub servicing Phase 1 and 2 projects off the Dundalk coast and in Cork we plan to redevelop Cork Dockyard into a pre-assembly area for offshore turbines commencing in 2026/27.

"We can see really good long-term jobs in the O&M sector and for instance in Greenore we are hopeful that the plans we have could result in approximately 300 local well paid jobs in areas such as technicians, vessel skipper, electricians etc. with a host of service opportunities also being created in hospitality areas. "In Cork there would be initially a hundred jobs in the construction of the facility with also some very good long-term O&M prospects in the region of 250 jobs as projects are developed off the east and south east of Ireland. We also feel the wind industry will attract an economic cluster type effect in county Louth and in Cork Harbour.

"Below is an image of how Cork Dockyard might look in the future as we play our part in Ireland's offshore wind industry."





Conor O'Dowd CEO, Port of Galway

"Since 2014 the Port of Galway has supported the onshore wind industry. Our team has considerable experience in this sector and a programme of capital works at the port estate has enabled us to handle the largest onshore wind turbines deployed in Ireland.

"We are currently working on our 17th and 18th wind farm projects; once complete, c.600 MW will have been deployed through our port which represents a very significant percentage of Ireland's overall onshore wind deployment.

"The port has plans to relocate and expand its facilities. If and when completed, the new port will enable the expansion of our services. This will offer even more support to the onshore wind sector and the offshore wind sector in terms of the provision of O&M facilities. It will also enable the redevelopment of 17 acres of prime inner-city land as a new urban quarter. The port also hopes to support the deployment of hydrogen in the region."



"As the country's largest bulk port company, our port of Foynes has facilitated the importation of a very significant proportion of Ireland's installed wind-turbines. However, it's what lies ahead that excites us most at Shannon Foynes Port Company because we will play a pivotal role in realising the unprecedented opportunity from Atlantic wind.

"We have been the lead entity in identifying and promoting this opportunity for the estuary region and the wider Atlantic seaboard. In their report, published 10 months ago, experts, engineering experts Bechtel predicted that the estuary, which Shannon Foynes Port has maritime responsibility for, can facilitate the delivery of 30 gigawatts of floating offshore wind by 2050 - six times more than our existing domestic demand. "Significantly, this energy would also kick start a new industrial ecosystem based on the production of carbon free green electricity, hydrogen and derivatives, which will be transformational for Ireland. At peak, up to 120 floating turbines would be installed offshore per year. The economic impacts would also be far reaching with thousands of jobs created and billions of euros invested in supply chain and route-to-market infrastructure and facilities around the region.

"Shannon Foynes Port also played a central role in the Shannon Estuary Economic Taskforce, which published its findings this summer. The report reaffirmed this unparalleled opportunity for our region and state.

"We will, following the publication of these two reports, continue to press ahead with our plans to deliver the unprecedented investment programme in port facilities here that are necessary for realising this opportunity."

Conor Mowlds

Chief Commercial Officer of the Port of Cork Company

"The facilitation of wind energy and the Offshore Renewable Energy (ORE) sector, is a key priority for the port now and in the future. As outlined in our 'Port Masterplan 2050', which launched earlier this year, the PoCC has engaged with several private sector and semi-state companies spearheading the delivery of renewable energy in Ireland, particularly Offshore Renewable Energy (ORE) to understand how best to facilitate their ambitions.

"The PoCC can be a key enabler of the green energy sector in Ireland by taking advantage of its deep-water channels and berths and building out new infrastructure with approved planning permission in place. Other actions include reclaiming land to accommodate large project cargoes for offshore wind marshalling and assembly activities as well as upgrading infrastructure. The use of port lands and/or near shore storage and providing access to berth and quays for operation and maintenance activities.

"The Port of Cork is currently the only port in Ireland with approved planning permission in place to facilitate the development of ORE."

To find out more please visit www.portofcork.ie/masterplan2050.







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National Hydrogen Strategy: which actions should be prioritised?

The National Hydrogen Strategy outlines an ambitious, definitive and clear pathway for the role of green hydrogen in decarbonising Ireland's energy economy.

The strategy, and the forthcoming consultation on the Industrialisation Strategy for Offshore Wind, mark a significant juncture in energy and industrial policy. Hydrogen produced from renewable electricity will provide an important route to market for onshore and offshore wind. Included among the twenty-one actions in the Hydrogen Strategy is the potential to decarbonise many hard to electrify sectors, including long-distance transport, high-temperature industrial applications, shipping and aviation. As we embark on the early stages of developing a hydrogen economy, several regional clusters are envisaged as the foundation of a net-zero energy system.

Hydrogen production, demand and largescale hydrogen storage are key elements of hydrogen clusters, with dispatchable back-up electricity generation fuelled by green hydrogen at the heart of these clusters.

Power generation

Zero-carbon power generation will generate electricity when wind and solar resources are inadequate. As an anchor tenant for the consumption of green hydrogen, it will assist in bringing scale to these clusters. Power generation will enable the efficient use of storage and transport infrastructure with benefits for different demand customers.

It will also support balanced regional economic development, plus locating in coastal generation sites at Dublin, Cork and Shannon will allow the leverage of existing infrastructure for export. Action 5 proposes developing a roadmap to bring net-zero dispatchable power solutions to market by 2030, to support the delivery of a near net-zero power system by 2035. This action must be prioritised given the broader system benefits of enhanced energy security for an increasingly electrified energy system. Other energy markets are already developing policy to integrate hydrogen into their power systems.

International experience

Policy Manager, Strategy, Generation & Trading, ESB

The UK government is currently exploring market intervention design options for hydrogen to power, along with changes to the capacity market to help drive the transition to a net-zero power system by 2035.

ESB is an active member of HyNET, a hydrogen cluster in Britain and is pursuing significant scalable projects in the hydrogen production and zero-carbon power generation arena. ESB will harness the learning in Britain to invest in largescale H2 production, storage and use in Ireland.

The German government is progressing discussions with the European Commission on a framework to support hydrogen power plants, including the funding of electricity generation from green hydrogen. The focus will be on locations adjacent to large hydrogen or ammonia storage facilities, those located within a hydrogen cluster or with the infrastructure to allow for the import option of hydrogen or ammonia.

Ireland's National Hydrogen Strategy marks an important first step towards a net-zero power system. The energy system would benefit from making it a priority.





Green Atlantic Decarbonising electricity in the heart of Ireland

Paul Lennon, Head of Offshore Wind and Hydrogen at ESB

Green Atlantic @ Moneypoint is the collective title for the programme of new developments, technologies and processes that will decarbonise electricity generation on ESB's Moneypoint thermal generating site on the Shannon Estuary in County Clare.

The hub has been in the planning and design stages for a number of years. It will consist of four key projects: a gigawatt scale floating offshore wind farm, a floating wind construction hub, a hydrogen and ammonia production facility, and a dispatchable electricity generation facility.

Floating offshore plans

As floating offshore wind power generation moves toward largescale commercial viability, the average wind speeds over the deepwaters of the Atlantic Ocean positions Moneypoint as the conduit between virtually unlimited wind energy off Ireland's west coast and the rising demand for clean electricity and hydrogen derived zero carbon fuel production.

An Taoiseach, Leo Varadkar TD, launched the Shannon Estuary Economic Taskforce Report in July 2023, which states:

"with its proximity to a vast offshore wind resource, a deep-water port, the plentiful availability of wet storage, the availability of development lands, existing gas and electricity grid connectivity, road/rail/air and water connectivity, as well as human capital, the Shannon Estuary region is uniquely positioned to deliver a solution to the security and sustainability challenges facing Europe's energy system. With upwards of 70 GW of offshore wind capacity within a viable distance – we can now become a clean energy powerhouse for Europe at a time of global adversity in the energy sector."

Zero-carbon Ammonia

The renewable electricity generated from the floating wind farm will be brought ashore at the Moneypoint site and will be fed directly to the electricity grid or, in times of surplus, can be used to produce renewable hydrogen and zero-carbon ammonia. An ammonia storage facility will be developed on site and used for clean, dispatchable electricity generation or for other energy uses, such as aviation and shipping.

The development and construction of a new quay facility at the site, taking advantage of its deep-water characteristics, will facilitate the construction of floating offshore wind platforms and the assembling of the turbines before being deployed to sea. This facility will provide the necessary infrastructure for the development of the floating wind industry in Irish waters and will support the achievement of Government targets of at least 37 GW of Irish offshore wind being delivered by 2050. The quay facility will also enable the export of ammonia, once domestic energy needs are met.

The first phase of Moneypoint's transformation was achieved in 2022 with the deployment of a synchronous compensator. This asset provides a range of services to the electricity grid which would previously have been supplied by fossil fueled power generation. Its operation has already enabled higher volumes of intermittent renewables on the system.

For more information, please visit: esb.ie/greenatlanticatmoneypoint





Energy storage is a critical enabler of Ireland's renewable energy transition and its importance is starting to be recognised across the energy sector.

To date, the storage market in Ireland has been focused on short-duration lithiumion batteries. These provide the fast-acting backup needed to support the power system with growing levels of renewables. There are currently 670 MW of primarily short-duration batteries in operation on the island of Ireland. These contain frequency events by injecting power into the grid in milli-second timeframes. This has enabled EirGrid and SONI to reduce their reliance on fossil fuel spinning reserves allowing more space on the system for wind and solar generation.

The short-duration battery market is saturated at present so attention is turning to longer-duration batteries and other storage technologies that can provide additional benefits and capture other potential revenue streams. These include energy arbitrage, peak shaving, capacity adequacy and congestion management.

These longer-duration technologies will allow

us to shift large amounts of renewable energy to help balance the system, reduce dispatch down and provide an alternative to fossil fuels during times of low renewable output.



Huge pipeline

Our latest pipeline survey as of the end of 2022 shows there are just over 4,300 MW of battery projects in development. Most are already through the planning system and either in the grid connection process or awaiting the next grid connection round.

Storage projects in the development pipeline can play an essential role in providing quickto-deploy peaking capacity solutions to alleviate short-term periods of congestion and system stress. These can help mitigate against volatile wholesale prices, particularly during winter. Longer durations of storage are particularly important for solving generation constraints and for absorbing renewable energy that would otherwise be dispatched down.

Delivering the volumes of energy storage we will need for 2030 and beyond will require coordinated policy action and specific market incentives to drive investment.

Right now, there is no long-term investment signal for energy storage. The market is focused on short-term price signals and optimising the dispatch of generation. The DS3 market is moving this way too with the introduction of short-term auctions.

Storage disadvantaged

The capacity market is the only place where storage can access long-term contracts, but it is disadvantaged due to de-rating factors and price caps designed around the costs of new gas generators.

Storage shares many of the same characteristics as renewable generation, as a high capex/low opex technology, but does not currently enjoy the benefit of long-term investment support like the RESS scheme.

Things may be about to change with the ongoing EU market design reforms and the expected publication of the first national policy for electricity storage later this year. This should see the introduction of new market frameworks that allow multiple storage technologies to compete for longterm price supports.

Ireland can continue to be a world leader in renewable integration by putting in place investment signals for longer duration energy storage as we increase our wind and solar energy and strive towards our carbon reduction targets.

For more information on the work of Energy Storage Ireland or to get details on membership, please contact info@energystorageireland.com or visit www.energystorageireland.com.



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Supply Chain Registration

* PICTURE VOURSELF IN WIND





Who are you and what is your company?

I'm Ronan O'Meara and our company is EnergyPro. We analyse and manage operating renewable energy projects, primarily wind farms, across Ireland and the UK.

How has the wind industry in Ireland helped your company / business / product?

The wind industry in Ireland has had a very positive impact on our business. The increase in the number of wind farms becoming operational and the investment in the wind sector has been crucial for the growth of EnergyPro.

What changes have you seen in the business in the last five years?

Over the last five years Energypro has grown into one of the leading wind farm asset management companies in Ireland. Our reputation as a professional, knowledgeable, reliable, renewable energy company has seen our portfolio grow to 1.25 GW.

This has led to our team expanding and has given us the opportunity to innovate and develop new technologies for wind energy generation. In the last year alone our number of employees has grown by 25 per cent.

We developed our own award-winning IT tools, and our expert analysis team has helped our customers increase output, increase availability and make our projects safer, typically increasing the ESG rating by 5 per cent annually.

What expansions have you made or planned?

EnergyPro has recently taken on the management of a number of

wind farm projects in the UK. We also took on our first operational solar projects in August. We can only do this by having a highly skilled workforce in place to manage the projects, so we are also continuously investing in our people.

What opportunities, if any, will offshore wind bring to you?

Offshore wind will bring us many more opportunities. As Ireland's leading renewable energy asset management company, we expect our technical and analytic services to be utilised by offshore projects at both the development and operational stages of these projects.

What are your plans for outside of Ireland?

We want to increase our portfolio of wind and other renewable energy assets in the UK and Europe. We are also looking for opportunities in the US and Australia.

Why is Ireland a good place to do business in the wind sector?

Our geographical location and the combination of abundant wind resources, Government support, stable regulations, infrastructure, skilled workforce, research capabilities and a strong industry presence make Ireland a promising and advantageous place to do business in the wind sector.

What would you say to young people considering a career in wind today?

Go for it!! Embrace the opportunity to be part of a dynamic and impactful sector that is shaping the future of renewable energy.



PICTURE YOURSELF



WORKING WITH NATURE



CRUNCHING THE NUMBERS



GETTING EVERYONE INVOLVED



IN RURA



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Take the quiz to find the right career for you at

workinwind.ie



GETTING YOUR HANDS DIRTY



WITH A BIRD'S EYE VIEW



PROTECTING THE PLANET

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The renewables industry in Ireland will form the bedrock for all industries in Ireland to grow and compete on the world stage

Ian O'Hora, Head of Green Economy and Engineering at IDA Ireland

The development of the offshore wind industry in Ireland will bring opportunities to businesses and communities throughout the country. It will create new types of employment, supporting the development of new skills for graduates, increasing industry spend on research, innovation, new product development, and increasing investment in new and existing infrastructure. The renewables industry in Ireland will form the bedrock for all industries in Ireland to grow and compete on the world stage.

Over the last 50+ years Ireland has built a, globally acknowledged, track record for skills, talent, and innovation in industry. Ireland has a renowned reputation for being a world-class location for life sciences, financial services, technology, and manufacturing sectors. Ireland supporting and enabling our existing industry to grow and diversify their business, in a competitive, high talent, net-zero economy opens the door to new opportunities.

A strong, vibrant, renewable energy sector in Ireland has the opportunity to create new sectors, for example, the production and export of green hydrogen, innovation hubs for the development of energy storage solutions and battery technologies, the development of green chemistry and the production of new, low or zero-carbon materials. All of these technologies bring new opportunities and new products to market and new services to customers.

Offshore Wind

European Union members have set ambitious targets to significantly increase current offshore wind potential from 30 GW to 165 GW by 2030 and 265 GW by 2050. In Ireland, as a member of the North Seas Energy Cooperation group, we have set our own ambitious targets to significantly scale the production of offshore renewable energy, committing to deliver 5 GW by 2030 (with another 2 GW of floating wind in development), 15 to 20 GW by 2040, and 37 GW

by 2050. This ambition is vital to Ireland's green energy transition, reducing our dependency on fossil fuels, minimising greenhouse gas emissions and ensuring Ireland can deliver competitive energy prices with a robust security of supply.

The Irish Government's 'Whitepaper on Enterprise 2022 – 2030' has clear priority decarbonisation actions, to deliver on Ireland's legally binding, National Climate Action Plan, and IDA Ireland's strategy, 'Driving Recovery and Sustainable Growth 2021 – 2024' focuses on important and strategic 'Growth, Transformation, Impact, Sustainability and Regional development' initiatives, to strengthen Ireland's competitiveness, to deliver new types of investment, and to support our clients on journey to a net-zero commercial and industrial environment by 2050.

Clear ambition

There are any number of challenges ahead for government and policy makers, stakeholders and investors, citizens, and communities. However, Ireland's ambition to achieve these goals is clear, and is building good momentum every day. IDA Ireland's focus is on supporting our clients to decarbonise their businesses, to attracting investment that enables and supports decarbonisation, and on winning, new, 'next generation', investment and skills to drive competitiveness in a vibrant, innovative, net-zero economy.

IDA Ireland has the privileged responsibility to work with industry's leading companies, throughout the world. We work and partner with companies to grow their business, to be creative, ambitious, and competitive. IDA's Ireland's strategy and ambition is to support the development and growth of the wind and renewables industry in Ireland, to take on the challenges ahead and to deliver a vibrant, successful, and competitive industry for all our stakeholders.





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Building the future of energy

Full Floor Plan Overleaf

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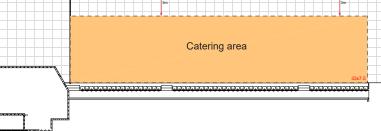
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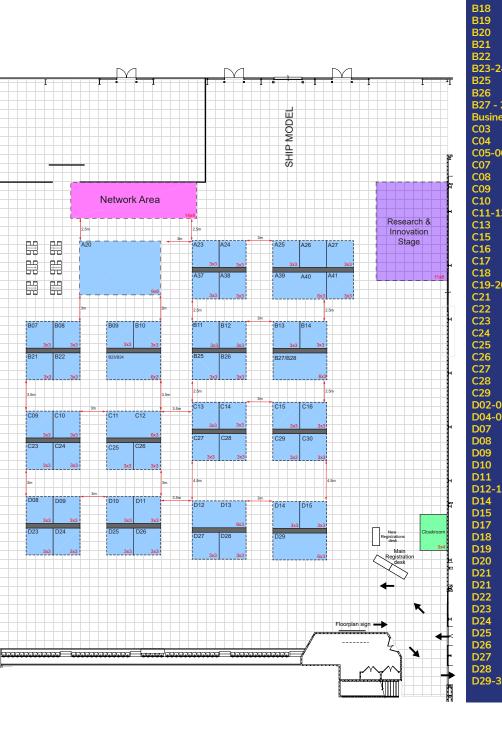
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Who are you and what is your company? DP Energy is an Irish company that develops renewable energy projects across the world. Head-quartered in Cork, Ireland, over 30 years DP Energy has developed over 1 GW (1,000 MW) of renewable energy projects which are built and operational.

How has the wind industry in Ireland helped your company / business / product? The wind industry in Ireland has played a pivotal role in the growth and success of DP Energy. DP Energy delivered its first wind farm project, Bessy Bell, in Tyrone in 1993 and since then has become one of Ireland's leading renewable energy developers.

The country's commitment to renewable energy and ambitious climate action targets align with DP Energy's commitment to deliver a world fully powered by renewable energy.

What changes have you seen in the business in the last five years?

Some of the key changes we have seen are offshore wind targets, policies and plans being developed by many countries, opening up this important renewable energy sector. Hydrogen policy and targets in Ireland, Europe and further afield also are a new and welcome development which is essential for the storage of energy and the greening of the transport sector.

What expansions have you made or planned?

DP Energy has expanded substantially in recent years and has an ambitious growth strategy. Our team has doubled in size, with our central support team based in Cork working in all jurisdictions.

We have an immediate pipeline of over 9 GW (9,000 MW) of onshore and offshore wind and solar projects across Ireland, the UK, Australia and Canada.

We are actively exploring opportunities in other international markets and advancing several projects with new technologies, such as hydrogen and floating solar.

What opportunities if any will offshore wind bring to you?

DP Energy is actively pursuing several offshore wind projects across Europe, Canada and Australia and has recently partnered with EDF Renewables for 1 GW of offshore wind in the Celtic Sea, with Iberdrola Renewables to deliver 3 GW of offshore wind in Ireland and with SBM in Canada.

What are your plans for outside of Ireland? While DP Energy has its roots in Ireland, we have a global outlook and a strong presence in various international markets. Our upcoming projects include the proposed Callide Wind Farm Project in Queensland, Australia, and floating offshore wind in Nova Scotia, Canada.

Why is Ireland a good place to do business in the wind sector?

DP Energy anticipates Ireland will become not only self-sufficient in renewable energy – increasing our energy security – but also a major exporter of electrons and hydrogen. This small Island has significant potential to punch well above its weight in cutting global carbon emissions.

Ireland also has one of the best offshore wind resources in the world on our west coast which could contribute up to 90 GW of renewable energy to Europe.

What would you say to young people considering a career in wind today?

By joining the wind industry, you can contribute to the global transition to clean energy, combat climate change and drive sustainable development.

DP Energy recognises the crucial role of young talent in shaping the future of renewable energy and encourages them to embrace the challenges and opportunities that the industry presents.





Accelerating Ireland to net zero

At EDF Renewables Ireland our goal is to combat climate change – we're passionate about creating a net-zero future where clean energy powers our lives.

We have ambitious plans for growth in Ireland, with an onshore wind and solar development pipeline of c.1GW across the country, in addition to our 50% stake in Codling Wind Park, and the Emerald and Western Star floating offshore projects.

To learn more go to www.edf-re.ie

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Savvy companies should begin to consider how they can integrate in the emerging supply chain

Steven Agnew, Director of RenewableNI

Northern Ireland has a target to achieve 80 per cent renewable electricity generation by 2030, with a net-zero electrical system by 2035.

Working with our members RenewableNI engages, educates and stimulates debate in the renewable electricity industry. We aim to increase public, political and investor support for the delivery of the net zero infrastructure Northern Ireland needs.

Last year 51per cent of the electrical demand was met by renewable sources, so reaching 80 per cent might seem like an easy task. However, we need to more than double our current generation to meet the growth in demand as we electrify heat and transport.

Onshore wind and solar will need an increased 2,500 MW of connection, with the addition of 1 GW from offshore wind established by 2030.

With great increases in power, comes great potential. This growth will create new jobs, bring valuable investment to Northern Ireland's economy and open new potential for those in supply chains and manufacturing. The RenewableNI report The Clean Revolution – Building Northern Ireland's Offshore Wind Industry sets out the benefits of this fledgling sector.

In addition to generating enough clean electricity annually to power 1.6 million homes, a total of £1.9 billion will be spent on NI suppliers. This is worth £2.4 billion to the Northern Ireland economy and would create 1,500 jobs in peak construction years.

Savvy companies should begin to consider how they can integrate into the emerging supply chain.

The report also highlighted the challenge for the industry to retain high quality technicians. This is an area for up-skilling and employment growth. Companies should ask themselves what they have to offer here. With training, can your workforce transition to be ahead of the international competition?

Realising the region's net-zero potential requires collaboration across multiple sectors and partners.

The provision of renewable generation as part of the building regulations for new

housing in NI, will drive the demand in small scale renewable projects. As will the requirement for rental properties and houses for sale to have a minimum energy efficiency rating.

The sector will require innovation including energy storage, hybrid connections and repowering. With our leading further and higher education sectors investing in the appropriate skills, we can produce worldclass graduates to meet workforce demand.

We are calling for business leaders, technology innovators and expert thinkers from right across industry to come together to drive the changes and maximise the potential for Northern Ireland.

RenewableNI is keen to strengthen cross industry links, I always welcome the opportunity to engage with those interested in being part of the transition.

You can read The Clean Revolution, along with RenewableNI's other reports, at www.RenewableNI.com, or contact me at Steven.Agnew@RenewableNI.com



Graduate and Career Development Programme for Renewable Energy

The Wind Energy Ireland Graduate and Career Development Programme is designed for new employees in the renewables industry in Ireland.

The programme provides trainees with a comprehensive understanding of the renewables landscape in Ireland while also enhancing their personal skills.

Our programme caters for employees working across all sectors of the industry. This works through a blend of in-person and online learning, taking place two Fridays per month.

A key part of the programme is collaborative group work. Trainees

from various companies work together on a research project, preparing for the WEI Annual Conference. They will not only present their findings but also gain valuable exposure by showcasing their work to key industry leaders.

To provide hands-on learning, we arrange site visits and host learning days.

If you would like to learn more about the programme or collaborate for a site visit or learning day, please reach out to programme coordinator daire.horgan@windenergyireland.com and visit us online windenergyireland.com/training-development/graduateprogrammes.

Spotlight on Wind Energy Ireland Graduate Programme



Name, role and company: Conor Cronin, New Business Development Analyst, Gas Networks Ireland.

How would you describe the WEI Graduate Programme / what did you learn? It was a brilliant opportunity for me to learn about the wider energy system, providing great networking opportunities across the sector. The programme was a good mix of inperson and online events, which I found very beneficial. As part of the programme we also presented a group project at the WEI conference, a brilliant opportunity to further develop a broad range of skills used in my role at GNI. What was the best part of the programme for you? The in-house sessions hosted by various companies were extremely useful. These sessions not only gave insight from experts – they also allowed for discussion with various stakeholders within the energy sector.

Would you recommend the programme to others? Yes, I have recommended it to several colleagues – it's a great investment in your career and development.

Has the programme increased your understanding of the renewable industry in Ireland? The programme succeeds in providing a strong understanding of the renewable industry in Ireland, as well as the energy system as a whole.

What are your future career ambitions/ plans? I am enjoying working in Business Development and I can see a lot of room for growth as GNI and Ireland continues on its decarbonisation journeys!

In your opinion are many jobs available in the wind industry? Yes, and I believe this will continue into the future as the industry expands further.







Name, role and Company: Cormac Breslin, I am an interface engineer at ESB, working on the Inch Cape Offshore Wind Farm.

As an interface engineer my role on the project is to provide active management of project interfaces to avoid issues that threaten the safety, time, cost and quality during the project development and construction phases. Interfaces are connection points between parties or elements.

How would you describe the WEI Graduate Programme / what did you learn?

It's a collaborative course where people from across the renewable energy industry come together to learn and share knowledge of each other's industries.

Improving my stakeholder management along with communicating and influencing has helped me in my role where I deal with multiple stakeholders from across the project each day. At the industry level, I learned that for Ireland to reach its climate action targets, no single source of renewable energy will achieve that on its own. We need multiple technologies working in tandem to achieve the country's goals.

What was the best part of the programme for you? The best part of the programme for me were the site visits. As a group, we visited multiple sites including, a Bord Na Móna operated windfarm, Gas Networks Ireland's Innovation Centre and MaREI (Research Centre for Energy, Climate and Marine Research and Innovation).

We also visited the head office of various companies operating in the industry such as ESB, Green Rebel and Beauchamps. At these site visits the host company gave us a full presentation on the company's strategy and purpose and a full tour of the site. Another programme highlight was getting to present our research posters in the main hall of Wind Energy Ireland's Annual Wind Conference 2023.

Did it have any impact on your day-to-day work? The course had a positive impact on my day-to-day work in many ways. My role includes a lot of stakeholder management, so the module on stakeholder management helped me to identify key stakeholders earlier and get them involved in decision making.

Would you recommend the programme to others? I would highly recommend this programme to anyone starting out in the renewable energy industry, as it gives a very broad learning experience of different sectors within the industry. One of my favourites elements of this course was the knowledge sharing between the cohort over the 8-month period. I found this invaluable, especially for someone like me, who is starting out.

Has the programme increased your understanding of the renewable industry in Ireland? Before starting the course, I had a basic knowledge of the offshore wind industry from my day job. Since completing the course, I now also have an understanding of other renewables such as hydrogen and onshore projects. As well as an understanding of renewable project financing and the legalities that come with large infrastructure projects in Ireland.

What are your future career ambitions/ plans? I want to continuing working on offshore wind projects and learn as much about the industry as I can. ESB have big plans for offshore wind in Ireland and there are many concept projects in the pipeline. An ambition of mine is to be able to work on these projects when they reach development stage and help the company deliver on its offshore wind targets for 2030 and beyond.

Are there many jobs available in the wind Industry currently? As ESB and other energy providers continue to invest in multiple renewable projects, the demand for skilled people will only continue to grow. The course has been an excellent opportunity for me to advance my knowledge and equip me for the future and I would highly recommend it for anyone who also wants to advance their career in the industry.





ORESS 1 A stepping stone for offshore wind

Paul Concannon Grid Manager, Codling Wind Park

The first Offshore Renewable Energy Support Scheme (ORESS 1) auction was seen as a critical step (along with MACs and planning permissions) on the long road to kicking off both Irelands offshore wind industry and eventual delivery of the Phase 1 Projects.

As the Grid Manager for the largest of Ireland's Phase 1 Projects, Codling Wind Park, I also had the opportunity to chair the WEI Offshore RESS 1 Working Group during this critical phase of development for renewable energy in Ireland.

The average price achieved in the ORESS auction was €86.05 and considering recent offshore worldwide market conditions and the nascent stage of offshore development in Ireland, it will be seen as a success.

Ultimately, from my point of view, this is a reflection on the positive collaboration between industry and government. In consultation on the terms and conditions, there was a willingness from government and in particular DECC, to appreciate the delivery, cost risks and mitigations proposed by industry. We always stressed, this would lead to a lower price passed on to the consumer. As they say – the proof of this is in the pudding - comparing the ORESS 1 average price to the RESS 2 average price $(\in 97.87/MWh)$, and the average wholesale price of electricity in May in Ireland (€105/ MWh), we can safely say that both industry and Government have delivered, and most importantly delivered for the consumer.

The collaboration between industry and Government was essential to this success. Our work with DECC helped to provide industry insight on delivery timelines and supply chain constraints. The Government also understood that removing unquantifiable and volatile risks from the developer would result in a lower bid and better value for the consumer.

- I believe the following factors were of most importance to success of the ORESS: Floating Milestones. Although the risks of a negative planning outcome or onerous conditions are not fully removed from the ORESS terms and conditions, the inclusion of floating milestones was an essential change from onshore – and without them the projects could never have been delivered under ORESS contract.
- Undelivered Available Energy Compensation (UAEC)– this was absolutely key for projects to manage curtailment and oversupply risk. If projects had been left with this, it would have resulted in inflated bids, due to the unquantifiable nature of the risk.
- Indexation Inclusion of full indexation through to the commencement date, and partial for the remainder of ORESS support period removes some of this risk from the developer.
- Allowance for withdrawal without recourse to performance bond in case of planning failure.

Of equal importance was policy development outside of the ORESS auction, notably around grid. The completion of Phase 1 Firm Access and the offshore grid transmission use of system decisions, amongst others, were vital to confirming financial models, and full credit must be given to CRU and EirGrid in this regard.

In saying all this, risks still remain for the delivery of the Phase 1 projects, and the success of the Phase 1 projects must be seen as a vital stepping stone to enduring offshore development in Ireland and a signal to the international development community and supply chain.

Collaboration between all the stakeholders on the road to delivery of offshore is essential – and ORESS 1 has showed that industry can deliver when Government engages and this needs to continue in the development of Phase 2 and enduring offshore projects.







ORESS A Department View

Robert McGuiness, Principal Officer and Director of the Offshore Wind Taskforce, DECC

It is no exaggeration to say that the results of ORESS 1 were a breakthrough for the offshore wind industry in Ireland, for Irish electricity consumers and for Ireland as whole. We are firmly back in the offshore game.

In capacity terms, the auction was the largest of its kind in the history of the State, and the average price of €86/MWh was among the most competitive seen by an emerging offshore wind market. The price even compares favourably with established markets after duly accounting for market, auction design and price reporting variations (British auction prices, for example, are in 2012 values).

That said, global interest rate increases are keenly felt by capital-intensive industries such as the renewables sector, and coupled with acute supply chain pressures, the offshore wind sector has seen several highprofile project withdrawals in the US and the UK, raising the question of whether Irish projects may too be at risk. Thankfully, ORESS includes a number of safeguards against this.

First, the auction was fortunately timed, allowing participants to better account for the aforementioned 'end of free money' and supply chain pressures, than those participating in earlier UK and US tenders.

Second, through effective partnership with industry and learning from our peers in the North Seas Energy Co-Operation, ORESS design sought to remove or mitigate risks which are external to the control of developers, such as planning risk, inflation risk, merchant tail risk and curtailment risk. Third, the complete commitment of the Irish State to offshore wind cannot be understated; both at official level, through the cross-government Offshore Wind Delivery Taskforce, but also at the political level, on display at the most recent WEI conference with Ministers present from all three coalition parties. Beyond government too, the Phase Two Policy commitments received cross-party support when approved by the Oireachtas in May. Therefore, while the penalties for exiting ORESS 1 are larger than those applicable to recent US project exits, the intent of these securities is to ensure bong fide auction participants, and the Irish State will always prefer timely project deployment than ever drawing down on these securities.

Unsuccessful ORESS 1 participants have a strictly time-limited opportunity to secure an alternative route to market. Grid is critical here, and following consultation, the CRU will shortly determine the extension to apply to Grid Connection Assessments. As grid capacity is perhaps the State's most scarce resource in deploying dispersed renewables, delivery assurances to the State will be appropriate, at least commensurate with the above performance securities which would have applied had these projects been successful in ORESS. Likewise, the ORESS 1 community benefits commitments will also have to be matched.

All Phase One projects have been engaged over the course of this year with An Bord Pleanála's dedicated marine team in advance of submitting planning applications in the coming months. While the resourcing and mobilisation of our consenting systems, our ports, our workforce, our supply chains towards an entirely new sector requires the involvement of many Government departments and agencies, these are all co-ordinated by the Offshore Wind Delivery Taskforce, chaired by DECC, and now inclusive of the industry.

ORESS 1 was the first in a series of offshore auctions to procure at least 5 GW by 2030 and further routes to market will be developed for Government's even greater post-2030 ambition via the Future Framework policy, to be consulted upon later this year. ORESS 1 does however mark the curtain close for the developer-led system in Ireland, in favour the more focussed, plan-led, system favoured by almost all established markets.

As a result, much is required to change in ORESS 2, however where possible, successful design features such as the above external risk mitigations, will remain. DECC will also seek to mitigate site risk to the maximum extent possible within our timelines by procuring and publishing all relevant existing marine data, and undertaking new surveys to fill the necessary gaps.

On ORESS 2 deployment timelines, the context of dual climate and energy security crises cannot be stressed enough. For many years, industry rightfully urged Government to move faster. Now the State is moving faster, and we need industry to be innovative to find ways to move with us.





Invested in Ireland

Our ambition for Green Atlantic @ Moneypoint is to create Ireland's largest renewable energy hub, providing clean energy to millions of customers and new employment opportunities along the west coast of Ireland.

Find out more at esb.ie



She's Electric Plugged in Ireland

Cathal Murphy: Senior Policy Analyst, Wind Energy Ireland

We can achieve the electrification of heat in the domestic and industrial sectors, and the electrification of transport, using the renewable electricity that we will continue to develop into the future.

Ireland is a world leader at generating renewable electricity. And this is set to continue with growing onshore wind and the enormous capability in offshore wind. This ever-expanding clean renewable electricity can have new sources of demand. It can help to power our domestic and business heat needs and our public and private transport. We need this part of the puzzle to progress so we can truly achieve a net-zero future.

The Irish State has the worst performance in the EU for using renewable energy sources

for heating. With a target of 12 per cent renewable heat and cooling in 2020, Ireland was only at 5.2 per cent on 2021 figures. Heat makes up the largest share of energy related emissions at 37 per cent. Transport related emissions are responsible for 19 per cent of total emissions and only around 2 per cent of our national car fleet is also electric.

But sectors that are currently heavily reliant on imported fossil fuels have a cleaner energy alternative, that is a more secure energy source.

Heat pumps, electric boilers, across domestic and industrial use, electric vehicles, the expansion of rail electrification and bus electrification, all offer opportunities to help decarbonise our economy and support a cleaner environment.



There are Climate Action Plan targets for transport across domestic EV's, to commercial vans and bus fleets. Under the plan the commercial transport sector must reduce overall emissions by 35 per cent by the end of the decade. There is also an ambitious target to increase the share of carbon neutral industrial heating to 50-55 per cent by 2025. We need the appropriate investment and policies for transport and heat electrification. We need a broad policy framework to encourage the considerable potential and to provide the wider advantages to the consumer, to the electricity market and to Irish industry.

There must be the correct regulatory framework in place and regulatory bodies must prevent any barriers to heat and transport electrification technology from expanding as it should.

If we talk of a net-zero future, if we seek energy independence, require more demand flexibility on our grid or want to address further curtailment and constraints – we must include electrification of heat and transport in the discussion.

We have established in Wind Energy Ireland an Electrification Working Group which aims to develop robust policy positions across heat and transport electrification and advocate for the change we need.

Please contact cathal.murphy@windenergyireland.com for more information.







Invested in green energy

ESB's renewable energy partnership with Ørsted has the potential to deliver vast quantities of green energy from offshore wind and renewable hydrogen.

Supporting Ireland's transition to a net zero future and powering millions of Irish homes.

Find out more at esb.ie or orsted.ie



Green Tech Skillnet is an enterprise-led network facilitating the workforce and development needs of the Irish renewable energy industry. Green Tech Skillnet is funded by Skillnet Ireland through the Department of Further and Higher Education, Research, Innovation, and Science (DFHERIS) and promoted by Wind Energy Ireland.

Green Tech Skillnet supports the workforce development needs of businesses within the renewable energy sector. We identify, develop, and deliver impactful training to bridge skill gaps to develop the current and future workforce. This ensures security of service to the sector and prepares it for future skills requirements. Our remit extends across the energy sector, with training, skills research, networking events, and green skills advocacy in wind, solar, energy storage, green hydrogen, and electrification of heat and transport.

Achieving the ambitious targets of 9 GW onshore wind energy, 7 GW offshore wind energy and 8 GW solar energy set in the Climate Action Plan will require a monumental effort, investment, and resources in the sector. This will require a tripling of our workforce in this sector at a rapid pace to meet 2030 targets.

Ireland's greatest resource is our people. The sector must invest in the workforce now so that there will be skilled people available for building, operating, and maintaining our assets over the next 20+ years.

Green Tech Skillnet heavily discounts the cost of courses for companies through funding awarded by Skillnet Ireland. With the support of our members, we continue to push the sector forward, equipping companies and people with the skills required for a green transition.

If you are interested in joining our Steering Group or an Industry Advisory Group to address skills needs in the energy sector, contact Jeanette Gill at **jeanette.gill@windenergyireland.com**

Green Tech Skillnet is co-funded by Skillnet Ireland and network companies. Skillnet Ireland is funded from the National Training Fund through the Department of Further and Higher Education, Research, Innovation and Science.



An Roinn Breisoideachais agus Ardoideachais, Taighde, Nuálaíochta agus Eolaíochta Department of Further and Higher Education, Research, Innovation and Science



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Skills Connect - Supporting Career Transitions to the Renewable Energy Sector

In 2021, Green Tech Skillnet launched unique Skills Connect training and work placement programmes for transitioning the unemployed to the energy sector. These suites of programmes won the IITD Best Talent Development Initiative in 2022.

The **Wind Turbine Technician** programme delivers a suite of Global Wind Organisation (GWO) safety and technical certified training, wind sector overview and personal development skills workshops. Technicians obtain the GWO certificates required to go out on site after training.

The **Work in Wind** programme delivers a wide array of training covering the lifecycle of a wind farm, an overview of onshore and offshore wind; grid; policy; planning; markets; community engagement, and environmental impact management. The graduates of the Work in Wind programme also obtain certification in the fundamentals of asset management for wind farms developed by SEAI and WEI stakeholders for ISO 55001 standards.

Work in Wind

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Workplace Resilience
Communication & Interpersonal Effectiveness
Introduction to Terminology & Foundational Understanding
Industry introduction to onshore and offshore wind
Lifecycle of a Wind Farm
Asset Management In the Wind Sector: A Foundation Course
Introduction to Sustainability
Workshop with industry experts
Bespoke and in depth industry modules
Bespoke and in depth industry modules Overview of electricity grid policy in Ireland
Overview of electricity grid policy in Ireland
Overview of electricity grid policy in Ireland Overview of electricity market policy in Ireland
Overview of electricity grid policy in Ireland Overview of electricity market policy in Ireland Overview of offshore wind
Overview of electricity grid policy in Ireland Overview of electricity market policy in Ireland Overview of offshore wind Overview of community engagement / public affairs in Ireland
Overview of electricity grid policy in Ireland Overview of electricity market policy in Ireland Overview of offshore wind Overview of community engagement / public affairs in Ireland Overview of Biodiversity & Environmental Management Overview of planning systems for onshore and offshore in

Wind Turbine Technician

Personal Development Coaching

C.V and Interview skills

Effective Communication & Resilience in the Workplace

Basic Computer and Report Writing Skills

Introduction to Terminology & Foundational Understanding

Induction

Turbine Awareness Training

Lifecycle of a Wind Farm

Workshop with technicians working in the industry and industry experts

Globally Recognised Certified Health & Safety Training

GWO Basic Technical Training (BTT)

GWO Basic Safety Training (BST)

GWO Advanced Rescue, Hub, Spinner and Inside Blade Rescue (ART-H)

Wind Turbine Safety Rules (WTSR)

High Voltage Awareness

Enhanced First Aid

Work Placement

Work placement with industry companies

Green Tech Skillnet is co-funded by Skillnet Ireland and network companies. Skillnet Ireland is funded from the National Training Fund through the Department of Further and Higher Education, Research, Innovation and Science.



An Roinn Breisoideachais agus Ardoideachais, Taighde, Nuálaíochta agus Eolaíochta Department of Further and Higher Education, Research, Innovation and Science



Co-funded by the European Union





Training Resources

Sustainability



Creating Value with ESG (Micro-credential) Sustainable Green Organisations (CPD) Entrepreneurship for Nature-based Enterprise (Micro-credential) Mastering Sustainability and ESG for Business Excellence (Green Belt) Certificate in Sustainability Strategy, Risk and Reporting Become a Certified Sustainable Champion for Your **Business (White Belt)** Unlocking Corporate Sustainability Reporting Directive

(CSRD) Mastery

Wind Energy

Offshore Wind for Professionals Offshore Development and Consenting Wind Energy as Gaeilge **IOSH Managing Safely for Wind Power Project Management & Impactful Leadership** Training for Wind Energy Professionals **GWO Safety and Technical Training**

Solar

Solar Energy Conversion and Application (Micro-credential) **IOSH Construction and Operations Safety for Solar Power QQI** Domestic Solar Photovoltaic Course

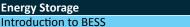
Grid

Electricity Grid Operation (Micro-credential) Grid Connection Process



Energy Storage

Management



Energy Storage Systems Safety Workshop

Building Energy Efficiency Retrofitting Domestic Buildings for Energy Efficiency - CPD Programme **Certified Energy Auditor**



IAM Certificate in Asset Management

Electrical Certificate in Industrial Electrical Safety and Systems **HV Electrical Installations**

Market & Finance **Electricity Market Fundamentals Corporate Power Purchase Agreements Renewable Energy Finance**

Planning

Advanced Diploma in Planning and Environmental Law

Green Hydrogen Introduction to Green Hydrogen

Green Tech Skillnet is co-funded by Skillnet Ireland and network companies. Skillnet Ireland is funded from the National Training Fund through the Department of Further and Higher Education, Research, Innovation and Science.

Skillnet





Co-funded by the European Union





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Company name: CRIS UL Contact details: Daniel.Toal@ul.ie Website: www.cris.ie Email: cris@ul.ie Phone No: +353 61 213102 Social Media: Facebook: www.facebook.com/ULCRIS/ LinkedIn: https://www.linkedin.com/company/centre-forrobotics-and-intelligent-systems-cris-ul



Company name: DP Energy Contact details: Kimberley Harris Website: www.dpenergy.com Email: kimberley.harris@dpenergy.com Phone No: 021 212 9844 Social Media: @dpenergygroup (LinkedIn, Twitter and Instagram)



Company name: Energi Coast Contact details: Cluster Development Executive: Hannah Smiles Website: energicoast.co.uk Email: energicoast@nof.co.uk Phone No: 0191 384 6464 Social Media: LinkedIn: www.linkedin.com/company/energicoast Twitter: @EnergiCoast YouTube: www.youtube.com/@energicoast1758 Instagram: @career_in_offshorewind

Exhibitor Company Bio

Citymesh is a leading connectivity provider and Belgium's fourth telecoms operator. We are specialists in all forms of connectivity and getting links operational quickly, with a strong focus on solutions, innovation and the human aspect.

One of Citymesh's particular fortes is developing innovative solutions for diverse sectors and niche markets, based on a combination of Mobile Private Networks (4G/5G/WiFi), communication tools like PTX, remote operations such as our safety drones, smart sensors and data visualisation.

CRIS UL is the only research centre in Ireland focusing on the application and development of marine sub-sea and aerial robotics, for inspection, repair and maintenance of offshore wind structures. CRIS has a team of 25 academics, post-doctorate and PhD researchers from engineering disciplines: electrical, electronic, computer, mechanical, and ocean engineering backgrounds.

The centre is focused on developing practical and industrial-relevant marine technology solutions. Our infrastructure includes test labs, water tanks and testing facilities at the Limerick docks. The centre has a fleet of drones, including a CGT50 fixed-wing platform and four underwater robots, from light inspection to work-class ROVs.

DP Energy is an Irish company that develops renewable energy projects across the world. Head-quartered in Cork, Ireland, DP Energy has to date developed over 1 GW (1,000MW) of renewable energy projects which are built and operational.

With over 30 years' experience and a current project pipeline of over 9 GW of both on and offshore wind, solar and ocean energy projects across Ireland, the UK, Australia Canada and other markets, the company strives to use the most sustainable and environmentally responsible methods in all its renewable energy developments.

Energi Coast is North East England's Offshore Wind Cluster, owned and operated by NOF a UK-wide business development organisation helping make valuable connections in the energy sector. Energi Coast is made up of over 30 key regional businesses and stakeholder organisations involved in offshore wind. The Leadership Group, Innovation Group, and Skills Group work with the wider North East England supply chain of over 300 companies, showcasing the vast capabilities in this sector. Energi Coast and the affiliated groups work together to promote and profile the region as a key hub to support the UK and International offshore wind markets.





Company name: Gas Networks Ireland Contact details: Shanon Oldfield Website: https://www.gasnetworks.ie/home/ Email: Shannon.Oldfield@gasnetworks.ie Phone No: 087 349 1046 Social Media: https://ie.linkedin.com/company/ gas-networks-ireland Twitter: GasNetIrl



Company name: Green Tech Skillnet Contact details: Laoise Ní Fhlaithearta Website: https://www.greentechskillnet.com/ Email: Training@windenergyireland.com Phone No: 087 9266100

Social Media: Twitter: @GTSkillnet (https://twitter.com/GTSkillnet) LinkedIn: https://ie.linkedin.com/company/green-tech-skillnet Instagram: https://www.instagram.com/greentechskillsconnect/ Facebook: https://www.facebook.com/gtskillnetskillsconnect/

OHitachi Energy

Company name: Hitachi Energy Contact details: https://www.hitachienergy.com/uk-ie/en/contact-us Website: https://www.hitachienergy.com/uk-ie/en Email: sales@hitachienergy.com Social Media: linkedin - HitachiEnergy Twitter - @hitachienergy | Instagram/Threads - @ hitachienergy



Company name: Inis Offshore Wind Contact details: Mark Connolly Website: inisoffshorewind.ie Phone No: +353(0)86-1678764



Gas Networks Ireland operates and maintains Ireland's \leq 2.7bn, 14,664km national gas network, which is considered one of the safest and most modern renewables-ready gas networks in the world.

Over 720,000 Irish homes and businesses trust Ireland's gas network to provide efficient and reliable energy to meet their heating, cooking, manufacturing and transport needs. The gas network is the cornerstone of Ireland's energy system, securely supplying more than 30 per cent of Ireland's total energy, including 40 per cent of all heating and almost 50 per cent of the country's electricity generation. By working to replace natural gas with renewable gases, such as biomethane and green hydrogen, and complementing intermittent renewable electricity, Gas Networks Ireland is supporting Ireland's journey to a cleaner energy future.

Green Tech Skillnet is an enterprise-led network facilitating the workforce and development needs of the Irish renewable energy industry. It is funded by Skillnet Ireland and promoted by Wind Energy Ireland. Green Tech Skillnet identifies, develops, and delivers impactful training to bridge skill gaps to develop the current and future workforce.

This ensures security of service to the sector and prepares it for future skills requirements. Our remit extends across the energy sector, with training, skills research, networking events, and green skills advocacy in wind, solar, energy storage, green hydrogen, and electrification of heat and transport.

Hitachi Energy is a global technology leader that is championing the urgency of a clean energy transition through innovation and collaboration – towards a carbon-neutral future. Hitachi Energy is advancing the world's energy system to be more sustainable, flexible and secure. As the pioneering technology leader, we collaborate with customers and partners to enable a sustainable energy future – for today's generations and those to come. Customers in the utilities, industries, transportation, data centres and smart life sectors trust in our solutions which contribute social, environmental, and economic value and span the entire value chain and life cycle.

Inis Offshore Wind is an Irish renewable energy firm working to enable a sustainable energy future for the people of Ireland. It's backed by the Temporis Aurora Fund which is dedicated exclusively to the development of renewable energy projects in Ireland and the team is passionate about developing its projects in a collaborative and sustainable way. Inis Offshore Wind has offices in Cork and Dublin and the team consists of highly experienced renewable energy professionals with strong roots in local communities across Ireland and extensive experience across wind energy and renewable project development.

You can get more details at inisoffshorewind.ie or contact Mark Connolly, Senior External Affairs & Stakeholder Manager on +353(0)86-1678764.



Company name: JFC Marine Website: www.jfcmarine.com Email: info@jfcmarine.com Phone No: +3539324066 Social Media: JFC Marine



Company name: Kirby Group Engineering Contact details: Michael Murray Website: www.kirbygroup.com Email: info@kirbygroup.com Phone No: +353 (0)61 226 060 Social Media: Twitter: https://twitter.com/kirbygroupeng LinkedIn: https://www.linkedin.com/company/kirby-groupengineering-limited/



Company name: LP3 Contact details: Odeon House, 7 Eyre Square, Galway Website: www.lp3.ie Email: info@lp3.ie Phone No: 091 389 988



Company name: NexSys Contact details: University College Dublin, Dublin 4, Belfield, Ireland Website: www.nexsys-energy.ie Email: nexsys@ucd.ie Phone No: +353 1 716 2094 Social Media: Twitter (X): https://twitter.com/NexSysEnergy LinkedIn: https://www.linkedin.com/company/nexsysenergy YouTube: https://www.youtube.com/@nexsys8094 JFC Marine specialises in providing Aids to Navigation (AtoN) solutions crucial for the safe navigation of vessels during the construction stages of wind farm projects. The strategic placement, efficient management, and continuous monitoring of AtoN systems are pivotal in ensuring the safety of offshore windfarm operations during construction. Our navigation buoys are designed for straightforward installation and minimal maintenance, making them ideal for challenging environments. Our range spans from 600mm to 3,000mm and incorporates cutting-edge solar-powered marine lanterns, complete with optional monitoring and control systems. Count on JFC for reliable and sustainable navigation solutions to support the success of windfarm projects.

Founded in 1964 in Limerick, Kirby Group Engineering is a leading mechanical and electrical engineering contractor operating across Ireland, the UK and mainland Europe, and directly employing over 1,400 highly-skilled professionals.

Kirby provides full mechanical and electrical contracting services as well as specialist high voltage (HV) and medium voltage (MV) design and construction services to clients across a number of different sectors including Data Centres, Life Sciences, Industrial, Commercial, and Substations and Renewables.

LP3 specialise in delivering exceptional services in Land, Property, Project Management and Planning. LP3 is led by directors John McGarry BSc. MSc. MIPI and George Hanley BSc. MRICS. MSCSI, who have a development background and proven record of accomplishment of success in Option Agreements, Property Services, and Project Progress for both domestic and multinational clients.

LP3 are a team of 10 professional and experienced individuals. We allocate sufficient resources to each project to maintain the highest level of service. Land acquisition is our specialty. Contact us today to discuss your project and how we can assist you achieve success.

Next Generation Energy Systems (NexSys) is an all-island, multidisciplinary energy research programme. NexSys is hosted by the UCD Energy Institute in partnership with eight other leading research institutions: ESRI, DCU, Queen's University Belfast, University of Galway, Maynooth University, Trinity College Dublin, UCC, and Ulster University. 42 leading academics work in partnership with industry to tackle the challenges of energy decarbonisation, developing evidence-based pathways for a net zero energy system. NexSys has received €16 million in funding through Science Foundation Ireland's (SFI) Strategic Partnership Programme (2022-26), with nine industry co-funding partners and one philanthropic donor.





Company name: NOF Contact details: Paul Livingstone Website: www.NOF.co.uk Email: business@nof.co.uk Phone No: +44(0)191 384 6464 Social Media: https://www.linkedin.com/company/nofltd/



Company name: OWC Contact details: Building 1000, City Gate Mahon, Cork T12 W7CV Website: Owcltd.com Email: enquiries@owcltd.com Phone No: +353 21 240 9060 Social Media: Linkedin: https://www.linkedin.com/ company/4282295/OWC/



Company name: RPS, A Tetra Tech Company Contact details: David McHugh Website: rpsgroup.com Email: david.mchugh@rpsgroup.com Phone No: +353 (0) 91 400 200 Social Media: www.linkedin.com/company/rps/



Company name: RS IRELAND Contact details: Alistair Quaye Website: https://ie.rs-online.com/ Email: enquiries.ie@rs-components.com Phone No: 01 415 3100 Social Media: TW @RSIreland FB @RSIreland Insta @RS Ireland



NOF is a UK wide business development organisation helping to make valuable connections between businesses in the global energy sector. Services include: business development; industry introductions; events and supply chain engagement. NOF owns and operates Energi Coast, the North East of England's Offshore Wind Cluster. The cluster is made up of more than 30 key regional businesses and stakeholder organisations involved in offshore wind. Energi Coast promotes and profiles the region as a key hub to support both the UK and International offshore wind markets. Talk to us about joining NOF, the 450 strong network today.

OWC - part of ABL Group - combines a legacy in offshore

wind, multi-disciplinary engineering expertise and market experience across renewable energies offshore and onshore. We provide the most comprehensive technical offering in engineering, consulting and advisory to support the commercial development of wind power, solar PV, hydrogen and energy storage solutions, as well as wave and tidal energy. Based across 14 countries spanning Europe, the Americas, Africa and Asia Pacific, OWC specializes in owner's engineering, market studies, technical due diligence, project development services, engineering and geoscience. OWC also combines niche expertise from renewable energy engineering specialists Innosea, Delta Wind Partners and East Point Geo, as well as benefiting from our parent company, ABL Group's, legacy in marine consultancy.

Founded in 1970, RPS is now part of Tetra Tech, a leading provider of consulting and engineering services worldwide. Our experts define, design and manage projects that create shared value to a complex, urbanising and resource-scarce world. This is our purpose. In Ireland, RPS delivers consulting and engineering solutions for complex projects across key service areas in infrastructure design and development, energy, water and environmental services and project and programme management. OWC also combines niche expertise from renewable energy engineering specialists Innosea, Delta Wind Partners and East Point Geo, as well as benefiting from our parent company, ABL Group's, legacy in marine consultancy.

RS has been supporting industry in Ireland for over 75 years! A high-service distributor supporting customers with an extensive range of more than 750,000 electronics and industrial products available. RS delivers more than 44,000 parcels a day to over 1 million customers globally, providing a one-stop source for everything engineers need.

RWE

Company name: RWE Renewables Ireland Limited Website: www.ie.rwe.com Email: dublinarray@rwe.com Phone No: 01 9020317 Social Media: @rwe @dublinarray



Company name: Skanstec Engineering Contact details: Luis Adolfo Website: www.skanstec.com Email: info@skanstec.com Phone No: +353 (0) 52 614 6449 Social Media: https://www.linkedin.com/company/ skanstec-engineering/



Company name: TLI Group Website: www.tli.ie Email: asktligetli.ie Phone No: 066 7135710 Social Media: https://ie.linkedin.com/company/tli

Turner & Townsend

Company name: Turner & Townsend Contact details: Philip Matthews Website: https://www.turnerandtownsend.com Email: philip.matthews@turntown.com Phone No: +353 (0)1 400 3300 Social Media: https://www.linkedin.com/company/ turner-&-townsend/ RWE Renewables is a world leader in renewable energy, with over 15 GW of installed capacity. RWE's 'Growing Green' strategy aims to increase this to 50 GW by 2030 by investing €50 billion. RWE have been in Ireland since 2016 and have offices in Kilkenny and Dublin. We have one operational wind farm and two operational battery storage facilities. We also have 10 onshore wind farms, two offshore wind farms and a third battery storage facility in development.

This includes the 824 MW Dublin Array project, which was successful in Ireland's first Offshore Renewable Electricity Support Scheme (ORESS) in June 2023.

Skanstec is a specialist in Power Transmission & Distribution (T&D) systems and offer a wide range of tailored and flexible engineering solutions across the energy sector. Our highly experienced engineering team deliver a vast range of services in the energy sector across the European market and we have a proven track record in successful project delivery. We reduce risks and costs for clients, by taking ownership in engaging with stakeholders, managing schedules and project timelines, and valuing engineering to enhance solutions whilst maintaining industry standards. Our main market segments include turnkey projects, power substations, grid connections, power generation, temporary power solutions, and maintenance and asset management.

TLI Group is a leading utility infrastructure engineering and construction company, operating extensively within the utilities sector in Ireland, Northern Ireland and the UK. The company actively delivers mission critical projects for prominent clients such as ESB Networks, NIE Networks, Scottish and Southern Energy, Siro (ESB/Vodafone JV), the Sustainable Energy Authority of Ireland, National Broadband Ireland, and a multitude of clients in the renewables industry, such as RES and EDF Energy. Our ambition is to be the safest, best in class and most successful service provider, bringing lasting benefit to the customers and communities we serve.

We transform performance by partnering with industry to form strategy, set up and then deliver high performing programmes across the real estate, infrastructure and natural resources Industries. Our global platform provides the framework for us to deliver positive outcomes, across any complex programme. We have worked with clients to deliver renewable and clean energy facilities for 25 years, bringing global reach and local knowledge to guide clients on all stages of the programme and project lifecycle. We provide a range of services to support offshore wind developments where the delivery of critical infrastructure presents complex challenges.



Offshore wind industry responds to skills gap

The offshore wind industry in Europe is growing rapidly, but it faces a significant challenge: a skills gap that threatens to slow down its expansion and limit its potential. Without enough qualified workers, the industry cannot fully capitalise on the opportunities it presents for job creation and economic growth in Europe.

That's where the T-shore project comes in. T-shore is a collaborative effort involving 13 partners from 5 countries (Belgium, Denmark, Ireland, Norway and The Netherlands), all working together as one team to address the skills gap and ensure that the offshore wind industry has the workforce it needs to thrive.

T-shore aims to develop a series of training programmes that are tailored to the needs of employers in the offshore wind industry. These programmes will cover both technical and soft skills, such as problem-solving, communication, and teamwork, that are essential for success in the industry.

To supplement these programmes, T-shore will also create a training library that can be used by centres of vocational excellence (CoVEs) across the EU. These CoVEs will be established to provide handson training and support for workers in the offshore wind industry, helping them develop the skills and competencies they need to succeed.

Training a new generation

By training a large number of workers in the offshore wind industry, T-shore will help to address the skills gap and provide European companies with the skilled workforce they need to compete in the global market and increase their market share.

But T-shore is more than just a training programme. It's a collaborative effort that brings together industry stakeholders, training providers and educational bodies to foster industry collaboration and ensure that the training programs and CoVEs meet the needs of employers in the offshore wind industry.



June 2023 saw T-shore celebrate its first-year anniversary, coinciding with the celebration of Global Wind Day on the 15 June. There were many milestones reached within the first year, with a project launch event in Copenhagen, several Train the Trainer visits, and the delivery of Work Package 2 'Skills and Training Needs' report, that will be presented at this year's Wind Energy Trade Show.

The T-shore project partners are working to create a sustainable future for the offshore wind industry in Europe, one that is built on a skilled and competent workforce, thriving companies, and a spirit of collaboration and innovation.

Join the T-shore project by visiting us at https://t-shore.eu/newsletter/ and following us on LinkedIn https://www.linkedin.com/company/t-shore/ to stay up to date with our latest activities.







A-Z OF EXHIBITORS

Company	Stand No
24SEA	A18 -19, A32-33 / Flanders Pavillion
ABO Wind Ireland Limited	C28
Adman Ltd	C18
AFRY	D19
AGORIA	A18 -19, A32-33 / Flanders Pavillion
Ai Bridges	B20
Alpha Marine	D21
Anecto Ltd.	B19
ARCH	C22
Armsa Academy	C16
ASL Safety	D12-13
Blue Cluster	A18 -19, A32-33 / Flanders Pavillion
Bluewise Marine/Mayo Co Co	D04-05
BOC - Belgian Offshore Cluster	A18 -19, A32-33 / Flanders Pavillion
Briggs Marine	C29
British Embassy	B10
Calnan	C10
Centre for Robotics and Intelligent Syste	ms (UL) B11
Citymesh	A18 -19, A32-33 / / Flanders Pavillion
Corio Generation	B06
Damen Shipyards A20-222, A3	4 - 36 /Holland Home of Wind Energy
DECC	C03
DEME OFFSHORE	A18 -19, A32-33 / Flanders Pavillion
DKIT/ CREDIT	A37
DP Energy	C25
e-BO Enterprises	A18 -19, A32-33 / Flanders Pavillion
EDF Renewables	C15
ElectroRoute	C21

Company	Stand No
EMR Solutions	D22
Energy Storage Ireland	B25
EnergyPro Asset Managem	ent D28
Enterprise Ireland	B17
ERM	B02
Errigal Training Centre	D09
ESB Networks	B16
European Tech Hub	C13
Farra Marine	D17
Flanders Investment & Trad	e A18 -19, A32-33
Gas Networks Ireland	C11-12
Green Rebel	C23
Green Tech Skillnet	B27 - 28
GustoMSC	A20-222, A34 - 36 /Holland Home of Wind Energy
H&MV Engineering	C17
HERBOSCH - KIERE	A18 -19, A32-33 / Flanders Pavillion
Holland Home of Wind Ene	rgy A20-222, A34 - 36
HSM Offshore Energy B.V.	A20-222, A34 - 36 /Holland Home of Wind Energy
IDA	B03
Infomar	D18
Inis Offshore Wind	D20
InvestNI	B10 / British Embassy
IQIP .	A20-222, A34 - 36 /Holland Home of Wind Energy
Irish Solar Energy Associati	on A31
Irish Tar and Bitumen Suppl	lies B26
Jan De Nul	A18 -19, A32-33 / Flanders Pavillion
JFC Group	C08
Jones Engineering	D15



WIND READ WIND READ TRADE SHOW 2023

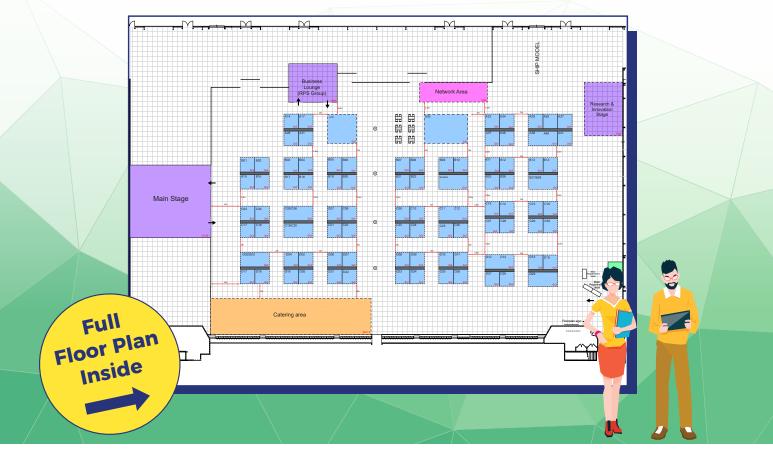
A-Z OF EXHIBITORS

Company Stand No
Kerry ETB D10
Killybegs Marine Cluster/ ATU B18
Kirby Engineering D26
Le Tene Maps A14
LP3 D07
Mammoet European B.V. A20-222, A34 - 36 /Holland Home of Wind Energy
Marlinks A18 - 19, A32 - 33 / Flanders Pavillion
МКО А41
MTU/National Maritime College A39-40
MULTI.engineering A18 -19, A32-33 / Flanders Pavillion
MWP A28
National University of Ireland Maynooth B12
NOF B09
Nordex Energy C27
N-Sea A20-222, A34 - 36 /Holland Home of Wind Energy
Ocean Crest Marine D27
OWC D24
Petzl UK D11
Pulsar UK B01
Renewables Academy B07
RenewableUK B23-24
Resource D08
Ridgeway Rockbags D25
RPS Group Business Lounge
RS Group D14
RWE D29-30
Scottish Development International B10 / British Embassy
SEAI B15

Company Stand No
SEAS Geosciences C07
Siemens Gamesa Renewable Energy B05
SIOEN B08
Skanstec Engineering B04
Smulders A18 -19, A32-33 / Flanders Pavillion
Statkraft Ireland D02-03
Suir Engineering A17
Tech Works Marine B22
Tensar C26
TLI Group CO4
TRACTEBEL ENGINEERING A18 -19, A32-33 / Flanders Pavillion
Tranemo Workwear D23
Turner & Townsend C09
UCC MaREI A38
UCD - ICRAG A27
UCD – NexSys A23
Ultrabeam D21
University of Limerick A25
Van Oord Offshore Wind Ireland A20-222, A34 - 36 /Holland Home of Wind Energy
Welsh Government in Ireland B10 / British Embassy
Wind Energy Ireland C05-06
Wind Turbine Engineering B21
Windcat Workboats A20-222, A34 - 36 /Holland Home of Wind Energy
WindEurope / Resource D08
Work in Wind C24
XOCEAN Ltd C19-20









www.windenergyireland.com