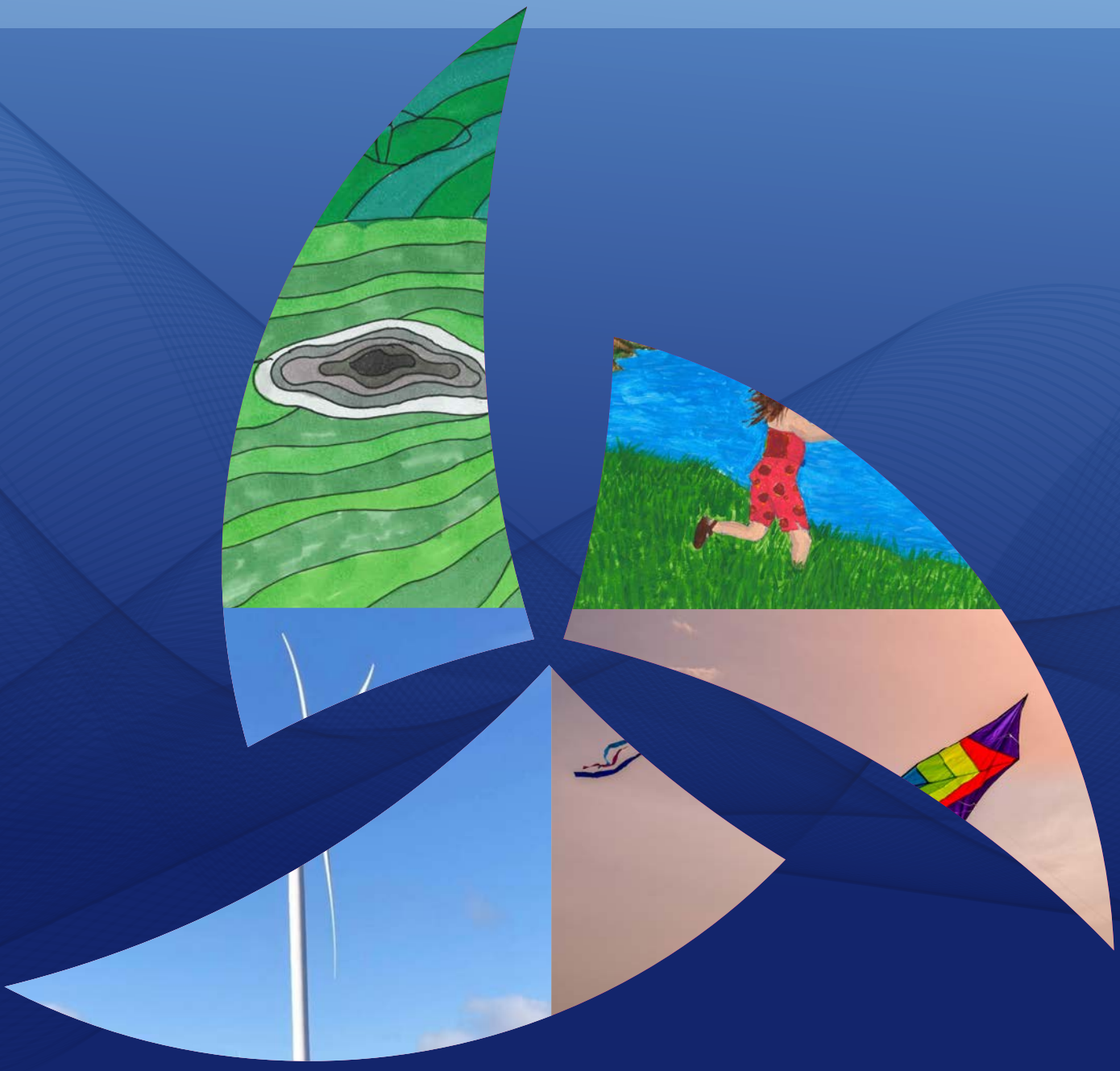
Irish Wind Magazine

AUTUMN 2022 EDITION



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WIND ENERGY IRELAND

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WIND
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Welcome to the Autumn 2022 Edition of Irish Wind

WEI is the national association for the wind industry in Ireland. This magazine provides updates on news and events in the wind industry in Ireland and is a resource for WEI members in the interests of the promotion of wind energy.

Please contact Lisa-Anne Crookes with comments / suggestions for future editions on lisa-anne@windenergyireland.com

FOREWORD

Noel Cunniffe
CEO

"On a fittingly stormy day, the giant blades of 21 wind turbines in lofty towers bestriding the boglands of Erris in north Mayo, whirred to life yesterday and Ireland's first wind farm began feeding electricity into the ESB's national grid."

On 23 November 1992, nearly 20 years ago, Bellacorick wind farm began supplying power to Irish households for the first time.

The short article in the next day's *Irish Times* acknowledges the "minuscule" contribution the 6.45 MW wind farm would make to the country's electricity needs, but quotes a Government Minister hoping that the project will, "be seen in years to come as...having laid the foundation for others to follow".

Today, built on the firm foundation set for us in Bellacorick nearly three decades ago, our industry supplies a third of Ireland's electricity, saves twice as much carbon emissions as all other renewables combined and, throughout 2022, has done more than anything to insulate Irish electricity consumers from rising prices driven by our dependence on fossil-fuels.

It is frustrating to think we could have done even more.

Every single Irish family and business right across this country is paying the price in their electricity bills for a decade of missed opportunities to develop our electricity grid or to reform our planning system.

It would be wrong to deny there has been progress. New renewable energy projects are connecting, a planning framework for offshore wind energy is in place, solar power has started to connect to the grid for the first time.

But rhetoric and soundbites have not been matched by determination and delivery.

Energy independence

The invasion of Ukraine and the decision by Russia to use its vast natural gas reserves as a weapon in this conflict has made it clear that the single greatest priority for Europe today must be achieving energy independence.

This will require the transformation of our electricity system, the rapid development of new renewable energy projects and real leadership stretching from the meeting rooms in Government Buildings on Merrion Square into the heart of every community, big and small, on this island.

Most critically, our electricity grid is simply not fit for purpose. The time for tinkering at the edges and pretending we can build a modern electricity ecosystem without modern electricity grid infrastructure is over.

Every single part of EirGrid's Shaping Our Electricity Future strategy must be delivered, and then the real work must begin, because this strategy leaves us far short of our 2030 targets, let alone our net-zero ambition.

The next edition of EirGrid's strategy must be based on evidence, on clear thinking, understanding that onshore renewables will be the primary source of carbon emissions reductions for the decade and the grid must be built in a way that reflects this.

The grid must also be there, ready and waiting, when the first offshore wind farm connects to the grid towards the end of the decade.

Power lines

We need more power lines and underground cables to get power from the wind farms and solar farms which will generate it to the homes, farms and businesses that will need it.

We will build them. Others must take their responsibilities seriously and connect them.

All of this is essential to building an energy-independent Ireland at the heart of an energy-secure Europe.

Several years ago, as the Irish Wind Energy Association, we ran a television advertisement promoting wind energy which was based around the speech US President John Fitzgerald Kennedy made to the Dáil during his visit to Ireland in 1963.

Thinking about the anniversary of Bellacorick wind farm reminded me of one of his most powerful lines.

"*The problems of the world cannot possibly be solved by sceptics. We need those who can dream of things that never were and ask why not.*"

More than 20 years ago a handful of men and women, conscious even then of the threat of climate change and the need for greater energy independence, looked at a barren patch of land in north Mayo and asked themselves, "why not"?

There is a direct and unbroken line that stretches across three decades of success and failure, of struggle and determination, from Bellacorick to the pioneers in our industry today who look at sites on land or at the vast offshore wind resources that are the envy of Europe, and ask themselves, "why not"?

Why should we not be energy independent, powering our homes, our communities and our businesses with clean, indigenous, Irish energy? Why should we not build an entirely new industry on this island, one that creates thousands of jobs, revitalises our coastal and rural communities and competes internationally?

There are lots of reasons why not – uncertainties in planning, grid, markets, supply-chain – but from Bellacorick in 1992 to Taghart and Cloncreen in 2022, our industry has never allowed the challenges of the day to prevent us from working to the same vision that animated those who started our industry three decades ago.

Ireland, energy independent and zero-carbon.

MEMBERSHIP **NEWS**

Belfast Harbour

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Established in 1847, Belfast Harbour is Belfast's port authority and operates the principal maritime gateway on the island of Ireland. The harbour estate covers an area of 2,000 acres representing 20 per cent of Belfast City area and is also Northern Ireland's logistics and distribution hub and home to major businesses including Baker McKenzie, Harland & Wolff, Capita, CitiGroup and Bombardier.

Belfast Harbour is a leading logistics infrastructure provider in the offshore wind sector, home to the purpose built D1 offshore wind construction facility. Between 2013 and 2018 two thirds of the UKs offshore wind capacity was constructed from Belfast Harbour. Having handled some of the largest wind turbines currently operating in the world, the MHI Vestas V164 turbines, Belfast Harbour is well placed to continue to handle the turbines of the future.

brightwind

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BrightWind provides a boutique resource and energy assessment service led by leading analysts with over 100+ years experience working for developers in the wind and solar industries.

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EMR integrated solutions

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EMR is a specialist telecoms partner providing secure, resilient communications infrastructure for mission-critical utility assets including onshore and offshore wind farms.

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We have a strong track record of delivering solutions to hundreds of sites for clients including Greencoat UK Wind and Enerco.

Gas Networks Ireland

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

Over 710,000 Irish homes and businesses trust Ireland's gas network to provide efficient and reliable energy to meet their heating and cooking needs.

The gas network is the cornerstone of Ireland's energy system, securely supplying more than 30% of Ireland's total energy, including 40% of all heating and almost 50% of the country's electricity generation.

By working to replace natural gas with renewable gases, such as biomethane and hydrogen, and complementing intermittent renewable electricity, Gas Networks Ireland is supporting Ireland's journey to a cleaner energy future.

GP JOULE
TRUST YOUR ENERGY.

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Founded in 2009 based on the belief that a 100% renewable energy supply is feasible, GP JOULE is a system provider for integrated energy solutions from solar, wind and biomass power as well as being a partner at the supply level for electricity, heat, hydrogen and electric mobility.

With over 500 people in Germany, Europe and North America, GP JOULE is the winner of the Schleswig-Holstein Business Environment Award 2019 and the German Renewables Award 2020.

Mainline is a leading engineering solutions provider, operating in Ireland, the UK and Scandinavia. We provide a wide range of services from the design and build of sub-stations, to construction of airside aviation infrastructure, to turn-key wind and solar energy solutions.

We specialize in HV/MV/LV electrical design and build works including associated civil works. Approved by ESB Networks for sub-station works as well as installation and jointing of cables up to 220kV.

Our culture and values are a critical part of our ability to meet the challenges of today's demanding utility market, enabling us deliver the least cost solutions that do not compromise safety, quality, or customer service Mainline has a robust corporate management structure, underpinned by our ISO 45001, 14001, 9001 and cyber essentials accreditations as well as our Platinum Member Deloitte Best Managed Company status.

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OWC – part of ABL Group, the global independent energy and marine consultancy – is a specialised technical and advisory consultancy in renewable energy, offering a range of services to support onshore and offshore (fixed and floating) wind development, from initial feasibility and market entry studies, right through to project development.

Our services include: strategy, market and policy studies, wind resource assessment, owner's engineering, technical due diligence, project development services, and independent engineering including electrical, civil, structural, hydrodynamic and geoscience.

OWC has extensive experience in supporting the development of new wind energy markets globally, from their first steps right through to project development. Services are offered across the company's offices in Europe, Americas and Asia-Pacific, as well as throughout the parent company ABL Group's extensive global footprint.

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PwC Ireland is the largest professional services firm in Ireland. We have extensive experience in the Irish/global renewable energy market. Our services cover a wide range of areas including deal structuring, deal financing, M&A, valuations, taxation, audit and accounting expertise for developers, investors, asset managers, banks, institutional funders, government and semi-state bodies.

At PwC Ireland, helping clients achieve their goals is at the heart of what we do. In this rapidly changing business environment, our purpose is to deliver dynamic solutions through a foundation based on trust, helping clients make informed decisions and operate effectively within them. Our culture is based on making a real difference for our clients and our people by focusing on relationships. Trust is the bedrock of every business relationship and we commit to continue to build and grow lasting confidence from our clients. By listening to our clients and understanding their vision, we can help our clients overcome the challenges they face.

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Delivering projects in the energy, chemicals and resources sectors is what we do.

Over the years we've witnessed lots of change. But nothing we've previously seen compares to the two great changes our industry faces today: the energy transition and the digital revolution.

We help our customers rise to these challenges. Having a global network means we have local knowledge in every pocket of the planet and over 48,000 of the brightest minds to call on. If we don't know the answer already, we will always be able to find it. Whether it's a lesson we've learnt from a previous project or a bespoke solution we have created alongside a customer.

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Using Uncrewed Surface Vessels (USVs), XOCEAN provides turnkey ocean data collection services ranging from mapping the seabed to inspecting subsea structures and monitoring the environment. XOCEAN's USVs offer significant benefits including safety with operators remaining onshore, efficiency with 24/7 operations and environmental with ultra-low emissions which together leads to significant economic savings.

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HARNESSING IRELAND'S OFFSHORE WIND POTENTIAL

EAMON RYAN TD

Minister for Environment, Climate and Communications

Renewable energy will play a critical role in Ireland's transition from imported fossil fuels and offshore wind energy will be a cornerstone of this transition.

The international energy crisis created by the Russian invasion of Ukraine highlights the need for energy independence and for all countries to accelerate the development of indigenous renewable energy sources. In addition to reducing our dependence on imported fossil fuels, developing our offshore wind capacity will enable Ireland to lower our greenhouse gas emissions and help ensure security of supply.

Ireland is a leader in onshore wind energy and now is the time to develop our huge offshore wind potential. With a maritime area seven times the size of its landmass and ideal wind conditions, Ireland's potential for offshore wind energy is enormous.

Under the Climate Action Plan 2021, Ireland is committed to facilitating the development of offshore wind, including the connection of at least 7 GW of offshore wind, based on competitive auctions, to the grid by 2030. The original target was 5 GW but this was increased by 2 GW for the production of hydrogen as part of a suite of additional measures agreed as part of the sectoral emission ceilings. The target will be primarily met through development of fixed bottom offshore wind turbines in Ireland's eastern and southern coastal regions.

There have been a number of very significant developments over the past year, which demonstrate our commitment to delivering this ambition. The enactment of the Maritime Area Planning (MAP) Act 2021 has delivered a new legislative basis, allowing, for the first time, for the regulation of Ireland's maritime area usage outside the 12 nautical mile coastal zone. The comprehensive and coherent marine planning regime in the MAP Act provides clarity to developers on the offshore wind consenting system. Removing barriers in the permitting and consenting process, while ensuring a more facilitative and supportive planning framework, is essential to achieving our green transition as quickly as possible.

The opening of the Maritime Area Consent (MAC) application window for the first batch of offshore energy projects was another major milestone. This is the first stage in the new regulatory regime and involves a robust assessment of applicants to ensure only the most viable developers enter the planning system.

The first Offshore Renewable Electricity Support Scheme auction will open before the end of 2022. Additionally, a consultation on the Community Benefit Fund Rules and Guidance for this auction concluded in early September.

A second phase of projects will be required to reach our 2030 target and a public consultation on the process for these Phase Two projects concluded earlier this year, with a Government decision due by year-end. This includes a proposal for an Innovation Category, which is particularly relevant to floating offshore wind energy projects.

The Climate Action Plan 2021 commits to the establishment of a new agency, the Maritime Area Regulatory Authority (MARA), to manage consenting, licensing and enforcement activities. This work is being led by the Minister for Housing, Local Government and Heritage, and is of the highest priority. The new Agency is scheduled to be operational from early 2023.

The intention is to move to an enduring plan-led regime to develop our enormous offshore wind potential beyond 2030. The Programme for Government commits to developing an ambitious plan to harness the estimated potential of at least 30 GW of offshore floating wind power in our deeper waters. The Offshore Renewable Energy Development Plan II, currently being worked on, will set out the pathway for offshore renewable energy beyond 2030.

A cross-Departmental Offshore Wind Delivery Taskforce has been established to drive delivery and capture wider and longer term economic and business opportunities associated with the development of offshore renewables in Ireland.

Achieving our goals will require effort from all sectors. The European Commission's REPowerEU Plan aims to rapidly reduce Europe's dependence on Russian fossil-fuels by fast-forwarding the clean transition and working collaboratively to achieve a more resilient and unified energy system – a true Energy Union.

These efforts will ensure that we can deliver on our ambitious energy and climate targets and create an enduring new industry, more jobs and increased energy security. I look forward to continuing the strong partnership between Government, industry, communities and citizens as we work together towards a healthier, more sustainable future.

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COMPLETE POLICY TRANSFORMATION NEEDED TO HIT 2030 TARGETS

Writes Justin Moran

The Irish electricity sector can only meet the Government's carbon emissions targets by the end of the decade if there is a complete transformation of our planning system and grid policies, writes Justin Moran of Wind Energy Ireland, following publication of a landmark report over the summer.

Bridging the Gap: Towards a zero-carbon power grid was produced jointly by specialist energy consultants Baringa and TNEI. It is the most comprehensive analysis to date of the electricity system's potential for cutting carbon emissions.

Baringa and TNEI show how power sector emissions could be kept to 66 million tonnes – of which 6 million are from constraints on the transmission system alone – between 2021 and 2030, but only if existing plans for Ireland's energy system are improved and accelerated.

The analysis confirms this is the best the power sector can deliver unless extensive new grid infrastructure is completed by 2030, coal and peat electricity production ceases much sooner, or large volumes of offshore wind are connected before 2028.

"Hitting our 2030 targets and cutting our carbon emissions by 51 per cent, is still just about possible but we are not moving fast enough," said Wind Energy Ireland CEO Noel Cunniffe. "Some progress has been made but our existing strategies, plans and targets are simply inadequate and need to be stepped up."

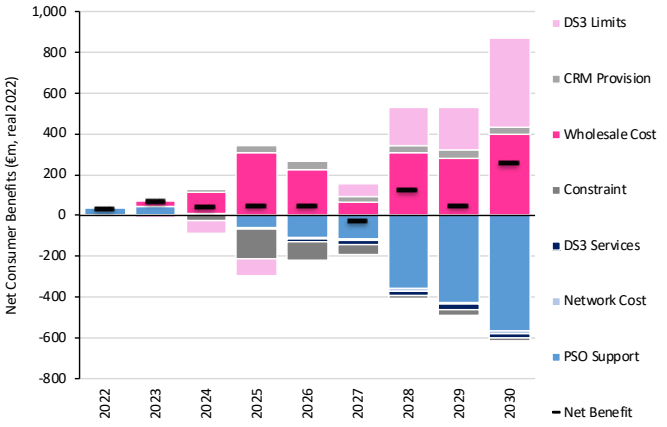
Key priorities

The report highlights three key priorities for Government ahead of the setting of carbon budgets for each sector of the economy:

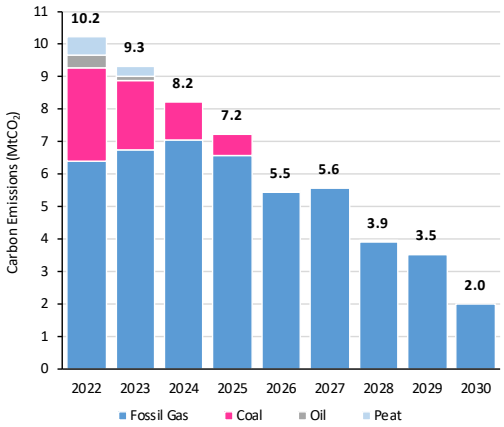
- We must accelerate the delivery of onshore wind and solar. Ireland must save carbon emissions as early in the decade as possible and the first offshore wind farm is not expected until 2028. Until then, we will need to rely entirely on faster development of onshore wind and solar which means prioritising these projects in a properly funded planning system.

- ***Shaping Our Electricity Future is not enough***. Ireland will need every single project identified in EirGrid's Shaping Our Electricity Future strategy but even with that we are still emitting more than 70 million tonnes of carbon over the decade. Bridging the Gap identifies additional existing power lines which must be upgraded but we will also need smart grid technologies like 'Dynamic Line Rating' which allows the electricity system to carry more power when the weather is cooler.

- We must replace the fossil-fuel based back-up. Ireland currently uses gas and coal generators to back-up the electricity system and ensure it remains secure. We must start work now to replace these with low and zero-carbon technologies like battery storage, new interconnectors and demand-response technologies which lower electricity demand at times of tight supply.



The costs and benefits to the Irish electricity consumer of Baringa/TNEI's Accelerated Decarbonisation scenario relative to *Shaping Our Electricity Future*.



Annual power sector emissions by fossil fuel type in Baringa/TNEI's Accelerated Decarbonisation scenario.

Wind energy in Ireland today is saving more than double the carbon emissions savings of every other renewable technology combined. The industry has the pipeline of projects, the investment and the expertise to match the ambition set out in ***Bridging the Gap*** but cannot succeed without a determined response from every level of Government and the political system.

"It has never been more urgent to act," said Noel Cunniffe. "Russia's brutal invasion of Ukraine means spiralling gas and electricity prices across the continent. This creates real hardship for families who will struggle to pay bills that, ultimately, end up funding Russia's war.

"Ireland can play a critical role in defending Europe. Not with guns, missiles or tanks, but with wind turbines, solar panels and battery storage. We can build an energy independent Ireland at the heart of an energy secure Europe."

"To do this we need to build critically needed new infrastructure like the North-South Interconnector and we must invest in EirGrid and ESB Networks to ensure that the system can, when the wind and solar is available, operate with 100 per cent renewables.

"Every part of EirGrid's strategy must be delivered. Anyone opposing it is – consciously or otherwise – undermining our country's energy security and our economic future.

Improve EirGrid's strategy

"But EirGrid's strategy is not enough. It must be improved with new technologies and zero-carbon solutions. We need more power lines and underground cables to get power from the wind farms and solar farms which will generate it to the homes, farms and businesses that will need it."

Dr Mark Turner, Partner with Baringa said that the report shows that it is not just the end goal for decarbonisation which is crucial but also how we get there.

"The pace and timing of renewable deployment over the coming years will have a massive impact on cumulative CO2 emissions," he said, "which is how Ireland's decarbonisation performance will be measured. Substantial ongoing power generation from fossil fuels is rapidly eroding carbon budgets.

"We show that a renewed effort is needed right now to ensure the fastest possible deployment of onshore renewable energy and a stronger electricity grid. This must be viewed as a national priority if Ireland's climate ambitions are to be met."

His analysis was echoed by TNEI, who worked with Baringa on the report, stressed the critical important of new grid infrastructure.

"There is no silver bullet for transforming our power system towards net-zero," said Jeff Kelliher, Specialist Consultant with TNEI. "However, early deployment of renewable energy, as well as enabling this energy access to the grid, are imperative.

"The existing grid development strategy is not enough and is already incredibly ambitious in such a short timeframe. Building the level of new infrastructure required, needs urgent and unprecedented action, from all corners of the industry.

"We need more infrastructure. We need policy fit for purpose. We need transparency and collaboration. We need new ways of thinking and courage to act on them. We need action."

JOBS BOOST POWERED BY WIND

Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris TD has announced the expansion of Green Tech Skillnet's Wind Turbine Technician programme at ESB's Raheenleagh Wind Farm in September.

With energy prices increasing, the need to move to domestically generated sustainable energy is becoming ever more apparent.

The Wind Turbine Technician programme will provide a vital pipeline of workers with the green energy skills needed to meet Ireland's 2030 targets for CO2 emissions reduction and renewable energy provision.

L-R: Wind Turbine Technician Shirley Costelloe; ESB Operations Manager Robert Farrell; Green Tech Skillnet Network Manager Mark Ruane; Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris T.D.; Skillnet Ireland Director of Policy and Communications Tracey Donnery; Wind Turbine Technician Eduardo Rivero.

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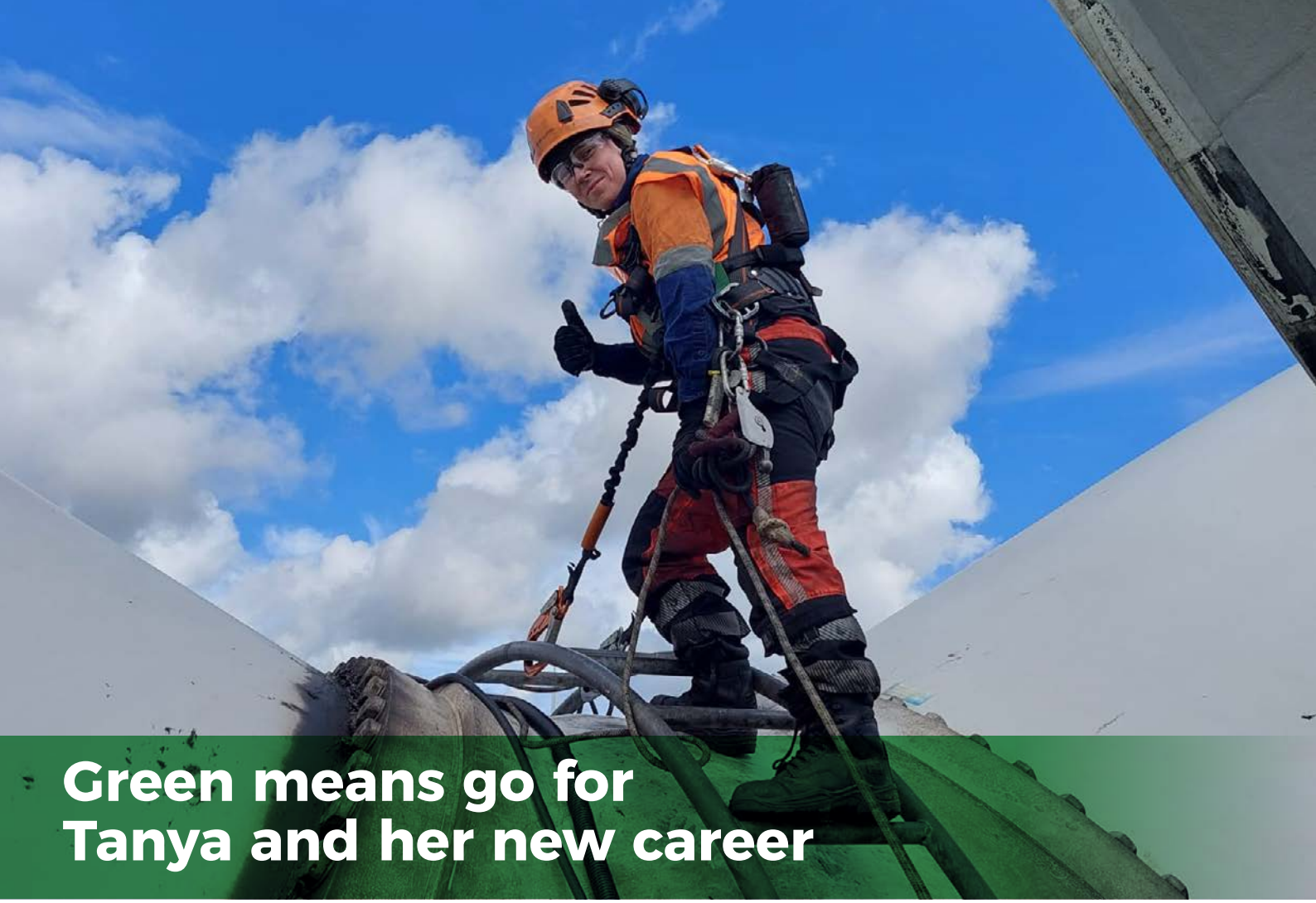


Green means go for Tanya and her new career

Tanya, from Cootehill in Cavan, is one of Ireland's newest wind turbine technicians, which means she spends her working day more than a hundred metres in the air on top of wind turbines across Ireland and Europe.

A new recruit to the industry, the 27-year-old has been working as a service and maintenance technician for almost a year. And her start in wind energy came when she answered an advertisement offering opportunities for unemployed job-seekers.

She had previously worked in Australia, in the gold mines, and had tried a number of college courses before she found that advertisement.

"I felt like something was telling me to give this a chance," she said. "I liked the idea of not being behind a desk, being out in the air and being hands on. I worked down the mines, so I liked the idea of physical work. I couldn't believe it when I got an interview and then was accepted."

The advertisement Tanya is referring to was for the Wind Turbine Technician Course run by Green Tech Skillnet. The programme was developed by Wind Energy Ireland and funded by Skillnet Ireland.

It offers opportunities to job-seeking graduates who are looking to upskill and start a career in the renewable energy sector - a rapidly growing industry, with huge demand for workers. It is a training and work placement programme, and many trainees are taken on by companies in the industry after they have completed their course.

Tanya did her training with Wind Turbine Engineering Ltd, based in Co Kildare, and afterwards was taken on by them as a full-time turbine technician.

"I can't believe how well it's all gone for me," she said. "It's a new start and a new career – I just love it. I've worked on wind farms all over Ireland, including one only five minutes from my home in Cavan. But I've also got to see a bit of the world and travel for work to Sweden, England, Scotland and Wales.

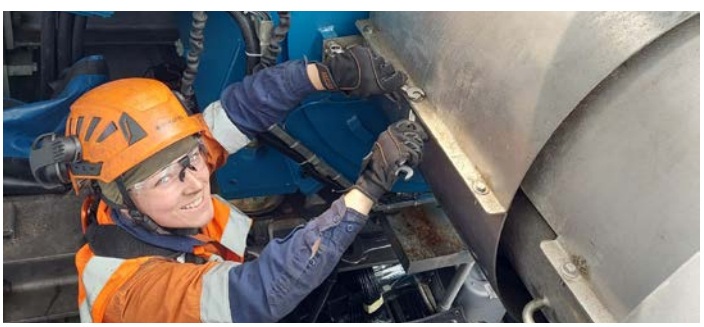
"Without the support of programmes like Skillnet and companies like WTE getting behind me and supporting other future technicians we would really be struggling with a massive skills shortage in the future because this industry is growing at a rapid pace."

Tanya has this advice for anyone considering a career in wind, "Go for it. Even if you don't have a background or knowledge in the renewables area, don't restrict yourself. If you are willing to work and be open minded to learning new skills, then jump at the chance."

She would also like to see other women consider the role of turbine technician in the future.

"I've worked with only one other female turbine technician," she acknowledged, "and I would definitely like to see more women involved. The more women that young girls see in these roles the more they will consider this route for themselves and remove the perception of gender specific jobs.

"Sometimes it isn't about how much you know already or what education you've had, if someone is willing to take a chance on you, don't waste it. This has been that sort of an opportunity for me, and I am making the most of it."



Building a network of Marine Protected Areas

Marine Protected Areas (MPAs) will be crucial to ensuring the protection of habitats and species to help reverse biodiversity loss in our waters and coastal communities writes Éabhín Byrne.

The Irish wind energy industry fully supports the 30 per cent by 2030 target and would urge Government to bring forward the legislation needed to designate MPAs as quickly as possible.

An MPA would identify an area in Irish waters where human activity would be restricted, or potentially even completely excluded, to ensure that marine habitats and species are protected. Currently, only 2 per cent of Ireland's ocean is protected.

The global biodiversity crisis and climate change crisis are inextricably linked. Climate change drives biodiversity loss, both on land and in the ocean. Rising ocean temperatures are causing mass coral reef die-offs, disrupting ocean currents and melting ice sheets.

The huge volume of CO2 being absorbed by the ocean is causing acidification, which has devastating impacts on habitat forming species such as corals and for other calcifying species like crabs and shellfish by reducing their ability to build their shells and skeletons. By reducing carbon emissions wind energy can slow and reduce these impacts, helping to protect our ocean ecosystems. Already onshore wind energy alone is saving more than twice the total carbon emissions saved annually in Ireland every year by all other renewable technologies combined.

Not enough

But it is not enough. Offshore wind energy is urgently needed to ensure we can meet Ireland's legally binding carbon budgets and build a net-zero emissions power system.

We need to act now, but we must still act with care. Development should not be at the expense of nature. Projects are already required to undertake years of extensive bird, mammal and marine life surveys and prepare detailed environmental impact assessment reports before they can even apply for planning permission.

The data gathered during these surveys ensure very careful project design and siting of turbines to avoid, where possible, any impact and to build in mandatory mitigation and compensatory environmental measures into the conditions of planning permission if some impacts are unavoidable.

During construction, measures must be put in place to reduce underwater noise and completed projects must then undertake years of post-construction environmental monitoring.

Concerns about development within MPAs are understandable given the overwhelming array of pressures on ocean life from other sources including pollution, overfishing and invasive species. Yet, when considering coexistence of MPAs and offshore wind, it is important to be aware of the potential environmental benefits from wind farms.

The hard substrate and underwater structures act as artificial reefs, creating marine havens where benthic colonisation can take place and thrive, attracting in other species by providing new habitats, and increasing available food sources for fish, marine mammals and seabirds.

These artificial reefs can, as they develop, act as nursery areas for juvenile fish and shellfish. These positive benefits can spill over into neighbouring waters.

Fair Seas

The recent report from Fair Seas, a coalition of Irish environmental campaigners and organisations, identifies large areas of interest for potential MPAs which includes much of Ireland's offshore area. It seems likely that offshore wind and MPAs will overlap in some way which makes it critical to work together to find ways to successfully co-exist.

Certain parts of Ireland's marine space are too sensitive and unsuitable for wind energy but we strongly believe that wind farms can, in certain circumstances, not only co-exist with MPAs but enhance them.

Many studies and initiatives worldwide are working on new ways to further maximise the biodiversity of ocean ecosystems in wind farms.

Wind Energy Ireland is a member of the Offshore Coalition for Energy & Nature, a European coalition of NGOs, Transmission Systems Operators and the wind industry, who are all working together to align the development of offshore wind energy with nature protection.

We are also engaging with the Fair Seas team to discuss their research and its implications for the designation of MPAs and the construction of the offshore wind farms so critical to tackling climate change.

As offshore wind moves ahead the wind energy industry will continue to urge early and ongoing consultation between our members and all who want to ensure the rapid development of a robust, thriving, Irish MPA network.

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- Governance and assurance
- Project and programme management
- Finance, regulatory support, strategic advisory
- Scheduling and project planning
- Project Management Office
- Cost and commercial
- Procurement, supply chain and category management
- Sustainability and carbon management

mace

MACE CONSULT IRELAND: TO REDEFINE THE BOUNDARIES OF AMBITION

The Irish renewable energy industry has shown time and time again that it is ambitious and dedicated to meeting the Climate Action Plan 2021 target of 80% renewable electricity by 2030. The enactment of the Climate Action and Low Carbon Development (Amendment) Act 2021 has now put Ireland on a legally binding path to net zero emissions no later than 2050. The willingness is there, but sometimes navigating the Irish regulatory and planning process can be complicated.

It is encouraging to see that Ireland has the pipeline of renewable projects to fulfil these crucial targets. Delivering these projects, on land and at sea, while navigating the grid connection, regulatory and planning process will take proficiency and experience.

Renewable energy projects are complex and multi-disciplinary. Different stakeholders require engagement through the various project stages. Risk is part of the package and as one issue closes another opens. Success is reliant on strong project management and integrated controls that can effectively mitigate risk and resolve issues with innovate solutions, control scope and influence stakeholders.

Understanding the regulatory and industry drivers is key to delivering successful outcomes. Mace has significant experience in renewable energy with the regulated utilities, energy generators, developers and local and national governments across Ireland and UK. We have delivered over 100 renewable energy projects from inception to operation. We have supported our clients by developing strategies and business cases, providing programme and project management, process and governance management, cost consultancy and document control. We can provide a fully outsourced team, build internal capability, or provide a hybrid of both options. Our talented team always adds value and can enrich the skills of client teams through partnerships.

Our UK and Ireland energy and utilities team currently comprises c.500 people. Local knowledge and experience is available through our 120 full-time employees based in Ireland, supplemented by our experts with wider best international practice.

We will bring industry leading expertise to provide project and programme management. The range and breadth of our project and programme management services reflect the skills and capabilities within our energy and utilities resource pool. Our specialist subject matter experts with knowledge from the wider Mace practice groups, such as PMO, strategic advisory, and technical design, cost and commercial are eager to support the challenges ahead.

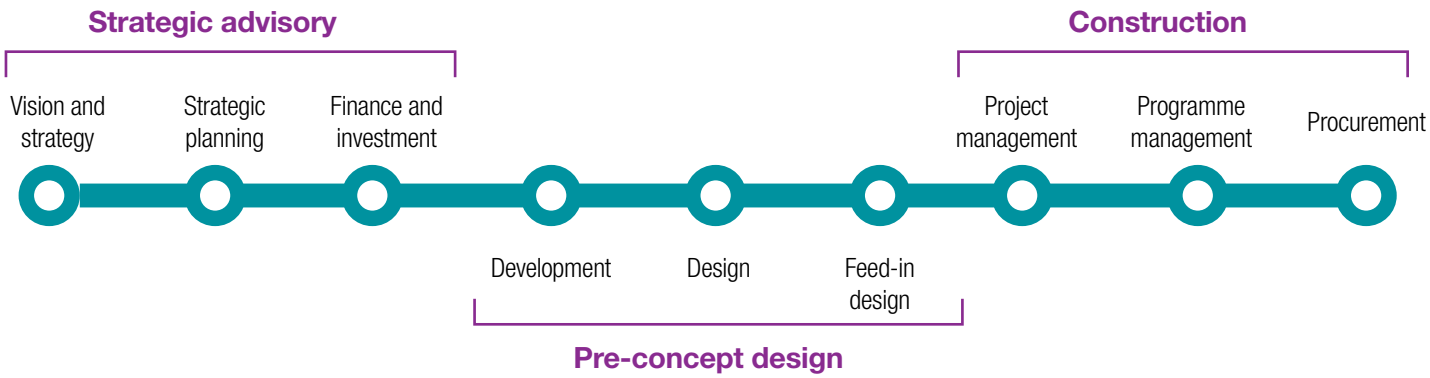
Who we are

Our consultancy is powered by a constant flow of knowledge and ideas across our sectors around the world. This depth and diversity drives real progress for our clients, and the industry as a whole. We are project and programme delivery consultants.

How we deliver success

Consult's core services range from programme and project delivery management to net-zero carbon solutions, design, digital and data services, cost consultancy, strategic advisory, PMO and beyond.

Our offering has developed alongside our clients' needs and often on the back of a specific request for us to introduce new services or enter new markets. We are continuously evolving. And, because we're independent and owner-operated, our people have the freedom to question convention and explore alternative approaches.



Net zero

Project and programme management

Innovation

Cost consultancy and supply chain

Infrastructure

Cost consultancy and supply chain

Skills

Strategic advisory

Through the breadth of Consult's work and the wider group know-how, we go further and deliver distinctive value through the entire asset lifecycle.

Above all, it's our relentless commitment to leaving a legacy for generations to come that has seen us deliver some of the world's most inspiring and exciting projects and programmes.

This depth and diversity of our work – and the talented people behind it – drives real progress for our clients and the industry as a whole.

Our sustainability commitment

The built environment holds many of the answers to a better future, and through our global consultancy work we both reduce the impact that the built environment has on the planet and ensure that what we deliver leaves a lasting legacy in every respect – helping communities to thrive throughout the world.

Fighting climate change. Protecting biodiversity. Responding to growing populations. We support our clients to deliver property and infrastructure projects with positive change – to understand and challenge sustainability and social value ambitions, embed innovative solutions and deliver industry-leading transformation that tackles social inequalities and reduces climate impacts.

Since 2012, Mace has been driving sustainability efforts through the industry; working with businesses of every scale, in every sector and across hundreds of locations to adopt best-practice solutions and make change happen.

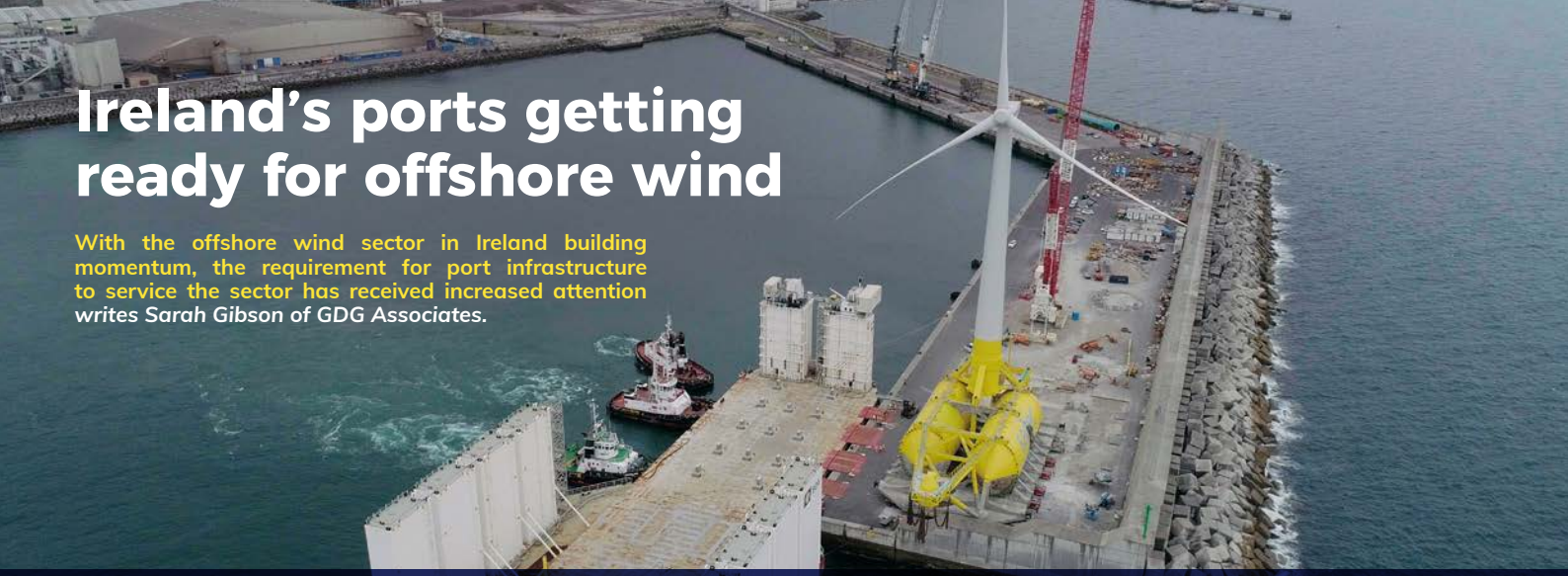
From carbon reduction programmes, sustainability strategies and green building certifications, to social value delivery frameworks, behaviour change programmes and ESG reporting; our specialist team blend strategic advice, sector knowledge and proven delivery methods to redefine ambitions and provide certainty of commercial and social viability.

We work with clients at every stage of the sustainability journey, from scoping opportunities and setting targets, to developing strategies and exploring investment opportunities. As we all strive to do the right thing, joining forces is key.

We're on our own journey too; investing in new technologies, innovating new solutions to reach net-zero, sourcing ever-more sustainable materials and collaborating with our industry to keep moving forward at pace.

Ireland's ports getting ready for offshore wind

With the offshore wind sector in Ireland building momentum, the requirement for port infrastructure to service the sector has received increased attention *writes Sarah Gibson of GDG Associates.*



Saitec Offshore Technologies
Launching operation of the DemoSATH floating unit in the Port of Bilbao (Spain). The 2MW unit using SATH Technology will be installed in BIMEP test field. The aim of this demonstrator project led by Saitec Offshore Technologies in collaboration with RWE is to test the technology for its industrialisation for offshore wind farms in deep waters.

Ports are of critical importance to the successful delivery of offshore wind projects and required throughout the lifetime of the installation. The staging and marshalling of offshore wind projects require significant port infrastructure including large landside areas, heavy-duty quaysides, and significant draft requirements.

It is largely recognised that currently there is limited scope for Irish ports to serve the construction stage for offshore deployment. This means, unless urgent action is taken, it is very likely that Irish offshore wind projects will be built from the UK or further afield. This would represent a significant missed opportunity for Ireland.

To understand the current position of Irish port infrastructure, a study has been completed focusing on the suitability of Irish ports to serve the offshore market. Wind Energy Ireland commissioned GDG in April 2022 to focus on port suitability for staging and marshalling, considering both fixed-bottom and floating wind.

The study has been funded by an experienced cohort of developers and port authorities: Belfast Harbour, DP Energy, ESB, Inis Offshore Wind, Ocean Winds, Ørsted, RWE Renewables and Source Energie.

Consultation

To understand the suitability of the existing infrastructure, GDG engaged with the ORE industry to define the minimum and preferred port requirements to service fixed-bottom and floating wind staging. Developers, contractors, and the wider supply chain were consulted to best understand the specifications of port infrastructure required to service the offshore wind market.

Criteria for manufacture, assembly and staging have been outlined for floating wind given various locations may be targeting certain aspects. The study examined 13 ports with the potential to be suitable for staging and marshalling (and fabrication/assembly of substructures when considering floating wind). The consultation process sought to benchmark the current facilities and to understand development plans which may be relevant.

The ports included within the study were considered based on the existing infrastructure and future development plans, in addition expressing a desire to accommodate staging and marshalling.

Based on the assessment of received information, the existing and proposed infrastructure were assessed against the benchmark criteria. A summary of the key conclusions of the assessment and study were as follows:

1. Belfast Harbour's D1 terminal is the only existing facility suitable for staging and marshalling of fixed-bottom projects (foundations and turbines).
2. Port of Cork's Ringaskiddy, and Harland and Wolff, have potential to serve as a staging port for either foundations or turbines but are restricted by loading capacities.
3. There are no existing facilities entirely suitable to allow for manufacture, assembly or staging of floating wind projects.
4. Several new facilities will be required to meet the demand on staging ports. Without investment in Irish port infrastructure, projects will likely be serviced from British or European ports.
5. Several ports have indicated development plans suitable to accommodate the deployment of fixed-bottom installations. These include: Bremore, Cork Dockyard, Moneypoint, Rosslare and SFPC Foynes Island.
6. Several ports have indicated development plans suitable to accommodate the manufacture, assembly and staging of floating installations. Moneypoint and SFPC Foynes Island have the potential to accommodate manufacture, assembly and staging. Cork Dockyard has the potential to accommodate turbine staging.
7. Consenting and planning phases of the proposals will be of critical importance to the timely delivery of operational port facilities.
8. The local supply chain will require development if new port facilities materialise. This presents an opportunity for a significant level of regional development.
9. Significant investment is required for ports to realise the development plans proposed. The total estimate of capital cost is circa €2 billion.

On the basis of the port study research and assessment conclusions, several key recommendations have been outlined to ensure Irish ports and as Irish supply chain can service as much of the industry as possible.

Full details of the research, conclusions and recommendations are detailed within the final report which is available on the Wind Energy Ireland website.

Minister Coveney launches new report

Showing Cork wind farms are creating jobs and investing in the local economy

12 September 2022: €7.2 million was paid by Cork wind farms in commercial rates to Cork County Council in 2022, according to a new report published today by Wind Energy Ireland. The ***Powering Cork*** report, which outlines the positive impacts that wind energy has had across the county of Cork, also found that Cork communities received €437,000 in direct community benefit funding in 2020.

*Please see page 21 for more on this report

Combining the talents of Buttevant and Bilbao

3GW

PIPELINE TO ENHANCE WIND POTENTIAL AROUND IRELAND

Iberdrola and DP Energy have combined their world leading renewables experience and local knowledge to deliver a 3 gigawatt pipeline that will help turn Ireland's offshore wind potential in to a reality.

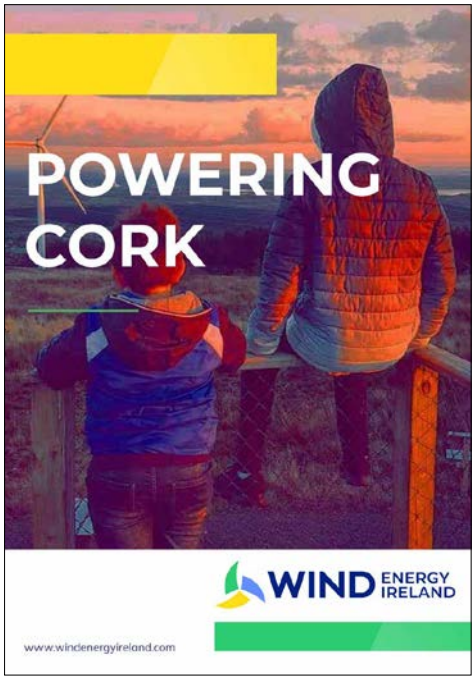
DP ENERGY

IBERDROLA

For you. For the planet.

Powering the rebels

Offshore wind energy is central to Ireland's economic strategy for the future – and Cork is central to it.



Powering Cork, is the second brochure in our "Powering" series, which looks at how the wind industry contributes to different counties. There are so many stories to tell about wind energy in the Rebel County that the brochure has grown to become 8 pages.

Wind farms in Cork are creating jobs, supporting rural communities and investing in the Cork economy.

A Cork wind energy cluster is within reach. Cork has the harbour, seafaring tradition, innovative spirit, third-level colleges and the strong communities needed to build a strong, local wind energy industry.

A new industrial sector is emerging in Cork, a wind energy industry

Wind energy jobs

- are bringing Irish people home;
- opening opportunities to work in cutting edge areas such as green hydrogen;
- providing openings for people to bring their transferrable skills into a new, growing industry;
- are helping communities to maximise the impact of community benefit.

Cork is attractive as a place to do business as well as a place to live. It is also being recognised by investors as a hub for renewables.

Big opportunities on the horizon for Cork's costal communities

There are economic opportunities associated with offshore wind for several Cork ports. Cork Harbour, one of Ireland's top-tier ports, is suitable as both a construction port and an operations and maintenance base for offshore wind.

Kinsale, Castletownbere and Bantry are all suitable as operations and maintenance bases which could potentially create 80 full-time jobs. With planning, investment and support, the commercial opportunities for Cork is vast.

Did you know?

Cork is leading the way when it comes to reusing or recycling wind turbine blades in Ireland.

These turbine parts that have come to the end of their life, are saved from landfill or grinding into low value aggregates with novel and creative new uses for them.

Already in Cork blades have been used in the construction of a greenway bridge – ideal for this purpose because of their strength. Building with turbine blades replaces the use of structural steel and this saves the high CO2 emissions associated with making steel. Blade bridges cost less than conventional built bridges. If you would like to know more check out the UCC / MTU Re-Wind Project at Youghal.

POLICYUPDATE

Introduction

The policy team currently manages eleven committees:

- **Markets**
- **Grid**
- **Planning**
- **Net-Zero**
- **Offshore**
- **Offshore Grid**
- **Offshore Consenting**
- **Community Engagement**
- **Health & Safety**
- **Asset Management**
- **FLOSH (Floating offshore, SuperGrid and Hydrogen)**

WEI also collaborates on storage policy issues with our colleagues in Energy Storage Ireland and on all-island matters with Renewable NI. Each committee contains several working groups in which industry experts work together on key issues. These range from responding to public consultations, to commissioning economic analyses and reports, to identifying policy changes which will deliver renewables more efficiently and at lower costs to the consumer.

The working groups provide members with an opportunity to influence key stakeholders and policy decision-makers, via Wind Energy Ireland, and help to shape the direction of energy policy in Ireland. Described below are several key workstreams currently active across various WEI policy working groups and committees.

Any WEI Member can apply to join a committee by emailing eabhin@windenergyireland.com

A strong start to the year for wind energy

It is important to take a step back and acknowledge what renewable electricity policy is delivering for the climate and consumers. It has been a strong year for wind energy so far, with wind ensuring badly needed cost savings for the consumer at a time when imported fossil-fuel prices continue to drive up energy bills.

Wind delivered an impressive 36 per cent of Ireland's electricity in the first half of the year and new records were set in April, May and June. The more we produce our own renewable energy, the more protected Irish consumers are from very high prices for imported fossil-fuels.

More wind capacity on the way

June brought an important step forward for our industry and towards our 2030 targets with confirmation that 14 new wind farms will be developed and energised in the coming years following what was a successful RESS 2 auction for many WEI members.

These new wind farms will deliver an additional 414 MW of clean, renewable electricity onto the system – around 10 per cent of the additional onshore wind we need by 2030, as set out in the Climate Action Plan.

Getting this additional capacity through the RESS 2 auction and building momentum towards our 2030 targets is crucial, however it is worth acknowledging that the average price for renewable energy projects in the auction of €97.87 was up 32 per cent on RESS 1 in 2020. Following publication of the auction results, WEI reiterated our call on Government to work with industry to cut the price of renewable electricity in Ireland and bring us in line with other European markets.

While fundamental improvements are needed in the planning system and upgrades to the electricity grid, there are policy actions that can be taken by Government ahead of ORESS 1 and RESS 3 that will serve to more appropriately allocate risk, and therefore reduce the cost of renewables.

Shortly after the RESS 2 results came out we published a new report, produced in collaboration with Cornwall Insights and GreenTech Skillnet, called *Improving revenue certainty and risk allocation for new renewable generators.*

This important report sets out some key recommendations for the RESS auction design that would ultimately reduce the costs borne by the consumer. We look forward to continuing to engage with key stakeholders to help ensure lessons are learned in advance of the next auctions, both onshore and offshore.

Offshore auction announced for April and new ambition set

In recent months there have been two important announcements that will help to set Ireland on the pathway towards delivering on our enormous offshore potential.

In June, EirGrid published the provisional ORESS 1 timetable, giving us our first clear timeline for the auction process for the first group of 2030 offshore projects. The qualification window is set to open in early January 2023, with the auction itself running from 27 April until 3 May 2023.

While projects will still need to secure planning after a potential success in the auction, this announcement is crucial and sends an important signal to an increasingly competitive international supply chain that Ireland is serious about delivering on its offshore ambition.

It will help to drive the needed investment into the projects that will play a major role in decarbonising our electricity system, delivering clean renewable electricity to millions of homes, and reducing our reliance on imported fossil fuels.

ORESS 1 remains an auction into which projects are set to face an enormous amount of uncertainty, however, and this means cost. In the coming weeks and months, the Government must work to ensure that the level of risk being carried by projects into the auction is appropriately minimised so that we can deliver the best possible price to the Irish consumer.

Additionally, alongside the publication of the sectorial carbon emissions ceilings in late July, the Government announced an increase in Ireland's 2030 offshore ambition from 5 GW to 7 GW.

This increased ambition is something we strongly welcome; our members have a project pipeline significantly bigger than 7 GW and with the right policies and the necessary urgency from key stakeholders, significant volumes of offshore capacity can be brought onto the system – whether that as electricity or in the form of green hydrogen.

However, there is an important caveat. We must ensure that our planning system is urgently reformed and properly resourced so that these projects do not encounter the same delays we see slowing the pace of onshore wind farm development. Additionally, we need to urgently build the critically needed new grid infrastructure, such as new or upgraded power lines and underground cables, to ensure we can deliver renewable power to the homes and businesses that needed.

Big efforts needed to deliver on 2030 and net-zero by 2035

If we are to deliver on our 2030 ambition, both in terms of RES-E capacity and, crucially, remain within the carbon budgets that are being set by Government, speed is crucial.

To put it simply, getting projects built in this country takes far too long; projects are too long in a planning system that is clearly not fit for purpose, while our electricity grid needs to be significantly upgraded to ensure it is made fit for the energy system we are striving to achieve – one powered by 100 per cent renewable electricity and supported with other zero-carbon technologies.

To support our work in these two crucial areas, WEI recently launched a new report called *Bridging the Gap: Towards a zero-carbon power grid*, produced jointly by specialist energy consultants Baringa and TNEI. The report shows how power sector emissions could be kept to 66 million tonnes – of which 6 million are from constraints on the transmission system alone – between 2021 and 2030, but only if existing plans for Ireland's energy system are improved and accelerated. The report shows that urgent efforts that are needed now if we are to deliver for 2030.

- **If Ireland is to be successful in meeting its 2030 ambition, and indeed achieve a zero-carbon electricity system by 2035, we must:**
- **Accelerate the delivery of onshore wind and solar and prioritise these projects in a properly funded planning system;**
- **Put in place the needed policy frameworks to ensure our crucial offshore wind projects successfully deliver in the second half of the decade; Update the EirGrid Shaping our Electricity Future Strategy in line with the recommendations of the Bridging the Gap report, and, finally,**
- **Replace our current fossil fuel-based back-up with low and zero carbon technologies.**

Our committees and working groups are prepared to play our part in making this happen.

MKO Planning and Environmental Consultants

Planning for your Irish wind farm development pipeline to 2030

With the Irish Government's Climate Action Plan calling for another 4GW+ of onshore wind energy by 2030, and planning consent a pre-requisite for the ECP grid process, now is the time to consider the planning and environmental requirements for your company's project pipeline.

MKO identify wind farm sites, prove their feasibility and secure landowner agreements. We produce the necessary environmental reports and prepare planning permission applications to deliver consents for shovel ready projects.

Our track record is unrivalled.

For more information contact a member of our team: **info@mkoireland.ie** or visit our website: **mkoireland.ie**

What's happening in Research and Development?

Author

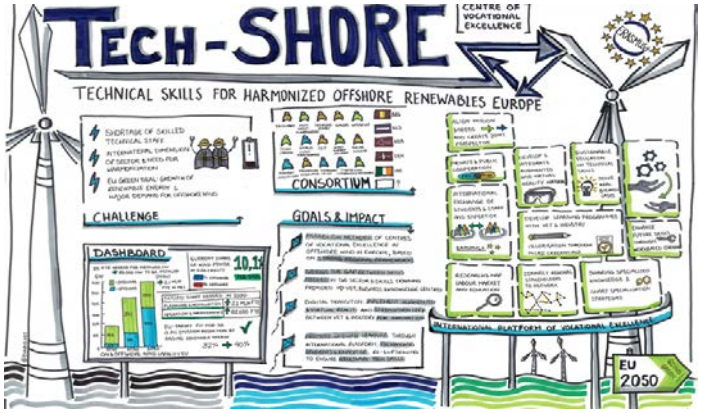
Dave Linehan

Head of Research, Wind Energy Ireland

TSHORE Project Gets Underway

Wind Energy Ireland's first grant funded research project, TSHORE, is officially underway. The 4-year ERASMUS+ project is aiming to establish centres of vocational excellence in offshore wind across Europe, bridging the gap between the skills needed in the sector and the training opportunities provided. We will be collaborating with Atlantic Technological University (ATU) in an Irish context, alongside eleven other partners across four countries.

Wind Energy Ireland is leading several aspects of the project including designing, setting up and managing project communication, dissemination of research results, stakeholder engagement and networking between academia and industry. This activity will be a key component for ensuring visibility and adoption of outcomes. Stay tuned for the launch of the project website soon!

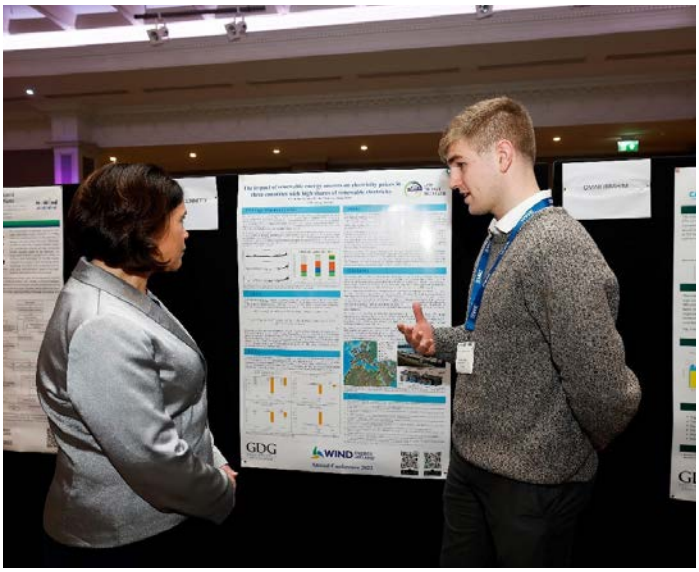


Could you be our new research partner?

In the last edition of the magazine, we shared details of Wind Energy Ireland's research strategy. The team has now developed a new research prospectus, which is available to view on our website. Our research proposition is underpinned by the key strengths and service offerings across our business, in policy, communications and events. We are actively seeking academic and industry partners to join us in collaborations, and the co-production of energy research. Contact dave@windenergyireland.com to learn more. There are upcoming calls nationally and at EU level that we are currently progressing.

Our Latest Policy Research

WEI has a track record in publishing game changing industry research, regularly undertaking studies with our partners to support government in setting national policy. In June we published *Bridging the Gap: Towards a zero-carbon power grid*. The research was produced jointly by specialist consultants Baringa and TNEI. It is the most comprehensive analysis to date of the electricity system's carbon budgets and has played a key role in debates on Ireland's emissions targets. WEI is currently completing analysis on a *National Ports Assessment* & *Associated Supply Chain Study* which will be published shortly. Later in 2022 we will complete a Research Needs Assessment with members.



WEI Hosts Research Poster Event

In the spirit of industry-academic collaboration, we hosted our inaugural research poster event, at our Annual Conference in April. This initiative, supported by Gavin and Doherty Geosolutions, provided students and researchers with the opportunity to present their work and engage with industry stakeholders. A research poster exhibition was available for all delegates to attend, and the winning poster was presented on the main stage. Following positive feedback, we have plans for another opportunity at September's Offshore Conference to showcase our new research segment, *Research Thesis in Three!*

New Grad Programme for Members

Wind Energy Ireland is delighted to announce details of a graduate and career development programme which is launching in September 2022. This new offering is aligned to our commitment to build our members' capability and help to bring more resources into the wind and wider renewables sector. To learn more and get involved, contact daire@windenergyireland.com.

MARA and Ireland's offshore wind future

Rory O'Leary of the MARA Establishment Unit spoke to Irish Wind about the work of his team and the exciting changes coming to Ireland's marine planning system.

Can you start by telling us a little about the MARA establishment unit and the work it is doing?

It's a really exciting time to be in the MARA Establishment Unit, which, at the moment, is a standalone business unit operating within the Planning Division of the Department of Housing, Heritage and Local Government.

MARA's role will be wide ranging in scope so extensive advance preparatory work is required. Because the Department fully recognises the importance of MARA, a decision was taken several months ago to set up a dedicated unit to lead this critical work.

I'm the head of this new unit and we currently have a team of 11 who will all move for a period of secondment to MARA as an 'advance team', ensuring a continuity of the work when MARA is established.

The introduction of the new marine planning regime under the Maritime Area Planning Act marks the most significant reform of marine management in Ireland in decades and MARA will play a pivotal role in this, so the work we're doing now is really important and exciting for all.

Some of the work we're focussing on right now includes finalising the corporate identity and branding of MARA, including developing an online presence to enable us to communicate with stakeholders.

Work is also underway on developing a resourcing plan for MARA, assessing the specific skills that will be required to allow the organisation to carry out its functions.

Preparatory work is underway, too, in relation to all the processes and procedures that need as well as in relation to the broader corporate and governance functions.

It was considered previously that activities that require a consent under another Act or from another statutory body would be exempt from obtaining a licence from MARA. Can you update on us on the department's thinking on this?

The Maritime Area Planning Act 2021 mandates a new way of consenting and licensing. This does provide for 'exempted usage' whereby the Minister may specify in regulations usages which may be exempted, subject to certain criteria.

Although we are in the early stages of scoping out all of this, it is something which we are keen to explore. We would like to make the licencing regime as efficient as possible.

If regulations are proposed for exempted usage, these will be subject to screening for the Habitats Directive and SEA. However, a usage cannot be exempt if an appropriate assessment or environmental impact assessment is required.

We intend to consult further with relevant stakeholders before any final decisions are taken around exempting certain usages.

While it is important that we streamline the licensing of activities, we also need to be ensure that, in line with the National Marine Planning Framework, we are simultaneously enabling robust protection of our marine ecosystem and biodiversity.

The application process under the Foreshore Act has grown increasingly complex and time-consuming. How will MARA improve the efficiency of the application process while ensuring the process is still robust?

The key word here is 'reform' - so I'd answer this in two parts. Firstly, the process for Maritime Area Consents which will be required in advance of applying for planning permission will be a new procedure, different to that which operates under the foreshore regime.

The process will make entry into the planning system a lot more efficient. MARA will have a statutory 90-day timeframe to assess complete applications.

Secondly, what's important in relation to the licensing regime is that the procedure that MARA will put in place is new – it is not a 'drag and drop' of the existing process.

This provides MARA with the opportunity to ensure that it is as modern and efficient as possible while ensuring it fulfills all statutory requirements.

There is some confusion in industry about what MARA being open in Q1 2023 means practically. Will MARA be accepting applications in Q1 of next year?

We are committed to having MARA established by Q1 2023, however, it is likely that there will be a period of time between a formal establishment of the agency and MARA becoming operational and accepting applications. MARA will not be in a position to accept applications in Q1 of 2023.

I'll explain how this is critical to the proper governance and functioning of the agency.

MARA will have a board, which will be its governing body. In the period from when that board becomes legally constituted (on establishment day) to when MARA begins operating, the board will have to be satisfied that the processes in place are appropriate, robust, efficient and designed to the highest standards.

Also, the board must design the levy frameworks for MACs. Obviously, a huge amount of preparatory work is underway already, but there will be a period of orientation of this work when the agency is formally established.

How confident are you that the resources are there to recruit enough experienced technical staff to ensure applications can be assessed in house?

Resources are always a challenge, however, we have a budget of €2 million this year to allow early investment in the structuring of the new agency, which includes resourcing. Negotiations are ongoing as part of next year's budget to ensure MARA will have sufficient resources. The importance of MARA is recognised across Government.

Our first step is ensuring we know exactly what technical expertise we will need and then prepare a plan to acquire those. We will co-operate with other public sector bodies to ensure MARA has access to those specific skills.

I'm confident that MARA will be able to attract the necessary expertise. It's an exciting time to have the opportunity to design and work in a system that will be world leading.

We are currently working with colleagues on a detailed implementation timeline and will communicate this in due course. We will aim to bring as much certainty as possible at the earliest opportunity.

We are also very keen to reach out to stakeholders and the public to keep them in the loop as we journey towards MARA's establishment.

RWE Renewables — Our energy for a sustainable life

RWE is leading the way to a green energy world, expanding its green generation capacity to 50 gigawatts internationally by 2030 by investing €50 billion gross for this purpose in this decade in offshore and onshore wind, solar, hydrogen, batteries, biomass and gas.

RWE Renewables (RWER) in Ireland

RWER Ireland is undertaking long-term investments into onshore wind, offshore wind and battery storage projects. Our objective is to grow a renewables business from greenfield sites as a long-term energy partner for Ireland during its energy transition to 2030 and beyond.

Already with an operational wind farm, two battery storage facilities and both onshore and offshore wind farms in development, our current Irish portfolio is managed by our experienced team in Kilkenny and Dun Laoghaire. The largest development project is the Dublin Array Offshore Wind Farm, (up to 900 MW) a joint venture with Saorgus Energy. (www.dublinarray.com)

Are you interested in our onshore development portfolio? Then contact us at ireland@rwe.com

rwe.com/ireland

Are we READY?

Author
Maria Ryan
Director of Development at SSE Renewables

"Where do we get our energy from?" has become a real question for Irish people this year. The horrific humanitarian crisis following the Russian invasion of Ukraine has exposed the fact that most countries are over-reliant on fossil fuels. This, unfortunately, includes Ireland. While we are less directly reliant on Russian gas, the shortfall in gas supply resulting from the invasion, and significant price volatility, has had direct impacts on Ireland in terms of the security and cost of our energy.

And at the same time, we have been seeing first-hand the impact of climate change – with extreme heat and fires across Europe this summer, rivers drying, and unthinkable temperatures in Northern Europe suddenly becoming a present reality.

On a recent trip to Dublin Zoo while the kids bounded about in excitement at the dinosaur skeleton I was reading the display pane "Extinction means there are no surviving members of a species. There have been five mass extinctions in the history of life on earth. We are at the start of the sixth extinction." The sixth extinction, not being caused by natural phenomena like the previous ones, but by us.

The need to reduce our exposure to fossil fuels and the urgent imperative to tackle the climate crisis, it's clear why at an EU level there has been a massive push to accelerate and increase the deployment of renewable energy across Europe. We saw earlier in the year, in response to the invasion of Ukraine, the publication of their 'REPowerEU' publication calling on members states to remove blockers to the growth and delivery of renewable energy, seeing it as our key way out of these multiple crises.

In Ireland, that's a particularly massive opportunity for us. We've had great success in the deployment of wind power so far, with the development of onshore wind providing a significant chunk of our electricity supply, with more to come.

But renewable energy doesn't provide the majority of our electricity needs – yet. And that is where offshore wind will come in, to provide a step change in Ireland's energy-dependence on imported fossil fuels. Our wind and seabed resource puts us in an enviable position in terms of opportunity to grow our indigenous renewable electricity production. Not only will this be a benefit in terms of energy self-reliance and tackling the climate crisis, but it will also see significant economic investment in our coastal communities and the renewables economy at large.

Perhaps with this in mind, we've seen government recently increase Ireland's offshore wind target from 5GW to 7GW, something we at SSE Renewables have been calling for. The sectoral emissions ceilings set by government also demonstrate the outsized role the renewables sector has to play, with the target emissions reduction for electricity of 75% being far and away the largest of any sector.

That puts a lot of pressure on the offshore wind sector, which I know we welcome. Wind Energy Ireland members including SSE Renewables stand ready to deliver and bring our projects forward as quickly as we can. But we need a landscape which facilitates a streamlined and rapid delivery.

And we're fortunate that a really significant piece of work was completed by government in the passing of the Maritime Area Planning Bill last year. That sets in place policy for offshore wind planning permission to be granted, with first planning applications for Phase 1 projects due to be submitted next year. But we must ensure that An Bord Pleanala and other state bodies are adequately resourced and equipped to quickly progress these first applications and beyond.

We also can't afford to delay investment in the electricity grid, that we know will be critical in to ensure this extra wind is able to move through to electricity network and be used as efficiently as possible with as few bottlenecks as possible.

Whilst this type of upgrading will cost, this is an investment in our future, particularly in the context of our current exposure to global fossil fuel markets, something being keenly felt by homes and businesses across Ireland.

While I recognise these are medium to long-term solutions to a current crisis, what would be unforgivable is to have either myself or someone else writing this opinion piece in 5 years' time saying the same thing – that we need to kick-start the offshore industry in Ireland.

The jigsaw pieces are just about in place, the political imperative is starker than ever, and I see the will and determination in both SSE Renewables and across the industry to ensure that offshore wind is realised well before the end of the decade.

In a short space of time we can rapidly improve our energy self-reliance, tackle the climate crisis and drive investment in coastal communities. So, let's get building.

What's new in energy storage?

Author

Bobby Smith

Head of Energy Storage Ireland

Energy Storage Ireland Conference draws huge crowd

It was fantastic to hold the first in person ESI Annual Conference in May 2022 in the Radisson Blu, Golden Lane in Dublin with over 200 industry members in attendance. Minister Eamon Ryan opened the conference and emphasised the key role that energy storage will play in our energy transition. He highlighted the unique expertise we have here in integrating renewables that we can use to scale up our energy storage capacity. We look forward to engaging on the upcoming national energy storage policy consultation flagged by the minister. It was a packed line-up full of excellent speakers and great discussions on the future of the energy storage industry in Ireland.

New Energy Storage Ireland Chairperson

Earlier this year the first ESI Council was established with Brian Kennedy from ElectroRoute elected as our new Chairperson. Brian is the Head of Trading Solutions at ElectroRoute, with 11 years' experience developing and structuring route to market solutions for renewables and storage on the island of Ireland. Brian is a great advocate for energy storage and we look forward to working with him on growing the energy storage industry even further.

Battery Storage now at 500 MW

The storage industry continues to thrive with operational projects on the island now totalling over 500 MW of capacity. Batteries such as RWE's project in Lisdrumdoagh, Co. Monaghan, ESB's Aghada battery in Cork, Greencoat Renewables' project in Killala, Co. Mayo, and NTR's first battery in Gorey, Co. Wexford are now operational and helping support the grid.

More projects are in construction and will become operation before the end of the year bringing total all-island capacity close to 700 MW!

ESI launches Game Changer Report

Our latest report *Game Changer* highlights how energy storage is the key to a secure, sustainable, and clean energy future for Ireland.

The report concludes a long piece of work between ESI and Baringa and the final results demonstrate the value that energy storage can bring to the system and to consumers. The report includes a set of recommendations to help unlock this energy storage potential, and it brings together the key asks and objectives of ESI and its various working groups. The study was modelled on a 2030 scenario of Ireland, and some of the key findings are that energy storage can;

- Reduce day-ahead carbon emissions by 50% by using long duration storage technologies
- Substantially reduce the constraint of renewable generation (over 90% reduction in constraints in a case study of Donegal)
- Deliver a net saving to end consumers in Ireland of up to €85m per year
- Contribute to low carbon security of supply by supporting renewable capacity and displacing fossil fuels.

You can find the full report on the ESI website
www.energystorageireland.com

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

Work in Wind

The Work in Wind training and work placement program trains participants to work in renewable policy, renewable planning, grid transmission and energy market trading, community engagement and more. After completing the training, the students undertake a work placement with a host company. The work placement is designed to give them vital first-hand experience and to demonstrate their skills, to build their network and hopefully, to be the first step in gaining a career in this fast-growing industry.

Program Outline

Personal Development Coaching
CV Development & Competency Interviews
Workplace Resilience
Communication & Interpersonal Effectiveness
TTI Success Insights Engagement Assessment & Report which Identifies
Introduction to Terminology & Foundational Understanding
Industry Introduction to onshore and offshore wind
Life cycle of a Wind Farm
Asset Management in the Wind Sector a Foundation Course
Seminar with industry experts
Bespoke and in depth industry modules
Overview of electricity grid policy in Ireland
Overview of electricity market policy in Ireland
Overview of community engagement/public affairs in Ireland
Overview of Biodiversity & Environmental Management
Overview of planning systems for onshore and offshore in Ireland
Work Placement
Work Placement with industry companies

Interested in hosting an intern?

Placements can be office work or a group or solo project. CVs are available on request. We can facilitate an introductory meeting or interview with trainees in advance of work placements starting.

Wind Turbine Technician

The Wind Turbine Technician program delivers a suite of GWO safety and technical certified training, wind sector overview and communication skills workshops. Technicians obtain the certificates required to go out on site after training. After completing the training, the newly qualified wind turbine technicians undertake a work placement with a host company. The work placement is designed to give them vital first-hand experience and to demonstrate their skills, to build their network and hopefully, to be the first step in gaining a career in this fast-growing industry.

Program Outline

Personal Development Coaching
C.V and Interview skills
Resilience in the work place
Effective communication
Introduction to Terminology & Founding Understanding
Introduction
Turbine Awareness Training
Life cycle of a Wind Farm
Workshop with Technicians working in the industry and industry experts
Globally Recognized Certified Health & Safety Training
GWO Basic Safety Training (BST)
GWO Advanced Rescue, Hub, Spinner and Inside Blade rescue (ART-H)
Wind Turbine Safety Rules (WTSR)
Globally Recognized Certified Technician Training
GWO Basic Technical Training (BTT)
Work Placement
Work placement with industry companies

Interested in hosting a techinican?

CVs are available on request. We can facilitate an introductory meeting or interview with trainees in advance of work placements starting to ensure best fit.

- We are also looking for speakers to give back by talking about their career journey and advice for people starting off. -

Please contact ledi@windenergyireland.com to register your interests.

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

Upcoming Resources

Introduction to Energy Storage	Making a Marketing/Sales video for your Business
Introduction to Env Law	IOSH Managing Safely for Wind Power
Introduction to Green Hydrogen	IOSH Construction and Operations Safety for Solar Power
Introduction to Renewable Energy Finance	Sustainable Green Organisation
Real World Project Management for the Renewable Energy Sector	Sustainability Masterclass
Certified Asset Management	Domestic BER
Cyber Security NIS Directive Training	District Heating
Offshore Consenting and Development	The Future Role of Digitalisation of Human and Organisational Performance in the Wind Industry
Cyber Security Training Fundamentals	Augmented Reality Solutions for Renewable Energy
Corporate PPA	Maritime Area Planning Bill (Act), 2021 – An Overview
Introduction to HV Installations	GWO Training
HV Installation Management	Wind Turbine Technical Training
Sustainability strategies Intermediate	
Carbon Footprinting	
Circular Economy	
Sustainability and ESG Reporting	

Did you know that you can save up to **30%** on the cost of training and development for your company by booking through Green Tech Skillnet?
Please visit https://greentechskillnet.mykademy.com/ to book or alternatively contact training@windenergyireland.com

If there is a course that is not listed or you would like to run some training in house please contact training@windenergyireland.com.
We are also looking to develop out training bundles to deliver a rapid translations to new roles in the energy sector for new recruits. If you are interested in participating in a focus group for a particular job role, please contact Mark Ruane at mark@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.

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Department of Further and Higher Education, Research, Innovation and Science

Statkraft powers up Ireland's first RESS Wind Farm

Author

Donal O'Sullivan

VP Wind and Solar, Statkraft Ireland

Statkraft hit an exciting and significant milestone in July, as ESB Networks energised the sub-station on Taghart Wind Farm near Kingscourt in Co Cavan, making it the country's very first RESS 1 wind farm to reach the energisation milestone.

With all seven turbines and 23 MW now installed and with the grid connection energised, the project will be fully commissioned and tested over the coming months and will be handed over into full operations by September 2022.

This was a significant milestone, not only for Statkraft, but also for Ireland as a whole. The project will ensure that clean, sustainable energy is provided to the people of Ireland, helping to power business, homes, and communities. We are very committed to helping Ireland reach its climate action targets and this is a positive step on our path to 80 per cent renewable energy by 2030 and decarbonisation by 2050.

Work on Taghart Wind Farm commenced in Q1 2021, and, with the help of our contractors and project partners, we have worked very hard to progress it as efficiently and as safely as possible. It couldn't have been done without the hard work and commitment from the teams at ESBN, Natural Power, Adman Civil Projects Ltd., Jones Engineering, Vestas, and Galetech Energy Services. We thank all of them along with our own internal construction team led by Conor Calnan and Project Manager Domhnall Harnedy for getting this project to this stage.

The project will also have a significant Community Benefit Fund in the region of €160,000 per year for the benefit of the local community. Central to Statkraft's project delivery is continuous and constructive engagement with the local community and we want to pay special tribute to the local stakeholders who engaged with us on various issues throughout the works period.

We made every effort to ensure our Community Liaison Officer (CLO) was always available for contact and there to provide necessary information and we will ensure that this support will continue as Statkraft will operate the project during the operational phase as well.

This is just one project in Statkraft's portfolio of RESS 1 construction portfolio – totalling 333 MW of renewable energy – and our second RESS 1 wind project is due to be energised very soon. Our two solar projects will follow along next year. In addition to that we were successful with a further three solar and one wind project in the second RESS auction this year and the focus now turns to getting them into construction, and ultimately producing clean energy.

For Statkraft in Ireland, this is only the beginning. We have ambitious and exciting plans for the Irish market, including the North Irish Sea Array (NISA) Offshore Wind Farm, which is currently working its way through the consenting process and will be one of the first offshore projects to be progressed in the country as well as our portfolio of grid services projects that we are developing and our two existing operational battery projects.

Statkraft first entered the Irish market in 2018 and since then our growth has been impressive, with a doubled workforce and a development portfolio that has tripled in size. I am very proud of the team that we have here in Ireland, who are a group of committed, talented and dedicated individuals who are all motivated by the same goal – a world where our homes, businesses and communities are powered by renewable energy.

Working across a diverse range of technologies such as onshore wind, offshore wind, solar, battery storage and grid services, we know that having this mix of renewable energy solutions is key to reaching our ambitious targets.

Taghart Wind Farm is only the beginning. We can all look forward to a cleaner, more sustainable future.

RenewableNI updates

with Steven Agnew, Head of RenewablesNI

As the new UK Prime Minister, Liz Truss begins to implement changes, Northern Ireland continues without an Assembly or the prospect of it returning soon.

RenewableNI continues its work with caretaker Ministers in place for Energy and Infrastructure, however, no one is pretending that the current situation is ideal. The Executive is unable to meet without a First and deputy First Minister nominated, and there is genuine concern that if the political stalemate is not resolved soon, we will not see the vital action that is needed to obtain the target of 80 per cent renewable electricity by 2030.

At the start of the summer, RenewableNI launched a Programme for Government in the Stormont Hotel to make it clear that we need change to achieve it. The invitation was extended to all MLAs and we were delighted to have representatives from all the Executive parties attend.

During the round table event members of RenewableNI discussed industry challenges with MLAs and senior planning personnel. The groups then moved on to devising solutions, before each table shared the key points of their discussion with the room.

It was made clear that we only have 5 years to get sufficient renewable projects through planning to achieve the 2030 target, and the danger we are facing of doing too little too late.

Consensus from the tables on the actions required included

- **Resource the planning system to reduce timelines;**
- **Streamline the process for green infrastructure projects;**
- **Clear statutory timeframes that are realistic and industry can have confidence will be achieved.**

While it was hopeful to see the turnout from newly elected MLAs, we can't continue without an Assembly. RenewableNI is continuing its lobbying and events programme in the coming months to keep the importance of policy change to limit climate change at the forefront of people's minds.

Following the Programme for Government launch I have been meeting MLAs and engaging local councillors in their area, in addition to meetings with senior officials in the relevant departments.

In September we will be joining a range of businesses and bodies for an event in Belfast's St George's Market to raise awareness of RenewableNI to a new audience.

On the 6th September we launched The Clean Revolution – Building NI's Offshore Wind Industry which set out the economic and environmental benefits of reaching 1.5 GW by 2032. The report made it clear this needed collaboration between industry and government.

We will put the spotlight on the Energy Strategy at our annual Smart Energy Conference, held on Thursday 6 October in the Clayton Hotel in the heart of Belfast.

The theme this year is "Building the Pathway – Implementing the NI Energy Strategy" and we will continue to address issues raised at the Programme for Government launch.

We will be examining what has been achieved from the 2022 Action Plan and considering what the 2023 Plan should include. Expert speakers will set out key milestones in the Strategy, what major obstacles are and how to overcome them.

Panel discussions on Markets and the NI Planning system feature short presentations before opening to the audience for questions for the panellists.

We are delighted to have the new Chair of RenewableNI, Garth McGimpsey, launch the RenewableNI strategy, closely tied to the NI Energy Strategy. Still a work in progress this is shaped by members' feedback, and a strategy day with our Committee earlier this year.

In addition, our new Deputy Chair, Paul Carson, will lead the discussion on planning.

This year, with an aim to be an inclusive event, registration opens at 9.30am with the conference starting at 10.00am. This allows people to juggle their work life balance, ensuring school runs can still take place, or travel on the morning rather than spending the previous night in a hotel. The venue is in easy reach of public transport (cutting travel emissions) and the Enterprise will bring you to Belfast with plenty of time to walk from the station.

We are delighted to host a networking drinks reception this year in a private bar adjacent to the conference room. With this in mind, we have secured a special rate for anyone staying in the Clayton Hotel to attend the conference.

You can find out more about the conference at: *www.RenewableNI.com/SmartEnergy*. We would love to see you there to add your voice to RenewableNI's call for change to achieve 80 per cent renewables by 2030!

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XOCEAN XO-450 performing survey operations on Greater Gabbard Offshore Wind Farm

Rather than using conventional ships with a full crew, XOCEAN utilises its proprietary technology called the XO-450 Uncrewed Surface Vessel (USV), which is the size of an average car and half the weight. Travelling out to sea, the vessel collects data from the marine environment while emitting just 0.1% of the carbon of traditional ocean vessels. XOCEAN offsets all carbon emissions, and as a result delivers carbon neutral data to clients. In 2022 alone, XOCEAN has displaced the emission of over 20,000 tons of carbon, with a stated corporate objective to displace one million tons over the next five years. This target is grounded in XOCEAN's ambitious plans to increase business with scale and pace globally in the coming years.

XOCEAN XO-450 performing survey operations on the Hornsea One Offshore Wind Farm

In addition to substantial reductions in environmental impacts of operations, XOCEAN's unique technology delivers data to clients at a lower cost and eliminates safety risks for crews. As the XO-450 is satellite controlled, this allows pilots and surveyors to work from anywhere, including their own homes.

Comprehensive, reliable data enables companies to make informed decisions, manage their operations responsibly, and carry out work with minimal impact to the environment. With 60,000 operational hours and over 150 projects completed to date, XOCEAN is championing the growth of the green ocean economy by collecting data in a new and more sustainable way.

XOCEAN CEO James Ives said, "An offshore wind farm requires vast amounts of data throughout its 40 -year lifespan, from detailed surveys during the development and construction phases through to routine integrity inspections during 30+ years of operation and final surveys during decommissioning or repowering. Traditionally, this data has been acquired using conventional survey vessels. However, we are seeing strong demand from our offshore wind customers for USVs to perform the same task, delivering a safer, low carbon and lower cost solution. In the past year, we have successfully delivered surveys across Europe, North America, and Asia, including over 50 Offshore Wind missions for new and existing clients such as SSE Renewables, bp and Ørsted."

Example of a recent XOCEAN Offshore Wind survey campaign showing multiple USVs operating simultaneously

"In one of our most recent missions, we delivered high quality bathymetry and backscatter data for Reach Subsea for a routine Operations & Maintenance inspection survey at Equinor's Sheringham Shoal offshore wind farm using three USV's simultaneously completing 88 foundation and 2 x 22km export cable routes."

Fleet of XO-450's mobilising for survey operations

XOCEAN's fleet of USVs is on track to double in 2022, and with the recent addition of X-23 to the fleet, XOCEAN continue to push the boundaries of the technology to meet growing industry demand.

Over the past year, XOCEAN has tripled its revenue and opened new operations in Canada, the US, Norway and Australia to complement its operations in Ireland and the UK. The team has grown from 41 to 180 and plans to recruit 70 additional hires over the next 6 months.

You can learn more about **XOCEAN** by visiting xocean.com or follow us on our social media channels on **LinkedIn, Twitter, Facebook** and **Instagram.**

For project enquiries or for more information on what XOCEAN can do for your project, please contact XOCEAN directly by emailing **info@xocean.com**

Upcoming Events

Save the Date

14th & 15th February	WEI Annual Conference 2023	Clayton Burlington, Dublin
10th March	Irish Wind Industry Awards 2023	Killashee House Hotel, Kildare

Sponsorship 2023

The sponsorship brochure is now available for 2023 opportunities. Please email Lorraine Killick, Events Manager on lorraine@windenergyireland.com for any sponsorship queries.