



INSIDE THIS ISSUE

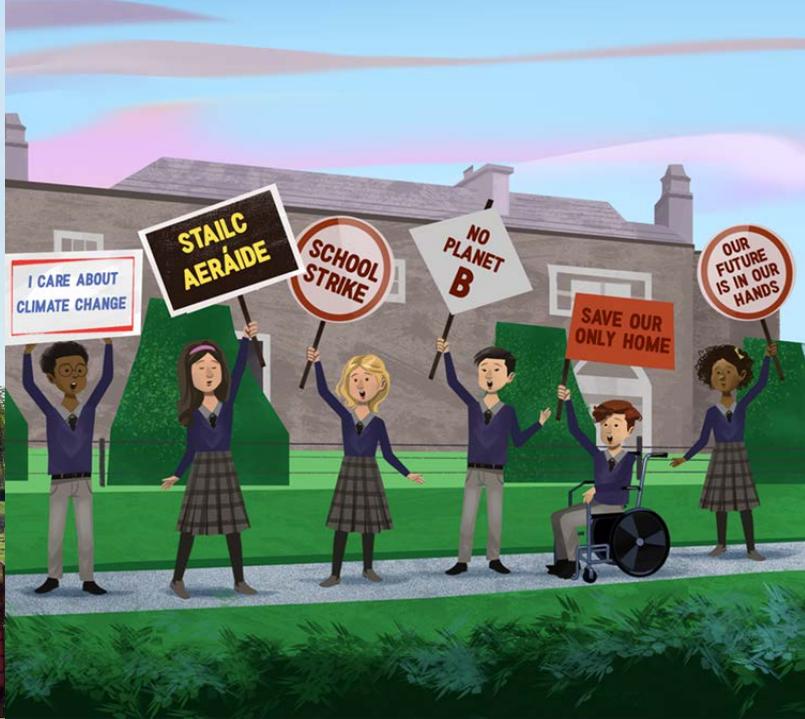
Economics of Onshore Wind

Marine Planning Update

EirGrid Consultation

SPRING 2021
EDITION





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Welcome to the Spring 2021 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

by Noel Cunniffe, WEI Deputy CEO

Change is all around us. You may notice that the IWEA Spring magazine has donned a new look under our new banner of Wind Energy Ireland. You may also notice that there is a different black-haired Connaught man writing this foreword, and that follows the departure of David Connolly after four ground-breaking years.

On behalf of all the staff and our members, I would like to extend my heartfelt thanks and well wishes to David as he sets out on his next journey. David has been at the heart of WEI's transformation in recent years and spear-headed many of the improvements we have seen in the industry since 2017. His standout legacy will be the incredible accomplishment of demonstrating to Government that there is a clear, cost-effective, path to 70% renewable electricity by 2030.

He has inspired the team and wider industry to be bold in our asks, take pride in our actions, and be confident that our industry will be at the centre of Ireland's energy transition. Best wishes for the future David, and wherever you end up, I know we will all be eagerly watching to see what you will accomplish next.

The Past - Wind Energy Delivered

While 2021 began by carrying forward many of the same challenges which 2020 had for us as a society, we also received the exciting news in January that Ireland successfully achieved 40% renewable electricity in 2020 with wind energy leading the way according to SEAI's indicative figures.

Wind energy has transformed Ireland's electricity system over the last ten years - cutting millions of tonnes of CO2 emissions each and every year and reducing our dependency on imported fossil fuels.

We are incredibly proud of the contribution our members have made to achieve this and it would not have been possible without the work of EirGrid, ESB Networks and the CRU in developing the grid and integrating renewable energy in such volumes.

It is also to the credit of Minister Eamon Ryan that the supports he put in place for renewable electricity when he was last in this department enabled us to develop the 4,200 MW of onshore wind energy which delivered this target.

The Present - Rapid Progress Continues

Achieving our 2020 target puts us in a strong position to continue developing wind energy to meet our 2030 ambitions. Rapid progress has continued in recent months as the first RESS 1 projects entered construction. More and more projects are progressing through the planning system and a large volume of onshore and offshore wind projects are preparing for upcoming RESS auctions.

2021 is promising to be just as busy a year as 2020 with critical consultations and decisions coming thick and fast. EirGrid and SONI's



recently published Shaping Our Electricity Future consultation will be a key focus for all our members over the next three months. It will set in place the strategy to develop the electricity grid, electricity market and system operations out to 2030.

The Government has also opened a consultation on the next version of the Climate Action Plan, which we expect to raise the ambition still further.

We have also seen progress on getting an offshore consenting regime in place with the approval of the National Marine Planning Framework and steady progress on the recently renamed Maritime Area Planning (MAP) Bill, but there is still more to do.

The coming months will make the roadmap to achieving at least 70% renewables clearer, but one thing is for certain, industry is continuing to deliver its side of the bargain. Our pipelines are more than capable of meeting the 5 GW offshore wind target and 8.2 GW onshore wind target.

The Future...is carbon-free

March 23rd 2021 marked a historic day for future generations in Ireland. The Government approved the landmark *Climate Bill*, which puts Ireland on a path to Net-Zero emissions by 2030 and mandates a 51% reduction in emissions over the next decade. This is the beginning of something which I believe the next generation will look back on with pride - that we took the first steps to giving them a sustainable, secure future.

Just a few weeks ago our answer to the challenge set out in the Climate Bill was published in the *Our Climate Neutral Future: Zero by 50* report, which was developed by MaREI, the SFI Research Centre for Energy, Climate and Marine, hosted by University College Cork, on behalf of Wind Energy Ireland. The report is a true call to action for the Government and for every level of Irish society as it sets out Ireland's decarbonisation pathway to becoming truly energy independent and delivering warmer homes, cleaner air, and tens of thousands of new jobs.

The report identifies how meeting a net-zero carbon economy will mean an almost trebling of Ireland's electricity demand by 2050 and it calls out the need for more than 20 GW of wind generation to meet just our domestic electricity demand.

Delivering this future will require unprecedented action across every level of Irish society, but we as an industry can, and will, rise to the challenge.

And so, our industry is in a place where we can look back with pride what we have achieved, continue towards 2030 with confidence that we have the ability to deliver, and look to the future with hope at what a clean, secure energy future will mean for our children and our economy.

MEMBERSHIP NEWS



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New Offshore Wind Opportunities Manager
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Ocean Winds (OW) is a global partnership between EDP Renewables and ENGIE that was established in 2020 and acts as the exclusive vehicle for investment in offshore wind for both parties. The Company's portfolio has 1,500 MW in operation and under construction, including the 950 MW Moray East project in Scotland, and a further 4,000 MW under advanced development across Europe, the USA and Asia.

OW is entering the Irish market with development proposals for a number of offshore wind farms in Ireland, having submitted a Foreshore Licence Application for the bottom fixed Cailleach Offshore Wind Farm project in the Irish Sea, off the coast of counties Dublin and Wicklow. The project is expected to deliver up to 1,600 MW of low-cost, low-carbon energy to Ireland by 2030. With it, OW brings to Ireland a track record of project deliverability, cost reduction and creating opportunities for the local supply chain, and aligning its ambition with the Ireland Climate Action Plan.

BYRNE LOOBY

Shane McCarthy

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Founded in 1998 in Ireland, ByrneLooby employs approximately 260 engineering consultants and professionals located in 14 offices across Ireland, the UK and the Middle East. We provide engineering design consultancy services across ten sectors: energy, marine and coastal, geoscience, buildings, transportation, environment, water, flooding, waste management and conservation. Our experience spans maritime, environmental, geotechnical and civil engineering disciplines. Our teams have made significant engineering contributions to many Irish ports such as Greenore Port, Dublin Port, Fishery Harbour Centres such as Killybegs, Rossaveel, Castletownbere, Howth and an Daingean.

Our consulting expertise covers the entire project lifecycle of wind energy projects including, feasibility studies, consenting, planning and assessment, engineering design, procurement and contract management, asset optimisation, operations and maintenance.



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Port of Waterford is the Commercial State Company charged with the management, operation and development of Waterford Harbour under the Harbours' Acts. The State is the sole shareholder in the company.

The port handles substantial vessels with ships' draughts of up to 9.0 metres and lengths of up to 200 metres. Belview has excellent inland connectivity with direct access to the M9 and active rail connections into the port. Belview Port currently handles over 1.5 million tonnes of bulk products (mainly agri-related) together with another 100k+ tonnes of break bulk (mainly timber, steel and project cargoes).

On-shore renewable wind energy projects regularly utilise Waterford for the importation and storage of all components. The location, lifting & handling capability, extensive quay side storage capacity and excellent motor-way access are all critical success factors. Waterford is well placed to facilitate and to continue to support the on-shore and off-shore renewal energy industry and will actively seek opportunities to contribute.



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SLR is a global leader in environmental and advisory solutions: helping you achieve your sustainability goals.

We have established a strong reputation for providing robust technical advice using experience gained over almost 20 years of working on electricity infrastructure projects at all stages of the project lifecycle, from strategic optioneering, through the outline and detailed routeing and siting process, the planning application stages through to construction, mitigation and condition discharge.

Active in renewable energy for over 15 years, SLR can support your portfolio with an extensive range of planning and permitting related services from project conception to decommissioning. Our team is trusted by a broad range of clients to provide industry leading expertise from environmental specialists and planning, to civil engineering and GIS. SLR has delivered support to over 400 renewable energy projects, with a proposed installed capacity in excess of 15GW, within Europe.



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Warwick Energy is an engineering-led, experienced and successful developer of a range of energy projects. It is now principally known for its track record in delivering well designed and pioneering offshore wind projects in the UK, including the Barrow project (commissioning completed 2005), Thanet (2010) and Dudgeon (2017) totalling nearly 800MW. When it was commissioned the Thanet project was the largest offshore wind farm in the World. Warwick is currently involved in developing a number of new offshore wind projects, totalling many gigawatts, in several jurisdictions.



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Mech-V is an Irish-owned and Irish-based independent wind turbine inspection company. Having a local base of expertise allows Mech-V to support the needs of Irish clients in an efficient, sustainable and cost effective way.

Their wind industry experienced engineers offer high quality inspection and technical services. They support a transforming renewables sector from the pre-takeover of assets to their extended life. Mech-V is a completely independent provider of inspection services meaning the company is unaffiliated with owners, operators and wind turbine manufacturers. This ensures complete impartiality of findings.

Sample Services:

WTC Inspections
Blade Inspections (drone)
Gearbox Inspections

Met Mast / Pylon / Overhead Line
Inspections
Balance of Plant Inspections
Lubricant Analysis

RDS-PP Consultancy
Emergency Call Out
Technical Investigations
And more...



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We've created a platform for the most important financial and commercial asset management jobs in the renewable energy industry. OneView is a secure cloud platform specifically designed to streamline financial workflows, rid the industry of excel files and enable portfolios to scale in size and geographically.

Our platform produces financial statements in different formats for each stakeholder and manages the entire accounts payable function with ease. We have also designed a new way of budgeting for the industry, to end the annual and time-consuming exercise.

We enable customers to view, analyse and action their key financial information in one place, even if they are working with partners or 3rd party vendors.

OneView powers valuations, improved capital efficiency and asset optimisation, with both a positive impact on the portfolio's valuation and a significant reduction in risk. We've even launched a new free tool for the industry (<https://fincovi.com/one-i-sem>) which organises the I-SEM information into one place. Check it out.



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APEM are a global environmental consultancy with an office in Co Cork, providing independent advice and guidance to support government and environmental regulatory guidelines.

Our integrated expert approach covers all areas of the natural environment, enhanced with innovative remote sensing technology and world-class laboratory services to provide advice reinforced by data excellence.

We support the growing offshore wind energy industry with high quality baseline information for EIAs to determine if the scale of impact on the environment is acceptable. Using the latest digital technology, we capture data efficiently and cost-effectively.

The highly experienced APEM team manage the whole process, from initial survey specification, design and planning, through to the delivery of the EIA and recommendations. By using ultra high-resolution imagery we ensure the highest identity rates when it comes to species surveys.

For more information visit www.apemltd.com.



GREEN REBEL

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Green Rebel provides a comprehensive site investigation and consultation service to the offshore renewable energy sector. We use state-of-the-art survey technologies, dedicated vessels and aircrafts to produce superior data for geophysical, geotechnical and environmental marine surveys.

Our metocean division equips the industry with world-leading Floating LIDAR Systems and our first class fishery liaisons division specialises in facilitating engagement between the fishing industry and the offshore renewable energy sector.

We are the only Irish company providing this suite of secure and local supply chain services. Our innovative business strategy will enable developers to shorten their project timelines and ensure Ireland can deliver its 2030 targets.



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Design. Build. Connect. From complex services to the offshore energy and energy transition sector, large dredging and coastal defence projects, to challenging civil and environmental works. Worldwide. Integrated competences and investments lead to creative, sustainable and innovative solutions that deliver results, and produce satisfied customers.

As a tier one marine contractor, Jan De Nul Group offers full Engineering Procurement Construction and Installation (EPCI) and Balance of Plant (BoP) services for offshore wind and the renewable energy sector. With a focus on delivering the next generation offshore energy projects safely and sustainably, recent investments include the acquisition of the subsea cable-lay vessel connector, to complement the order of new-build Offshore Jack-Up Installation Vessel Voltaire and Floating Crane Installation Vessel Les Alizés. With the Connector, Jan de Nul Group now has the world's largest cable transport and installation capacity.

Jan De Nul Group has previously worked in Ireland, and in 2020, we undertook dredging projects in Cork and Belfast, two key harbours for future offshore wind.



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Shannon Foynes Port Company, Ireland's deepest sheltered commercial harbour and largest bulk port company, has statutory jurisdiction over all marine activities on a 500 km² area on the Shannon Estuary, stretching from Kerry to Loop Head to Limerick City.

Adjacent to the world's busiest shipping routes, with current capacity to handle over 10 million tonnes annually and with water depths of up to 32 m, we are uniquely positioned to expand as an international cargo hub serving the domestic, European and worldwide markets. This expansion will be accommodated by up to 1200 hectares of land zoned for Port development.

Due to the Port's location proximate to the Atlantic wind resource, considered the best in the world, and its plans to introduce new services that could assist in decarbonising the supply chain, the Port has a significant role to play in the Government's Climate Action Plan with regard to energy generation and transport.



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SuperNode was born from the realisation that the grid as currently constituted will not be capable of handling the increased wind energy and other renewables, needed to decarbonise the global economies. If we continue adding renewable energy at our current pace, the grid will be overwhelmed by 2030, delaying the construction of new infrastructure.

SuperNode is developing cables using superconductor technology. Superconductivity is a phenomenon in some materials that, when cooled to very low temperatures, can transmit power with zero electrical losses. These superconductor cables can carry up to ten times the power in a much smaller surface area than conventional cables and require significantly less infrastructure, materials and space. The overall cost of installing superconductor cables will be lower than high-capacity conventional cables. This is due to the need for less infrastructure, primarily significantly smaller collector stations.

Pat Cox, former President of the European Parliament, is chairman of SuperNode, which is co-owned by founder Eddie O'Connor and Norwegian industrial investment group AKER Horizons.

Event Listing **Dates for your Diary**

energy storage IRELAND

ESI ANNUAL CONFERENCE 2021

SAVE THE DATE
 Virtual Conference
 23rd & 24th June 2021

Main Sponsor: Statkraft
 Supporting Sponsor: ElectroRoute, Green Tech, Skillnet, SUIR
 Strategic Partner: DRAI

OFFSHORE WIND ENERGY IRELAND CONFERENCE 2021

SAVE THE DATE
 21st & 22nd September 2021

Main Sponsor: ESB Energy for generations
 Supporting Sponsor: codling wind park, energia group, MASON HAYES & GIBBON, SSE Renewables, Statkraft, WINDGAT

Eamon Ryan

Minister for the Environment,
Climate and Communications
talks to *Irish Wind*



The 23rd of March marked an important step in our effort to respond to climate change. The Government published the *Climate Action and Low Carbon Development (Amendment) Bill 2021*, which places on a statutory basis the responsibility of the State to achieve the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy by 2050.

The Bill will ensure a robust governance mechanism through the making of five-yearly carbon budgets and annual revisions to the *Climate Action Plan*. The first two carbon budgets will incorporate our ambition to reduce greenhouse gas emissions by 51% from 2018 – 2030.

Over the next 30 years, the growth and direction of our energy system, from the production of electricity to the use of energy in our homes and businesses, will be organised by our ambition to achieve Net-Zero greenhouse gas emissions by 2050. This summer, the Government will launch the first revision to the *Climate Action Plan*, which will form the basis for achieving our 2030 greenhouse gas emissions target.

Meeting our climate ambition will require a transformation in the way we generate, distribute, store, and consume electricity. We are committed to producing at least 70% of our electricity through renewable energy sources by 2030, although this milestone is only a small point in the road to 100% renewable electricity at the heart of an increasingly electrified Ireland. This journey will need to happen much earlier than 2050 and the challenge will not be based on the % Renewables, but the residual emissions in the electricity system.

If we can get Irish electricity to provide very low carbon electricity by 2030 it will enable a huge shift in the ability of Ireland to decarbonise other sectors. This will require significant investment in renewable energy generation capacity, the associated grid infrastructure and the continuing implementation of appropriate system services to integrate increasing quantities of variable electricity into the electricity system.

The Renewable Electricity Support Scheme (RESS) is the flagship policy mechanism to ensure the installation of additional onshore and offshore capacity. Following approval of the results of the first RESS auction by Government in September 2020, 68 projects, representing over 1GW of new renewable generation capacity, have received Letters of Offer. Detailed planning and work is underway on the terms and conditions of the second RESS auction, including for the first offshore wind-specific auction.

Community ownership has been built into the fabric of the first RESS auction through a separate community category, with seven projects receiving letters of offer. My Department and the SEAI are putting in place a community framework, supported through €3 million in funding this year, to ensure a pipeline of community projects is supported through the RESS process. I remain committed to the development of shared ownership opportunities in RESS projects so that citizens can

participate more meaningfully in our decarbonisation drive.

Corporate Power Purchase Agreements (CPPAs) will also play an important role in providing a non-subsidised route to market for renewable generators.

In installing this additional renewable capacity we must ensure that we do so with the support of communities across our island and in such a way that protects biodiversity and the environment. This requires the State to establish and maintain a robust planning framework and for project promoters to engage with local communities, to undertake comprehensive environmental assessments and to comply with the spirit and letter of the Habitats and Birds Directives.

Project-level ecological assessments and data collection will be supported by the development of national level datasets. The SEAI's recent 2021 Research, Development and Demonstration call includes topics on the collection of ecological data to inform policy development and consenting for offshore renewable technologies and on the adaptive management of wind farm interactions with hen harriers. The second phase of the ObSERVE programme, managed by my Department, will augment the available data on bird populations offshore through the inclusion of fine-scale aerial surveys on the South-East and South-West coasts. We must ensure that our renewable energy infrastructure is built on sound ecological foundations, where we ensure that our developments have sufficient data to ensure that the projects do not either harm the very environment we are duty bound to protect.

On the planning front, the Government will in the coming months publish Ireland's first Marine Spatial Plan - the National Marine Planning Framework – and the Maritime Area (Planning) Bill 2021, which will provide the basis for a more strategic and efficient use of our marine resources and establish a modern, up-to-date legislative marine planning framework for offshore renewable energy developments beyond the limits of the foreshore.

The scale of the challenge ahead of us is immense. It will require new ideas, innovative policies and a well-resourced State. Over the coming months and years, we intend to meet that challenge with actions of answerable scope and ambition. We have a unique opportunity now to use our renewable energy resources to decarbonise our society, and after 2030 use our renewable energy resources to aid the decarbonisation of Europe.



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Connecting over 2GW of renewable energy to the grid.

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The journey to a Net-Zero future

Paul Deane
Senior Research Fellow, MaREI, UCC

If you follow climate action in the international news you are probably hearing the phrase 'Net-Zero' quite a lot. Net-Zero means reducing emissions as close as possible to zero and balancing the remaining emissions with removals with natural and technology solutions. From Europe to the US and even China global leaders are setting targets for Net-Zero.

In October 2020, the Irish Government published a new climate law which commits Ireland to net-zero carbon emissions by 2050. Over the past number of months, my colleagues and I in the SFI funded MaREI centre have been collaborating with stakeholders from Wind Energy Ireland to understand what a Net-Zero energy system would mean for Ireland.

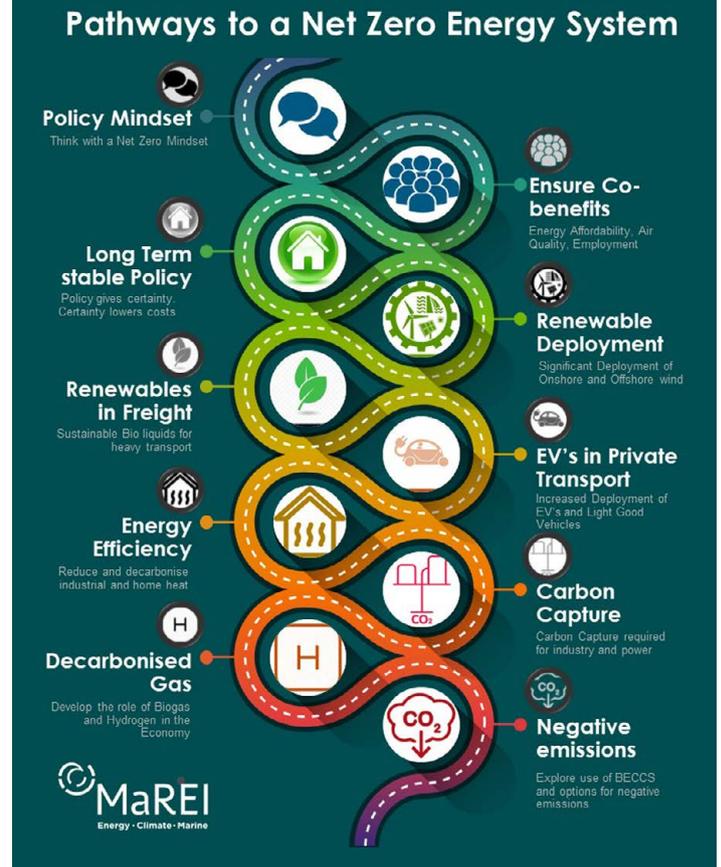
We didn't look at agriculture or landuse as these are quite complex areas and instead focused on the future of the full energy system in Ireland. This means we looked across heating, transport and electricity and explored one pathway to a Net-Zero future by 2050 where carbon dioxide emissions are effectively reduced to zero thus limiting Ireland's contribution to global warming from domestic energy consumption.

The good news is that all the technologies, concepts and interventions required to reach Net-Zero exist today in some form, however they must be radically scaled up across the economy.

We found that while there are many possible pathways to a Net-Zero energy system, they share several common features. International science tells us that energy efficiency, electrification and deployment of market ready renewables are important no-regret options that must happen now, and these can get us most of the way.

Energy efficiency is the foundation of all Net-Zero visions with renewable energy as its supporting structure. This means we must speed up work on improving our housing stock and encouraging our industries and businesses to save energy.

We must also look to unlock our vast renewable energy resource in Ireland with wind energy being the dominant source but look to solar and Ireland's sustainable bioenergy as important resources to compliment wind energy in this challenge.



Both energy efficiency and increased renewable deployment are robust policy choices that reduce carbon emissions, save money, improve air quality, and reduce our dependence on imported fuels.

Beyond that, there are future energy choices relating to the scale and magnitude of technologies that will help the hardest to carbonize areas. These are hydrogen production, carbon capture and storage and synthetic fuels. While the scale and mix of these specific technologies is currently unclear, it should not be, and is not a barrier to action.

As we move away from fossil fuels and harness renewable indigenous resources, we enhance our energy security position. Today Ireland is one of the most dependent countries in Europe on imported fossil fuels, however, by 2050 this dependence could reduce to less than 5%. This requires a resilient electricity system with adequate flexibility, underpinned by grid development, flexible loads, sufficient capacity, interconnection and storage.

To achieve a Net-Zero future, we found that significant investment must be made but because these are paid back over decades the % investment in terms of GDP is relatively low. We calculate that the additional incremental investment in 2050 over the current level of climate ambition of an 80% reduction in CO₂ is approximately 1.4% of GDP and this is manageable in the context of the wider economy.

But while there is lots of good news, this will not always be easy and it will not happen by itself, in fact the journey to a Net-Zero energy system is very hard. There will be difficult choices ahead and some headwinds. Infrastructure such as grid must be built, large investment must be sought, renewable fuels required, and homes and businesses transformed.

Without these changes and societal and political support, a Net-Zero energy system cannot be achieved. Engagement and transparency at an early stage with the public is key but the investment required is more than financial, it is social and political.



Wind delivers jobs and investment for rural Ireland

More than 5,000 people work in Ireland's onshore wind energy industry, which is worth more than €400 million annually to the Irish economy.

The findings come from a new report, *Economic Impact of Onshore Wind in Ireland*, which was prepared by KPMG for Wind Energy Ireland and launched at their Annual Conference.

It also looked at the anticipated economic impact of onshore wind over the next decade if the target in the Climate Action Plan to build an additional 4,000 MW by 2030 is achieved.

"The sector has a strong pipeline of projects in planning, with planning, and going into pipeline as of early 2021," the report found.

"If Climate Action Plan targets are reached in 2030, total economic impacts arising from the required level of capital investments would be nearly €2.7 billion through to 2030 and the onshore wind sector's value add could be ~€540 million in that year, across all of its operational and capital activities."

Research for the report was carried out in late 2020 and included a survey of Wind Energy Ireland members who generously gave time to provide answers to detailed questions prepared by KPMG.

This ensured that the conclusions were supported by a substantial level of detail on the actual operating costs and capital expenditure of Wind Energy Ireland members.

"Without the volume – and quality – of information provided I don't think we would have been able to generate a report of this level of detail," said Justin Moran of Wind Energy Ireland.

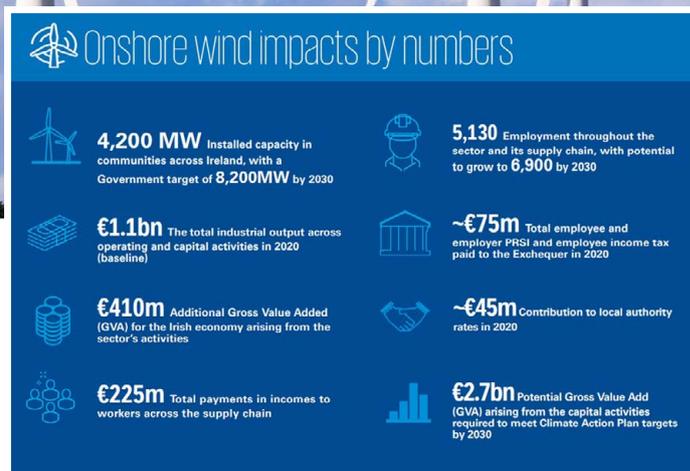
Driving Ireland's economy

The report confirms the increasing importance of renewable energy to Ireland's economy. Wind energy currently provides almost 40% of Ireland's electricity demand and saves around 4 million tonnes of CO2 every year.

The KPMG research shows that as well as playing a leading role in the fight against climate change wind energy is a significant contributor to Ireland's economy, providing thousands of jobs and generating hundreds of millions of euro to the exchequer.

"Wind energy is good for the environment and it's good for Irish business," said Mr Moran. "As well as driving down the cost of electricity we are creating jobs in planning, development, construction, operations and trading.

"These are long-term, sustainable jobs which are at the heart of the new Green Economy. Every time the turbine blades spin that is directly



supporting Irish jobs and investment at home."

With a strong – and growing – pipeline the 8,200 MW target for onshore wind in 2030 is absolutely achievable and the KPMG research indicates that this could increase employment in the sector to almost 7,000 jobs.

"By 2030, assuming targets are reached, total annual labour income could be €300 million," said the report. "As the Irish economy recovers from the impact of the pandemic in the early 2020s, the onshore wind sector will provide stable employment to a growing number of workers in communities across Ireland."

Rural Ireland

The report particularly highlighted the impact of onshore wind energy in rural Ireland where renewable energy is an increasingly important source of investment.

"Wind farms in Ireland are predominantly focused in the regions, which results in the investment, economic activity and employment predominantly being based outside of the major urban areas," the report says. "It is viewed as a critical component contributing to the current and long term economic development of regional and rural areas."

Wind farms contribute more than €40 million annually to local authority rates and in Tipperary, Cavan, Roscommon and Leitrim this is well over 10 per cent of county's entire commercial rates income.

Other counties, such as Kerry, Donegal, Limerick and Offaly also rely on wind farms as substantial sources of income.

"These rates payments are extremely important to local authorities," said Justin Moran of Wind Energy Ireland. "Without these wind farms the County Councils would need to cut spending on services like libraries, road maintenance or housing, or increase the property tax for local homeowners."

KPMG estimated that of the €140 million in annual operational expenditure – excluding capital investment – the Northern and Western Region saw €50 million and around €83 million went into the Southern region.

With thousands of MW of onshore wind development planned over the next decade those figures can only be expected to rise.

The research was made possible by generous support from Wind Energy Ireland members Bord na Móna, Brookfield Renewables, Coillte and Statkraft.



ElectroRoute

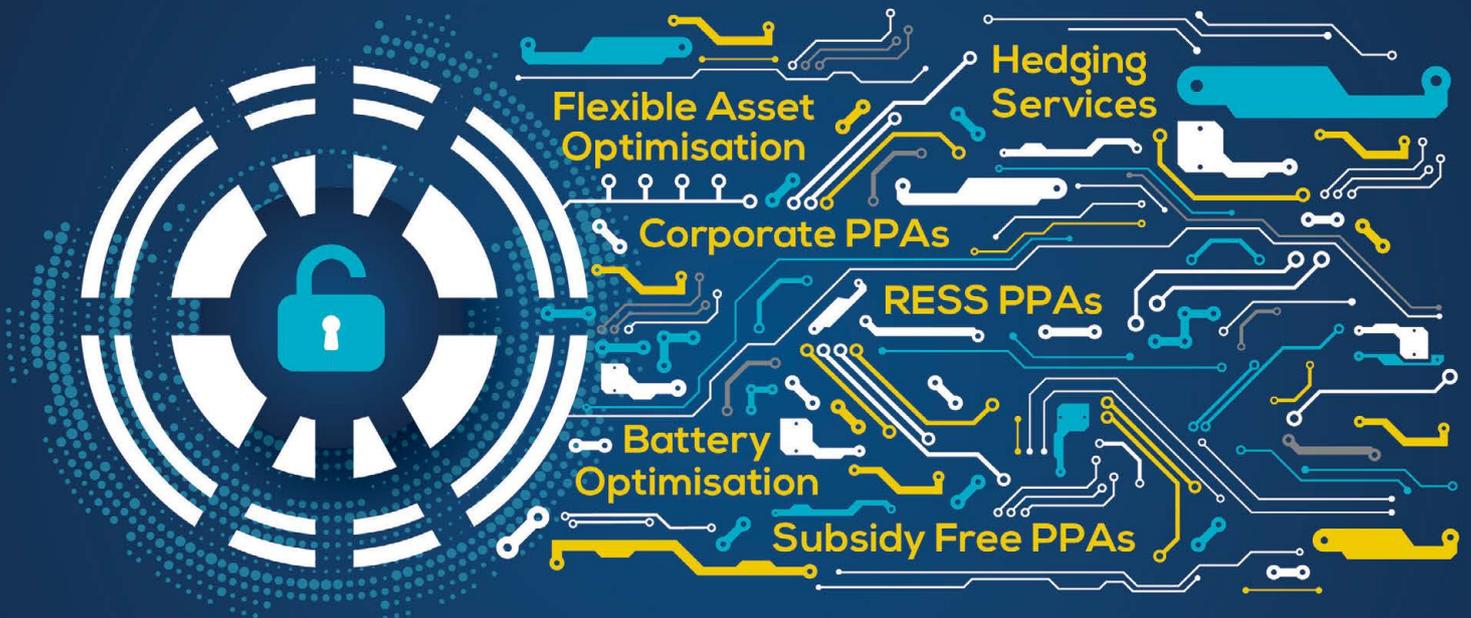
a subsidiary of Mitsubishi Corporation



RESS - UNLOCKING YOUR MARKET POTENTIAL

ElectroRoute, a subsidiary of the **A Rated** Mitsubishi Corporation, is the leading independent energy trading firm in Ireland with a deep knowledge of the Irish energy market.

ElectroRoute specialises in providing Trading Solutions, including PPAs, Balancing and Optimisation Services to the wholesale power market. ElectroRoute's portfolio exceeds 1.4GW in the Irish and UK market including circa 450MW of dispatchable units, 200MW of batteries and 800MW of wind and solar plants. ElectroRoute has a dedicated team of over 85 trading and energy professionals based in Ireland, the UK and Japan. With over 10 years of experience in wind and solar forecasting, trading of intermittent and flexible generation and optimising PPA structures, ElectroRoute remains the leading solutions provider to the independent generator.



OUR RESS SOLUTIONS

With the introduction of the first Renewable Energy Support Scheme (RESS), the ElectroRoute team has developed robust solutions for independent asset owners who are looking for an optimised and flexible route to market for their RESS assets. These solutions build on our proven track record of implementing trading solutions for over 800MW of project financed renewable projects in the Irish market and are underpinned by A rated credit support.

- **ElectroRoute RESS PPA** – a straightforward, bankable power purchase agreement on competitive terms that removes key market risks, including forecasting, balancing, negative prices, cashflow and regulatory risks, and is tailored to meet the specific requirements of the project and your lenders.
- **Supplier Lite Management and Balancing Services** – for assets seeking a bankable direct route to market, ElectroRoute can enable these structures by managing the supplier lite vehicle and providing forecasting and trading services for the asset thereby removing balancing risk.

Please get in touch with David McInerney at david.mcinerney@electroroute.com to discuss your RESS project's requirements. We can quickly provide you with pricing proposals and term sheets tailored to suit your project that will provide you with the certainty you need as you progress through the RESS process.

Experienced – Flexible – Reliable – Innovative



A specialist energy consultancy

Providing trusted advice in Ireland for over 15 years

- Connection feasibility and access studies
- Constraint analysis
- Power quality & grid code compliance
- Noise & shadow flicker assessment
- Technical & environmental due diligence

TNEI at the Wind Energy Ireland Conference

Join us at **15:00 on the 14th April 2021** for a 'Meet the Expert' session where TNEI Director James Mackay will be presenting: **Wind Farm Noise Guidance - Where Are We Now?**

Get in touch



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Don't Constrain Your Expectations

It is encouraging to see real transformational change in the energy industry in Ireland. There is now a clear message of commitment and positive leadership in the form of the Climate Action Plan and a target of 70% renewable electricity by 2030. However, we need to be cautious as there are clear barriers to delivery in the form of grid deployment and access to grid capacity.

What is Dispatch Down?

For the avoidance of doubt, dispatch down refers to the combined levels of constraint and curtailment. Curtailment relates to situations where the output of generators may be reduced to keep the overall power system secure and is carried out on a pro rata, all island basis.

Constraint, on the other hand, relates to local transmission network limitations, specifically the overloading of transmission lines, cables and transformers and can be considerably different depending on where a generator connects. Constraints can be significantly reduced by transmission network reinforcements.



All-island Yearly Dispatch Down, Curtailment & Constraint
(source: EirGrid)

So how can a new generator have any certainty about the commercial viability of their project when entering into the development pipeline? Without understanding the potential constraints facing their connection, developers will need to price this risk into their RESS bid model. This may result in too high an offer price for their generator, resulting in an unsuccessful bid in RESS or the other extreme, bid in too low a price that won't end up covering return on investment.

Managing the Risk Better

As part of the connection process, EirGrid issues Area specific constraint reports. The analysis looks at a number of broad scenarios over a three-year period and also a future grid scenario which considers the impact of additional major reinforcements. It is not feasible for EirGrid to assess all combinations and permutations for every node on the network when carrying out constraint analysis.

Looking at an array of sensitivities dealing with different connection build-out rates, potential delays in network reinforcements or even additional bulk load growth can tell a very different story for a specific connection. Tailoring constraint analysis can help manage risk and reduce uncertainty when assessing the viability of a project.

Bespoke Constraint Analysis

TNEI has developed a modelling tool to perform network constraint analysis. This tool offers flexibility when calculating the MWh and percentage of wind power

reduction, based on a whole-year hourly simulation which includes unit commitment, generation dispatch, calculation of branch and nodal sensitivities, contingency analysis and the minimisation of renewable power reductions.

“Tailoring constraint analysis can help manage risk and reduce uncertainty when assessing the viability of a project”

This in-house tool has been benchmarked against EirGrid's own published figures. This gives confidence that scenarios and sensitivities studied by TNEI, specific to a particular connection, are robust, dependable and can help form a meaningful assessment by the developer of the actual cost, potential financial loss due to constraints and best approach to trying to manage the risk.

Sensitivities in Action

Let's take an example; TNEI independently and accurately reproduced the figures published by EirGrid in the ECP-1 Area A Constraints Report, based on the same assumptions. The “Initial Scenario 2022” for a node in Donegal showed potential constraints of 9%. TNEI carried out sensitivities in subsequent study years, assuming reinforcements based on latest ATR delivery dates and local generator connection build-out.

It was found that in 2024 constraints would potentially increase to 13.5%, due to the increase of generation connections. However, by 2028, due to key reinforcements being delivered, the constraint levels reduce to nearly 8%. This demonstrates that carrying out targeted analysis can show the impact other generator connections and/or various reinforcements can have on the constraint levels at a particular node. It can also indicate how long potential constraints maybe in place and the key tiggers to either increasing or decreasing those constraints.

Bespoke constraint analysis, that is proven to be dependable, can help reduce risk regarding the financial feasibility of generators in the coming years when there is so much uncertainty regarding grid role out and further policy reform. The TNEI team is well placed to provide you expert support and advice regarding constraint analysis, come speak to us today.

Director of TNEI Ireland, Dearbhla O'Brien, will be speaking in the **Grid session** at the **Wind Energy Conference on the 15th April 2021**, where she will be discussing the impact of constraints in more detail.

Get in touch

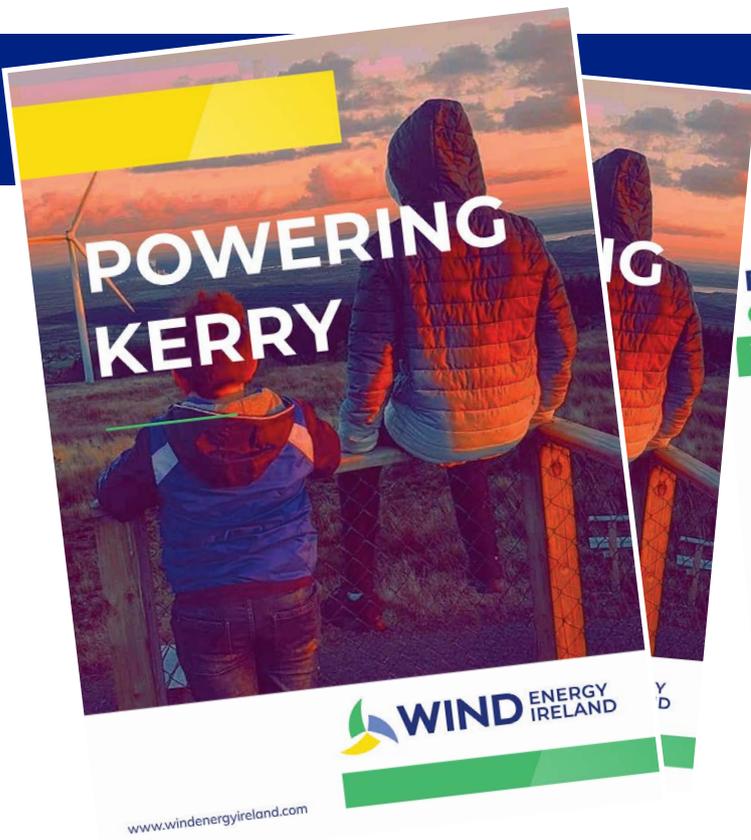
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A specialist energy consultancy



POWERING KERRY'S COMMUNITIES

WIND FARMS PROVIDED MORE THAN €300,000 IN DIRECT SUPPORT TO KERRY COMMUNITIES IN 2019

ROCKMOUNT CARE CENTRE, KILGARVAN

Rockmount Care Centre provides nursing care to those living in the Kigeron and the greater Kiermore area. Since COVID-19 and the greater Kiermore area, SSE and other wind farm community fund helped ensure that needs were delivered to the elderly and vulnerable in the community and to buy protective equipment.



CORDAL GAA CLUB NEAR CASTLEISLAND

The community decided that a walkway to the setting where the 200 people in the club and the 300 people in the wider community could gather would be a valuable addition to their community.



BALLYLONGFORD ENTERPRISE ASSOCIATION

SSE Activity Leaseholder Wind Farm provided funding of €13,270 over 3 years to travel a lift at Ballylongford Community Hall.



www.windenergyireland.com

Kerry Wind Farms Pay €5m in Commercial Rates Every Year

The most recent information from the Valuation Office and Kerry County Council's budget shows that Kerry will receive more than €5 million in commercial rates every year from wind farms and this is only expected to rise.

Rates from wind farms help keep libraries open, repair roads and support economic development.

Powering the Kingdom

Powering Kerry, a 6 page brochure tells the story of what the wind industry contributes to Kerry. It is being shared with elected representatives, the executive of Regional Assemblies and Local Authorities, the media, business interest groups and others in Kerry who have the potential to multiply the message that the wind industry brings;

Our regional public affairs programme was initiated in the autumn of 2020. It's aims are;

- To influence a more supportive political and economic environment for wind farm development.
- To inform target audiences about the wind industry; and
- To raise awareness of the benefits of wind generated energy and associated technologies with a view to making it easier for Wind Energy Ireland wind farm developers and other members to bring wind farm projects to fruition to meet Government renewable energy targets.

Our work started in Kerry. Ninety percent of the County Councillors in County Kerry took up on our offer to listen to what they had to say about their constituents' feedback on wind farms.

CHEAPER POWER CLEANER POWER IRISH POWER

POWERING KERRY'S ECONOMY

Wind energy is powering Kerry's economy through commercial rates, development fees, landowner payments and buying supplies and services in the county.

KERRY WIND FARMS PAY €5M IN COMMERCIAL RATES EVERY YEAR

The most recent information from the Valuation Office and Kerry County Council's budget shows that Kerry will receive more than €5 million in commercial rates every year from wind farms and this is only expected to rise.



"YOU HAVE NO IDEA THE SECURITY THAT INCOME GIVES ME"

It's a blessing to have a steady income from the wind farm. It's a blessing to have a steady income from the wind farm. It's a blessing to have a steady income from the wind farm.

LOCAL JOBS FOR LOCAL PEOPLE

It's the superior to 2020 wind farms in Kerry. It's the superior to 2020 wind farms in Kerry. It's the superior to 2020 wind farms in Kerry.

WORKING IN WIND ALLOWED ME TO MOVE FROM DUBLIN TO BE NEAR FAMILY IN KERRY

MARK COLEMAN works for SSE Wind Services. He has moved from Dublin to Kerry to work for SSE Wind Services. He has moved from Dublin to Kerry to work for SSE Wind Services.



Wind Farms Power Kerry Jobs

- Enercon, one of the world's leading manufacturers of wind turbines choose Tralee for its Irish HQ and employs more than 70 full-time employees in the County Kerry town.
- Kerry jobs are secure and sustainable at Astellas Pharma in Killorglin because they are powered by wind.
- The wind industry in Kerry is providing local jobs for local people, Powering Kerry tells the stories of Enercon, SSE and Energia wind industry employees in Kerry.



Mountainous, Exposed Land that Stood for Years Doing Nothing is Put to Economic Use

Tim is a landowner in Kerry with turbines located on his property, talking about his involvement with the wind industry Tim told us "you have no idea the security that (wind industry) income gives me" and he went on "things get done in Kerry communities because of wind farm community support, that might otherwise never have got done".

Kerry is on the Cusp of an Energy Revolution

We give a flavour of the opportunities that Kerry can reach for in the next 10 years and the big opportunities for coastal communities for jobs and economic development at Fenit/Tralee Port and Shannon Foynes Port.

Offshore Wind Energy is Ireland's Economic Strategy for the future, Kerry is Ireland's number 1 source of renewable energy and is strategically poised, with the right investment and support, to grasp the enormous opportunities from offshore wind.

Did you know?

Wind Farms Provided More than €300,000 in Direct Support for Kerry Communities in 2019.



For more information about Powering Kerry contact **Yvonne O'Brien**, yvonne@windenergyireland.com

WATERFORD

What we learned from listening

We asked for and listened to the views of Waterford County Councillors over recent months.

Almost all councillors who engaged in detailed discussion with WEI expressed their recognition of the need to reduce reliance on fossil fuels and their general acceptance of renewable energy.

80% of the councillors elected in Waterford express pro-wind or a neutral attitude to wind.

20% of these councillors were overtly pro-wind and open to building deeper knowledge.

Councillors told us they rarely, if ever, find themselves being pressed or persuaded to put their support behind the development of wind energy.

We need to work to change this.

Councillors were able to say that what they know about wind farms came from people opposed to wind energy.

We need to work to change this.

Many councillors told us their attitudes to wind energy were often shaped by what they heard from a small number of people that they recognise to be a vocal minority.

We need to work to change this.

Councillors in Waterford are candidly interested in the economic opportunities which wind could open up for their county and their people.

There is a window of opportunity to share information with councillors whose views are more neutral, to build their knowledge about wind energy, with a view to fact and understanding becoming the foundation of local decision making and public discussion about wind energy.



BORD^{NA}MÓNA

Helping Make Ireland Carbon Neutral by 2050

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W12 XR59

Phone: +353 45 439000

www.bordnamona.ie



INTRODUCING FLOSH

Floating offshore wind, Supergrid and Hydrogen

Greg Bohan

Policy Analyst, Wind Energy Ireland

Last year the Irish Government adopted a Programme for Government (PfG) that set out a long-term vision for 30 GW of floating wind energy in Ireland. Setting this ambition gave further momentum to an already rapidly growing area of interest for the industry in Ireland.

Floating offshore wind – FLOW for short – has long been of interest to industry members in Ireland, mainly due to the bathymetric conditions around the Irish coastline.

All but one of the 'Phase 1' projects – the first batch of offshore projects in contention for development in Ireland – are planned for the east coast. The main reason for this is that the seabed depths are shallow enough on the east coast for fixed-bottom turbines, a more mature technology that has grown significantly over the last decade to reach a total installed capacity of 25 GW in Europe at the end of 2020.

Conditions off our south and west coasts are very different however, with much deeper waters, much closer to shore, which make fixed-bottom unfeasible. Generally, water depths of ~ 60 m or more make it prohibitively expensive to deploy fixed-bottom offshore turbines.

FLOW, on the other hand, uses floating foundations that are kept in place by a system of moorings and anchors. This means the depth of water at the wind farm site is less important, and FLOW can be deployed in water depths anywhere from 60 – 1000 m.

FLOW will be key to the future of offshore wind in Ireland as it will enable us to exploit the wind resource we have off our south and west coasts. This is where the majority of our seabed territory lies. The wind speeds in these areas also happen to be some of the strongest in the world.

This provides an unprecedented economic development opportunity for Ireland and has the potential to deliver clean, green, sustainable growth and development, whilst facilitating the energy transition.

Following on from the Government announcement, in March, WEI officially established its FLOSH committee (Floating offshore wind, Supergrid and Hydrogen), to focus on the development of FLOW, and the related topics of the supergrid and hydrogen and electrofuels, which will be key enablers to this.

The 30 GW target set in the PfG may seem enormous in the context of Ireland's electricity system today, with a total installed wind capacity of ~ 4,300 MW, but given the expected growth in demand for electricity in Ireland and in Europe, and the role FLOW can play in the decarbonisation of other sectors of the economy, it might just be a drop in the ocean. To reach carbon-neutrality by 2050, it is estimated that Europe could need over~ 1,000 GW of wind energy.



One thing that is becoming clear is that FLOW is no longer just a technology for the future – its costs are falling rapidly, and it can deliver now.

This is something the new committee will investigate in its first piece of work, which will be a vision document for the development of FLOW in Ireland.

This document will also look at the current status of the sector, its projected development globally, and how Ireland can look to become an early mover and fully capture the potential benefits from the technology by powering ourselves and Europe.

Ireland has access to a much greater wind resource than we will ever need domestically, so to fully exploit it, we will need to export power. To do this, our interconnection with Europe will need to improve. This is where the supergrid will be needed. This is the idea of a much more interconnected, meshed electricity grid throughout Europe which will allow single wind farms to send power to multiple countries, and electricity to be sent around Europe efficiently.

Electrofuels (sometimes called synthetic fuels or power-to-X) provide another exciting route to market for wind energy. For example, renewable electricity can be used to produce green hydrogen via electrolysis, which can then be used on its own or combined with other elements to create a variety of electrofuels. Many sectors which cannot be easily electrified, such as shipping or aviation, will use electrofuels to decarbonise. Initially low-cost onshore wind will be used to produce these but fixed and floating offshore wind will be required to deliver the necessary scale required in the future.

At the end of 2020, Europe had just 62 MW of installed FLOW capacity, but this is projected to grow quickly as the first commercial scale projects come online in the early 2020s. It is projected that by 2030, there could be up to 13 GW worldwide, with places like France, Norway, the UK, Japan and South Korea expected to be major proponents of the technology.

In Ireland alone, there are already 8 GW of FLOW projects in various stages of development in the Atlantic and Celtic Sea, and our members believe that FLOW can contribute to Ireland's 2030 target of 5 GW of offshore wind. This would leave us well placed to become a leader in a global sector.

This is what the new FLOSH committee will investigate in the coming weeks months and years, as we look to put the frameworks in place to allow Ireland to become a leader in a global energy revolution.



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, secure landowner agreements, produce the necessary environmental reports and prepare planning permission applications to deliver consents for shovel-ready projects.

Our track record is unrivalled. Talk to us.

**PLANNING • ENVIRONMENTAL • ECOLOGY • ORNITHOLOGY
• ESTATES & PROJECT MANAGEMENT • LAND SOLUTIONS**

Flexibility needed in marine planning

The publication of the Maritime Area Planning Bill is imminent but industry representatives are highlighting the need to ensure a degree of flexibility to support the development of offshore renewable energy.

The Maritime Area Planning Bill is the name given to what was, until recently, the Marine Planning and Development Management Bill. It is the key piece of legislation needed to develop a planning system that can accommodate offshore renewable energy.

The General Scheme of the Bill was published last year and examined by the Joint Oireachtas Committee on Housing, Local Government and Heritage, who met with a delegation from Wind Energy Ireland as part of their work.

Following publication of the committee's report in January the Department of Housing, Local Government and Heritage has been working on a complete draft of the Bill which is expected to be published in April.

With cross-party support for offshore renewables and repeated statements from the Government that they consider this a priority piece of legislation it means that the Bill could be passed before the summer.

Level of flexibility

A key priority for the wind energy industry is to see how the legislation provides a level of flexibility to developers similar to the design envelope approach used by our nearest neighbours.

The design envelope allows a developer to describe the project within a number of agreed parameters for the purposes of carrying out an Environmental Impact Assessment. It means that the environmental reporting can be carried out on the basis of the maximum extents of the parameters, i.e. a 'greatest impact' scenario.

This provides the developer with a level of flexibility and allows for the evolution of the technology and the project in the years between consenting and deployment.

"The design envelope was used in the UK as it rapidly expanded its offshore sector," then Wind Energy Ireland CEO David Connolly told the Oireachtas committee.

"When consent is granted, it can be four or five years before construction begins. During that time, there can be significant developments on the technology front.

"Accommodating those developments when the construction phase is reached can really help to reduce the costs of developing offshore wind. We are looking for a similar approach where there is some flexibility to adjust based on the technology developed between the time when planning is granted and construction begins."



Turbine evolution

The rapid evolution of turbine generating capacity is just one example of how quickly technology is changing. As late as Q4 2017 the maximum turbine capacity ordered to that date in Europe was in the 8 – 8.9 MW range.

The next year saw 2.8 GW of 9 – 10 MW range turbines ordered in Europe. By 2020, along with another 1.4 GW of 9 – 10 MW turbines, there were orders for 1.5 GW of 11 MW turbines.

Last year also saw Siemens Gamesa launch a 14 MW offshore turbine and in February of this year Vestas followed up with a 15 MW turbine.

In just three years the most powerful turbine then being ordered in the European offshore market (ie, in Q4 2017) is facing competition from new models with a generating capacity almost 100% greater.

Increased costs

If a developer is unable to deploy the most up-to-date technology, ultimately this means increased cost for the electricity consumer and greater CO₂ emissions. It can also mean relying on outdated technology with corresponding maintenance challenges.

The need for flexibility in planning consent for offshore renewable energy was explicitly recognised by the EU Commission last November when it said that, "The design envelope approach provides flexibility during the design and pre-planning phase of offshore wind energy projects and allows a degree of freedom to optimise wind turbine parameters prior to construction.

"It is a proven and acceptable approach to consenting where there is uncertainty in the final design of a project, and there is an established procedure for ensuring robust assessment of significant effects."

Arguments from industry persuaded the Oireachtas committee to recommend to the department that they consider permitting a design envelope approach so long as it did not damage the environment.

Wind Energy Ireland has since been working on a short paper setting out how best the existing Irish planning legislation for onshore development could be adapted to ensuring offshore wind farms can be consented in a manner that is transparent and environmentally robust, while also enabling developers to deploy the latest technology.



Eoin Brady

Senior Associate, Construction, Infrastructure & Utilities at MHC

Introduction

A decision with considerable significance for the renewable energy industry was handed down on 25 January 2021 by Mr Justice Owens in the High Court. In *Right to Know CLG v Commissioner for Environmental Information and Raheenleagh Power DAC*, the Court overturned a decision by the Commissioner for Environmental Information (the Commissioner), which had found that an Independent Power Producer (IPP) namely, Raheenleagh Power DAC (RP), was not a “public authority” within the meaning of the European Communities (Access to Information on the Environment) Regulations 2007 (the AIE Regulations).

The AIE Regulations transpose Directive 2003/4/EC on public access to environmental information. The Directive was enacted by the EU to give effect to the provisions of the Aarhus Convention. The purpose of the Convention is to ensure that members of the public have sufficient access to information in order to be able to participate in decision making by public authorities affecting the elements of the environment.

Facts

RP is a joint-venture company which operates a wind farm in County Wicklow. The issued shares were originally divided equally between Coillte and a subsidiary of ESB.

In May 2017, Right to Know, an NGO seeking to further public access to information, requested data relating to wind turbine noise from RP under the AIE Regulations. The AIE Regulations operate to provide the public with the right to access environmental information held by public authorities. The request was refused by RP. The refusal was upheld by the Commissioner on the basis that RP was not considered a “public authority” within the meaning of the AIE Regulations. The refusal was appealed by Right to Know to the High Court.

Definition of Public Authority

While there was an aspect of the decision in relation to the relationship of RP with ESB and Coillte, the most significant part of the Court’s decision for the renewable energy industry and IPPs generally was the Court’s decision in relation to the definition of a public authority where a person is “performing public administrative functions under national law, including specific duties, activities or services in relation to the environment”

Referring to the principal decision of the Court of Justice of the EU (CJEU) dealing with this area of law Case C-279-12 *Fish Legal*, the High Court stated that the definition of “public authority” for the purposes of Article 2(2)(b) included:

“Administrative authorities defined in functional terms, namely entities, be they legal persons governed by public law or by private law, which are entrusted, under the legal regime which is applicable to them, with the performance of services of public interest, inter alia in the environmental field, and which are, for this purpose, vested with special powers beyond those which result from the normal rules applicable in relations between persons governed by private law.”

Judge Owens stated that one must look at electricity generation for the national grid under the regime provided for in the 1999 Act in functional terms. He held it is clear that electricity generation involves the entrustment of entities such as RP with ‘the performance of services of public interest’.

This was clear from the fact that such entities once they had obtained the necessary authorisation from the Commission for the Regulation of Utilities (CRU) to construct an electricity generator had ‘special powers’ over and above those which would apply to other private entities. These included the ability to acquire compulsorily private property rights in order to deliver electricity infrastructure in the public interest. The rights being referred to here are the ‘step in rights’ of IPP’s which ordinarily reside with the ESB. They are afforded to IPPs through the granting of ‘Special Orders’ or CPOs by the CRU under Section 45 of the Electricity Supply Act.

The ability of such IPPs to be supported through subsidies provided by electricity consumers through the Public Service Obligation (PSO) levy contributed to the assessment that they were providing a service of public interest. Market deregulation in electricity generation and the participation of a number of entities in electricity generation and supply to the national grid did not mean that such entities were not providing public services.

The Judge held as follows:

“I have concluded that the Commissioner erred in law in deciding that RP is not a “public authority” within Article 2(2)(b) of the Directive. This error related to his analysis of the functional effect of the statutory regime governing the activities of RP in European Law. My conclusion is that RP is a “public authority” within that provision”.

Conclusion

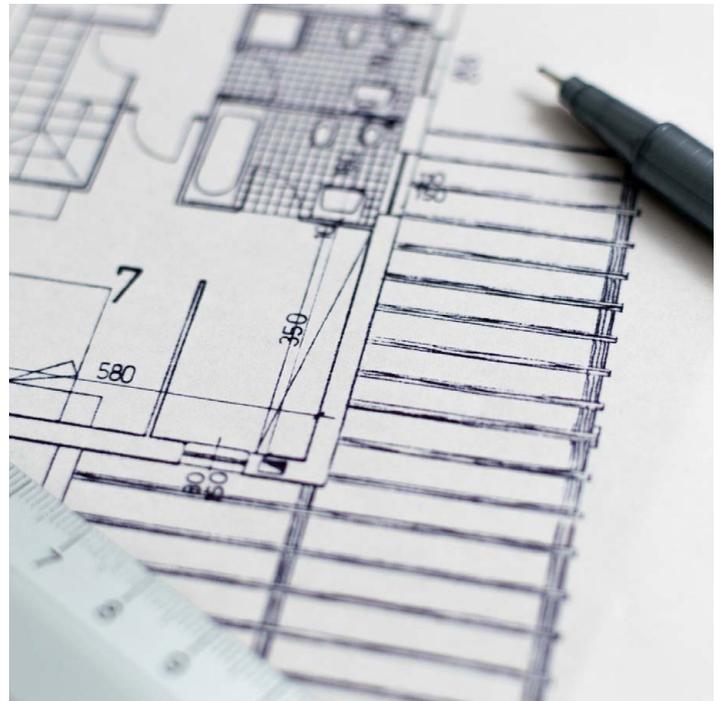
The decision heralds a significant new departure in relation to the rights of access of members of the public to information in relation to renewable energy developments. The Court has found that all privately owned IPPs with authorisations under the 1999 Act are now to be considered 'public authorities' for the purposes of the AIE Regulations.

The decision of the Court potentially brings all information held by IPPs within the ambit of the AIE Regulations, in so far as they are performing services or activities in relation to the environment. The operation of a wind or solar farm will therefore fall within the range of activities subject to the AIE Regulations.

The decision potentially subjects all internal communications concerning development of renewable energy infrastructure to public access, subject to certain defined exemptions under the Regulation. Those exemptions, which include the potential to withhold the release of information concerning commercially sensitive material, are interpreted on a restrictive basis and are only applicable where it is in the public interest to withhold the information. There is also a presumption that environmental information should be released.

There has been a considerable expansion in recent years on what constitutes 'environmental information'. The Courts have recently found that any information "on" an activity or measure affecting the elements of the environment would potentially come within the scope of the Regulations.

The AIE Regulations operate to apply to all environmental information 'held by or for' the public authority. While it would appear from the decision that the operative date for an IPP to be considered as a public authority would be the date of receipt of an authorisation to construct a generation station from the CRU, the AIE Regulations will apply to all environmental information held by the IPP as of that date, regardless of when such information was generated. The practical implications of this for IPPs are therefore considerable.



While an individual IPP may not be a 'public authority' until it achieves an authorisation, all information concerning any future development by that IPP may now be subject to release prior to any subsequent planning application as the IPP will be a 'public authority' at that point.

While it is too early to speculate on the full implications of the decision, it is undoubtedly one of the most significant in terms of its practical consequences for the renewable energy industry delivered in recent years.

Vestas

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Wind. It means the world to us.™



Renewable Energy Bursary Profile

Kelvin Martins was one of two recipients of the 2020 Renewable Energy Bursary launched in the memory of the late Niamh Burke – a well known and respected lawyer on energy construction projects.

Over a 20-year career Niamh advised on some of Ireland's largest energy, infrastructure and construction projects. To honour her memory and her contribution to the development of renewable energy in Ireland, the bursary was established.

The fund is administered on behalf of Arthur Cox and her family by Wind Energy Ireland. It is intended the bursary will be offered each year from 2020 – 2025.

Kelvin was successful last year, applying to the fund in order to begin a PhD to explore the role of hydrogen in Ireland's decarbonisation strategy at Dublin City University.

What have you been up to since you were awarded the bursary?

It allowed me to start my PhD straight away, so I registered with Dublin City University back in August and have been working on the initial stages of my research since then. I have also continued lecturing part-time at CCT College Dublin and have mostly been dedicating myself to work and studies during these challenging times when we cannot really do much else.

How has / has COVID impacted your plans?

The pandemic has not had a considerable effect on my professional or academic plans so far - since a PhD is not a taught degree, it can be done remotely with very little inconvenience. I currently meet my supervisor (Dr James Carton) via Zoom at least once a week and carry on my research as normal.

Can you tell us a bit about your studies?

My research is about Hydrogen technologies and their potential as a decarbonising solution for Ireland. It is still too early to tell the exact route I am going to take, but I currently envisage my research leaning

towards education and training in these technologies and how that could be incorporated into the Irish higher education system.

What are your plans for when you are finished?

This degree will take at least four years to complete, and many things can happen between now and then. However, I do have a strong interest in academia and see myself as an educator in the future.

How has the bursary helped your studies?

It has helped me immensely; in fact, it enabled me to start my PhD sooner rather than later in life and will fund the course fees for the first two years. Such a prestigious award was also a huge boost for my self-esteem and gave me confidence to pursue this extra step in my education and my career plans.

Is it an exciting area to be involved in? – there is a lot of talk about Hydrogen.

It is a very exciting area to be conducting research on at the moment - I feel that anything that can bring a solution to our current climate emergency is well worth being involved in. As I said, I aim to combine the technical approach to these very promising hydrogen technologies with my passion for education, and focus my research on the dissemination of these technologies to students and young engineers. I feel that there is a considerable gap in education and training on sustainability, and particularly on Hydrogen, for being a technology that is not so mature yet. I aim to fill that gap as much as I can, raising awareness for Hydrogen and enabling people to understand it, use it and work with it. Ideally, my research project will benefit not only me, but numerous other students and academics, and evidently the environment as a whole.

The 2021 Bursary recipients have just been announced
- see our website for more details

Preparing the way for more renewables

Ireland's power grid needs to undergo a fundamental transformation if the country is to meet its ambitious 2030 renewable energy targets. That transformation – and the options for its delivery – are now the subject of a nationwide public consultation being carried out by Eirgrid.

"Electricity demand in Ireland has increased substantially in recent years and will continue on a similar trajectory," says Eirgrid chief executive Mark Foley. "Over the next 10 years, we project that Ireland will require the connection of up to 10,000 megawatts of additional renewable generation. This power will have to be generated, connected to the grid, and delivered throughout the island. We need to ensure the grid is able to carry this volume of power across the country to where it is needed. This will require the most radical transformation of the system since the advent of electricity itself."

Eirgrid has produced a report, *Shaping Our Electricity Future*, which sets out the different approaches to developing the grid over the coming years.

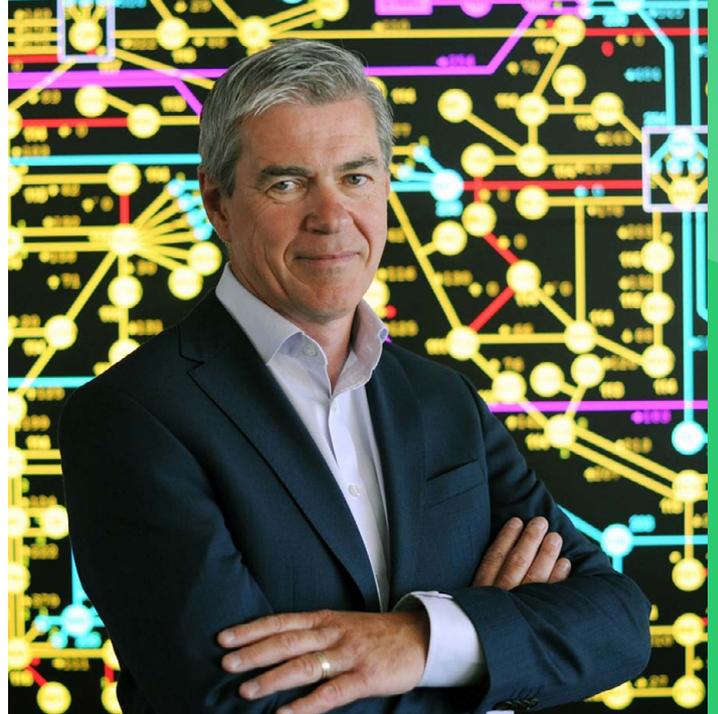
The four broad approaches range from developer-led, where the private sector decides where to locate new generation capacity, to one where advances in technologies will deliver the resilience required by the grid. The costs are not inconsiderable and range from €1 billion to €3 billion depending on the option or mix of options chosen.

"The different options aren't mutually exclusive," Foley emphasises. "The world is not as simple or binary as that. Different issues can come up that lead you in one direction or another within any of the options."

He explains that there are three separate dimensions to the challenge, with the first being generation and where to put it.

"Generation will increasingly come from renewables and that means the old centralised model has gone away. That presents big questions. The second is where the demand is going to come from. At the moment it happens organically. People put data centres here or there, for example. Maybe the right place to put demand is not in Dublin."

The third dimension is the grid. "Eirgrid sits in the middle," Foley points out. "How are you going to link demand with generation? We have to fill the gap in the middle. When you start to look at the growth pathway from a grid perspective to 2030 maybe we should influence where the demand is going to come from. Rather than just say we will build the grid come what may. We have to look at ways of getting the whole system right. The consultation opens up the debate on that. But it's not just about the grid, it's about the other dimensions as well."



Generation

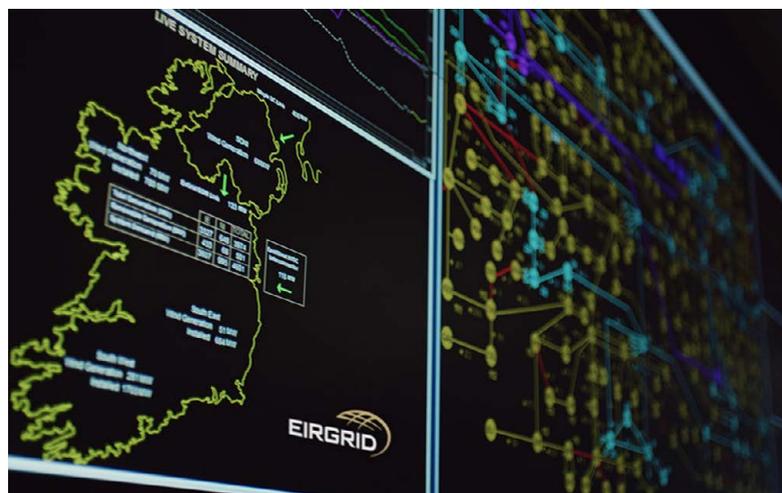
According to Foley, the developer-led model has served the country well up until now. "Ireland performed exceptionally well in green electricity up to the end of 2020 under the developer-led model. Developers decided where to put onshore windfarms and came to Eirgrid for the grid connections."

The next model is generation led. "In this case we would look at influencing where generation goes. You can put wind in most counties and solar in most places south of a line from Galway to Dublin. You can put offshore wind off the east coast. What if we thought in a prescriptive way about where it should go by looking at the grid and where demand is likely to come from?"

The demand-led option would see attempts to influence the location of new demand. "We could start to think about a more regional approach and look at areas where it would be advantageous to put demand," says Foley. "That would make the grid challenge more addressable."

The fourth and final approach is technology led. It is the most expensive but is under consideration nevertheless. "We have to look at things that are a bit left field. We are willing to look at radical solutions. It is incumbent on us not to rule anything out."

The consultation process has begun and will continue for 14 weeks. "This is the biggest single consultation ever done by Eirgrid or perhaps by anyone in the country," Foley concludes. "We really want to leave no stone unturned in terms of our reach out. Based on the feedback received we will produce a roadmap in the autumn."



Replacing Volatility with Certainty

PrepayPower Energy Trading are a new innovative trading services company offering competitively priced services and flexibility on the standard terms that are currently available in the market. The company has a wealth of experience in energy trading and associated services in both the Irish and European markets.

We are currently managing the hedging, trading and market operations of Ireland's largest pay as you go supplier in electricity and gas. We are also active in proprietary trading in the ISEM and GB markets with a 365-trading desk in place.

Our team holds a variety of energy market experience including Trading and Asset Management; Renewable Energy Development, Grid Operations and Planning with EirGrid; Supply company hedging, trading, price forecasting, market and settlement operations.

Being part of the PrepayPower group, PrepayPower Energy Trading has the financial backing to meet the credit needs of potential counterparties.

As a manager of a large supply unit active in the ISEM, we can offer a simple, certain, fully managed direct route to market for renewable assets to supply our customer load. We want to speak to owners, operators and investors in wind and solar assets.

Merchant

PrepayPower Energy Trading understand the need for certainty to asset owners, and as a result we are actively offering flexible long-term fixed price PPAs along with fully integrated balancing services and settlement operations. We offer simple and transparent pricing over durations from 1 to 5 years.

RESS

We offer fully integrated PPA, balancing and settlement services for RESS projects. In addition, we are also offering SLSA for clients who wish to avail of this route to market.

Balancing Service Provider

With an existing 365-trading desk we are able to offer competitive balancing services, with end-to-end settlement services.

Long Term Merchant PPA offerings

In less than 3 years the ISEM has seen significant market change and volatility with a rise in the occurrence of negative and very low Day-Ahead prices. More recently the market has experienced higher scarcity driven prices.

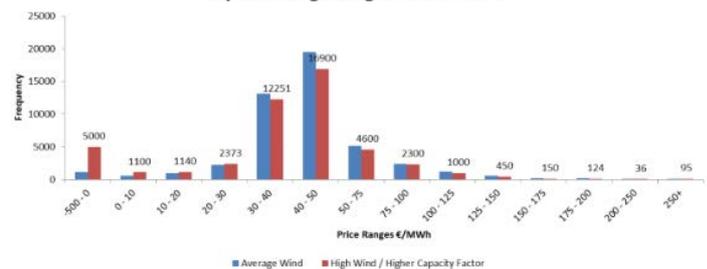
We offer merchant generators the potential to lock out some of the risk of low and negative prices by offering some of the higher priced upside over a longer contract period.

Long Term Price Forecast 2021-2026



5 Year Forecast ISEM

5 year Pricing Histogram 2021 - 2026



5 Year Price distribution ISEM average and high wind years

Our bespoke forward pricing models indicate the potential for continued volatility including multiple negative, zero and low-priced periods over the next 5 years. However we can offer a competitive long term average price to lock out this risk. If you are interested in locking in a fixed price deal please come talk to us.

Storage Asset Management and Optimisation

As active proprietary traders and managers of assetless units in ISEM and GB, we are skilled at identifying fiscally attractive opportunities for storage devices.

Investment

As part of the PrepayPower Group, we are open to discussion on all levels of partnership and investment opportunities.

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Policy Update

The policy team currently manages ten committees – Markets, Grid, Planning, 70by30, Offshore, Community Engagement, Health & Safety, Asset Management, the new Floating Offshore, SuperGrid and Hydrogen Committee, Storage with our colleagues in Energy Storage Ireland, and we also support Northern Ireland policy with our colleagues in RenewableNI.

Each committee contains several working groups in which experts actively contribute on a range of industry-related issues. These range from responding to public consultations, to commissioning economic analyses and reports, to identifying policy changes which will deliver renewables at lower costs to the consumer. The working groups provide our members with an opportunity to influence key stakeholders and policy decision-makers, via the WEI platform, and therefore help to shape energy policy in Ireland.

Several key workstreams currently active across various working groups and committees are described below. Any member of WEI can apply to join a committee by emailing office@windenergyireland.com.

Price Review 5

The CRU's PR5 decision was published on 18 December 2020. This effectively sets the budget for ESBN and EirGrid to develop and operate the electricity system over the next 5 years. This is critical to ensuring we can achieve the 70 per cent renewable electricity target by 2030 in the most efficient and cost-effective manner. WEI submitted a detailed response to the CRU's PR5 draft determination arguing for sufficient funding and incentives for the System Operators to deliver new grid infrastructure and minimise dispatch down.

The CRU's final decision is very positive and most of the requested capital investment has been allowed. There is a total allowed capital expenditure of €4 billion in PR5 of which almost €1 billion is for the transmission system. The CRU has also given incentives to EirGrid to minimise annual dispatch down below 5% and increase RES-E to 55% by 2025 which are very welcome. A summary of the CRU's PR5 decision can be viewed on the WEI website.

EirGrid's Shaping Our Electricity Future Consultation

EirGrid and SONI's long awaited Shaping Our Electricity Future consultation was published on 8 March 2021. The consultation aims to shape the path to hit 70% RES-E by 2030. The TSOs have presented strategic options across grid, markets and operations as to how best to achieve our renewable targets and are inviting feedback until 14 June 2021.

A key area of the consultation is the different grid options for 2030 as the TSOs have set out four different scenarios for renewable capacities, transmission reinforcements and demand to deliver 70by30. Feedback is welcomed on the different scenarios and it is likely that the final outcome will be a blend of all four. Throughout April and May, WEI will be coordinating a very comprehensive response across multiple WEI committees and working groups to ensure the TSOs' final roadmap, which is to be published in Q3 this year, can deliver the onshore and offshore renewable capacities we need for 2030.



RESS

All signs remain positive for the second onshore RESS auction taking place in 2021, as well as the commencement of the first offshore RESS auction in late Q4 2021. The onshore RESS 2 timelines and Terms & Conditions consultation are likely to be published in April 2021. This will be of great interest to members as, following a very strong ECP 2.1 outcome in Q4 2020, there is very strong pipeline of wind projects which are eligible to enter RESS 2. Questions remain as to how community investment, hybrid plants, and repowering will be treated in the auction.

The Offshore RESS Terms and Conditions are also currently undergoing drafting with a likely consultation on these launching in May. The Phase 1 projects will all be eagerly awaiting the consultation as it will provide more information on key questions such as the eligibility criteria to enter the auction, whether prices will be indexed, the timelines for delivery, and how the community aspects of the auction will function. It is expected the auction will commence in late Q4 2021, with the likely auction itself taking place towards summer 2022.

Corporate PPA

In February, the Corporate PPA (CPPA) working group completed work on the Wind Energy Ireland Corporate PPA Position Paper. This paper sets out our views on several policy improvements to remove regulatory and commercial barriers to enable more CPPAs and meet the Government's target of 15 per cent renewable electricity supported by CPPAs by 2030. The SEAI subsequently published their long awaited consultation on policy improvements to incentivise more CPPAs in March.

At the time of writing, the CPPA WG is currently drafting a response, which strongly utilises the WEI position paper, prior to the consultation deadline of 31 March. The recently released Interim Climate Actions 2021 paper by the Government commits that the responses will be analysed before a High-Level Roadmap for incentivising further uptake of CPPAs will be published in Q4 2021.

Community Engagement

Our Community Engagement Committee is continuing to work to build strong relationships with stakeholders who are key to wind energy development.

Over the last six months substantial time has been invested in building



Policy Update

published an updated timeline for the publication of the remaining consultation and decision papers on dispatch down compensation and non-priority dispatch renewables in the market. These are currently unpublished at the time of writing but are expected at the end of Q1 or very early Q2 2021. They will be a priority focus for members over the coming months.

Offshore Consenting

The Government has signed off on the National Marine Planning Framework (NMPF) which now goes to the Oireachtas for approval. The NMPF will be the key decision-making tool for Government departments, State agencies, Regulatory Authorities, and policy makers for decisions on marine activities. Drafting of the Marine Area Planning (MAP) Bill (formally the MPDM Bill) is reaching its final stages. DHLGH is reviewing the recommendations from the Joint Oireachtas Housing Committee report on the General Scheme of the Bill. WEI is developing a brief position paper to cover outstanding concerns around the design envelope for offshore projects.

Our Offshore Committee and working groups have also produced two important position papers which have recently been submitted to DECC for consideration. These papers concentrate on issues relating to the development of Offshore Wind Development Guidelines and the designation criteria for Phase 2 Projects. The Government has also launched a public consultation on Ireland's Marine Protected Areas (MPA) which is concluding in July.

WEI Ongoing Studies

Zero Carbon by 2050

WEI launched the Our Climate Neutral Future: Zeroby50 report in collaboration with UCC MaREI at the end of March. As part of the analysis UCC carried out an assessment of what Ireland's energy system could look like in a zero-carbon economy by 2050. The analysis identifies almost a trebling of Ireland's electricity demand by 2050 as we electrify and decarbonise many parts of our society. It also identifies the need for more than 20 GW of wind generation to meet domestic demand and also to produce 'green hydrogen' which is widely used within the economy and as a back-up zero carbon power source during times of low wind and solar generation.

Future Market Design

WEI are working with the ESRI to investigate future market design options for Ireland's electricity market structure to accommodate 70 per cent renewable electricity by 2030. This analysis will examine the evolution of the I-SEM, system services structures, the capacity market and other areas over the next decade. Results from this work are expected in Q2 2021.

relationships with the broader environmental movement through meetings with the Environmental Pillar, Birdwatch Ireland and the Irish Whale and Dolphin Group. Work on an All-Ireland Pollinator Plan for wind farms is near complete and a submission seeking increased investment in the NPWS was made to the recent review.

We are also continuing to work with DECC on the approach to community benefit for RESS 1 and prepared a position paper for the SEAI's handbook at the end of 2020, which we believe was helpful in their work producing draft handbook guidance for consultation at the end of March. This consultation specifically cited WEI work in our annual community benefit report as examples of best practice.

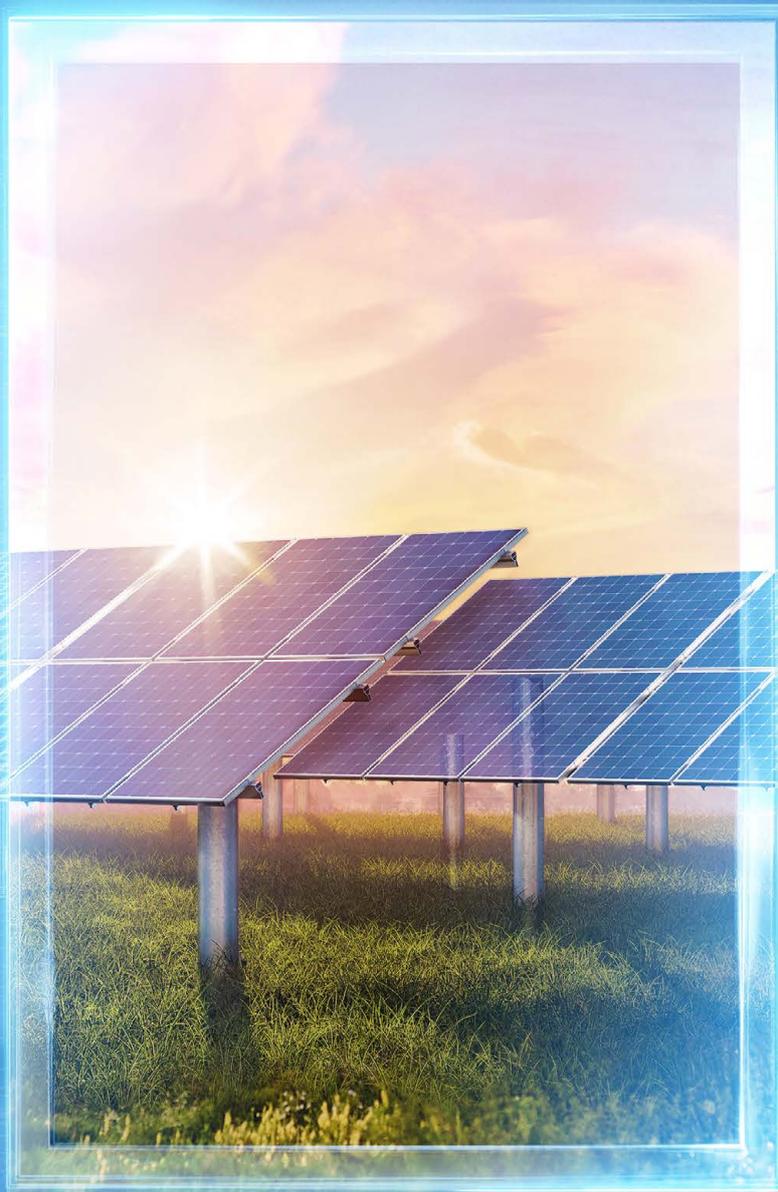
We are also seeking more opportunities to work with the department around supporting approaches to community engagement in the context of the WEGs. Our offshore communications working group also delivered a paper on offshore community benefit and is currently working on a paper on proposals by anti-wind groups to restrict offshore wind development.

Dispatch Down and Clean Energy Package

Dispatch down levels rose substantially in 2020 for several reasons including many sustained forced outages on critical grid infrastructure, reductions in electricity demand levels due to Covid-19, substantial increases in installed wind capacity in late 2019 and delays to the rollout of new grid infrastructure. The amount of wind energy dispatched down in 2020 was 1,447,803 MWh (11.4 per cent) up from 710,591 MWh (6.9 per cent) in 2019 for ROI.

The Dispatch Down WG and Mullan Grid continue to analyse the drivers and push to lessen constraint and curtailment on the island through monthly calls with EirGrid. EirGrid is nearing completion of the 70 per cent SNSP trial following over 200 hours of operation in Q1 above 65 per cent SNSP. The TSOs have also lowered negative reserve requirements from conventional plant on the island, which should have a positive impact in 2021.

Separately, in November, the SEM Committee published their Decision Paper on the 'Eligibility Criteria for Priority Dispatch as per Article 12 of the Electricity Regulation'. The decision aligned very well with the WEI and RenewableNI consultation response from June 2020 and it was a great result for the two associations. In December, the SEM Committee



For what's next in energy

Together, we'll help your business succeed in a low carbon world.



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Generation Table

Spring 2021

WEI's Spring Generation Table will continue the structure introduced in our last issues. The first auction in the new Renewable Electricity Support Scheme (RESS) was held last year and is the key support mechanism to drive new development of onshore wind. RESS 1 was approved in September 2020 and 479 MW of onshore wind, generating 1,469 GWh of energy, won contracts. This amounts to 19 new wind farms which are listed below. Sorrel Island Ext wind farm (8 MW) has already connected to the grid.

WEI's database indicates that there is a total wind generation capacity of 5,531 MW broken down into 4,255 MW in the Republic of Ireland and 1,276 MW in Northern Ireland as of the end of March 2021. The table below gives a projection of how the Republic of Ireland's installed capacity (MEC) could increase with upcoming RESS and CPPAs projects.

*Generation Table figures are updated with the best information available at the time of publication. They were gathered from various stakeholders within the industry and System Operators (EirGrid/ESBN).

Successful RESS Projects

Wind Farm Name Installed Capacity (August 2x020)	County	MEC (MW)	Owner/ Developer	Cumulative Installed in ROI (MW) 4255
Clogerhavaddy 2	Donegal	10.8	ABO Wind	4266
Cloghan	Offaly	34	Statkraft	4300
Cloncreen	Offaly	75	BnM	4375
Coolberrin	Cavan	21	Energia	4396
Crossmore	Clare	15	Energia	4411
Knockeenbui	Cork	13.8	Private	4425
Knocknamona	Waterford	30.4	Ecopower	4455
Lenalea	Donegal	30.5	Coillte / SSE Renewables	4486
Mully Graffy	Donegal	29.9	SMR	4515
Oweninny 2	Mayo	83	BnM, ESB	4598
Sheskin	Mayo	16.8	ABO Wind	4615
Taghart	Cavan	23.1	Statkraft	4638
Upperchurch	Tipperary	73.3	Ecopower	4712
Sub-10MW		14.7	Mixed	4726
TOTAL		471.2		4726

CPPA Wind Farm Name	County	MEC (MW)	Developer	CPPA Offer Takers	CPPA Offer
Esk Wind Farm	Cork	24	Invis Energy	Amazon	Energised 2020
Meenbog Wind Farm	Donegal	91	Invis Energy	Amazon	2021
Lisheen 3	Tipperary	28	Brookfield	Facebook	2022
Ardderoo WF	Galway	115	Invis Energy	Amazon	2022
Total		258			

A storage first for Ireland

Energy Storage Ireland June Conference

The Energy Storage Ireland 2021 virtual conference will be the first event of its kind for the energy storage industry in Ireland and Northern Ireland. It will take place virtually over two days from Wednesday 23rd June to Thursday 24th June, in collaboration with our partner, the Demand Response Aggregators of Ireland (DRAI). The theme of the conference will be Delivering the Technologies to Support Ireland and Northern Ireland's Renewable Ambitions.

Ireland and Northern Ireland have set renewable electricity targets of at least 70% by 2030. Energy storage and other enabling technologies will play a central role in integrating this level of renewable electricity. The story of this sector is only beginning with the first battery storage projects beginning operation on the island and other new technologies on the horizon.

Throughout our two day conference, expert speakers in our panels will highlight how important technologies like energy storage and demand side response are for lowering carbon emissions over the next decade. Our panels will also outline the key development opportunities and barriers that will need to be overcome to deliver these technologies on the scale that is needed for 2030 and beyond.

Two main sessions will take place over each of the two days and will cover the following topics with this vision in mind:

• **Day 1 Wednesday 23rd June** – Following our keynote in the morning, the first session will look at the path to 2030 and a Net-Zero carbon

economy by 2050 with particular focus on the role of technologies such as energy storage in achieving our climate action ambitions. The second session will focus on the delivery of storage projects today including key considerations such as the electricity grid, market operations, revenue streams such as DS3 System Services, and the importance of safety considerations during development and operation.

• **Day 2 Thursday 24th June** – The second day of the conference will have two sessions. The first session will explore the demand side response industry, the potential that exists in this sector and how its development can support the integration of renewables. The second session will explore the wider use cases for energy storage beyond DS3 System Services and some of the main challenges and opportunities to support additional/longer-duration energy storage technologies over the coming years.

There will also be opportunities for networking sessions, and we will be holding 'Meet the Expert' sessions where participants will be able to promote specific topics, products or services via the virtual platform. More information and ticket details will be posted on www.energystorageireland.com in the coming weeks.

In the meantime, if you are interested in finding out more about the conference please email us at info@energystorageireland.com



Bobby Smith
Senior Policy Advisor,
Wind Energy Ireland

Green
Tech

Skillnet

Skills Connect – powering our people!

Rapid reskilling of workers most impacted by COVID-19.

Skills Connect offers jobseekers free training courses and industry led job placements to the recently unemployed transitioning to our sector. This valuable initiative offers individuals the opportunity to develop new skills or reskill, regain confidence, and build their professional experience.

60 participants took part in 3 bespoke programmes designed by Green Tech Skillnet and their members.

- Work in Wind – An Industry Overview
- BER Assessor and Introduction to NZEB
- Wind Turbine Technician

Huge thanks to the host companies who are taking part in this initiative and we are looking forward to running these programmes again in 2021.

Contact jeanette@windenergyireland.com for more information on participating as a host company.

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At ESB, we are investing in a low carbon energy future, powered by clean electricity. Working with like-minded partners, we bring renewable energy projects and innovations to market in Ireland and the UK.

We choose partners who share our belief that renewable energy projects should add value for our customers and deliver long-term social and economic benefits for the communities we serve.

To find out more, visit www.esb.ie

Green Tech Skillnet

Training, Research and Jobs

2020: Year in Review

Wind Energy Ireland is the promoting organisation for the Green Tech Skillnet ("GTS"). We identify, develop, and deliver training to bridge skill gaps for our current and future workforce. This ensures security of service to the sector and prepares it for future skills requirements. Our remit extends across the energy sector. Over the past two years we have delivered a wide range of courses:

- High Voltage and Switching Operations
- Health & Safety including IOSH for Wind
- GWO suite of training
- Advanced Composite Wind Turbine Blade Repair
- BER Assessor
- Negotiation and Conflict Management
- Micro Solar Photovoltaic Systems Implementation
- Cyber Security Awareness
- Electrical Installation and Commissioning of Micro Generators
- Data Centers and Ireland's power system - An industry perspective

The transition in course delivery from 100% face-to-face delivery of programmes to online delivery was a steep learning curve for us over the past year. The Green Tech Skillnet have successfully delivered 138 programmes/training courses in 2020 and look forward to supporting member companies in 2021.

GTS heavily discount the cost of courses for companies of all sizes through the grant funding we receive from Skillnet Ireland. Skillnet Ireland is funded through the Department of Education and Skills. With the support of our members, we continue to push the sector forward equipping companies and people with the skills required for a green transition.

Developing Local Talent

The Climate Action Plan and the Programme for Government set ambitious targets of 8.2GW onshore wind energy and 5GW offshore wind energy. It will require a monumental effort, investment, and resources in the sector. This will require a tripling of our workforce in this sector at a rapid pace to meet 2030 targets.

Ireland's greatest resource is our people. The sector must invest in the workforce now so there will be skilled people available for building, operating, and maintaining our assets over the next 20+ years. We constantly face new challenges, and we must act now to mitigate our dependence on importing talent. We can mitigate future challenges now by shifting our skill dependency on foreign specialists by upskilling local workers.



Supporting Career Transitions to the Renewable Energy Sector

Green Tech Skillnet have recently launched three unique Skills Connect Training and Work Placement Programmes. We need your help to support the next generation of skilled workers. We are seeking host companies to give trainees an unpaid work placement or work from home project for four to five weeks. Ideally, they would be offered a permanent position after their work placement, but this is not a requirement.

Our Wind Turbine Technician Programme is delivering a suite of GWO safety and technical certified training, safe pass, wind sector overview and communication skills workshops. Technicians will have the required certs to go out on site after training. Backgrounds include mining, construction, Oil, mechanics.

Introduction to Wind Programme delivers a wide array of training covering the lifecycle of a wind farm, an overview of onshore and offshore wind, grid, policy, planning, markets and community engagement.

Our BER Assessor Programme gives BER certification and the requirements of deep renovating homes in Ireland. It will cover all elements of upgrading the building fabric of an Irish building. It will cover wall, floor and roof upgrades, required regulations, ventilation, airtightness, interstitial condensation and will also include an Introduction to NZEB programme.

We see this as an opportunity to address the skill gaps and shortages that exist today in the sector and to ensure that we do not face a shortage of skilled workers for Ireland's transition to a zero-carbon future. We also see this as an opportunity for the sector to be part of Ireland's recovery over the next couple of years. The standard of the applications was exceptional, and we look forward to attracting more talent into the renewable energy sector in 2021.

Green Tech Skillnet Future Skills Programme

We were delighted to receive further funding for our future skills programmes and look forward to presenting them towards the end of the year.

The aim of the Future Skills Programme (FSP) is to facilitate the supply of the emerging and future skills required by industry by addressing Skillnet Ireland's three strategic pillars: strategic innovation, workforce design and people development.

Skillnet Ireland FSP thematic priorities include
Future of Work and Learning
SME Productivity
Rebuilding Business
Brexit
Digital Transformation
Sectoral and Regional Employment
Green Acceleration

If you have ideas for future skills development projects or essential research requirement, please contact mark@windenergyireland.com.

Green Tech Skillnet Steering Group

Our Skillnet is governed by representatives of the member companies to oversee, guide and direct the network. We have monthly online meetings. We are looking for volunteers to be involved in shaping the sector.

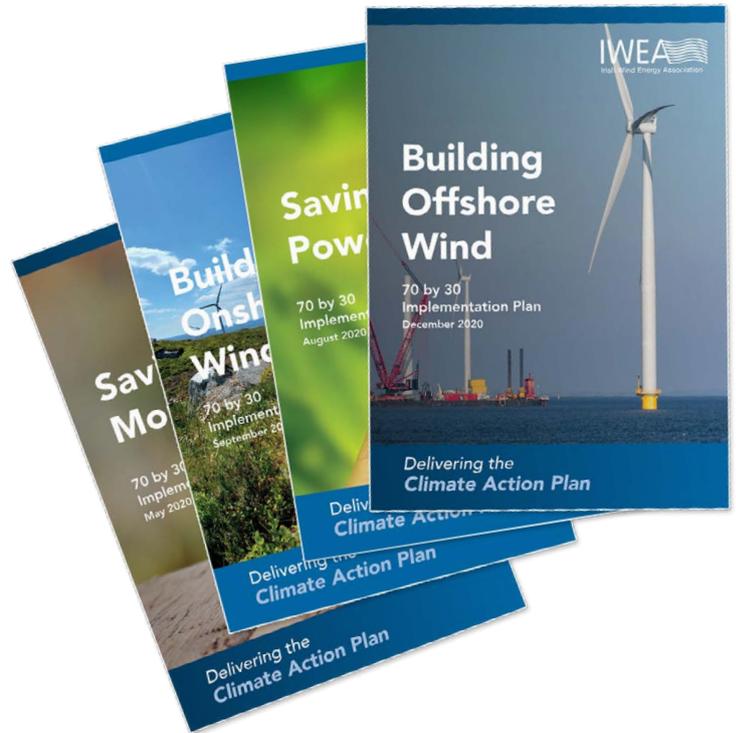
We are looking for a balance of business skills in the steering group, for example enterprise expertise in the relevant sector/region and finance, governance, learning and development, HR, marketing, or other relevant functions

Will you join us? Contact mark@windenergyireland.com

2020 Reports Launched

The Green Tech Skillnet have delivered a range of reports that shaped Government policy, 2030 and 2050 RES-E Targets and our member companies strategic policy. Below are a few of the reports partially or fully funded by the Green Tech Skillnet in 2020.

For more information on programmes/courses with Green Tech Skillnet contact Jeanette Gill jeanette@windenergyireland.com.



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Pollinator

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BEE part of the change



Éabhín Byrne

Policy Specialist, Wind Energy Ireland

Wind Energy Ireland and RenewableNI have collaborated with the National Biodiversity Centre's All-Ireland Pollinator Plan to produce the latest in a series of pollinator-friendly management guidelines.



Our wind farm guidelines have identified 7 key actions which can be implemented by wind farm operators to help Ireland's pollinators, including our 98 wild bee species, one-third of which are currently threatened by extinction.

Pollinators need food, shelter, and safety; and fortunately, many of the actions we can take to help provide this are simple. They often involve 'doing less', with minor changes to existing management strategies, and with nature itself doing most of the hard work.

With around 400 wind farms across the island, a number which is expected to grow rapidly over the coming years, the wind industry can play a vital role in conserving our biodiversity and natural habitats if sites are managed in a pollinator-friendly way.

Action 1 Protect what you have: Identify and protect existing areas on your sites that are already providing food and shelter for pollinators, e.g. native hedgerows, flowers, earth banks. Even areas along site access tracks, margins/embankments of turbine hardstands and around the substation can provide important pollinator-friendly habitats.

Action 2 Manage native flowering hedgerows for biodiversity: Flowering native hedgerows are a valuable source of food for pollinators and act as a wildlife corridor for movement across the countryside. Consider cutting less frequently to allow hedgerows to flower and produce fruit.

Action 3 Eliminate or reduce use of pesticides: Reducing or eliminating the use of herbicides will leave more wildflowers for pollinators to feed on. Consider whether vegetation removal is necessary or if plants can be left alone to grow undisturbed.

Action 4 Reduce mowing: Mowing removes vital food sources for pollinators, particularly between March and October. Consider whether mowing is necessary and try to time any necessary work outside of this key period.

Action 5 Provide nesting places for wild bees: Wild pollinators need safe places for shelter, such as the base of hedgerows; bare earth banks; crevices in stone, drilled wood and bee hotels. Providing a variety of safe nesting sites, kept free of pesticides, will help their populations to thrive.

Action 6 Raise awareness: Raise awareness in your local community, workplace and supply chain about the work you are doing to protect biodiversity. Share information and erect signage highlighting areas being managed for pollinators. Support and sponsor local biodiversity initiatives. Sign up to become a business supporter of the All-Ireland Pollinator Plan - see <https://pollinators.ie> for more information.

Action 7 Plan in advance: Seek opportunities during the design and/or detailed landscaping planning of a new wind farm to identify existing pollinator-friendly habitats, minimise disturbance, and incorporate new habitats that can provide food and shelter. Taking pollinator measures into account during the construction phase can allow you to maximise the retention of important habitat and achieve better quality and more rapid site restoration.

You can find detailed resources such as 'how to' guides, pollinator-friendly plant lists, signage templates, educational tools and more at <https://pollinators.ie/resources/>.

We expect to launch the wind farm guidelines - which will outline each action in much more detail - at our 2021 Conference in April, and hope that our members will consider implementation of some actions to protect and maximise biodiversity where possible. Dr. Úna FitzPatrick, Project Co-ordinator of the All-Ireland Pollinator Plan, will be speaking on "Introducing a Pollinator Plan for Wind Farms" on Day 3 of the conference.

Thanks to all members who contributed to the document and to Green Tech Skillnet who sponsored the design.



Recent successes shine a light on scale of opportunity

Steven Agnew

Head of RenewableNI

Last year, we hit a significant milestone in our journey to reach Net-Zero. Almost half (49.2%) of Northern Ireland total electricity consumption was generated from renewable sources – an increase of 5.6% on the previous year.

In a UK context, renewables also overtook fossil fuels for power generation for the first time – renewables generated a record 42% of UK electricity last year, while fossil fuels produced 41%. Given half of our electricity locally is generated from renewables, Northern Ireland has played a significant role in helping the UK achieve this milestone.

What makes these achievements all the more remarkable is that they were reached despite the absence of an effective renewables policy. No new large-scale renewable projects have become operational in Northern Ireland in the last two years, which begs the question, what can we achieve if the right supportive strategy was in place?



Our research shows that setting a target of 80% renewable electricity generation by 2030 would leverage over £1 billion of private investment in Northern Ireland, creating 2,750MW of new renewable generation. We forecast this will create an ongoing annual spend of £235 million in operational support and maintenance, a particular boost to local areas where developments take place.

This builds on the economic, environment and social achievements already brought about by the renewables sector in NI. In the last two decades, renewable electricity has resulted in a net £135 million benefit to consumers, a 9 million tonne reduction in carbon emissions and the creation of 2,000 jobs.

As we face the twin challenges of Covid and a climate emergency, we need a green recovery plan to ensure that Northern Ireland's economic strategy is one that is based on sustainable investments and maximising our potential. While many other industries seek government support to survive, with the right policy framework the renewables sector can thrive.

As well as an effective route to market to support renewables, we need an efficient planning system that facilitates the delivery of Net-Zero. RenewableNI and its members are committed to collaborating from the outset with local communities, listening to and taking on board any concerns so renewables projects can help support these local areas through employment, conservation and educational benefits.

Last month we were thrilled that Nichola Mallon MLA, Minister for Infrastructure granted planning permission for the RES Corlacky Wind Farm outside Garvagh in Coleraine. This eleven-turbine project will have an installed capacity of 36.3MW, helping us boost our carbon credentials while creating jobs. In her approval of the project, Minister Mallon said the development represents "a real opportunity for tackling the climate emergency, helping to boost our economy and creating a sustainable infrastructure for future generations." Having a strategic planning system in place will make it easier for communities, industry and government to navigate the process while collaborating to deliver the best possible outcome for all parties.

With every economic and environmental measure pointing to the positive impact of renewables, the onus therefore must be on creating a cohesive Energy Strategy that harnesses the opportunities it presents, both now as part of the green recovery, and in the future. More ambitious targets are the way forward, I would rather we strived for an 80% renewable electricity by 2030 target than just meeting 70%.

While the coronavirus pandemic has had devastating impact, touching each of our lives, we should take encouragement from the behavioural changes we collectively made to protect ourselves.

Together we demonstrated that in the face of an emergency, we could quickly adapt and roll out the necessary changes. We can and must do the same as we face the critical climate crisis. We have an unparalleled opportunity to make the necessary environmental improvements for all our futures. We cannot let it pass.





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