

Delivering Irish Energy Independence

An overview of wind energy: Contribution to Economy, Climate Action and Future Potential

Noel Cunniffe

Chief Executive, Wind Energy Ireland

20 February 2025 - Dundalk

windenergyireland.com



Agenda

Introduction

Wind's contribution to Ireland

Wind's contribution to your county

What is happening now

Challenges for wind energy

Coffee break

Common concerns

Our Future – Irish energy independence

Wind Energy Ireland represents over 200 companies

Members across existing assets, development & supply chain for onshore & offshore wind:



Wind energy is Ireland's greatest asset in responding to the climate emergency.

Ireland will be energy independent.

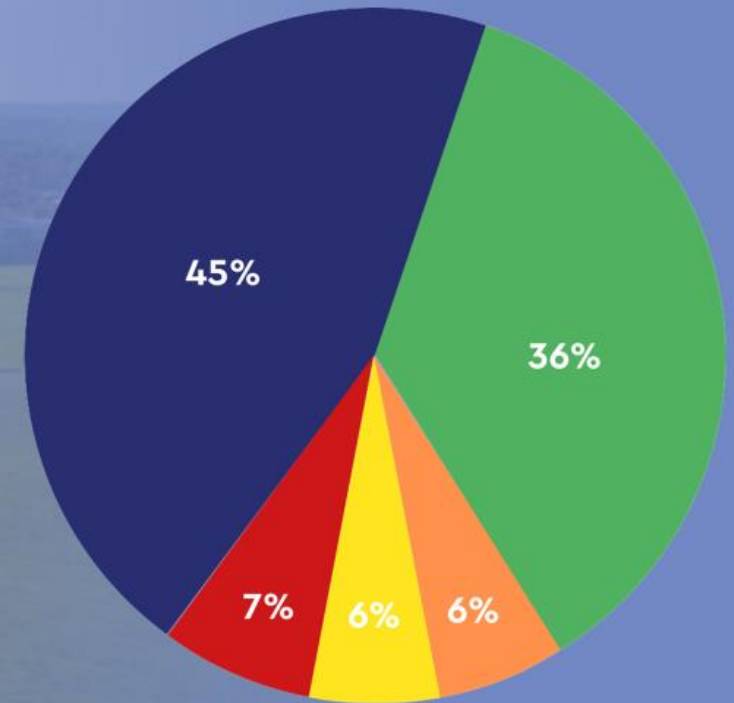
The decisions we make now
will decide when.

What does wind energy contribute
to Ireland today?

Where Does Our Electricity Come From?

Republic of Ireland Electricity Generation in 2023 by Technology

- Gas ●
- Wind energy ●
- Solar, hydro and other renewables ●
- Other fossil fuels and non-renewables ●
- Net imports from Britain ●



By 2030 80 per cent of Ireland's electricity will be generated by renewable energy.

Source: EirGrid Annual Report 2023

Price: Wind farms cut your electricity bills.

In December 2024 the Average Price of Electricity on the days with:



MOST WIND ENERGY

€ 78.86

PER MEGAWATT HOUR



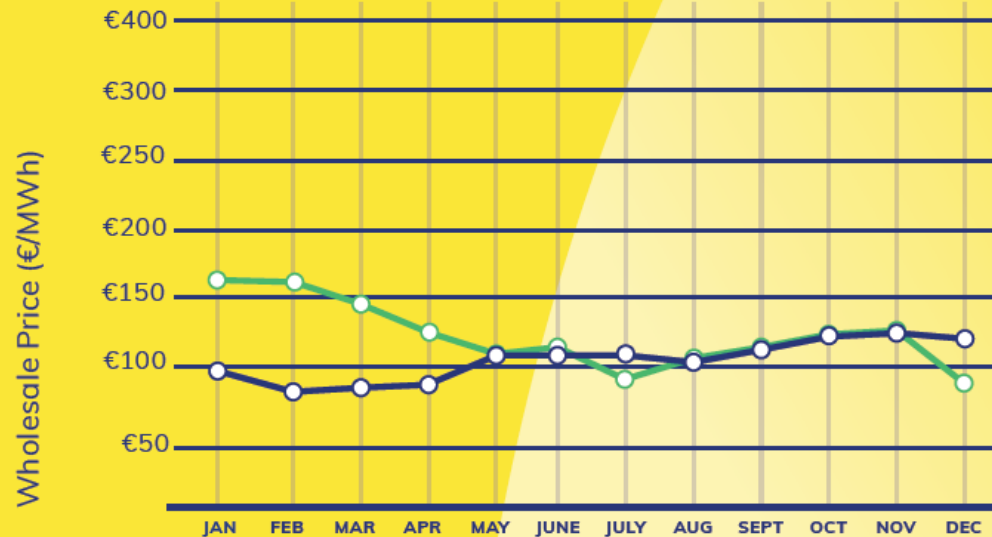
LEAST WIND ENERGY

€ 294.37

PER MEGAWATT HOUR

MONTHLY PRICE COMPARISON

2023 2024



- When wind farms are producing electricity they push fossil fuel generation off the system.
- The way the electricity market is designed means they push the **most expensive** fossil fuel generators off the system which reduces wholesale electricity prices.
- In December 2024 the price of power on the days when we relied most on fossil fuels was more than three times the price when we had lots of wind on the system.



“In the Irish context, wind is putting downward pressure on electricity prices ... they would be much higher than they were if not for the wind.”

– *Dr Muireann Lynch ESRI (2022)*

“The increased production of electricity from renewables also puts downward pressure on the wholesale price of electricity ... Wind ... squeezes out more expensive electricity generated from gas or coal.”

– *John Fitzgerald, Professor of Economics at Trinity College Dublin (2017)*

“With reference to the costs of electricity, the CRU notes that wind typically has a dampening effect on the wholesale price of electricity given that its marginal cost is close to zero.”

– *Commission for Regulation of Utilities (2018)*

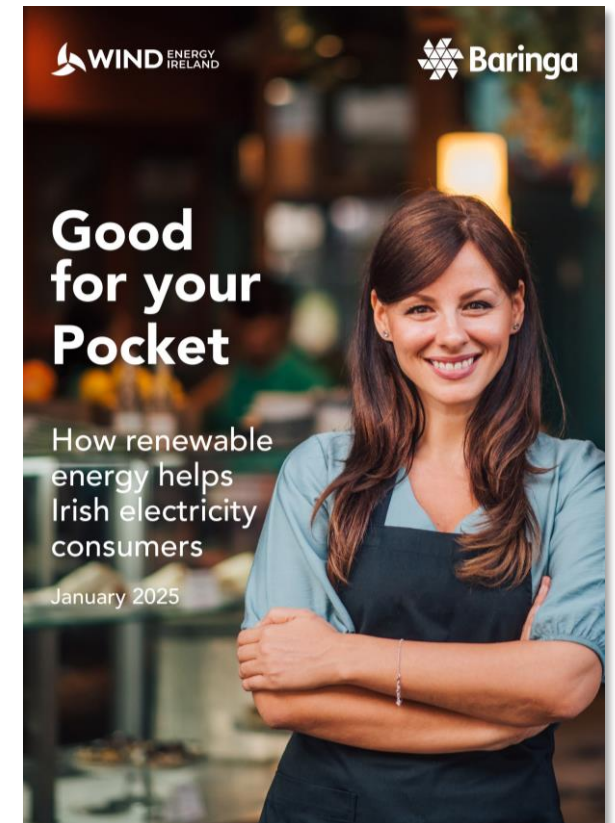
Good for your Pocket

How renewable energy helps Irish electricity consumers



In 2019's *Wind for a Euro*, Baringa estimated that the development of wind capacity would cost Irish consumers around €65 million by 2020, a total of **less than €1 per person per year**

In *Good for your Pocket*, they have updated their analysis for 2018-2023 and have turned their attention forward, to project the further savings that could be unlocked by **achieving 80% renewable electricity**



Good for your Pocket

Shows that renewables have **saved consumers more than €840 million** since 2000 – and new investment could **save an additional €610 million per year**

To date, wind and solar farms have lowered the cost of electricity for everyone in Ireland by an

**average of €165 per person
- that's €840 million in total**



Renewables could unlock additional savings of €610 million per year

if Ireland continues to invest in wind and solar generation – and achieves 80% renewable electricity

Renewables have prevented the need to burn €7.4 billion worth of polluting fossil fuels – including

enough gas to heat every home in Ireland for nine years



The renewable transition has saved over 47 million tonnes of CO₂

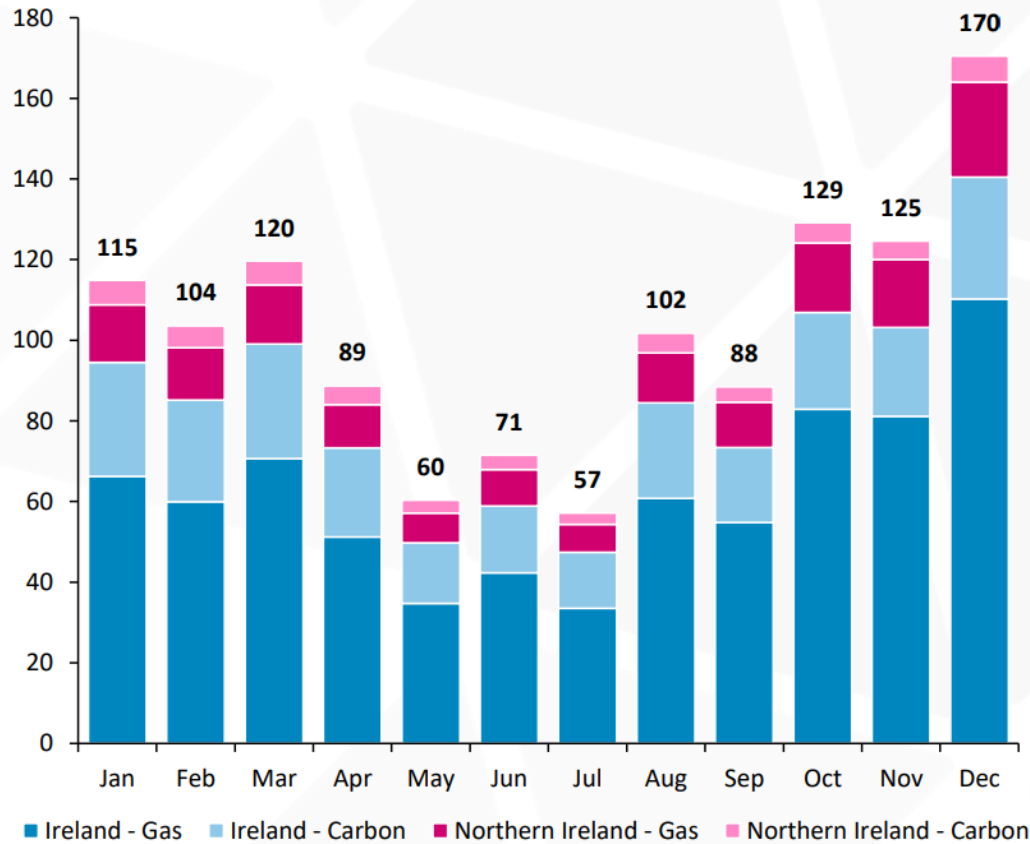
since 2000 – equal to the lifetime emissions of 1.1 million cars – 40% of the vehicles in Ireland

Energy Security: Wind energy saved €1.2 billion in gas costs in 2024 and a total of €5.4 billion from 2022-2024

Wind also saved the equivalent annual emissions of 1.8 million cars across the island

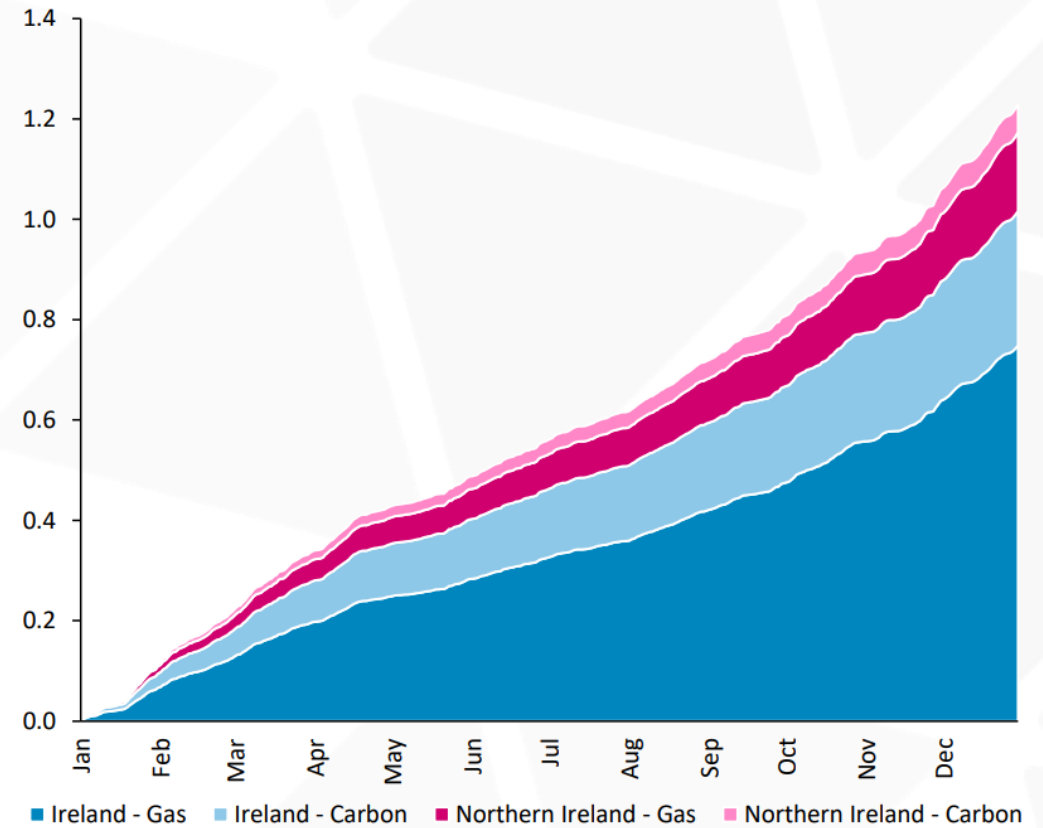
Monthly Cost Savings | January – December 2024

€m, nominal



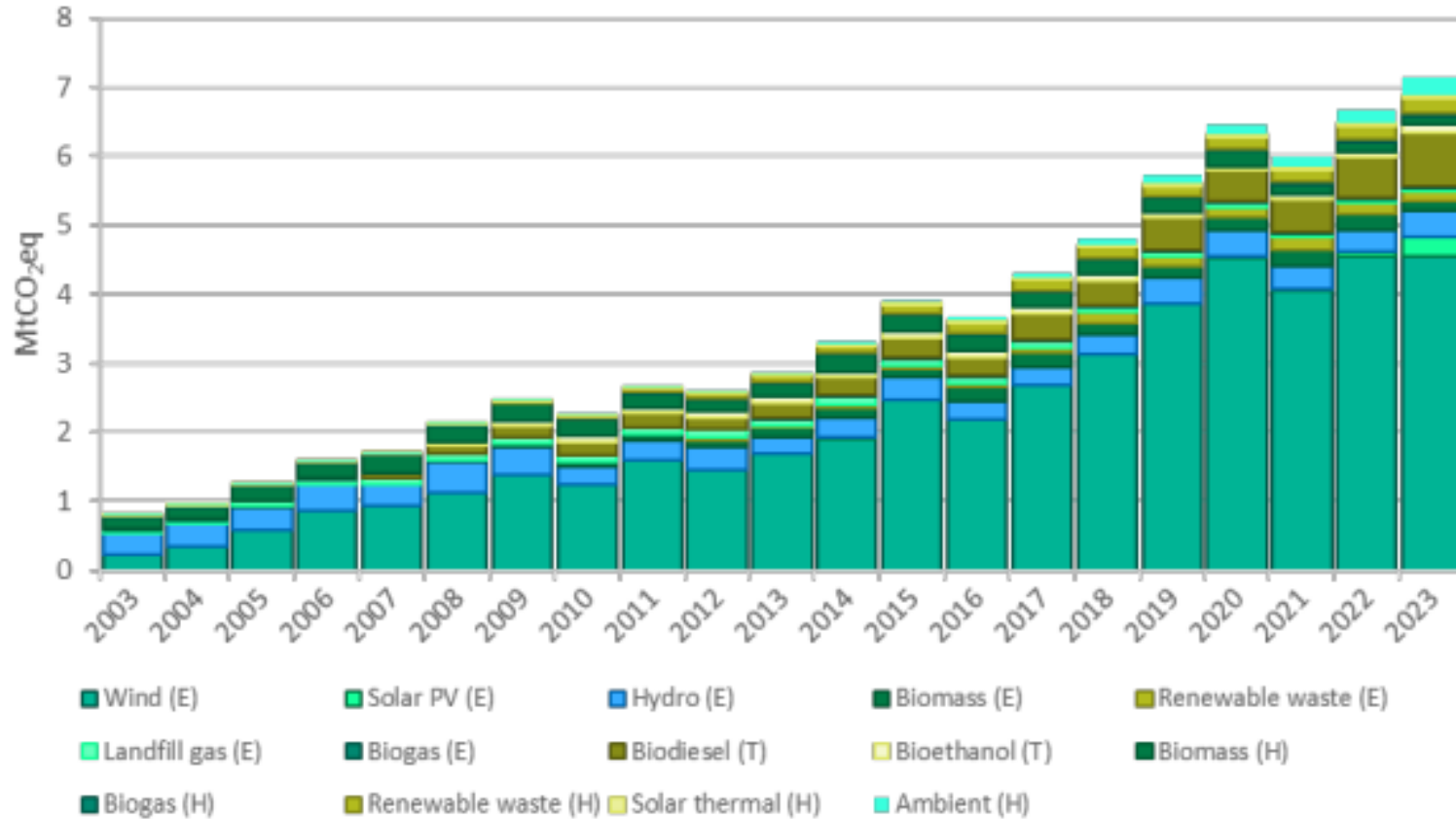
Cumulative Savings | January – December 2024

€b, nominal

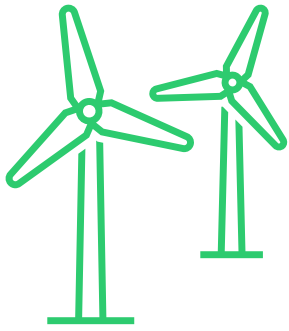


Clean: Wind farms cut our carbon emissions.

Figure 7.10: Avoided emissions by renewable energy type¹¹



- In 2023 wind farms saved 4.44 million tonnes of carbon or around 63 per cent of **all** total avoided emissions that year.
- Wind farms are saving nearly twice as much in carbon emissions as every single other renewable energy technology in Ireland combined.



Ireland *is* a global leader in onshore wind energy

There are over 5,000 people working in Ireland's onshore wind sector today



Onshore wind impacts in Ireland

2020



4,200 MW Installed capacity in communities across Ireland



€1.1bn The total industrial output across operating and capital activities



€410m Additional Gross Value Added (GVA) for the Irish economy arising from the sector's activities



5,130 Jobs throughout the sector and its supply chain



€225m Total payments in incomes to workers across the supply chain



~€45m Contribution to local authority rates



~€75m Total employee and employer PRSI and employee income tax paid to the Exchequer

2030



Government target of **8,200 MW** per Climate Action Plan



€1.5bn The total industrial output across operating and capital activities



€550m Additional Gross Value Added (GVA) for the Irish economy if Government target is reached



Potential to grow jobs throughout the sector and its supply chain to **7,020**



€305m Total payments in incomes to workers across the supply chain if Government target is reached



Potential of **~€100m** contribution to local authority rates



€2.7bn Potential Gross Value Add (GVA) arising from the capital activities required to meet Climate Action Plan targets by 2030

Our 2030 Targets will deliver



€20+ billion investment into economy to deliver projects



5,000+ jobs created from Ireland's offshore sector



Powering more than 40% of Ireland and kick-starting industries in Floating Offshore Wind & Green H2



Ireland *will be* a global leader in offshore wind energy

It will unlock tens of thousands of jobs across the Irish economy by 2050

Key Supply Chain Enablers



An Roinn Fiontar, Trádála agus Fostaíochta
Department of Enterprise, Trade and Employment

DETE's National Industrial Strategy for Offshore Wind



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



Offshore Wind Skills Development



What do wind farms do for
your county?

Wind farms pay more than €50 million per annum in rates to local County Councils

Our wind farms repair local roads, keep libraries open and support local businesses in rural Ireland.

In Cavan, Donegal, Kerry, Leitrim, Mayo, Offaly, Roscommon and Tipperary wind farms pay more than 8 per cent of the county's entire commercial rates income.

Source: Eamonn Halpin & Co.

Wind Energy Support Local Communities

Millions of euros are invested every year in benefit funds for local communities to invest in the priorities they choose for their area – like outdoor play facilities, sports grounds and community spaces.

Local wind farms
contributed €5 million to
communities around the
Republic of Ireland in
2023.

Source: Wind Energy Ireland





Powering Ireland's Future, County by County

Discover County-Level Energy Statistics



<https://windenergyireland.com/about-wind/wind-energy-by-county>



Kerry

Here is how Kerry is playing its part in making wind energy, saving carbon emissions, and benefitting from wind farm community funds and commercial rates.



746 MW
Installed Wind Energy Capacity (MW)



1,664 GWh
Of Energy Generated



12.67%
Share of Ireland's Installed Wind Energy



616,558 tonnes
Of Carbon Emissions Saved



€504,988
Invested in Local Community Benefit Funds



€5,098,945
Of Kerry's Commercial Rates Income



10.51%
Wind Farm Rates as % of Total County Rates



Roscommon

Here is how Roscommon is playing its part in making wind energy, saving carbon emissions, and benefitting from wind farm community funds and commercial rates.



153 MW

Installed Wind Energy Capacity (MW)



212 GWh

Of Energy Generated



2.59%

Share of Ireland's Installed Wind Energy



126,022 tonnes

Of Carbon Emissions Saved



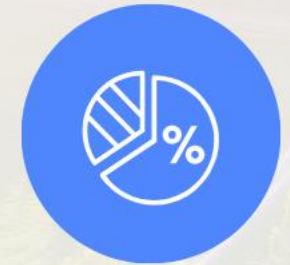
€209,503

Invested in Local Community Benefit Funds



€1,777,432

Of Roscommon's Commercial Rates Income



13.97%

Wind Farm Rates as % of Total County Rates

What is happening now?

We have the targets and we have the pipelines

Ireland must cut CO₂ emissions by 30 million tonnes per year by 2030.
Power sector emissions must be cut by 75%.

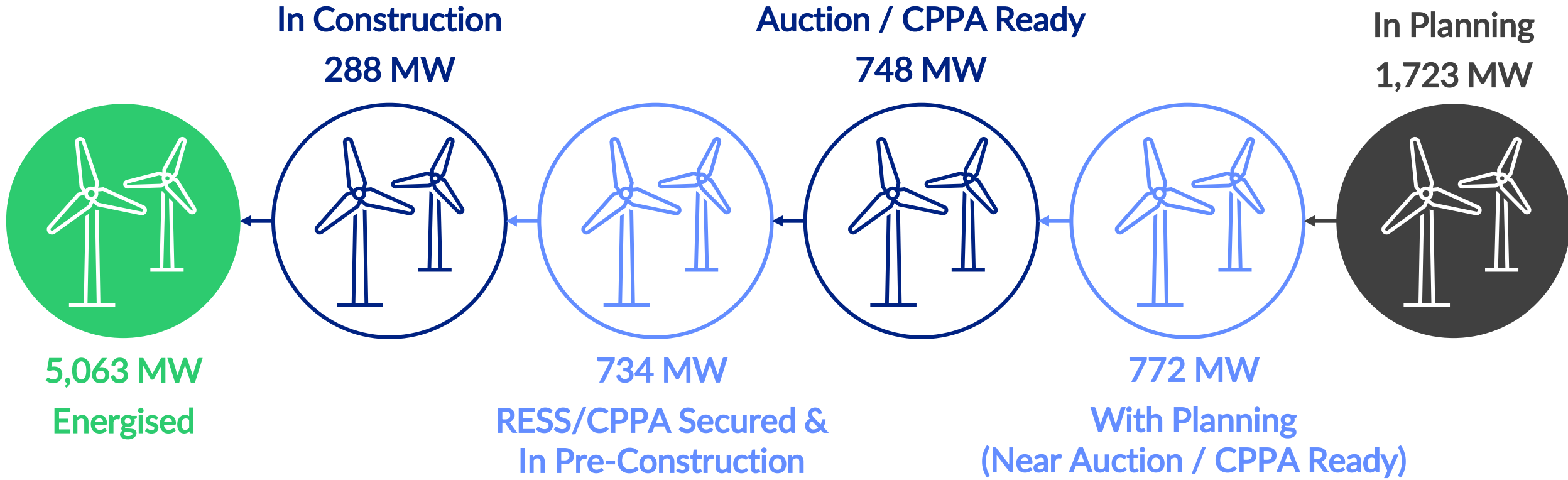


By 2030 we need to deliver
9,000 MW of onshore wind



By 2030 we need to deliver
5,000 MW of offshore wind

Onshore Wind in Ireland – What’s Happening?



Installed onshore wind capacity passed 5 GW last year – a huge milestone for the sector!

A further 2GW+ of onshore wind will enter the planning system over the next 12 months

Offshore Wind in Ireland – What’s Happening?

Phase 1

- Six projects – five East coast, one West coast
- Four progressing through State-backed ORESS 1
- Two progressing through Corporate PPAs
- All projects will be in planning within the next month and targeting 2030 delivery timeframe

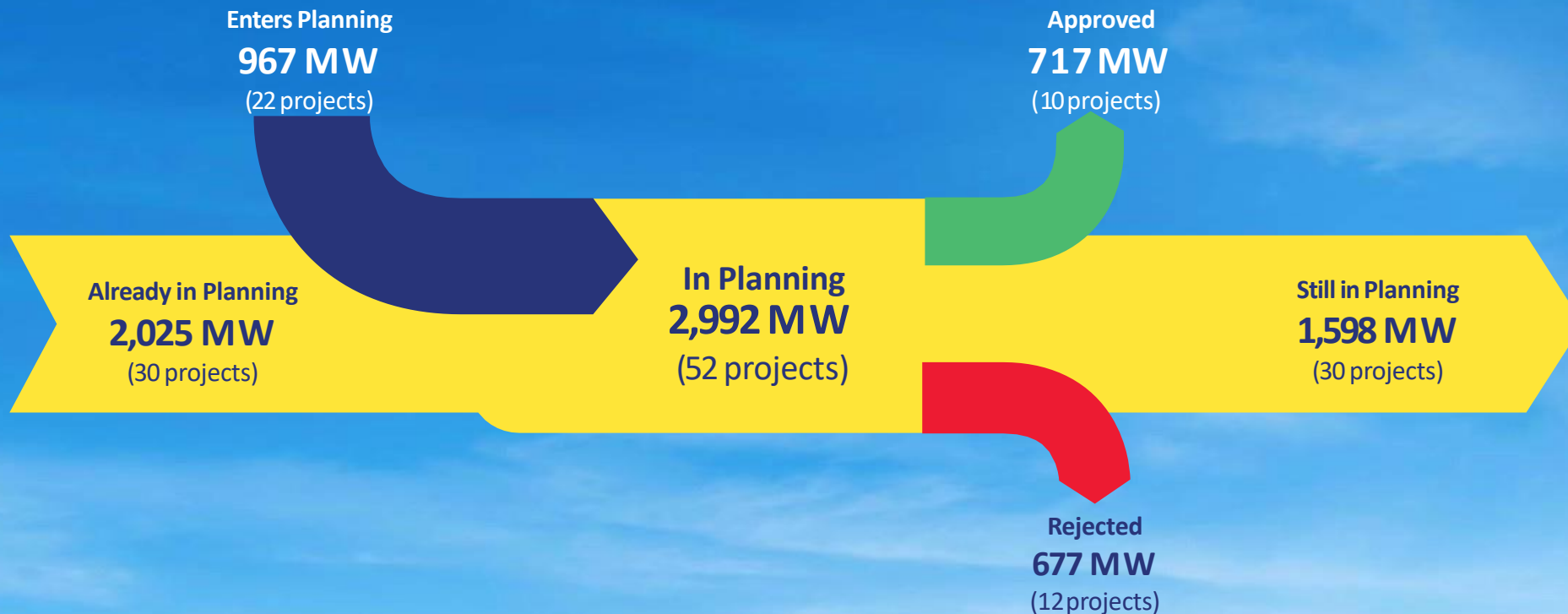


Phase 2

- Four sites selected for future projects – delivery in a 2032 – 2035+ timeframe
- Begins with Tonn Nua Auction – 900MW in Q2 2025
- South Coast Designated Marine Area Plan (DMAP) finalised and approved by Government in Oct 24

Challenges – Planning

Annual Wind Energy Planning Dashboard 2024



Key Messages:

- 1: An Bord Pleanála approved 42 per cent of what was needed in 2024 to reach our 2030 target.
- 2: Refusal rate of projects in An Bord Pleanála increased due to anti-wind County Development Plans.
- 3: 22 wind energy projects received decisions on their planning applications in 2024, a 16 per cent increase when compared to the number of decisions received in 2023.

Target:

To achieve our Climate Action Plan target
we needed planning permission in 2024 for:
1,720 MW

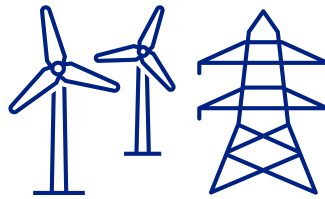
All of these projects are either direct applications to An Bord Pleanála, classed as strategic infrastructure, or have been appealed to An Bord Pleanála following a decision by the local authority. Decisions made by County Councils are not included and nor are decisions on amendments to approved wind energy projects.



The Planning System



Resourcing the
Planning System



Prioritisation of
Renewables & Grid



Streamlining of
decision making

New planning laws and agencies won't deliver without the right people.

Prioritising renewables & grid will benefit our climate & our economy.

Need to implement the Planning & Development Act and the new National
Planning Framework

Next steps on Planning Policy

Planning and Development Act
2024

Revised National Planning
Framework

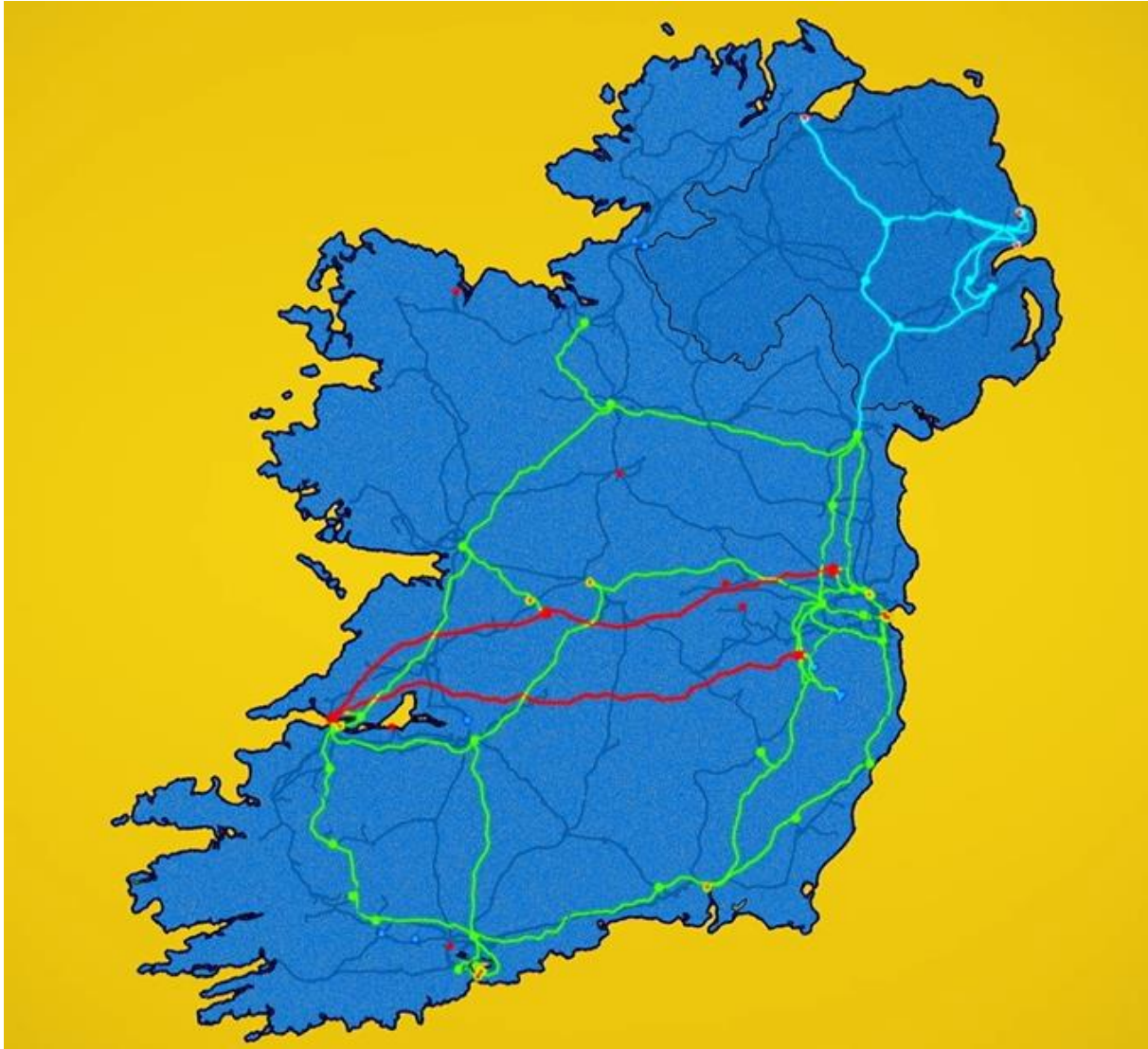
Regional Renewable Energy
Strategy (County level allocations)

Aligned County Development
Plans

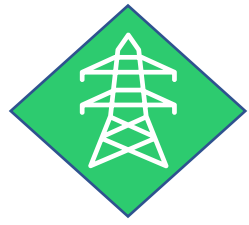
Onshore Wind
Energy
Development
Planning
Guidelines
before the end
of 2025

Challenges – Grid

Our grid is not strong enough



- The grid is a network of underground cables, overhead lines and substations which runs all over Ireland.
- It carries electricity from where it is generated to your home, your business and your community.
- Last year **14% of electricity from wind farms was lost** because the grid wasn't strong enough.
- That means hundreds of **thousands** of tonnes of emissions and **hundreds of millions** spent importing gas.



Prioritise Ireland's Electricity Infrastructure

1



**Provide Funding and
Political Support to
Reinforce our Grid**

2



**Deliver the North-
South Interconnector
& Key Grid Projects**

3



**Invest in
Long-Duration
Energy Storage**

**Everyone in this room needs to be a vocal supporter for building grid.
The grid is *the* enabler for a thriving 21st century sustainable economy.**

We Support



Join us at buildourgrid.ie



The Electricity Grid



Mobilising Public & Cross-Sector Support for Grid


**Build
our Grid**

The electricity grid powers homes, businesses, and communities across Ireland every day.

SWIPE → 

**Build
our Grid**

But it was built for twentieth century fossil fuels and it can't accommodate the levels of renewable energy we need.

SWIPE → 

**Build
our Grid**

With a stronger grid we can have cleaner, cheaper electricity for all. Visit www.buildourgrid.ie to learn more.

View the full campaign here: <https://buildourgrid.ie/>



Coffee break

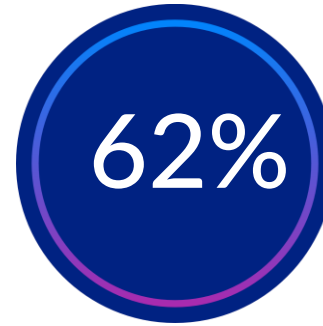
Common concerns

If we can overcome the policy hurdles the support is there to deliver ...



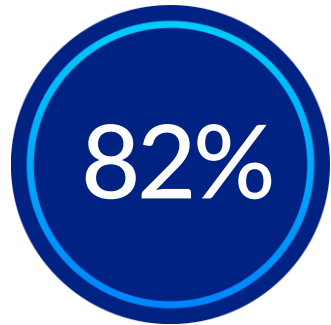
PEOPLE SUPPORT WIND ENERGY.

Consistent with 2023 figures.



ARE IN FAVOUR OF A WIND FARM IN THEIR LOCAL AREA.

Just 4% oppose.



RECOGNISE THE ROLE OF OFFSHORE WIND IN SECURING IRELAND'S ENERGY SUPPLY.

75% of those surveyed support offshore wind energy.

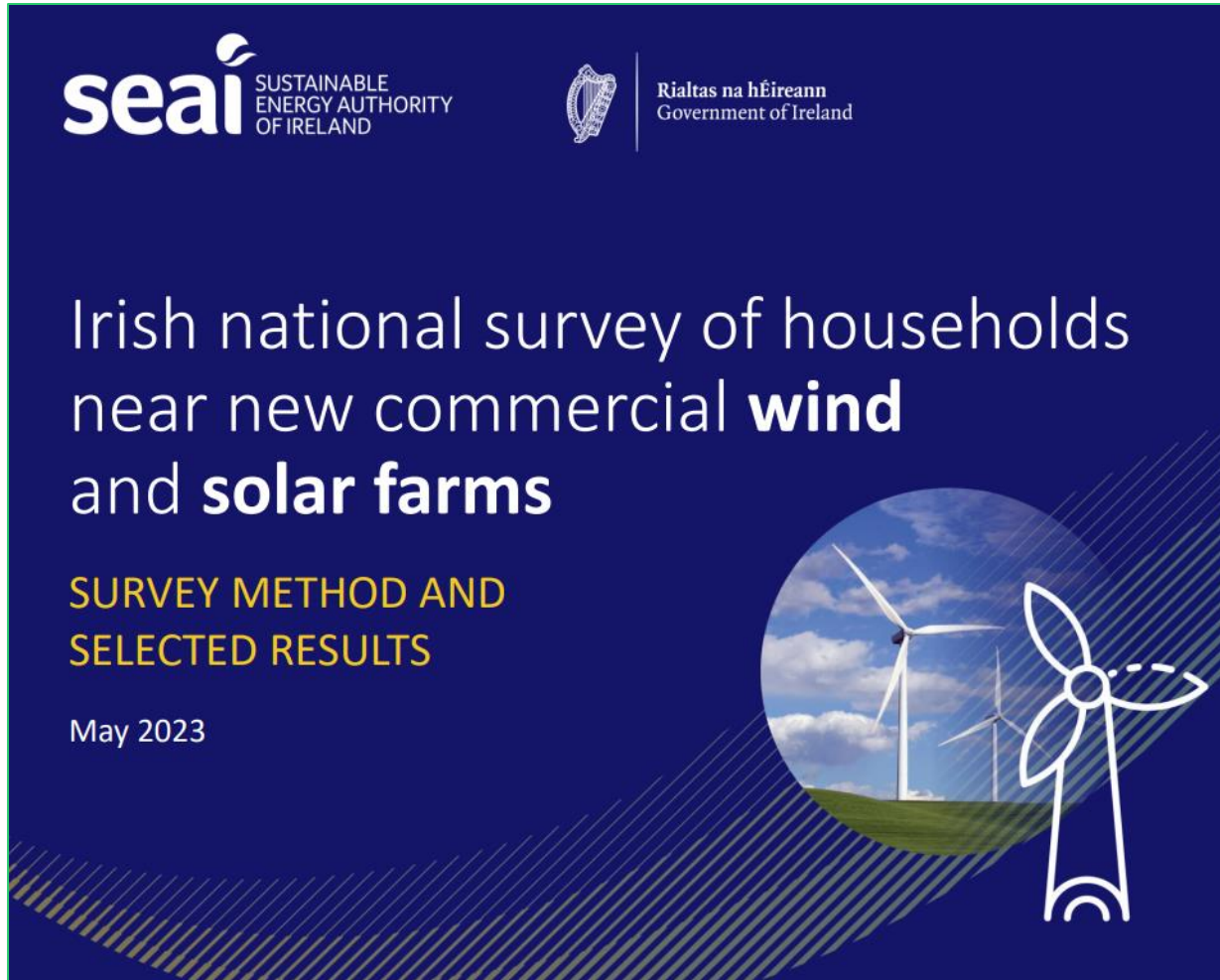


BENEFITS OF WIND ENERGY WERE RANKED:

1. Good for the environment (77%)
2. Reduces CO2 emissions - (76%)
3. Cheaper electricity - (71%)
4. Supports energy independence - (55%)
5. Creates employment - (45%)

Results of 2024 National Wind Energy Survey

People living near existing wind farms.



The image shows the cover of a report. At the top left is the 'seai' logo (Sustainable Energy Authority of Ireland) and the Government of Ireland logo. The title is 'Irish national survey of households near new commercial wind and solar farms'. Below the title is 'SURVEY METHOD AND SELECTED RESULTS' and the date 'May 2023'. The bottom right features a circular image of wind turbines in a field and a white line-art wind turbine icon.

seai SUSTAINABLE ENERGY AUTHORITY OF IRELAND

Riailtas na hÉireann Government of Ireland

Irish national survey of households near new commercial **wind** and **solar farms**

SURVEY METHOD AND SELECTED RESULTS

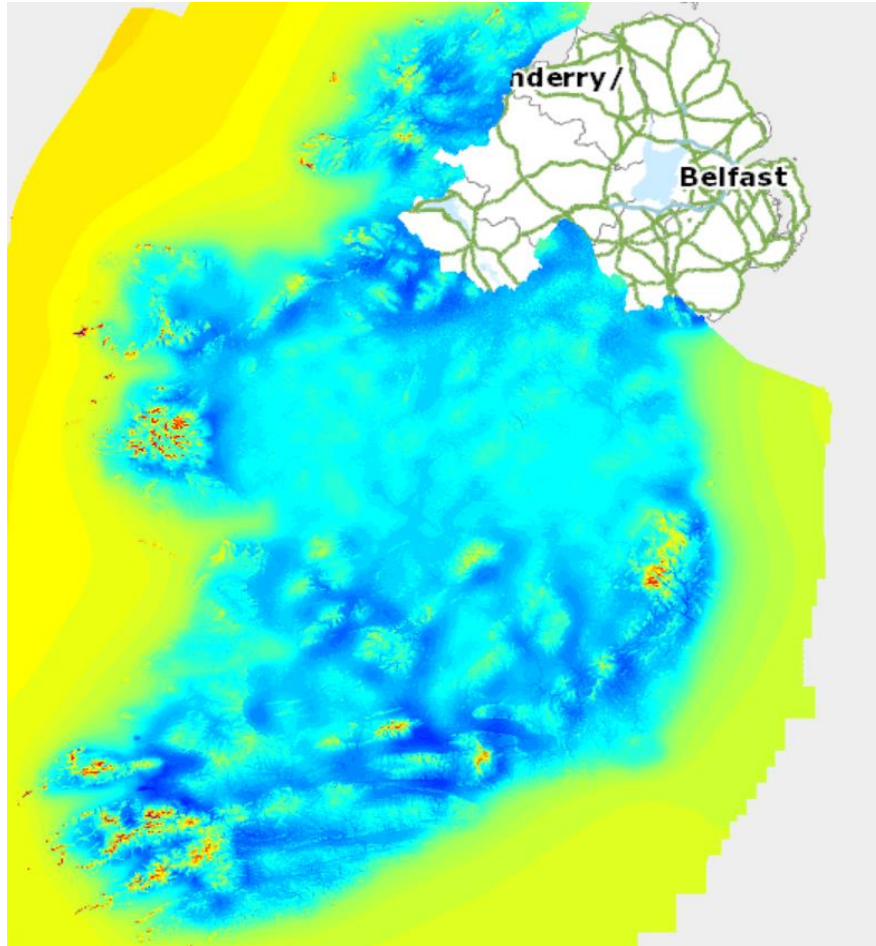
May 2023

- Among people living within 1 km of a RESS 1 wind project 73 per cent have **positive** or **very positive** views towards wind energy.
- Two-thirds of them feel that Ireland has **too few** wind farms.

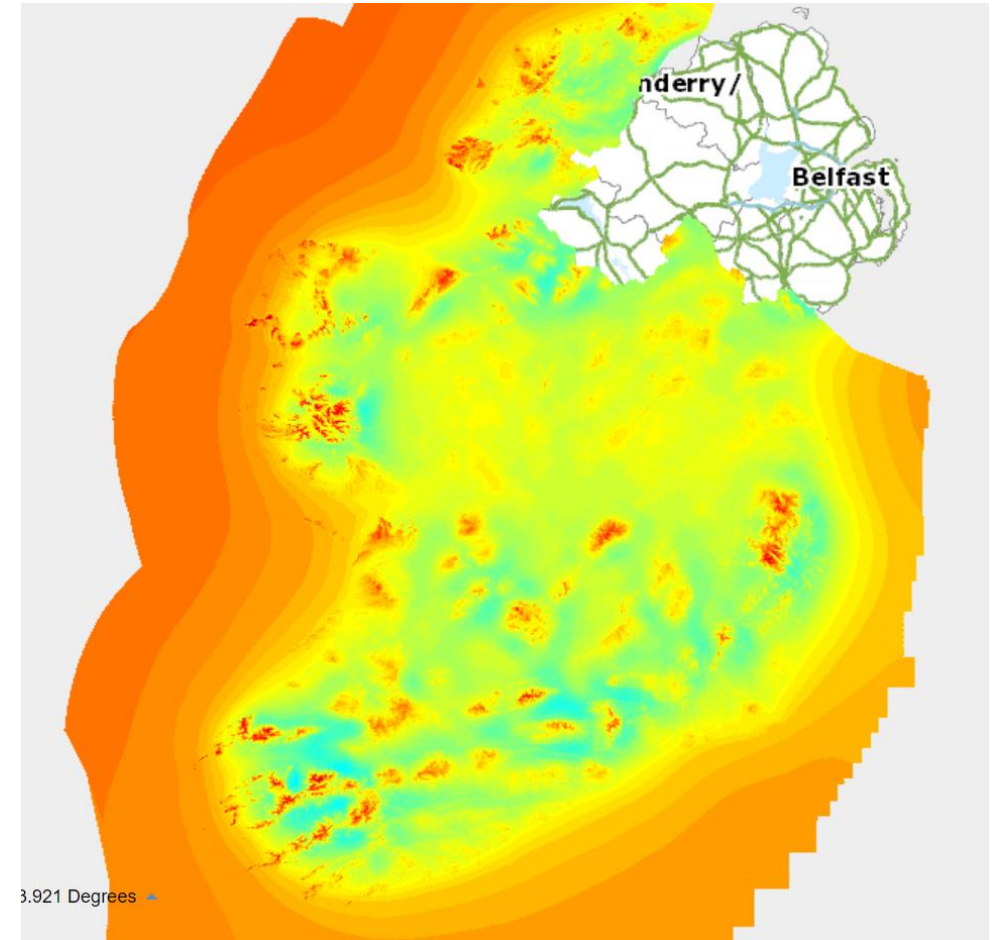
Is the wind there?



Ground Level Wind Speeds



150 Metre Height Wind Speeds



Blue areas are least suitable for wind farms with green, yellow and red indicating increasingly strong wind conditions.

Taller turbines or more turbines?



The turbine to the right is **20 per cent taller** than the one on the left but **generates 180 per cent** more power.

Using taller turbines means more power.

This means we need **fewer turbines** which reduces electricity prices and reduces impact on the environment.

Noise and Shadow Flicker

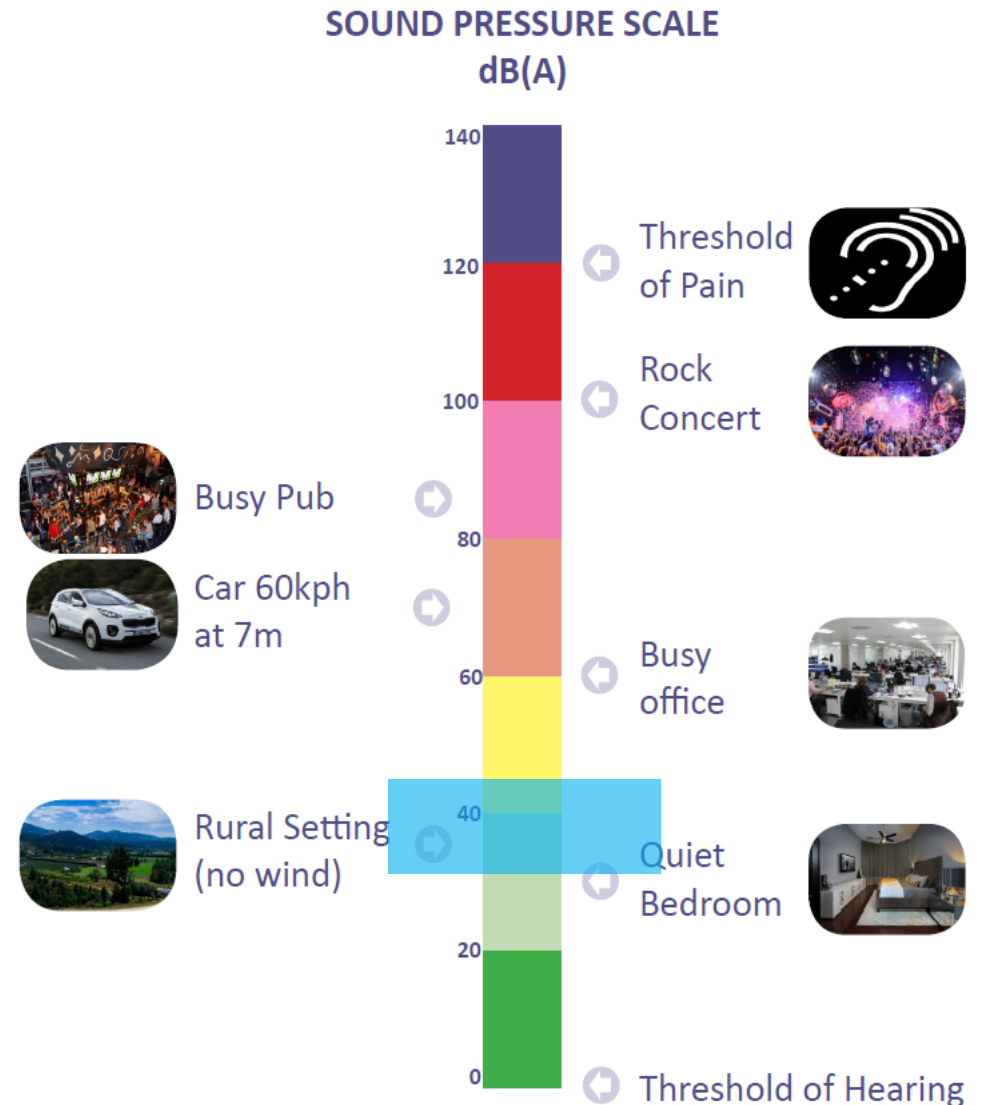


Noise

- No data on noise complaints gathered in Ireland but in Northern Ireland out of 10,684 noise complaints in 2023-24 only 26 (0.2%) were for wind turbines. Of those **only one** was for a wind farm. Others were individual turbines not common here.
- Noise limits to be reviewed as part of new draft Wind Energy Guidelines.
- Irish noise limits already quite strict and proposed in new guidelines to make them even more so.

Shadow Flicker

- Can occur when the sun is shining and at a low angle such as dawn or sunset.
- **Not allowed** under new draft Wind Energy Guidelines.
- Turbine must be designed to switch-off if it detects shadow flicker may be about to happen.



Wind farms and property



RenewableUK previously: BWEA

The effect of wind farms on house prices

March 2014



Scotland's centre of expertise connecting
climate change research and policy

ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY

A Spatial Hedonic Analysis of the Effects of Wind Energy Facilities on Surrounding Property Values in the United States

Ben Hoen, Jason P. Brown, Thomas Jackson,
Ryan Wisler, Mark Thayer and Peter Cappers

Environmental Energy
Technologies Division

August 2013

Vast majority of 20 years of research indicates wind farms have no negative effect on property prices or that it is a short-lived effect.

However, there is some evidence to the contrary and we need to be conscious of that when designing wind farms.

A 2017 Wolfe Island study in Canada found different effects on property prices from the same wind farm on different sides of the Canada - America border. Why?

- Public attitude;
- Engagement with the community;
- Local amenities and payments.

Dr Stephan Hebllich,¹ Dr Dan Olnier,² Prof Gwilym Pryce² and Prof Chris Timmins³

With research assistance from Dr Ellie Bates⁴ and Dr Tim Birab²

October 2016

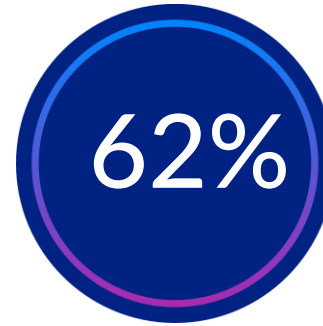
Impact of wind turbines on house prices in Scotland

If we can overcome the policy hurdles the support is there to deliver ...



PEOPLE SUPPORT WIND ENERGY.

Consistent with 2023 figures.



ARE IN FAVOUR OF A WIND FARM IN THEIR LOCAL AREA.

Just 4% oppose.



RECOGNISE THE ROLE OF OFFSHORE WIND IN SECURING IRELAND'S ENERGY SUPPLY.

75% of those surveyed support offshore wind energy.



BENEFITS OF WIND ENERGY WERE RANKED:

1. Good for the environment (77%)
2. Reduces CO2 emissions - (76%)
3. Cheaper electricity - (71%)
4. Supports energy independence - (55%)
5. Creates employment - (45%)

Results of 2024 National Wind Energy Survey



A panoramic view of the Roscommon landscape from Sliabh Bawn. Pic: Kieran Croghan

Sliabh Bawn: From controversial wind farm to popular recreational amenity...

■ DAN DOONER

Back in 2017, the *Roscommon People* ran a number of articles highlighting the controversy around the development of a wind farm atop Sliabh Bawn near Strokestown. Public meetings were arranged as local residents voiced their opposition to the development while highlighting noise and

farm, developed on Coillte lands, has become an extremely popular amenity for families, walkers, runners, and indeed nature and history enthusiasts. Almost six years on from the official opening of the Sliabh Bawn recreation facilities, local senator, Eugene Murphy, says that while the wind farm was still a sore point for some, the site has also become an important attraction for

from speaking to local residents," he began. "But in general I would say it's like traffic passing by your house in that you get used to it. "For me, it's like Heaven on Earth and I love getting out of the Lion's Den here in Dublin and taking a walk up Sliabh Bawn. It's great for peace of mind and it's great for the lungs, and I would be a huge advocate of it". Senator Murphy also believes that



Fáilte Ireland study 2012

71 per cent of tourists to Ireland said wind farms would have no effect, or a positive effect, on deciding whether to come to Ireland again.

Interestingly those who have not seen a wind farm on this visit have more negative opinions regarding the theoretical impact of a wind farm on their sightseeing compared to those who have actually seen one. This suggests there are some negative associations with wind farms that in reality do not materialise for those who have seen them.

Kerry Study

In 2009, there were 786,000 overseas visitors to Co Kerry who spent €206 million.

In 2017, the most recent figures they have, there were 1,277,000 overseas visitors to Co Kerry and they spent €337 million.

That's a 62 per cent increase in the number of overseas visitors coming to Kerry and a 64 per cent increase in the amount they're spending.

Keefee joined the Defence Force, completed his Standard Certificate, and joined the Garda Síochána. He is currently a member of the Garda Síochána. He is currently a member of the Garda Síochána.

Big spike in use of Mountlucas Windfarm walkway

MOUNTLUCAS Wind Farm has recorded over 45,000 people using its walkway amenity in 2020, an increase of 25% on 2019.

The biggest increase in visitor numbers to Mountlucas Wind Farm was in March, the beginning and of the lockdown when the most stringent restrictions were implemented. That month, visitor numbers to the site was up 78% on the same month in 2019.

Continuing the trend, the summer months as a whole saw increases of an average

37% versus the same period last year.

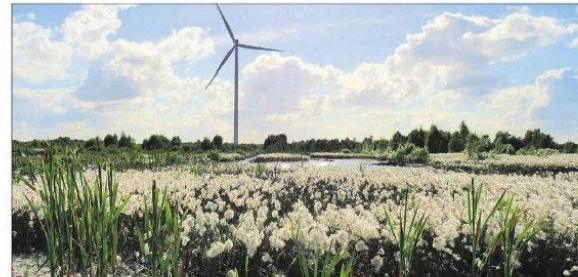
Catherine Swaine, Visitor Centre Manager at the Mountlucas Wind Farm, commented: "People have really embraced the wind farm and the walkways this year. The trails through our peatland allow people to exercise and enjoy nature in a place with plenty of space, no traffic and lots of plants, birds and animals to see.

"People have found it a great resource during the difficult times of 2020 and one woman told me she would have been

lost without it".

Over 180,000 people have used the amenity since 2016, when the first seven-kilometre section of the Mountlucas track was opened to the public.

The full 10 kilometres route was completed in 2018, when outdoor exercise equipment was also installed. People also use the tracks and information boards to learn about biodiversity on the site, local history and archaeological monuments found there. Offaly's only Park Run is also hosted on the site.



The Mountlucas windfarm site.



GET OUT

IN THE

WIND

Ireland's Future Towards energy independence

Budget 2025 – Clear Wins for Energy Infrastructure

Budget 2025: Upgrades to electricity grid and public transport key for climate

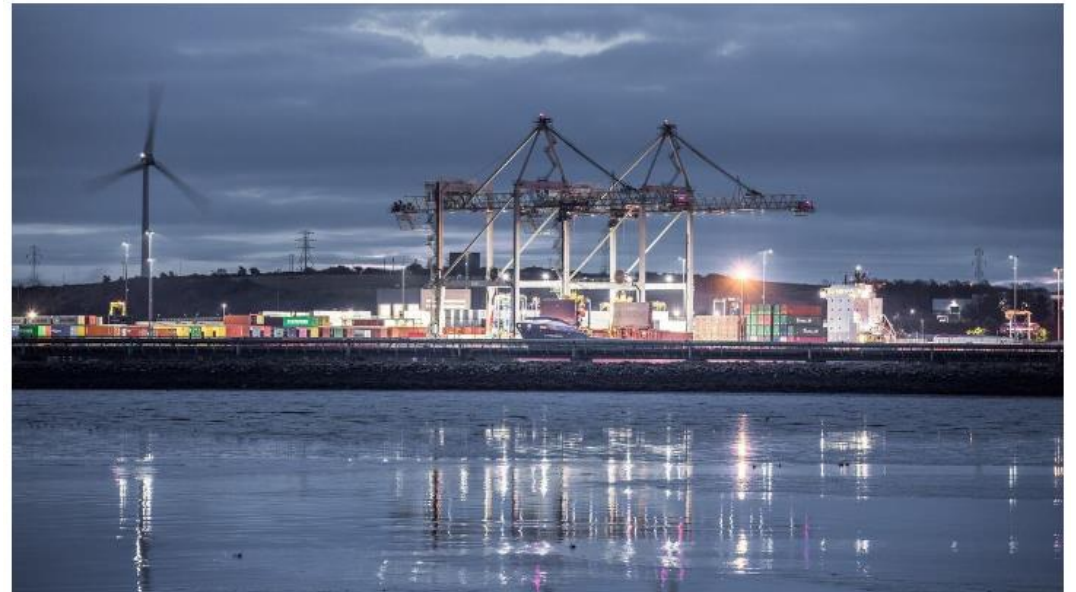
“...initial direct investment of €750 million into our electricity grid infrastructure...”

“Nobody will come up to me on the street and say: ‘thanks for putting three quarters of a billion euro into the power grid’. But that's exactly the sort of investment we need to make and make at scale.”

- An Taoiseach, Simon Harris

Budget 2025: €99m deal agreed to fund major Port of Cork expansion

The deal will help drive growth in the offshore renewable energy sector



Revolution – A Vision for Irish Floating Wind Energy

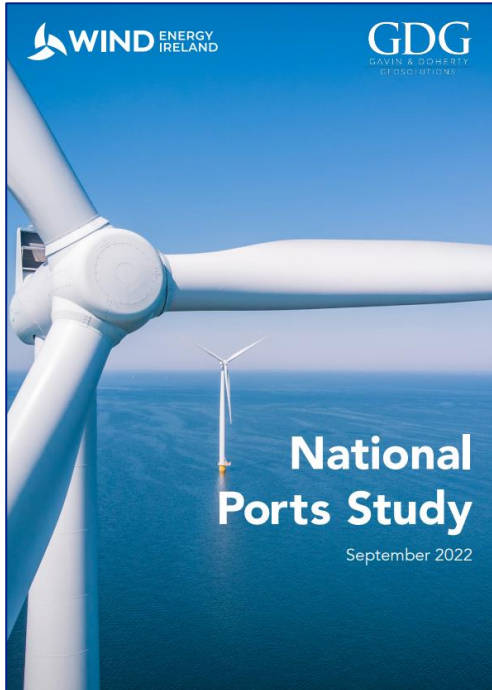
Unlocking Ireland’s Floating Offshore Wind Potential



Live research projects Wind Energy Ireland is involved in together with partners around Ireland to unlock FLOW potential

Building our future – Ireland's Ports

We want to build Irish offshore wind farms in Irish ports.



National Port Study recommended action to enable port development.

We can build them report showed how this development can be funded.

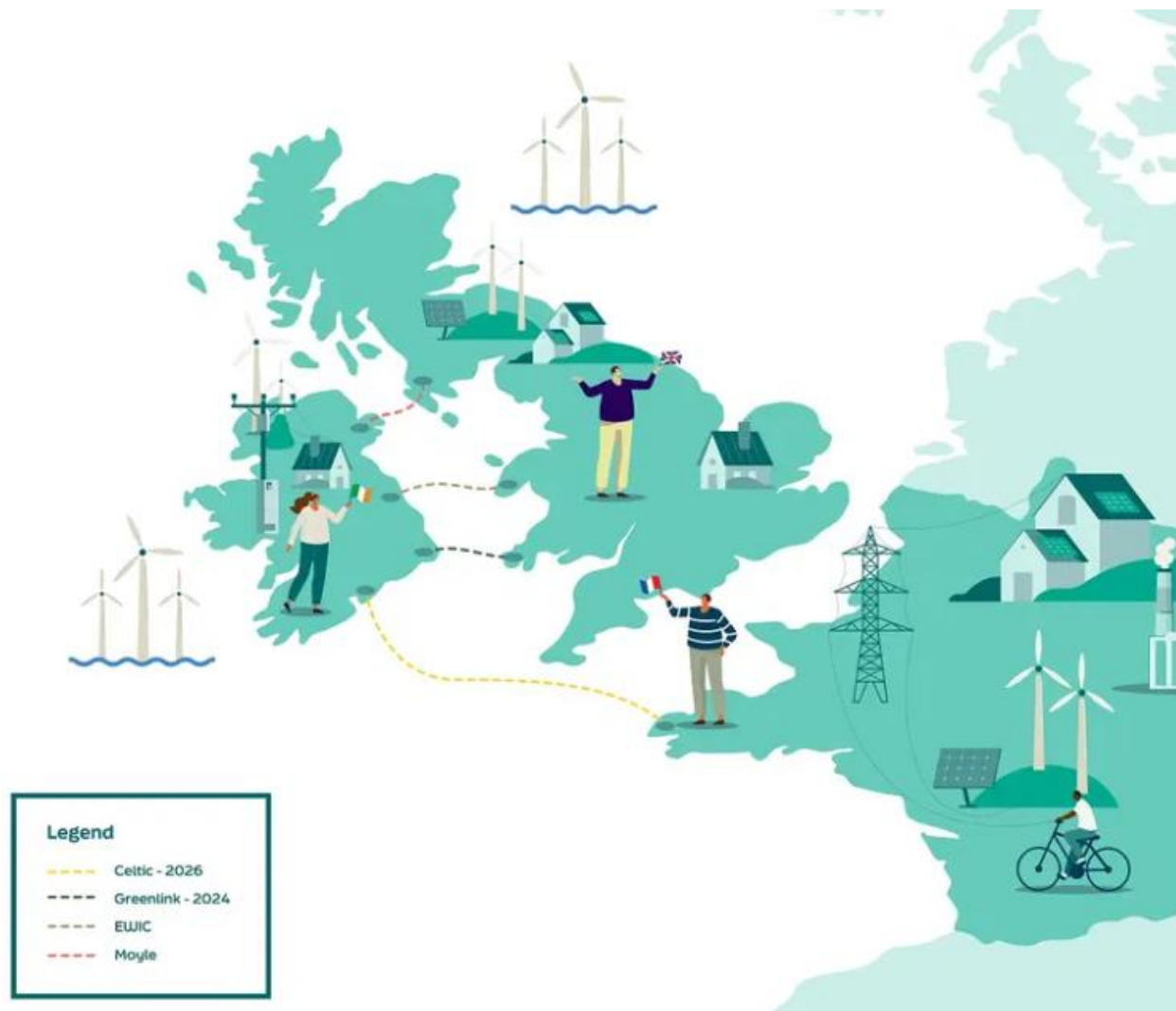


✔ Funding ✔ Clarity ✔ Planning

Irish port development is key to energy independence.



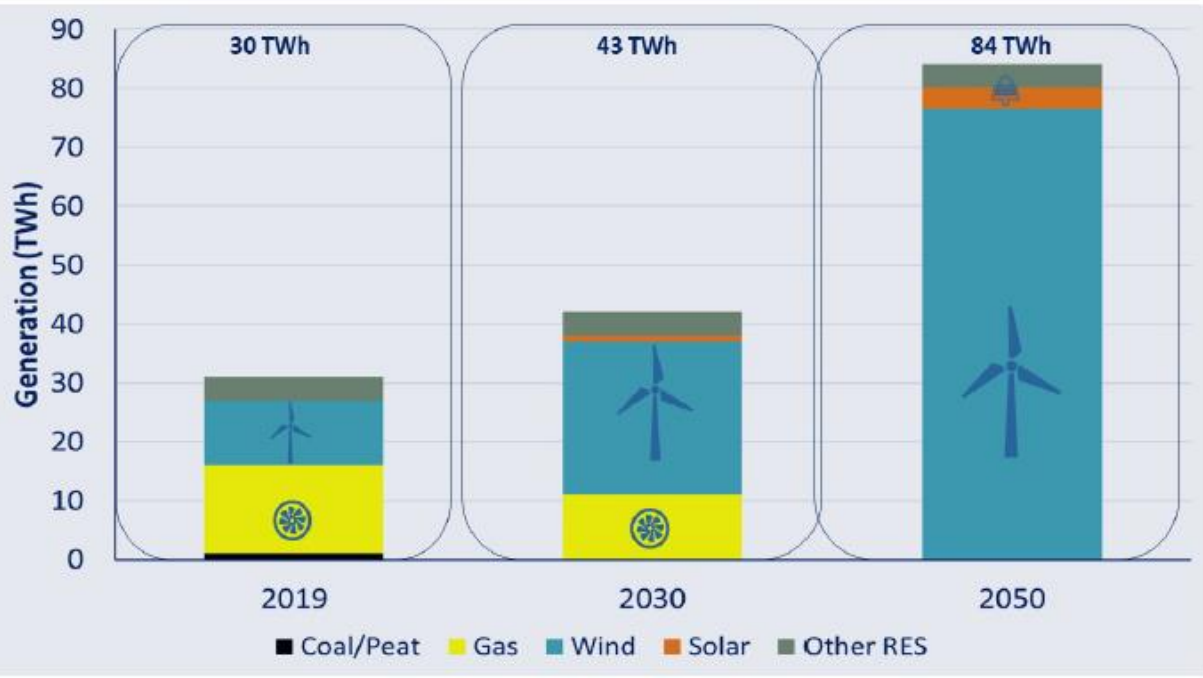
Ireland as an energy exporter?



- Ireland was a **net electricity exporter** to Britain from around 2015-2020.
- We now have three interconnectors to Britain and by 2026 will have our first to France.
- However, faster development of renewables and interconnection in Britain means we are now a **net importer**. Likely to also import from France.
- Big question – Should we try to become a net exporter again or attract new investment?

Harnessing our Wind Surplus – Creating Customers

Ireland | 2019 to 2050 Electricity Generation



Ireland | 2019 to 2050 Power System Capacity



ireland electrified

An orange lightning bolt icon is positioned above the letter 'i' in the word 'electrified'.

irelandelectrified.ie



TECH



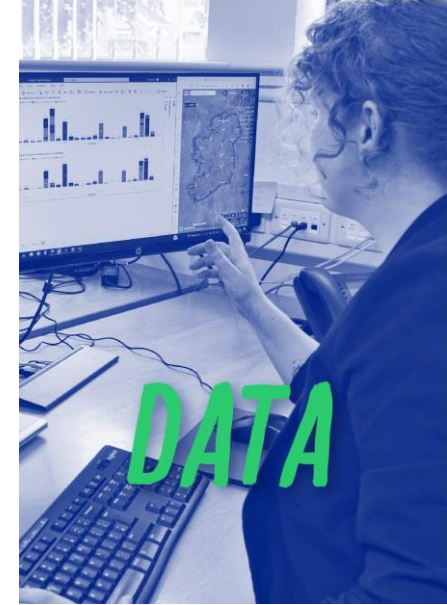
ECO



PEOPLE

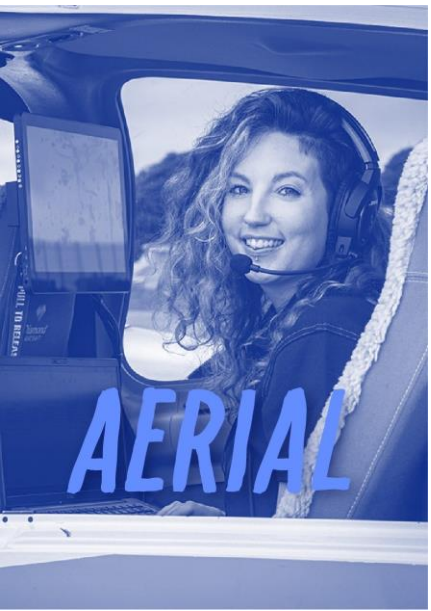


TECH



DATA

If we get this right, the opportunity is enormous.



AERIAL



LEGAL

#WorkinWind



ECO



OFFSHORE

Invest in People – #WorkinWind

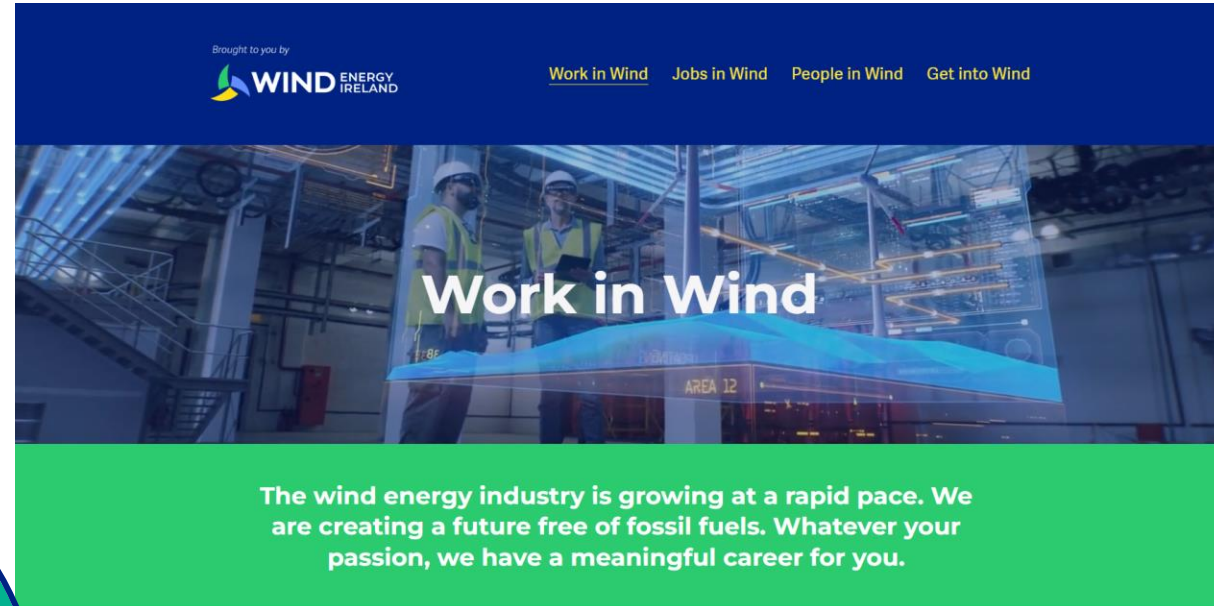


Building our Potential
Ireland's Offshore Wind Skills
and Talent Needs
JANUARY 2024

Green Tech
Skillnet

BVG Associates **WIND ENERGY IRELAND**

The capacity target of
37 GW by 2050
has the potential to add at least
€38 billion
to the Irish economy over
the lifetime of all installed
wind farms.



Brought to you by
WIND ENERGY IRELAND

[Work in Wind](#) [Jobs in Wind](#) [People in Wind](#) [Get into Wind](#)

Work in Wind

The wind energy industry is growing at a rapid pace. We are creating a future free of fossil fuels. Whatever your passion, we have a meaningful career for you.

www.workinwind.ie

#WorkinWind



Introducing...



Skillnet Offshore Wind Academy





Building Offshore Wind in Ireland

Industry and workforce opportunities

Interactive guide

Lifecycle phases ▼

Development process

Sites and port facilities

Work in offshore wind ▼

Contact

Offshore wind presents Ireland with an enormous opportunity

[LEARN MORE](#)

In partnership:







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





Co-funded by the European Union

Wind energy is Ireland's greatest asset in responding to the climate emergency.

Ireland will be energy independent.

The decisions we make now
will decide when.



Website: www.windenergyireland.com

Email: externalaffairs@windenergyireland.com

LinkedIn: [Wind Energy Ireland](#)

Twitter: [@WindEnergyIRL](#)

Instagram: [@windenergyireland](#)