

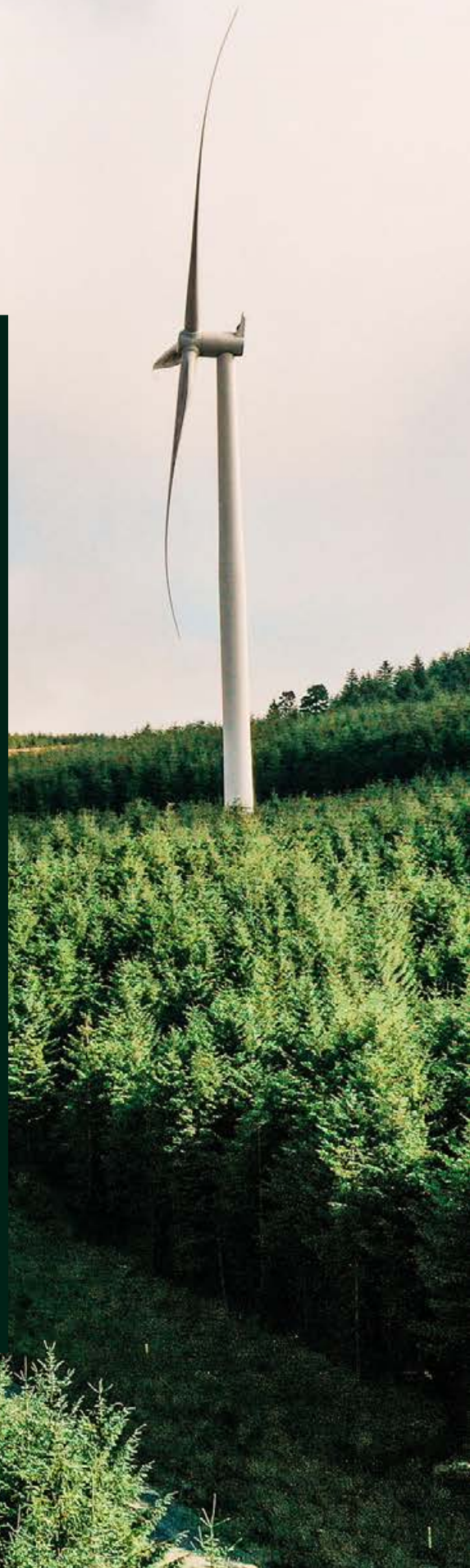
FuturEnergy Ireland

sse
Renewables



Inse Mhór Wind Farm

Spring 2023



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Réamhrá

Comhfhorbairt idir FuturEnergy Ireland agus SSE Renewables is ea an Fheirm Ghaoithe atá beartaithe don Inse Mhór.

Cuideachta chomhfhiontair is ea FuturEnergy Ireland faoi úinéireacht ar bhonn 50:50 idir Coillte agus Bord Soláthair an Leictreachais (ESB) a seoladh i mí na Samhna 2021. Is mian linn an acmhainn breis agus 1GW fuinnimh in-athnuaite a fhorbairt faoi 2030 agus cion tairbhe nach beag a dhéanamh ar son ghealltanais na hÉireann 80% dá leictreachas a ghiniúint ó fhoinsí in-athnuaite faoi dheireadh na deich mbliana seo.

Comhpháirtí forbartha FuturEnergy Ireland don tionscadal seo is ea SSE Renewables, an forbróir, úinéir agus oibreoir is mó chun cinn in Éirinn i gcúrsaí feirmeacha gaoithe ar talamh, a bhfuil sé mar fhís acu fuinneamh inathnuaite a bheith mar bhonn le saol carbón nialasach.

Cuireann an leictreachas inathnuaite a gintear ar fheirmeacha gaoithe atá á n-oibriú ag SSE Renewables an chumhacht ar fáil do SSE Airtricity, an soláthróir is mó in Éirinn d'fhuinneamh atá 100% glas. San áireamh i bpunann gaoithe ar talamh na cuideachta tá an fheirm ghaoithe is mó in Éirinn, Páirc Ghaoithe na Gaillimhe a ghineann 174MW ar comhfhorbairt eile a bhí ansan idir SSE Renewables agus Fuinneamh In-Athnuaite Coillte (anois FuturEnergy Ireland).

An fhoireann tionscadail

Ar an bhfoireann a bhfuil baint dhíreach acu le Feirm Ghaoithe na hInse Móire atá beartaithe tá Bainisteoir Tionscadail FuturEnergy Ireland David Heelan, Bainisteoir Tionscadail ó SSE Renewables, Garry Brides, agus Oifigeach Idirchaidreamh Pobail (CLO) Brendan Twomey, chomh maith le roinnt speisialtóirí i réimsí eangach, acmhainní gaoithe, pleanála agus beartas.

Is é an gnóthas comhairliúcháin innealtóireachta Jennings O'Donovan and Partners Ltd. (JOD) atá ag stiúradh na foirne ildisciplíní agus í i mbun staidéar, deartha agus ullmhúcháin don iarratas pleanála agus don Tuarascáil ar Mheasúnú Tionchar Timpeallachta (TMTT) thar ceann FuturEnergy Ireland agus SSE Renewables.

Tá réimse leathan taithí ag JOD i ngach gné den mheasúnacht féidearthachta, measúnacht tionchair timpeallachta, pleanáil, dearadh agus tógáil feirmeacha gaoithe agus tionscadail eile a bhaineann le fuinneamh.

Ullmhaíodh an bróisiúr seo chun:

- Cur síos a dhéanamh ar an bpróiseas dearaidh atá bunaithe ar shrianta, a thugann léargas soiléir ar conas atá leagan amach feirme gaoithe tagtha chun cinn.
- An dearadh deiridh a chuirfear isteach le measúnú a bheith déanta air laistigh den gcóras pleanála.
- Léiriú imlíneach a thabhairt ar an mórán slite go bhféadfadh an tionscadal seo a bheith tairbheach don gceantar áitiúil.
- An próiseas pleanála a mhíniú i gcomhthéacs an tionscadail seo agus conas dul i ngleic leis an bpróiseas.
- Sonraí a sholáthar maidir leis na céimeanna atá fós le tógaint sa tionscadal seo.

Cuirtear leis an bhfaisnéis seo le Turas Fíorúil ar líne, lena n-áirítear fótamontáisi den tionscadal atá beartaithe ó dhearcthaí éagsúla agus tuilleadh faisnéise a tiomsaíodh go dtí seo ón Tuarascáil ar Mheasúnú Tionchair Timpeallachta. Tá fáil ar seo ar fad ar www.inchamorewindfarm.ie.

Radharc ar na tuirbíní atá beartaithe ó bhóthar áitiúil ar an Lománach

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Introduction

The proposed Inse Mhór Wind Farm (Inchamore Wind Farm) is a co-development between FuturEnergy Ireland and SSE Renewables.

FuturEnergy Ireland is a joint venture company owned on a 50:50 basis by Coillte and ESB that launched in November 2021. Our ambition is to develop more than 1GW of renewable energy capacity by 2030 and to make a significant contribution to Ireland’s commitment to produce 80% of electricity from renewable sources by the end of the decade.

FuturEnergy Ireland’s co-development partner for this project, SSE Renewables, is Ireland’s leading developer, owner and operator of onshore wind farms, with a vision to make renewable energy the foundation of a zero-carbon world.

The renewable electricity generated at wind farms operated by SSE Renewables powers SSE Airtricity, Ireland’s largest provider of 100% green energy. The company’s onshore wind portfolio includes Ireland’s largest wind farm, the 174MW Galway Wind Park, which was another co-development between SSE Renewables and Coillte Renewable Energy (now FuturEnergy Ireland).



The project team

The team directly involved in the proposed Inse Mhór Wind Farm includes FuturEnergy Ireland Project Manager David Heelan, a Project Manager from SSE Renewables, Garry Brides, and Community Liaison Officer (CLO) Brendan Twomey, as well as several specialists in the areas of grid, wind resource, planning and policy.

The engineering consultancy Jennings O'Donovan and Partners Ltd (JOD) is leading a multidisciplinary team in carrying out studies, design and preparation of the planning application and Environmental Impact Assessment Report (EIAR) on behalf of FuturEnergy Ireland and SSE Renewables.

JOD has wide-ranging experience in all aspects of the feasibility assessment, environmental impact assessment, planning, design and construction of wind farms and other energy related projects.

This brochure has been prepared to:

- Describe the constraints-led design process, which gives a clear picture of how the wind farm layout has evolved.
- Present the final design that will be submitted for assessment within the planning system.
- Outline the many ways in which this project could bring positive benefit to the local area.
- Explain the planning process and how to engage with this process.
- Provide details of the next steps for this project.

This information is supplemented by an online Virtual Tour, which includes photomontages of the proposed project from different viewpoints and further information collated to date from the Environmental Impact Assessment Report. This is available at www.inchamorewindfarm.ie.

Montage view of proposed
Inse Mhór Wind Farm from a local
road at Lumanagh



The Context

Our planet is warming at a dangerous rate. According to the Environmental Protection Agency, annual temperatures in Ireland have risen by 0.7C over the past century and are likely to rise by 1.4C to 1.8C by the 2050s due to climate change, which will cause widespread, devastating and irreversible damage to the planet. Glaciers are shrinking, sea levels are rising, and animal and plant species face extinction.

Urgent action is needed. A key pillar of this will be an increase in renewable energy to replace the oil, gas and coal that we burn to produce electricity. Renewable energy generation is central to the Government's energy policy, which is now targeting 80% of electricity from renewable sources by 2030. The Government is committed to rapid decarbonisation of the energy sector with an aim of achieving net zero emissions by 2050.

In May 2022, the amount of onshore wind energy installed in Ireland reached 4,332.5 MW. The Climate Action Plan (2023) aims to more than double Ireland's onshore wind energy capacity to 9,000 MW by 2030.

The further development of renewable energy sources will also improve Ireland's energy security. Energy security is vulnerable to international price increases, which are being exacerbated by the conflict in Ukraine. This in turn is having an unprecedented inflationary effect across our economy.

EU and national energy policies are seeking to rapidly ramp up renewable generation capacity, in order to reduce our dependence on imported fossil fuels and support more stable and affordable long-term energy prices.

Inse Mhór Wind Farm is being proposed, in part, as a response to these challenges and we feel it has the potential to contribute greatly to both causes.

Why onshore wind?

Wind energy is the largest contributing source of renewable energy in Ireland. It is both Ireland's largest and cheapest renewable electricity resource. Wind generation accounted for 36.1% of all electricity generated in Ireland in 2020 and was responsible for 68% (4.5 million tonnes) of all avoided carbon dioxide (CO₂) emissions.

Onshore wind energy is a clean fuel source. Unlike conventional power plants that burn combustible fossil fuels, wind turbines do not produce atmospheric emissions that cause acid rain or greenhouse gases. Wind energy is a free, inexhaustible domestic natural resource, available in abundance in Ireland.

As an operating wind farm occupies a relatively small proportion of an overall site area — approximately a 3% footprint — many other land uses can co-exist such as commercial forestry, farming, recreation and biodiversity management.

Other renewable energy technologies such as offshore wind and solar are also required to meet national renewable energy targets. As well as increasing onshore wind-generating capacity to 9 GW, the Climate Action Plan calls for 8 GW of grid-scale solar and more than 7 GW of offshore renewable energy by 2030.

The Climate Action Plan (2023) aims to more than double Ireland's onshore wind energy capacity to 9,000 MW by 2030.



Why this project?

The proposed Inse Mhór Wind Farm is located within an agricultural and forested landscape 5.9km west of Ballyvourney, Co. Cork, and shares the county boundary between Cork and Kerry. The total land parcel extends to approximately 167 hectares, of which a significant area is commercial forest owned by Coillte. The remaining land is third-party property.

The suitability of Inse Mhór Wind Farm site can be attributed, in part, to the following characteristics:

- The site is located in an area designated as 'Open to Consideration' for wind energy in the Cork County Development Plan.
- The site is not located within a designated Natura 2000 site. It is not within a Special Area of Conservation (SAC) or a Special Protection Area (SPA).
- The site is in an accessible location for connection to the National Electricity Grid via existing electrical substations in the local area.
- There are good annual average wind speeds in the area.
- Setback distances from houses can be achieved to align with the latest government guidance. The project team has committed to a minimum setback of four times the maximum turbine tip height being applied for between an occupied dwelling and a proposed turbine location.
- There is a limited network of existing forestry and farm roads within the site that can be upgraded and utilised for the wind farm.
- Much of the land use on the site can continue and co-exist with an operational wind farm, including forestry and agricultural activities.

Our commitment to you

From the outset, we placed a strong focus on open communication with the local community. During Covid-19 restrictions, which initially curtailed our face-to-face engagement, the project managers and local Community Liaison Officer (CLO) kept the community regularly informed via newsletters, letters and website updates, responded to phone calls and emails, and organised house calls and one-to-one outdoor meetings in line with Government guidelines to keep everyone safe during the pandemic.

Throughout our engagement, we have actively encouraged the community to contact CLO Brendan Twomey, whose mobile number and email address are on all correspondence along with the website details.

Engagement with the community started in September 2020 when our CLO Brendan Twomey hand-delivered Newsletter 1 to those who live within 2km of the proposed project study area. This gave Brendan the opportunity to start conversations with those closest to the site prior to any detailed design work commencing.

These conversations helped to inform Newsletter 2, which was posted to homeowners living within the same 2km study area in March 2021. Door-to-door visits were not undertaken at this time due to strict Covid-19 restrictions. The website www.inchamorewindfarm.ie also went live.

Brendan hand-delivered Newsletter 3 in September 2021, which enabled socially distanced, outdoor conversations to be held during the pandemic. In November 2021, Brendan distributed a project update letter which was followed by a letter in December introducing FuturEnergy Ireland.

In March/April 2022 Brendan hand-delivered a project update letter, which gave him further opportunity to discuss the project with homeowners. Another project update letter followed in November 2022 to keep the local community informed of progress.

Early in the engagement process, CLO Brendan also began keeping local interest groups from the wider community and local elected representatives up to date and informed. This level of commitment continued throughout the consultation process and will continue as the project progresses.

All newsletters and letters were printed in both Irish and English in recognition of the tradition of an Gaeltacht Mhuscraí.

All newsletters, letters and other updates, including information about the Community Benefit Fund, were promptly uploaded onto the project website.

The dedicated project website www.inchamorewindfarm.ie went live in March 2021. This website contains all project information and updates as well as access to the Virtual Tour.

A Constraints-Led Design Approach

Constraints-led design is a commonly used, best practice approach employed in wind farm design. Using this method, environmental sensitivities within the project study area are identified by the design team with a view to pinpointing suitable areas in which wind turbines may be located. The resulting area is known as the ‘developable area’.

The site study area will already have been chosen by the project team based on its viability in terms of wind resource, land size, planning policy and the availability of a suitable connection to the national grid (see Figure 1).

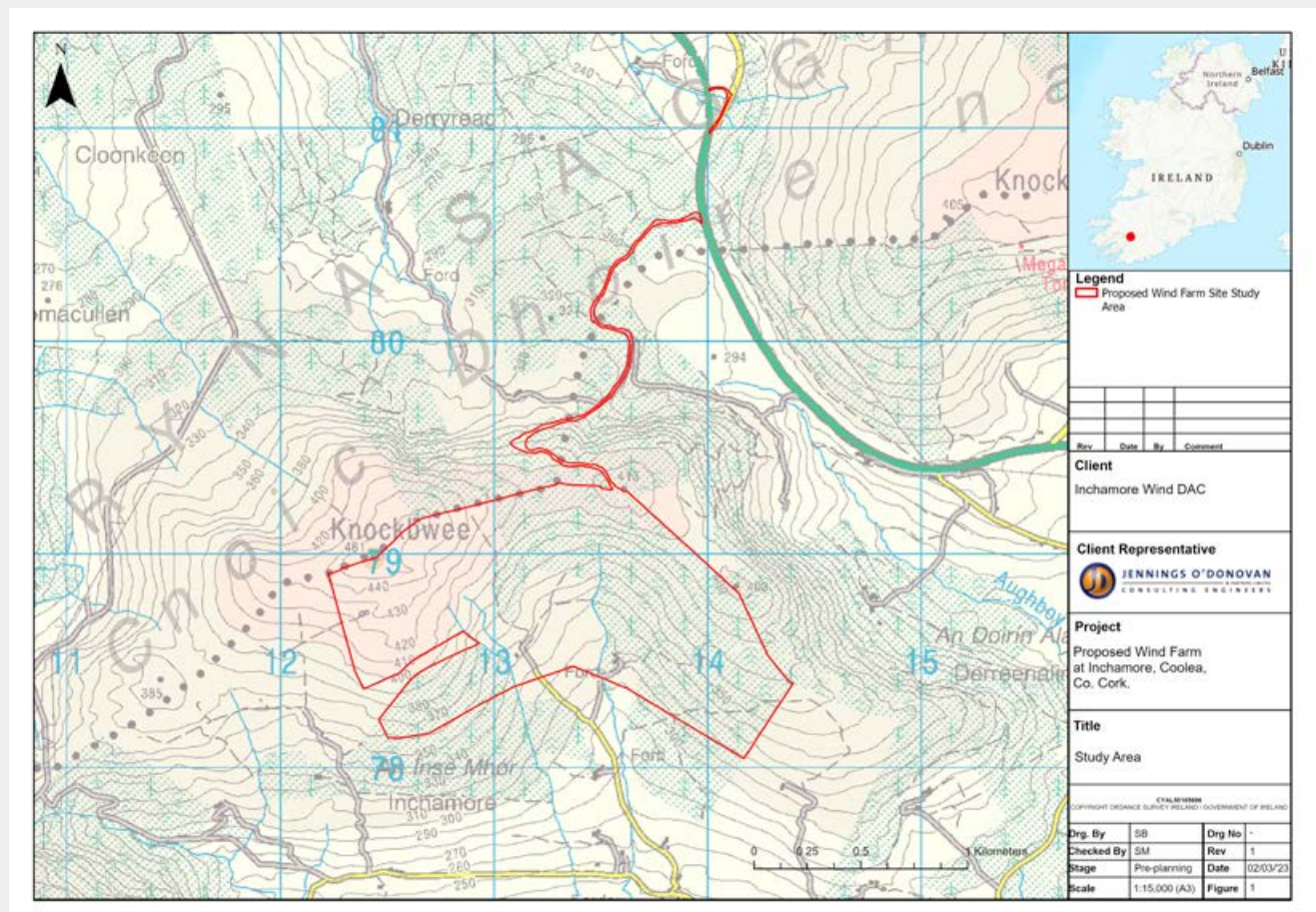
The design and layout of the proposed Inse Mhór Wind Farm follows the recommendations set out in the ‘Wind Energy Development

Guidelines’ (Department of the Environment, Heritage and Local Government, 2006) and ‘Best Practice Guidelines for the Irish Wind Energy Industry’ (Irish Wind Energy Association, 2012).

The 2006 guidelines are currently the subject of a targeted review. Proposed changes to the management standards associated with onshore wind energy developments are outlined in the Draft Revised Wind Energy Development Guidelines, December 2019 (Draft WEGs 2019).

Please note, Inse Mhór Wind Farm has been designed to enable it to comply with the Draft WEGs 2019 guidelines.

Figure 1 Initial project study area



Gathering information

The first step is gathering information through detailed desk-based assessments, field surveys and consultation. Key environmentally sensitive features (also known as sensitive receptors) are mapped, which include:

- Private dwellings
- Protected sites such as Special Areas of Conservation, Special Protection Areas or Natural Heritage Areas
- Hydrological features such as streams
- Areas prone to flooding
- Sensitive ecological habitats
- Known nesting sites of protected bird species
- Steep terrain or areas that may be potentially susceptible to landslides
- Designated sensitive views or scenic routes
- Places of archaeological or cultural heritage significance

Applying setback buffers

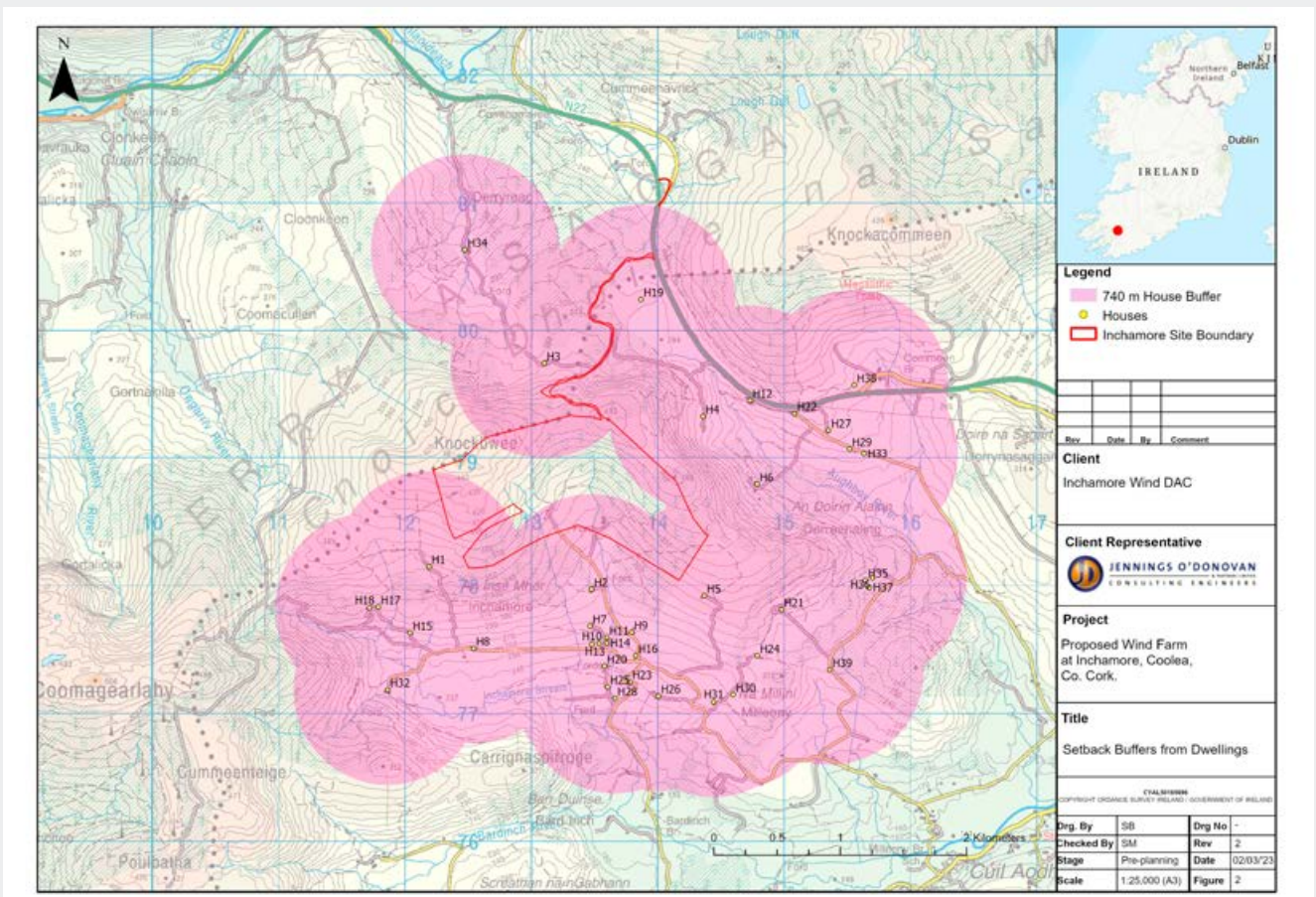
The constraints mapping process involves the placing of buffers around constraints to identify the areas within which no development works will take place if possible.

The size of the buffer zone for each constraint has been assigned to comply with Wind Energy Guidelines (WEGs 2006 and 2019).

The following constraints and buffers apply to Inse Mhór Wind Farm:

- Residential dwellings plus a minimum buffer of 4 x the maximum turbine tip height being applied for, as required by the Draft WEGs 2019
- Rivers and streams plus 65 metre buffer
- Recorded archaeological sites and monuments plus 100 metre buffer
- Telecommunications buffer plus operator-specific buffer
- Existing wind turbines buffer

Figure 2 Setback buffer from dwellings applied (pink areas)



In the case of Inse Mhór Wind Farm, the setback buffer applied from dwellings is four times the maximum blade tip height being applied for. This exceeds the requirements of both the current 2006 WEDGs and the draft WEDGs 2019.

Figure 2 shows what the application of this setback buffer does to the developable area. As the map shows with the areas highlighted in pink, a significant portion of the land has been removed from consideration due to this design constraint. Any lands within these setback buffers are no longer considered for the placement of wind turbines.

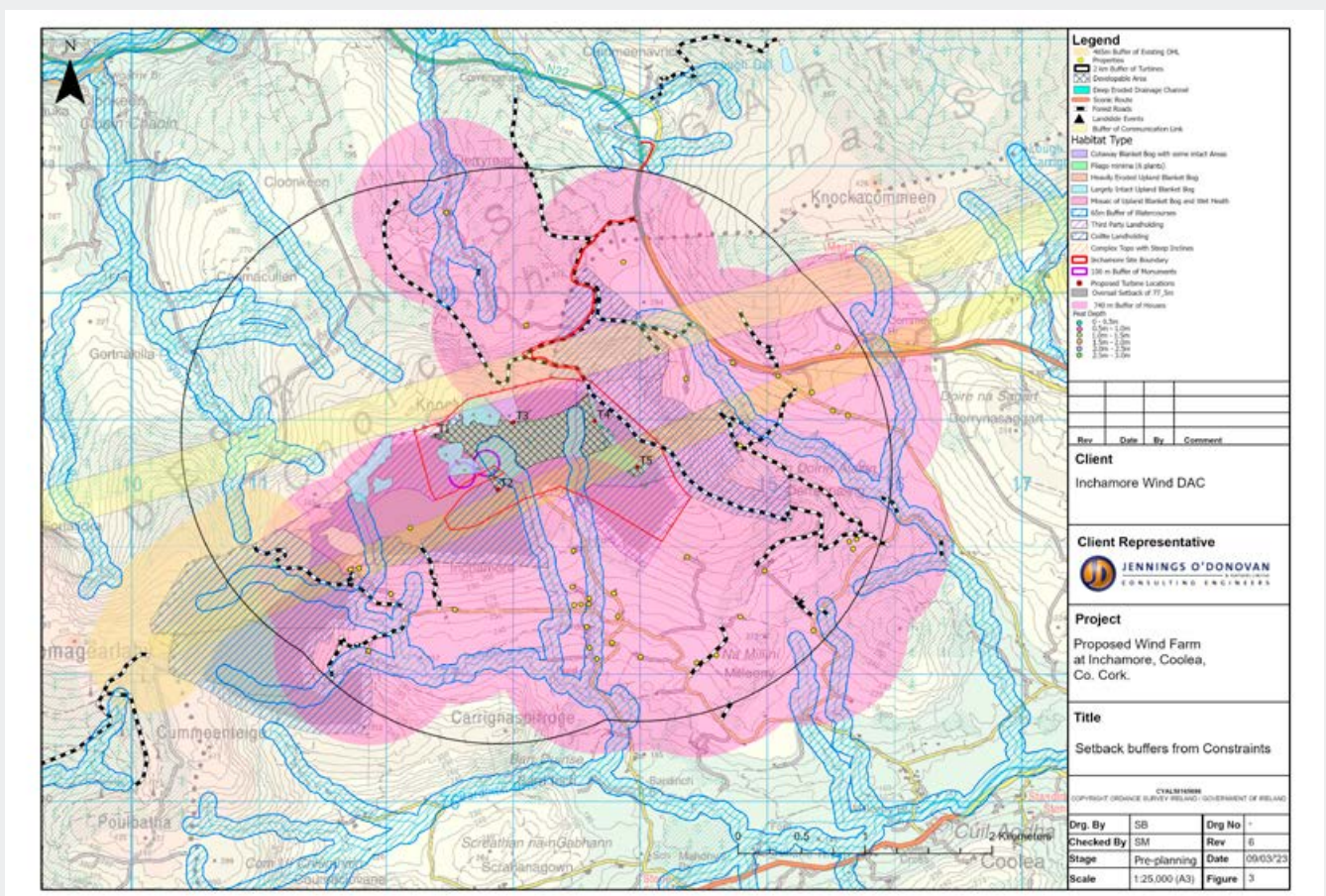
Environmental sensitivities dictate a large proportion of design constraints. However, other considerations such as proximity to houses, existing third-party infrastructure, landscape and visual considerations, and community feedback also influenced the identification of the final developable area.

Additionally, setback buffers are applied to existing roads, trails, high voltage electrical lines and telecommunication links. **Figure 3** shows the setback buffers applied to rivers and streams, telecommunication links and recorded archaeological sites at Inse Mhór Wind Farm.

There are further constraints associated with landscape and visuals. Particular constraints mapped include reverse zone of theoretical visibility (ZTV) from viewpoints. This technique allows the designers to understand from where particular wind turbines (or parts of them) may be visible based on ground topography and indicates potential visual impact at these locations.

From this information, 3D models and photomontages are prepared to further inform the layout of the proposed wind farm and optimise turbine positioning in this context to limit turbine visibility from key viewpoints.

Figure 3 Setback buffers from identified constraints



Mapping the developable area

When all of the constraints are layered on top of one another, the true area available for wind energy development materialises. As you will see, this is significantly smaller than the original study area.

Following the application of all known constraints, the developable area is mapped. **Figure 4** shows the area in which wind turbines can now be sited.

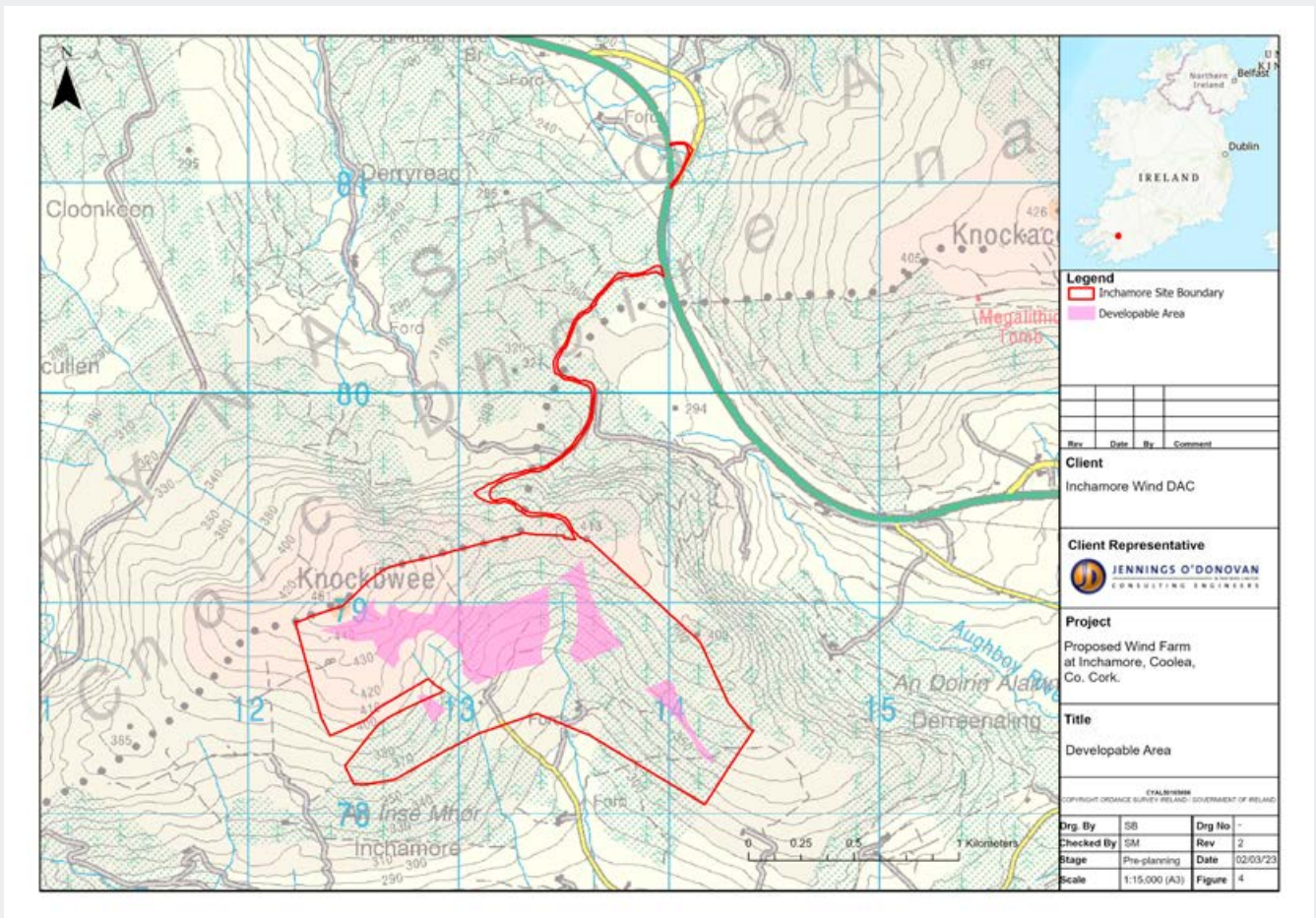
After placing wind turbines within the developable area, allowing for required spacing

between the turbines, the resulting layout forms the basis for the first design version of the wind farm, **Figure 5**.

Other elements of the wind farm design can now commence such as onsite access tracks, crane hardstandings, the onsite substation and temporary compounds.

New constraints are added following more detailed environmental studies, field surveys and consultation, which may change the developable area as the project progresses. This approach has also been applied to the location of other wind farm infrastructure.

Figure 4 Development site study area (red) and potential developable areas (pink)

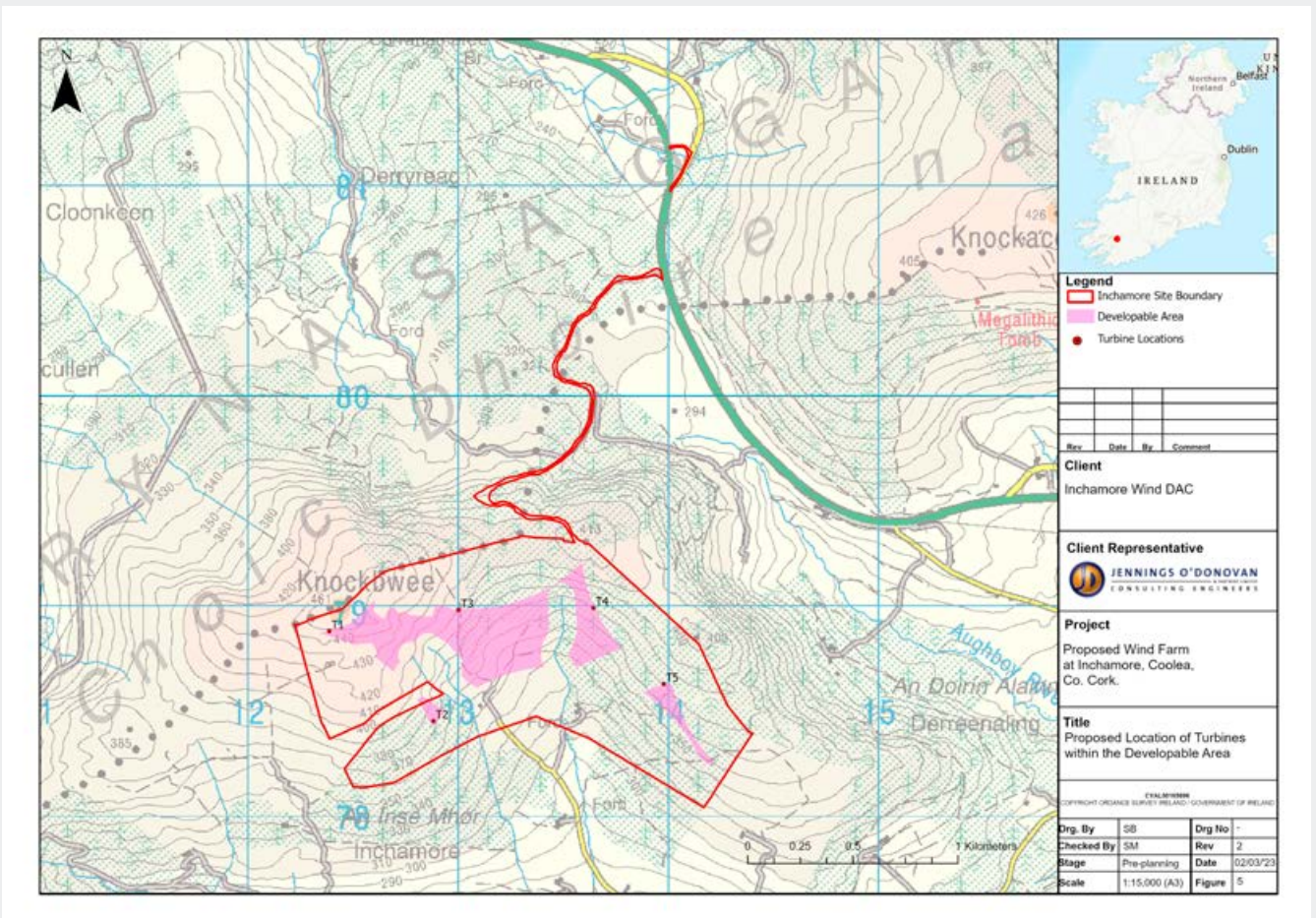


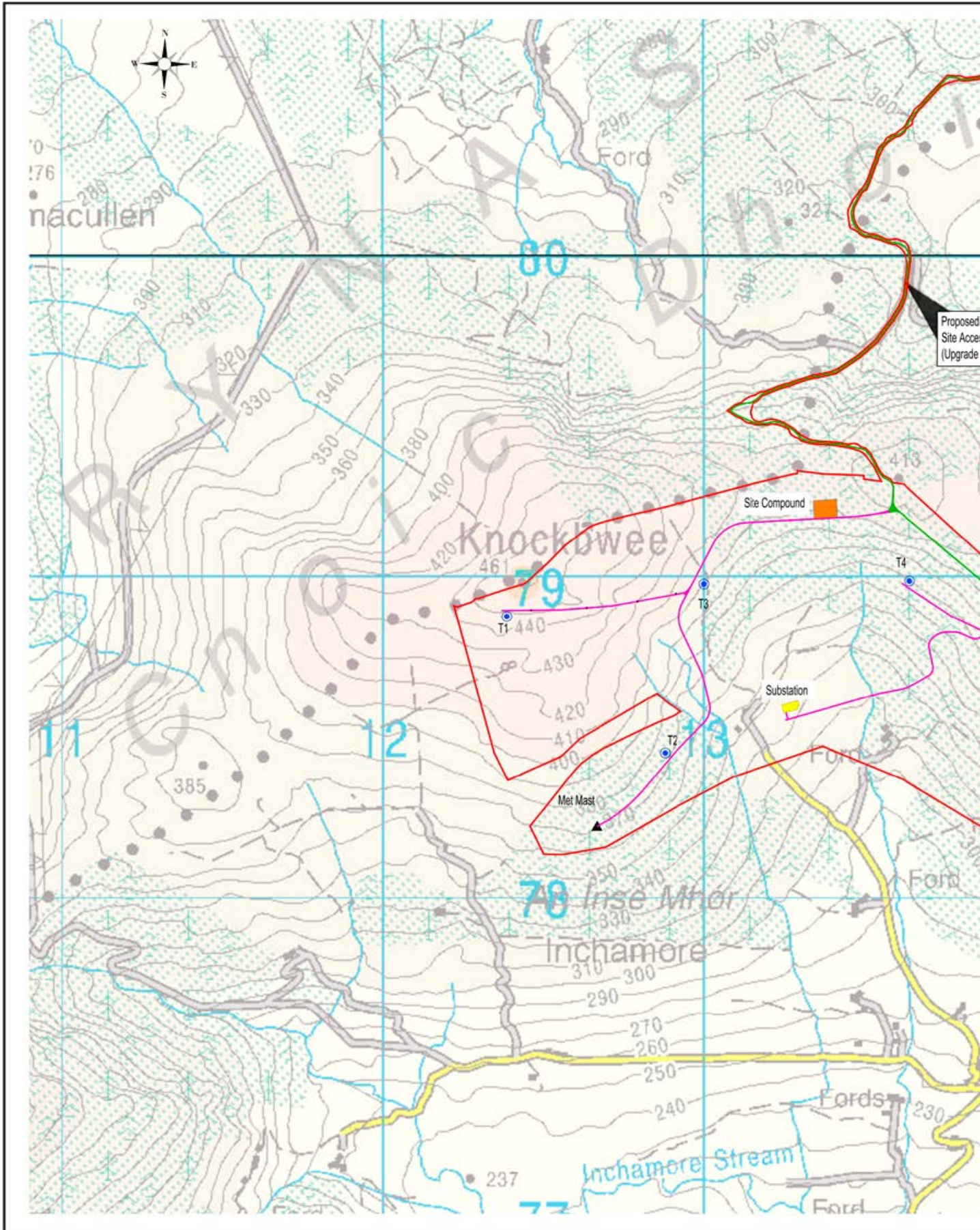
In our Virtual Exhibition, you will find a full suite of photomontage imagery that clearly shows what the wind farm would look like, alongside existing turbines, from different viewpoints. This is available at www.inchamorewindfarm.ie.

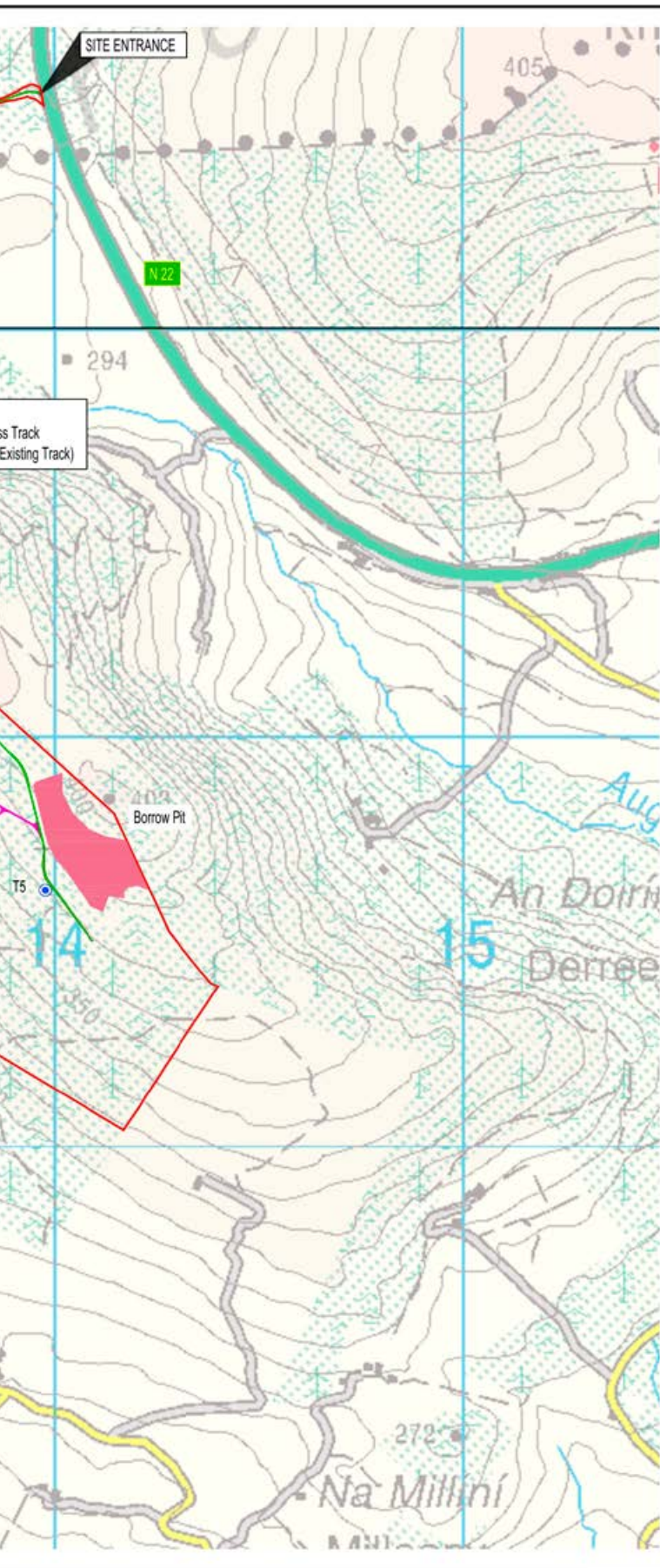
The final turbine layout overleaf, **Figure 6**, is expected to represent the layout that will be submitted for planning permission, any potential late changes notwithstanding.



Figure 5 Developable area with proposed turbine layout







Legend

- Proposed Turbine Location
- Site Boundary
- Proposed Borrow Pit Location
- Proposed Construction Compound
- Proposed 38 kV Substation Compound
- Existing Track Upgrade Proposed
- Proposed New Track
- ▲ Proposed Met Mast

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rev	modifications	by	date

Client
INCHAMORE WIND DAC

Project
PROPOSED WIND FARM AT INCHAMORE, COOLEA, COUNTY CORK.


Title
SITE LAYOUT MAP

Scales
NTS

Surveyed	Prepared By	Checked	Date
OSI	A.McC.	S.M.	03.03.2023

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Job No.	Drawing no.	Revision
6226	6226-JOD-XX-DR-C-001	

Figure 6
Final proposed turbine layout

The proposed development

The proposed project will consist of the following:

- Erection of five turbines, each capable of generating 5.6 MW to 6.6 MW, with an overall ground-to-blade tip height of between 177 metres and 185 metres. The candidate wind turbines will have a rotor diameter of between 149 metres and 155 metres and a hub height of between 102.5 metres and 110.5 metres.
- Construction of site access roads, crane hardstand areas and turbine foundations.
- Improvement of the existing site entrance and access track.
- One temporary construction compound with associated temporary site offices, parking and security fencing.
- All associated underground electrical and communications cabling connecting the wind turbines to the substation.
- Installation of one permanent meteorological mast with a height of 110 metres and a 4 metre lightning pole on top.
- Development of an on-site borrow pit.
- Construction of new internal site access roads and upgrade of existing site roads, to include passing bays and all associated drainage.
- Development of a site drainage network.
- Construction of one permanent 38kV substation.
- Ancillary forestry felling to facilitate construction and operation of the proposed development and any on-site forestry replanting.





View of proposed turbines from
a local road at Inse Mhór



Project photomontages

These photomontages show what the project will look like from certain viewpoints, if permitted and constructed as designed. The full set of photomontages is available in the Virtual Tour at: www.inchamoremwindfarm.ie.



View of proposed and existing turbines from a local road at Cappa West, Coomnaclohy



View of proposed turbines and existing turbines from a local road at Kilbarry, Carrignaneelagh





Benefits to the Local Community

Inse Mhór Wind Farm has the potential to bring significant positive benefits to local communities. The project will support local employment, contribute annual rates to the local authority and provide a Community Benefit Fund in line with the new Renewable Electricity Support Scheme (RESS).

RESS is a policy initiative to deliver on the Government's Climate Action Plan. An important feature of RESS is that all projects must establish a Community Benefit Fund to be used for the wider environmental, social and economic wellbeing of the local community.

It is accepted that those living in closest proximity to the project should be priority beneficiaries and that is why some of the fund is designated for Near Neighbour payments. However, it is important that broader community benefits apply as well.

What will the Community Benefit Fund look like?

On July 7, 2021, Minister Eamon Ryan announced the publication of the Government's 'Good Practice Principles for Community Benefit Funds' under the Renewable Electricity Support Scheme (RESS). The development of this handbook benefited from a public consultation process that included five interactive community town hall webinars and focus groups.

Communities will be at the centre of the decision-making process, which gives them the opportunity to develop a strategy to maximise their own Community Benefit Fund. One particular focus of the funds is to support local initiatives that align with the UN Sustainable Development Goals such as home and community hall retrofits, pollinator farms, cycling paths, educational material and scholarships, and sports club activities.

The scheme mandates all RESS projects to establish a Community Benefit Fund worth €2 per MWh (megawatt hour) of generated electricity for any future wind farm. Therefore, the project owners are required to contribute €2 per MWh annually into a community fund for the RESS contract period i.e., the first 15 years of operation. The total fund per annum will depend on the final power output of a successful project.

Inse Mhór Wind Farm, if constructed as proposed, has the potential to produce between 85,000 and 100,000 MWh of electricity a year. This means that the project could contribute between €170,000 and €200,000 per annum to the Community Benefit Fund for the first 15 years of its operational life.

Inse Mhór Wind Farm, if constructed as proposed, has the potential to produce between 85,000 and 100,000 MWh of electricity a year. This means that the project could contribute between €170,000 and €200,000 per annum to the Community Benefit Fund for the first 15 years of its operational life.

Government guidelines for the annual distribution of this fund are as follows:

- A minimum of €1,000 shall be paid to each household located within a distance of a 1 kilometre radius from the nearest turbine.
- A minimum of 40% of the funds shall be paid to not-for-profit community enterprises whose primary focus or aim is the promotion of initiatives towards the delivery of the UN Sustainable Development Goals, in particular Goals 4, 7, 11 and 13, including education, energy efficiency, sustainable energy and climate action initiatives.
- A maximum of 10% on administration.
- The balance of the funds shall be spent on initiatives successful in the annual application process, as proposed by clubs and societies and similar not-for profit entities, and in respect of Onshore Wind RESS 2 Projects, on “near neighbour payments” for households located outside a distance of 1 kilometre, but within a distance of 2 kilometres from such RESS 2 Project.

How the fund works

The Government’s ‘Good Practice Principles for Community Benefit Funds’ states: “The key focus across all the guidance is simple: that the local community participates in all decisions in regard to how the funding should be used. The fund is open to individuals, and not-for-profit groups such as community and voluntary groups, charities, social enterprises and clubs and societies. High quality administration, local where possible, is also a key expectation and we lay out commentary in that regard.”

You can download the full RESS guideline handbook at www.inchamorewindfarm.ie/community.

Should Inse Mhór Wind Farm receive a positive planning outcome, it is envisaged that the project team and the local community will work together to develop an appropriate local structure that would design the Community Benefit Fund. This group will make decisions on funding allocations and, with the assistance of an administrator, manage the fund, ensuring transparency and good governance.



The Air Ambulance in Co Cork benefitted from SSE’s Coomacheo and Curragh Community Fund 2021

Environmental benefits

The proposed Inse Mhór Wind Farm could export between 28 MW and 33 MW of clean, green electricity. Based on these figures, the development would have the capacity to provide enough electricity to power between 18,663 and 24,090 homes in Co Cork annually. This equates to up to 9.95% of the total housing stock in Cork City and County (April 2022). Over the lifetime of the project, between 1.1 million and 1.2 million tonnes of CO₂ are expected to be offset compared to traditional electricity generation.

During construction and turbine manufacture, some carbon is lost to the atmosphere, but this is anticipated to be offset by the wind farm itself within nine months to two years of operation. These details are provided in the Environmental Impact Assessment Report (EIAR).

Employment opportunities

According to The Economic Impact of Onshore Wind in Ireland study by KPMG in 2021, 5,130 people nationally are directly supported by onshore wind. To meet the Government's onshore wind target of 8,200 MW by 2030, the industry will need to grow its workforce.

By 2030, total direct and indirect employment is projected at approximately 7,000, an increase of 35%. The proposed development will make a material contribution to employment growth within this sector and provide demand for a wide range of products and services in the local area.

Inse Mhór Wind Farm will have the capacity to provide enough electricity to power between 18,663 and 24,090 homes in Co Cork annually.

The proposed Inse Mhór Wind Farm brings employment opportunities. At peak construction, up to 25 people would be directly employed. Two long-term, technical employee is also required to run the wind farm. Demand for a wide range of products and services will create indirect employment.

Council rate contributions

The proposed wind farm will contribute substantial annual rates to Cork County Council. This will have a positive impact on local infrastructure and amenities such as roads, public lighting, libraries and fire services. Under current guidelines, it is estimated that Cork County Council will collect between €280,000 and €330,000 annually from the proposed wind farm.

The Planning Process

As co-development partners of the proposed wind farm, FuturEnergy Ireland and SSE Renewables formed the project company Inchamore Wind Designated Activity Company. The planning application will be submitted to Cork County Council by the project company, Inchamore Wind DAC.

The planning application will be supported by an Environmental Impact Assessment Report (EIAR) an Appropriate Assessment report and a Natura Impact Statement (NIS).

During the project design and environmental assessment, consultation was carried out with Cork County Council, as the local planning authority, to discuss the project.

The full application and all supporting documents and drawings will be available on the project website

www.inchamorewindfarm.ie

and on the Cork County Council website in the planning section. It will also be available for viewing at the offices of Cork County Council, Ground Floor, County Hall, Carrigrohane Road, Cork.



How can you engage with the planning process?

Cork County Council's website www.corkcoco.ie has guidance on public participation. Any person or body may make an observation on the project to Cork County Council while the documents are available for viewing after the application has been submitted.



Photomontage view of proposed turbines from Cahernacaha, Ballygeary

The Environmental Impact Assessment Report

The EIA that accompanies the planning application will focus on the areas outlined here. Jennings O'Donovan & Partners Limited is compiling the EIA with the input of other specialist consultants.

- Chapter 1 Introduction
- Chapter 2 Project Description
- Chapter 3 Alternative Considered
- Chapter 4 Population and Human Health
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Below please find an introduction to some of the EIA chapters that may be of interest. More information on these topics will be available in the full EIA that accompanies the planning application.

Population and human health

The assessment examines the potential impacts of the project on the local and regional community. The key issues examined include population and settlement, employment

and economic activity, land use, residential amenity, community facilities and services, tourism, and health and safety.

Regarding the proposed Inse Mhór Wind Farm development, the potential significant wellbeing and nuisance effects of the proposed scheme on the local human environment have been identified as follows:

- Dust emissions from construction
- Noise emissions during construction and operation
- Public safety
- Visual impacts during operation
- Shadow flicker during operation
- Traffic nuisance during construction
- Tourism and recreational impacts
- Interference with TV and telecommunications during operation

Each of these issues has been fully assessed and is being documented as part of the EIA.

Biodiversity

Surveys for habitats, vegetation and flora were carried out. Apart from conifer plantation, the main habitat on site is wet heath. In places, the heath habitat shows signs of erosion, with rock exposed.

A population of the plant Small Cudweed *Filago minima* (formerly *Logfia minima*) was located along a forest track to the west of the site (outside the site's red-line boundary). This plant is legally protected (Flora Protection Order 2015) in Ireland. No other rare or protected plant species are associated with the site.



Detailed bat surveys were completed in both 2019/2020 and throughout May to September 2022. Roost surveys were also conducted including preliminary ecological appraisal, bat roost inspection and emergence surveys.

Activity surveys recorded four species of bat: common pipistrelle, soprano pipistrelle, Leisler's bat and Natterer's bat.

During static detector surveys, nine species of bat were recorded. The same four species already recorded during activity surveys were present. In addition, Nathusius's pipistrelle bat, Daubenton's bat, whiskered bat, brown long-eared bat and lesser horseshoe bat were also recorded. During static detector surveys, common pipistrelle was recorded the most frequently and lesser horseshoe bat the least.

The Kerry slug occurs on site and was assessed in summer 2020. This protected species was regularly recorded among suitable habitat during each visit. Kerry slug numbers recorded within slug traps were relatively low with just 19 records in seven traps over a four-week period.

However, the Kerry slug was frequently recorded within suitable habitat during targeted hand searches. Slugs were most commonly found on exposed rock during hand searches, with most hand-search observations made during wet weather. A derogation licence will be applied for to relocate the slugs.

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Aquatic Ecology

The proposed Inse Mhór Wind Farm lies entirely within the Inchamore Stream sub-catchment where five tributaries flow into the Bardinch River, which then joins the Sullane River, a tributary of the Lee.

The catchment of the wind farm site is listed as supporting extant populations of freshwater pearl mussel (*Margaritifera margaritifera*). However, no evidence of the mussel was recorded, with the exception of a single dead shell on the Sullane River at a point upstream of the Bardinch Confluence, 1.5km to the south of the site boundary.

The watercourses within the site are small tributaries that do not provide suitable habitat for fish or larger aquatic organisms. The Sullane River supports good populations of brown trout (*Salmo trutta*) with resident populations as well as larger fish running up from the reservoir downstream (O'Reilly, 2004).

Water quality was assessed on each of the watercourses draining the proposed wind farm site. All watercourses sampled were in 'High' status with good macroinvertebrate diversity and no evidence of algal cover or excessive macrophyte growth. The watercourses are all high energy, which reflects the topography and high levels of rainfall within the catchments.



Ornithology

Detailed bird surveys were carried out on site and in the hinterland between 2017 and 2022.

Vantage Point Surveys were undertaken over a 24-month period in 2017/2019. Additional surveys were undertaken in 2020, 2021, and 2022. Surveys for breeding moorland and waders, and transects (winter and summer) for merlin and red grouse (under licence) were undertaken on-site.

Surveys recorded hen harrier mainly in winter, although no evidence of winter roosts was recorded within or around the site. Records in July and September were considered to be birds dispersing from breeding grounds. Surveys also recorded snipe in winter, and golden plover was noted as occurring at times during autumn and winter.

Merlin was recorded in summer but there was no evidence of nesting on site. Red grouse breeds on bog and heath habitats and was recorded during the hinterland surveys.

The above species recorded are of conservation significance.

There was no evidence that the site is along a migration route for birds.

Hydrology and Water Quality

Surveys and monitoring took place on site. The hydrology and hydrogeology assessment found that the proposed development is within the Lee, Cork Harbour and Youghal Bay surface water catchment areas and there is Extreme Groundwater Vulnerability with significant areas with rock at or near the surface.

There were four mapped major surface water features identified associated with the Sullane River. The Water Framework Directive status of these waters were recorded as high quality. Drinking water sources were noted downstream



of the site (c. 17 km) with ground water wells also mapped within 2km of the Site. Some river sections c. 5km downstream were also identified as Special Areas of Conservation (St Gobnet's Wood SAC).

Drainage management will be employed to control drainage water within the site during construction This should ensure that surface run-off from developed areas will continue to be of good quality and no flood risk to the downgradient setting.

Soil and Geology

Site walkovers, mapping and surveying were carried out on site to determine peat depth and slope gradients. Bedrock and mineral subsoil were logged and subsoil samples were analysed in a laboratory environment.

Lidar data was assessed, and mapping of significant features occurred.

Generally, shallow peat was observed on site underlying the proposed turbine locations with till and podzols also recorded. The geology onsite was noted as sandstone and siltstone.

One geological fault was recorded underlying the site. No mapped karst features were recorded. Bedrock was relatively low weathered, and only observed small volumes of perched water at a location.

Landslide susceptibility and history was recorded. No landslide event has been recorded within the site boundary.

Construction of the wind farm infrastructure will require the removal of subsoils and possibly rock to create solid foundations. Excavation of bedrock from the proposed on-site borrow pit and suitable off-site aggregate sources will provide appropriate construction material for access roads, turbine bases and general hard-standing foundations.

Removal and reuse of subsoils and bedrock does not represent a significant impact on the geology of the site.

Air and climate

During the construction phase, there may be an imperceptible temporary negative impact to local air quality in the immediate vicinity arising from vehicle exhausts. Dust mitigation measures will be employed to minimise any potential negative impacts. However, the overriding long-term impact of the proposed Inse Mhór Wind Farm will be positive.

If the wind farm is consented and becomes operational, the electricity it generates will displace electricity that would otherwise have been generated by fossil fuels, therefore reducing carbon dioxide emissions by between 30,038 and 35,373 tonnes per annum. This would improve air quality and contribute to the fight against climate change.

Noise

The main sources of noise from a wind turbine include aerodynamic noise (rotating blades in the air) and mechanical noise (gearbox and generator). Noise only occurs above the 'cut-in' wind speed and below the 'cut-out' wind speed. The typical 'cut-in' wind speed of a modern turbine is 3 metres per second (m/s) and the 'cut-out' wind speed is around 25 to 30m/s.

Construction noise can occur during excavation and earth moving, laying of roads and hard standings, transportation of materials and the erection of turbines.



Noise and vibration assessments were undertaken for the construction, operational and decommissioning phases of the proposed development. The cumulative impact with other wind farms was also considered. Vibration, low frequency noise and infrasound are also addressed in the EIAR study.

To inform the noise impact assessment, baseline noise monitoring of the existing noise environment was carried out over a four-week period in October and November 2020. Following the establishment of the existing noise levels prior to development, appropriate noise level limits were then determined in line with Government policy and guidance. The predicted noise emissions from the wind farm are then compared against these limits.

The predicted noise levels are within best practice noise criteria curves recommended in Irish guidance 'Wind Energy Development Guidelines for Planning Authorities' 2006.

Noise during construction, operation and decommissioning will be managed to comply with best practice, legislation and guidelines current at the time to ensure that effects are not significant.

Landscape and visual

The assessment of Landscape and Visual Effects assesses the effects of the proposed development on the landscape as a standalone resource and on views of that landscape experienced by those engaged in particular activities or resident at certain locations.

The proposed development is located within the 'Ridged and Peaked Uplands' Landscape Type (15b), which is identified as having 'Medium' landscape value, 'Medium' landscape sensitivity and 'County' level landscape importance in the Cork County Development Plan 2022 to 2028.

In terms of visual impact, there is potential for some notable effects for those living in the immediate surrounds of the site, but otherwise views of this modest scale wind farm are unlikely to generate significant effects, even from the designated scenic routes that occur within the surrounding area.

There is potential for cumulative impacts with other wind farms in the vicinity, but the largest concentration of these lie to the west, beyond the prominent ridgeline that defines the Cork/Kerry border.

Cultural heritage

An archaeological desktop study and field inspections were carried out on all identified and accessible cultural heritage assets within the proposed development boundary and its environs.

There are two recorded archaeological sites located within the development boundary and a review of surrounding lands indicates that the wind farm site is located within a wider landscape that has been subject to widespread human settlement since prehistory.

The known locations of the archaeological monuments within the site will be avoided as part of the proposed development and will be securely cordoned off within protective buffer zones during the construction phase. In addition, an archaeologist will be appointed to supervise ground works during construction.

In the event that any sub-surface archaeological features are uncovered, the National Monuments Service and the Cork County Council archaeologist will be consulted to determine any further required mitigation such as preservation by avoidance or by full systematic archaeological excavation.



Material assets

Roads and Traffic

An assessment of the potential construction and operational phase effects on traffic using the public road network in the vicinity of the proposed Inse Mhór Wind Farm site has been undertaken.

It is intended that the port of entry for large turbine components will be Ringaskiddy Port. Vehicles delivering large turbine components and other abnormal loads to the site will depart from here and travel along the N28 before continuing on the N40 to the N22 to access the site in Inse Móire/Inchamore.

For the civil works during construction, it is envisaged that hardcore materials for the site access track and turbine hardstand construction will be sourced on site. Concrete for turbine foundations and stone will be sourced locally subject to quality and quantity availability

View of proposed turbines from N22 Ballyvourney, Toonlane, Ballymakeera Lower



Telecommunications and Aviation

A scoping exercise was carried out with the Irish Aviation Authority (IAA), Cork Airport and Kerry Airport. As the site is more than 30km from Kerry Airport, the proposed wind farm has been designed to avoid any significant impacts to aviation. It is likely that aviation lights will be required to be installed on the turbines located at the site boundaries.

A scoping exercise was carried out with telecommunications providers and the final turbine layout has taken cognisance of the telecommunication links across the site. This will avoid any significant impact to TV and telecommunications.



Next Steps

- A **Community Engagement Clinic** will be held in April where you can meet the Inse Mhór Wind Farm team. When a location and a date have been confirmed we will let you know how to book an appointment.
- When the Environmental Impact Assessment Report is complete, FuturEnergy Ireland and SSE Renewables will be ready to submit a planning application to Cork County Council for the proposed Inse Mhór Wind Farm. It is anticipated that this will be submitted in May 2023. The application will be advertised in local newspapers and notices will be erected at the site.
- When all documentation has been received and validated by Cork County Council, the full documentation will be uploaded and available at www.inchamorewindfarm.ie.

Contact Us

We encourage and welcome your input and comments.

Please get in touch either by phone, e-mail or post.

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