

Ireland  
**FuturEnergy**

**sse**  
Renewables



# Cummeennabudoge Wind Farm

Summer 2023



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## Réamhrá

Comhfhorbairt idir FuturEnergy Ireland agus SSE Renewables is ea an Fheirm Ghaoithe atá beartaithe don Choimín Na Bodóige.

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 n-oibriú ag SSE Renewables an chumhacht ar fáil do SSE Airtricity, an soláthróir is mó in Éirinn d'fhuinneamh atá 100% glas.

## An fhoireann tionscadail

Ar an bhfoireann a bhfuil baint dhíreach acu le Feirm Ghaoithe Choimín na Bodóige atá beartaithe tá Bainisteoir Tionscadail FuturEnergy Ireland David O Sullivan, 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.

An sainchomhairleoireacht comhshaoil agus pleanála, Atmos Consulting atá ag stiúradh na foirne ildisciplíní agus í i mbun staidéar, deartha agus ullmhúcháin don iarratas pleanála agus don Tuarascáil ar Mheasúnú Tionchair 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.

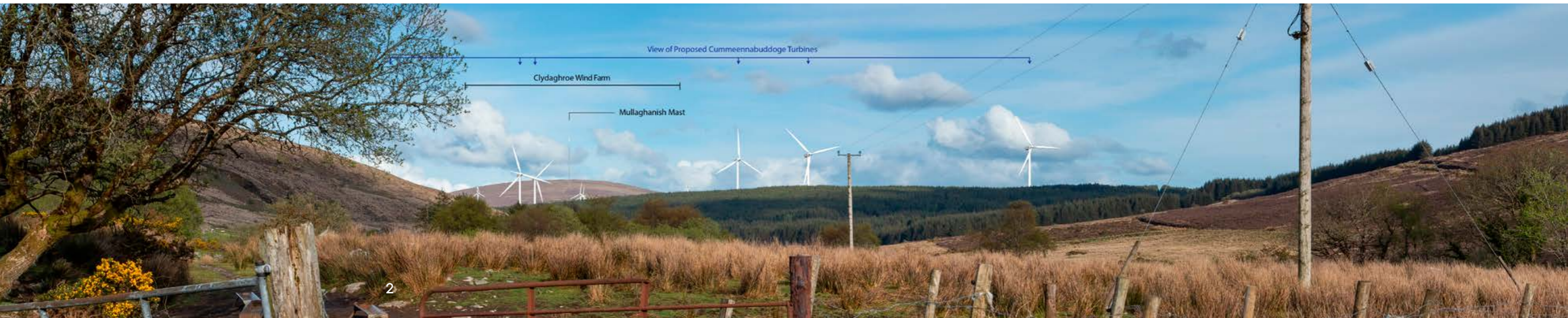
Tá taithí fhairsing ag Atmos Consulting i ngach gné d'fhorbairt feirmeacha gaoithe, lena n-áirítear an measúnú féidearthachta, TMTT (EIAR), pleanáil agus dearadh, le os cionn 15 bliana de thionscadail cheannródaíocha a bhaineann le fuinneamh.

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 fótamontáisí 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.cummeennabuddogewindfarm.ie](http://www.cummeennabuddogewindfarm.ie)

Radharc ar na tuirbíní atá beartaithe agus atá ann cheana féin ó bhóthar áitiúil, i mbaile fearainn Dhoire na Finne, Co. Chiarraí



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## Introduction

The proposed Cummeennabuddoge 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 project team

The in-house team directly involved in the proposed Cummeennabuddoge Wind Farm includes FuturEnergy Ireland Project Manager David O’Sullivan, a Project Manager from SSE Renewables, Cora Plant, and Community Liaison Officer (CLO) Brendan Twomey, as well as several specialists in the areas of grid, wind resource, planning and policy.

The environmental and planning consultancy Atmos Consulting is leading a multidisciplinary team in carrying out preparation of the planning application and the Environmental Impact Assessment Report (EIAR) on behalf of FuturEnergy Ireland and SSE Renewables.

Atmos Consulting has wide-ranging experience in all aspects of wind farm development, including the feasibility assessment, EIAR, planning and design, which it has accumulated over 15 years of leading 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 in the planning application. 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.cummeennabuddogewindfarm.ie](http://www.cummeennabuddogewindfarm.ie).

View of proposed turbines and existing turbines from the N22, in the townland of the Flats, between Ballyvourney and Ballymakeery, Co. Cork



# 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 targeting 80% of electricity from renewable sources by 2030. The Government is committed to rapid decarbonisation of the energy sector and its goal is to achieve 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 to reduce our dependence on imported fossil fuels and support more stable and affordable long-term energy prices.

Cummeennabuddoge Wind Farm is being proposed, in part, as a response to these challenges and 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 34% of all electricity generated in Ireland in 2022. In total, wind energy produced 13.213 gigawatt hours (GWh) of electricity last year, which is equivalent to the electricity consumption of nearly three million Irish families.

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 Cummeennabuddoge Wind Farm is located on the Kerry/Cork County bounds. The nearest towns and villages are located in Co. Cork.

The total land parcel extends to approximately 925 hectares, of which a significant area is an operational commercial forest owned by Coillte. The remaining land is third-party property.

The suitability of the site for this project can be attributed, in part, to the following characteristics:

- 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.
- There is a limited network of existing forestry and farm roads within the site that can be upgraded and utilised for the wind farm.
- The majority of the land use on the site can continue and co-exist with an operational wind farm.

## Our commitment to you

From the outset, we placed a strong focus on open communication with the local community. During Covid-19 restrictions, the project managers and local Community Liaison Officer (CLO) kept the community regularly informed via newsletters, letters and website updates, and responded to phone calls and emails. They also 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 December 2020 when CLO Brendan distributed an introductory letter to houses within 2km of the proposed study area to inform residents about the proposed project. This gave Brendan the opportunity to start conversations with those closest to the site prior to any detailed design work commencing.

During July/August 2021, Brendan delivered Newsletter 1 with an accompanying letter to households within 4km of the proposed project study area. This was followed by a project update letter in February 2022. Any resulting meetings or conversations were held at a social distance and outdoors as per Covid-19 guidelines at that time.

In September 2021, the dedicated project website [www.cummeennabuddogewindfarm.ie](http://www.cummeennabuddogewindfarm.ie) went live.

In April 2022, Brendan hand-delivered Newsletter 2 with an accompanying letter to those who live within 4km of the project study area. This gave him further opportunity to answer questions raised by local residents and stakeholders and to share information.

As a follow-up, he called back to those who he had not met, and when people were not at home, he put an 'Invite' letter to contact him in their post-box.

In September 2022, Newsletter 3 with an accompanying letter was distributed to those within 4km of the proposed project area to keep local residents and the wider community informed. This gave Brendan another opportunity to share information and answer questions raised by local residents and stakeholders.

In March 2023, Brendan distributed a project update letter, which included an invitation to contact him as required, to households within a 4km radius.

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

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.cummeennabuddogewindfarm.ie](http://www.cummeennabuddogewindfarm.ie) went live in September 2021. The 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 is identified based on its viability in terms of wind resource, land size and the availability of a suitable connection to the national grid (see Figure 1).

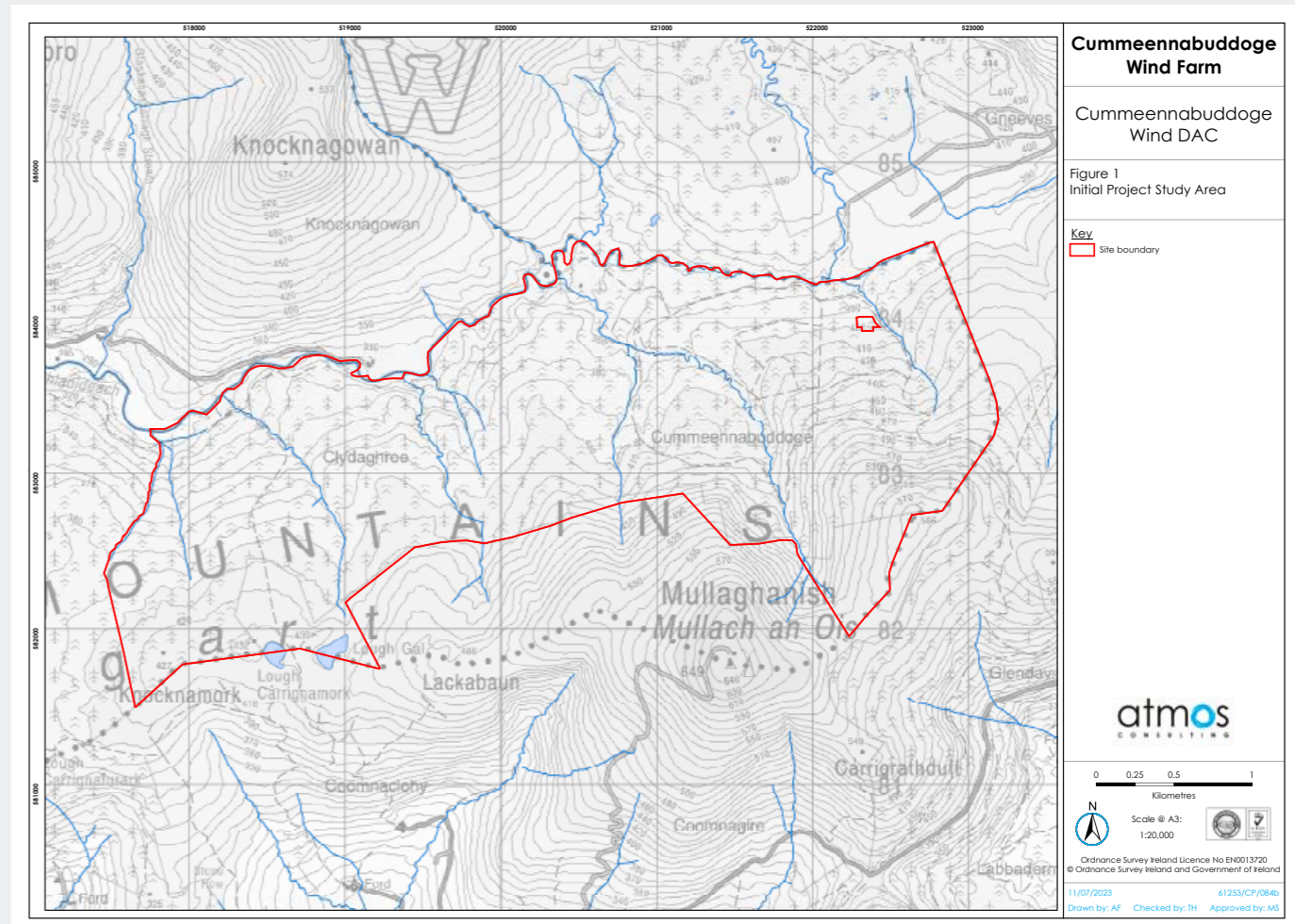
The design and layout of the proposed Cummeennabudodge Wind Farm follows the recommendations set out in the 'Wind Energy

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 the subject of a targeted review by the Department of Housing, Local Government and Heritage. 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, Cummeennabudodge Wind Farm has been designed to enable it to comply with the Draft WEGs 2019.

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 and Natural Heritage Areas.
- Hydrological features such as rivers and streams.
- Areas prone to flooding.
- Sensitive ecological habitats.
- Known nesting sites of protected bird species.
- Areas of steep terrain or areas which 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 different constraints to clearly identify the areas within which no development works will take place.

The size of the buffer zone for each constraint was assigned using guidance presented in the Wind Energy Guidelines referred to previously.

The initial constraints maps illustrated in **Figure 2** and **Figure 3** outline the following constraints and associated buffers for Cummeennabuddoge Wind Farm:

- 800 metre buffers from residential dwellings (achieving the requirement of 4 x tip height separation distance as required by the Draft WEGs 2019).
- Rivers and streams plus a 60-metre buffer (exceeding the industry standard of 50 metres).

- Recorded archaeological sites and monuments plus 50 metre buffers.
- Telecommunication system buffer plus operator-specific buffer.
- Existing wind turbine buffer.

In the case of Cummeennabuddoge Wind Farm, the setback buffer applied from dwellings is four times the maximum blade tip height being applied for, in the planning application.

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.

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.

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.

The setback buffer applied from dwellings is four times the maximum blade tip height.

Figure 2 Setback buffers from dwellings and infrastructure

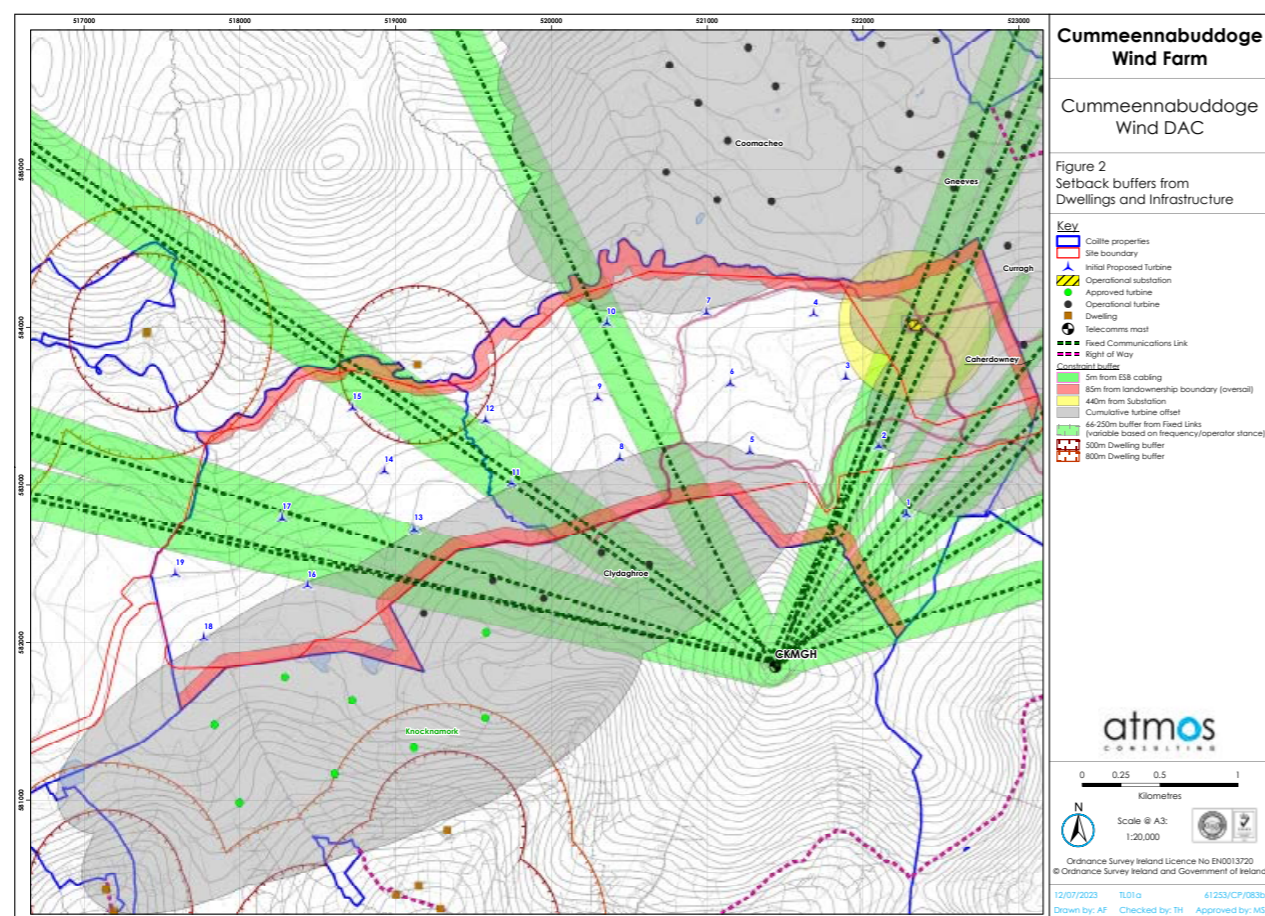
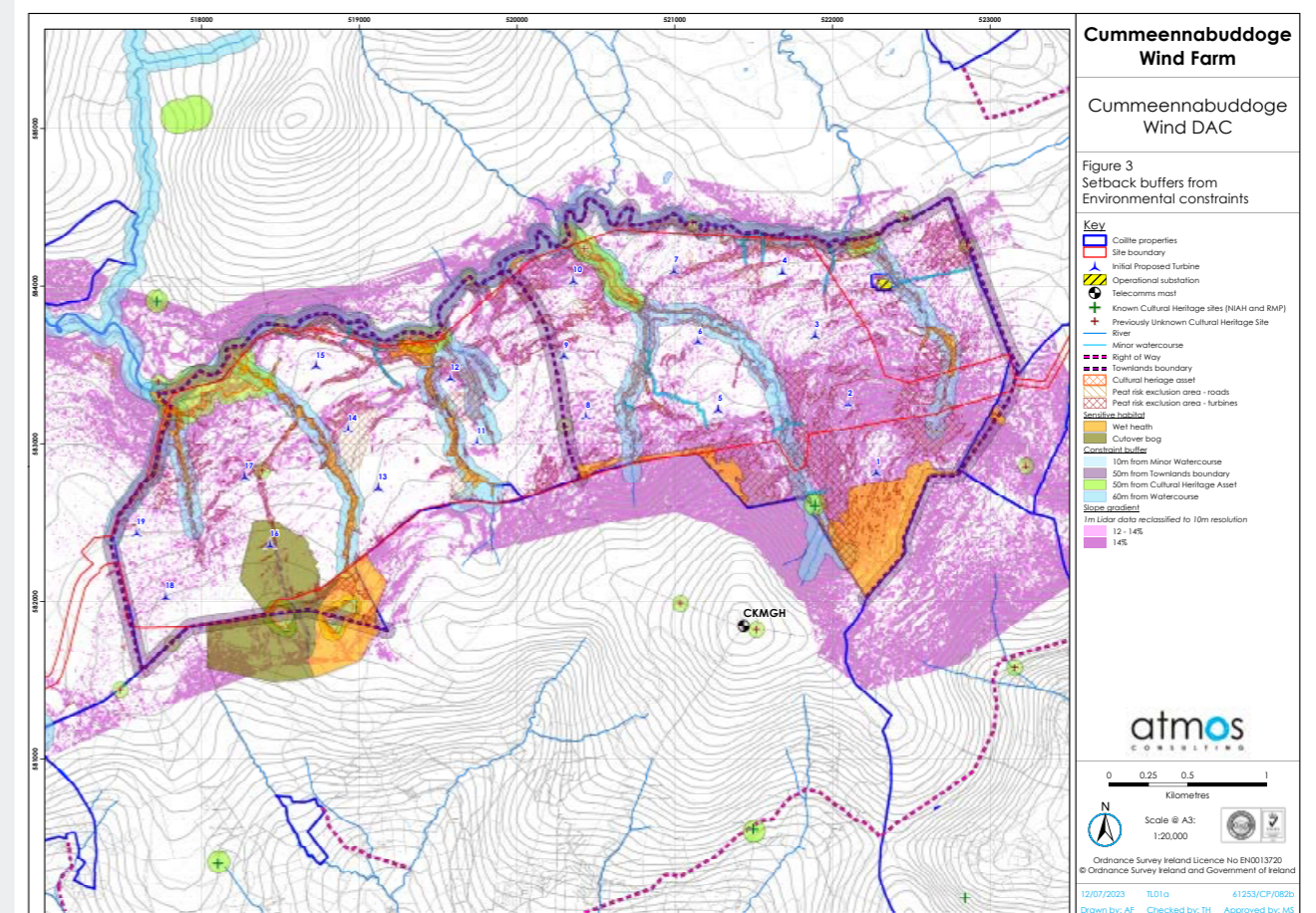


Figure 3 Setback buffers from environmental constraints



### Mapping the developable area

Following the application of all known constraints, the developable area is mapped in **Figure 4**.

As the map shows, a significant portion of the land has been removed from consideration due to these design constraints. Any lands within these setback buffers were no longer considered for the placement of wind turbines.

After placing wind turbines within the developable area, allowing for required spacing between each of the proposed turbines, the resulting layout then formed the basis for the first design of the wind farm shown in **Figure 5**.

Other elements of the wind farm design then commenced such as onsite access tracks, crane hardstandings, an on-site substation and temporary compounds.



Figure 4 Developable Area

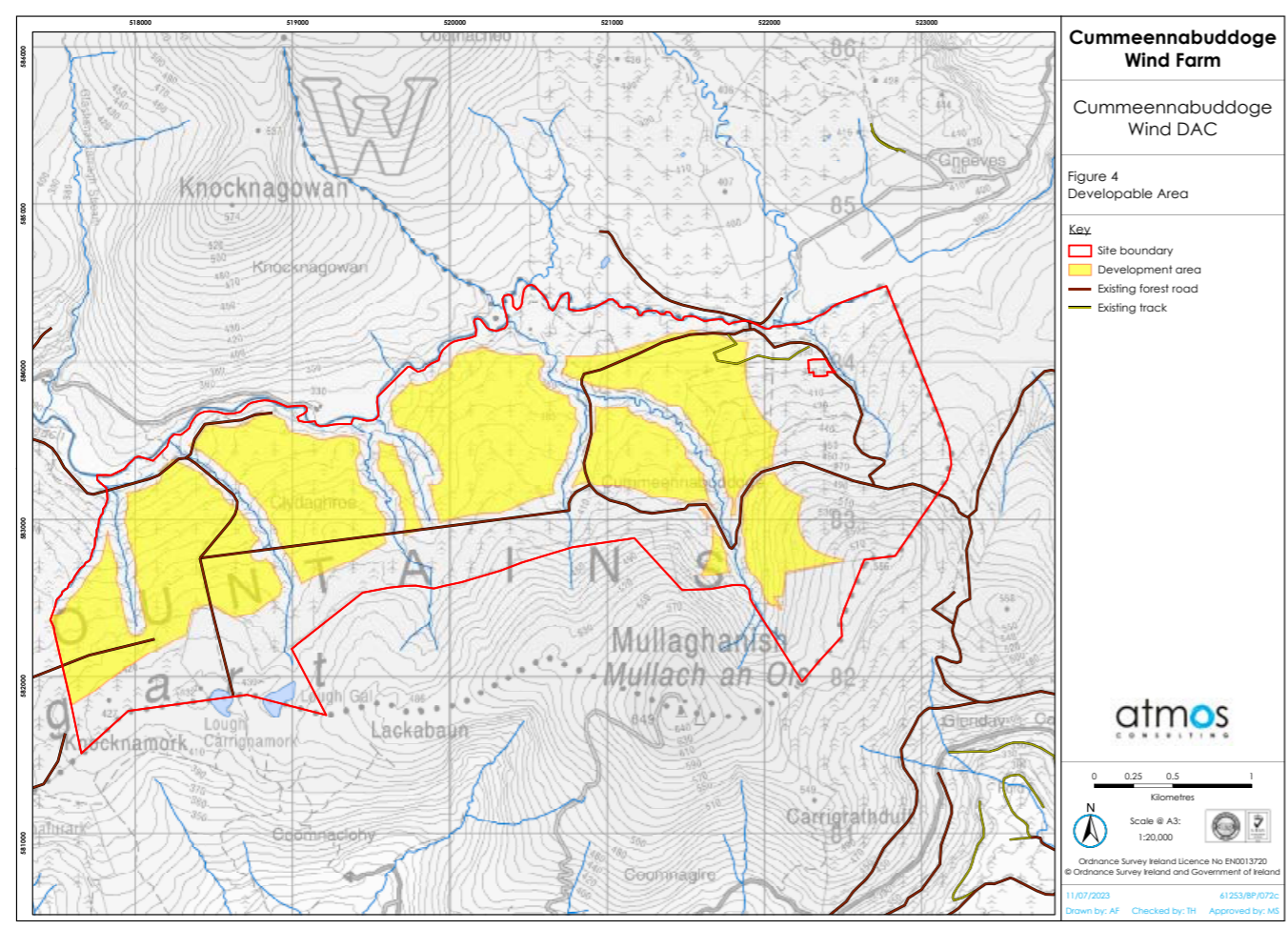
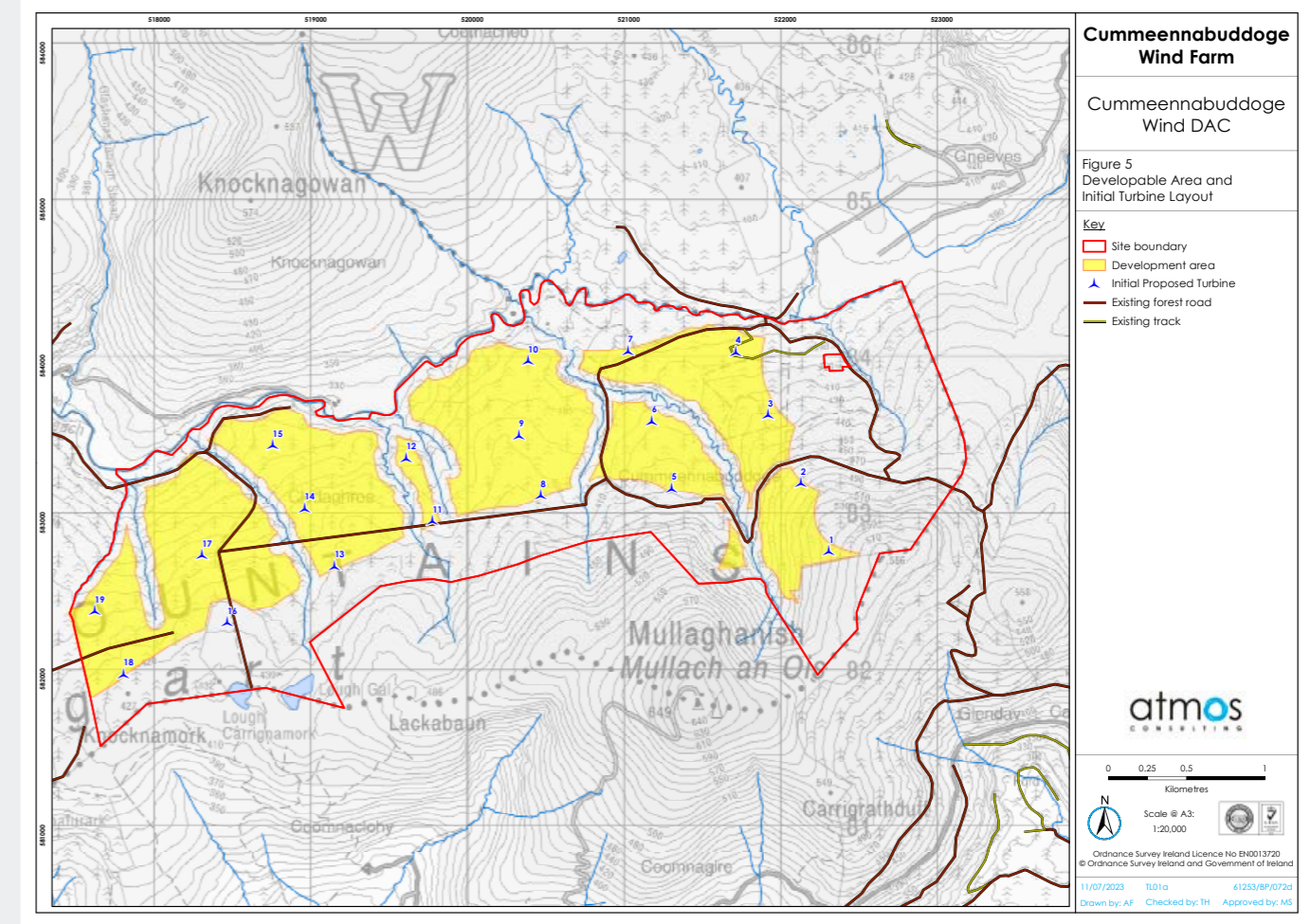


Figure 5 Developable area and initial turbine layout



# Reaching the present design layout

As the project progressed, further detailed environmental studies, field surveys and consultation revealed new constraints within the site study area.

The following key new constraints were identified:

## Telecommunications

The team was aware of the presence of Mullaghanish telecommunication mast when designing the first layout, however the buffer requirements were unknown. Telecommunication links and separation requirements were identified during stakeholder consultation.

This resulted in the removal of a turbine (previously referred to as Turbine 2) from the southeast of the site to avoid disruption to radio, television and mobile networks.

## Landscape and Visuals

Further constraints arose associated with landscape and visuals.

Particular constraints mapped include the zone of theoretical visibility (ZTV) from viewpoints and the production of visual representation of the initial and working layouts.

These techniques allow 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, the team prepared 3D models and photomontages to further inform the wind farm layout and optimise turbine positioning to limit visibility from key viewpoints such as Tullig and Millstreet. This resulted in the relocation of turbines.



More specially, due to the removal of the turbine in the southeast of the site for telecommunication reasons, another turbine was also removed. The 3D models and photomontages suggested that this was an 'outlier' to the main development, which means that from certain viewpoints the turbine did not look connected with the overall Cummeennabudodge Wind Farm layout.

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.

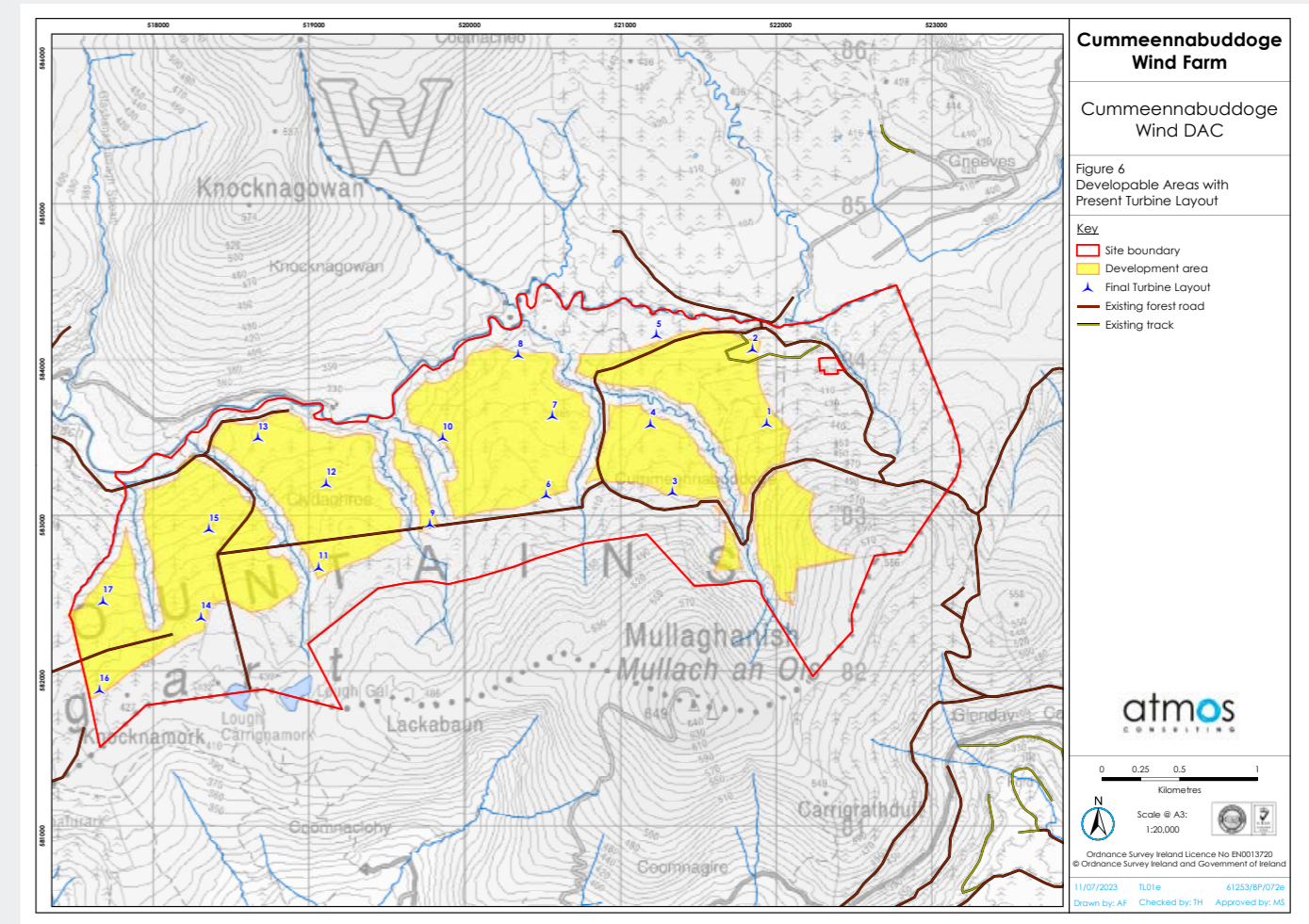
This is available at

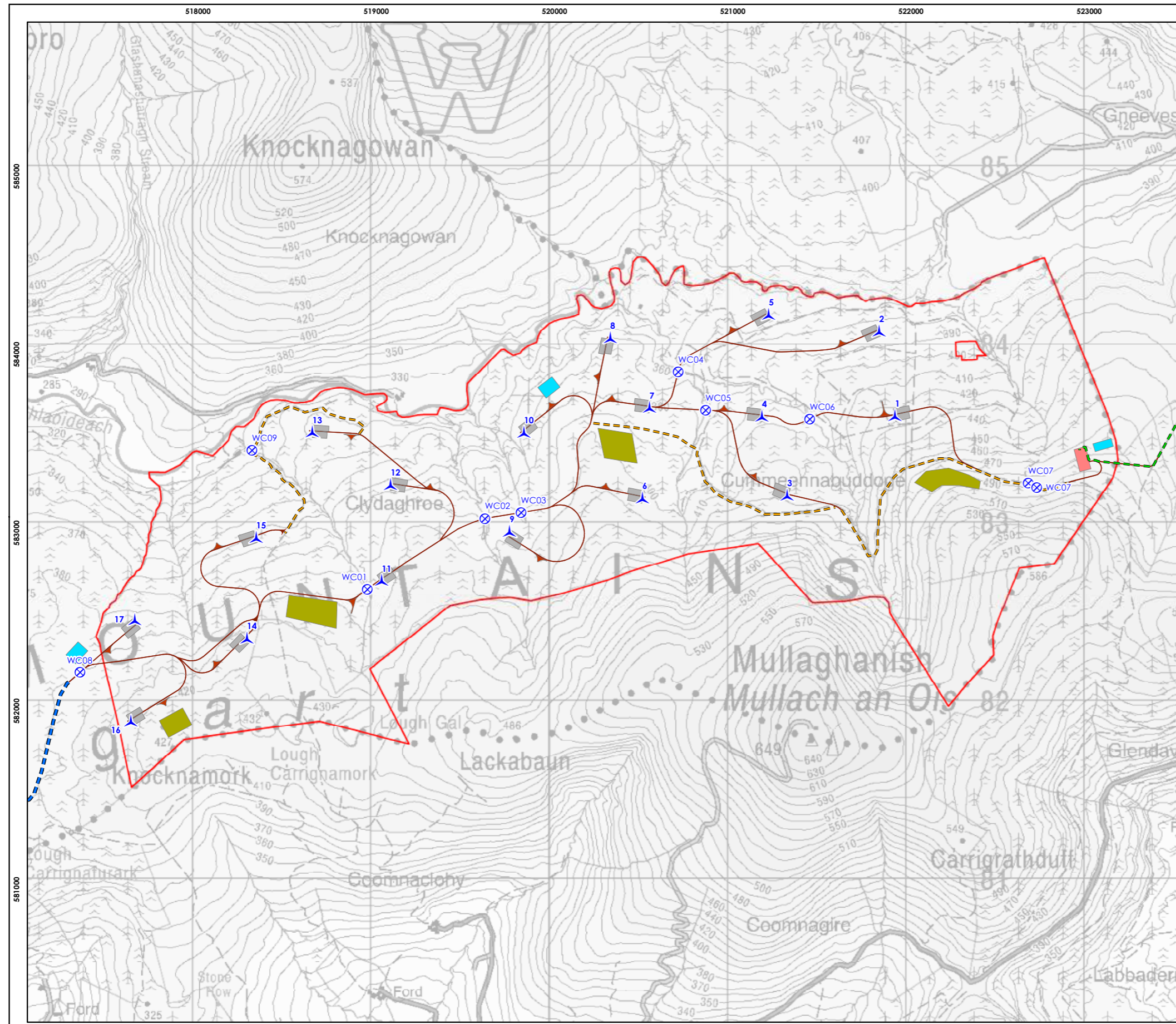
[www.cummeennabudogewindfarm.ie](http://www.cummeennabudogewindfarm.ie)

**Figure 6** shows the developable area with the additional constraints taken into consideration.

Meanwhile, **Figure 7**, overleaf, shows the present proposed layout consisting of 17 turbines. The final layout is expected to consist of at least 15 turbines, and it may be either 15, 16 or 17 turbines, subject to further details being finalised prior to a planning lodgement.

**Figure 6** Developable areas with present turbine layout





### Cummeennabuddoge Wind Farm

#### Cummeennabuddoge Wind DAC

Figure 7 Present Turbine Layout

**Key**

- Site boundary
- ▲ Proposed Turbine Location
- Watercourse crossing
- Grid Connection Route
- New offsite access track
- Upgraded onsite access track
- Borrow pit search area
- Compound
- Crane hardstanding
- Met mast hardstanding
- Onsite access track
- Substation
- Turning head

**atmos**  
CONSULTING

0 0.25 0.5 1  
Kilometers

Scale @ A3:  
1:20,000

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**Figure 7**  
The present layout of 17 turbines.

The final layout is expected to consist of at least 15 turbines, and it may be either 15, 16 or 17 turbines, subject to further details being finalised prior to a planning lodgement.

# The proposed development

The proposed project will consist of the following:

- Construction of at least 15 turbines, and it may be either 15, 16 or 17 wind turbines with the following parameters:
  - A total ground-to-blade tip height in the range of 199.5 metres to 200 metres.
  - A hub height of between 118 metres and 125 metres.
  - A rotor diameter in the range of 149 metres to 163 metres.
- Each turbine will be capable of generating 6 MW to 7.2 MW, with an overall installed capacity ranging from 102 MW up to 122.4MW.
- Construction of associated foundations and hardstand areas.
- One 110kV permanent electrical substation including a control building with welfare facilities, all associated electrical plant and equipment, security fencing, all associated underground cabling, wastewater holding tank and all ancillary structures and works.
- All works associated with the permanent 110kV connection from the proposed substation to the national electricity grid, via underground cabling to the existing 220/110kV Ballyvouskill Substation.
- All associated underground electrical and communications cabling connecting the turbines to the proposed substation.
- One permanent meteorological mast of 110 metres in height and associated hardstand area.
- Upgrade of existing tracks, roads and site access.
- Four borrow pits.
- Permanent peat and spoil repository areas.
- Permanent placement of peat and spoil along sections of site access roads where appropriate as part of the peat and spoil management plan for the site
- Three temporary construction compounds.
- All temporary works associated with the facilitation of turbine component and abnormal load delivery.
- Development of site drainage.
- Site signage.
- Ancillary forestry felling to facilitate construction and operation of the proposed development.
- All associated site development works.

The proposed development has been designed with an operational life of 35 years.

View of proposed and existing turbines on the N22, in the townland of Derrynasaggart, Co. Cork



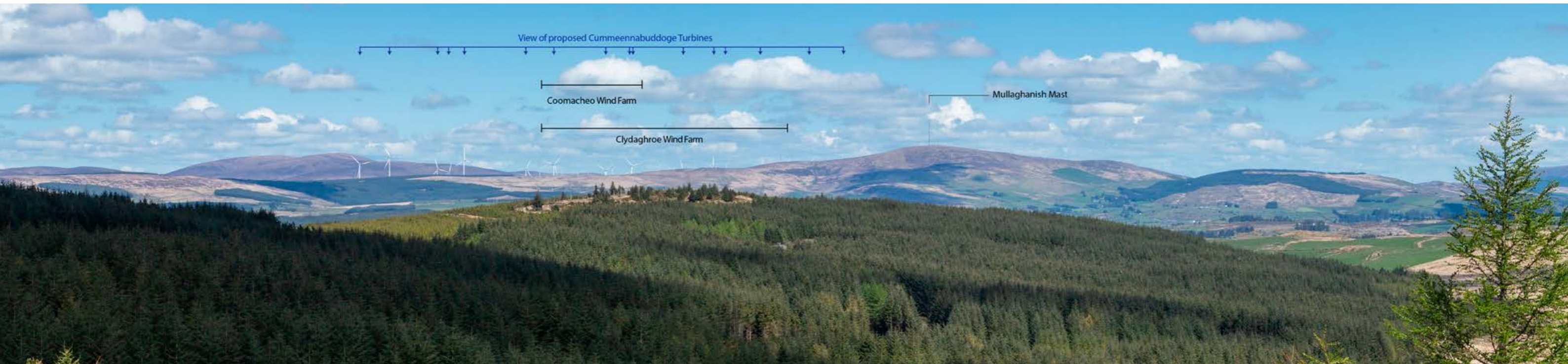
# Project photomontages

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.cummeennabuddogewindfarm.ie](http://www.cummeennabuddogewindfarm.ie)

View of proposed and existing turbines from a local road L3013 off the N22 in the townland of Shronaboy, Co. Kerry



View of proposed and existing turbines in the townland of Fuhiry, Co. Cork





## 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).

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.

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.

Cummeennabuddoge Wind Farm has the potential to produce between 312,732 and 375,278 MWh of clean electricity a year. This means that the project could contribute between €625,464\* and €750,557\* per annum to the Community Benefit Fund for the first 15 years of its operational life.

RESS is not the only means by which the project could gain a tariff for the energy it produces. Whether it is a RESS tariff or an alternative, FuturEnergy Ireland and SSE Renewables pledge to match these contributions and deliver a community fund in line with industry best practice.

## Benefits to the Local Community

Cummeennabuddoge Wind Farm has the potential to bring significant positive benefits to local communities. The project will support local employment, it will contribute annual rates to local authorities, and it will provide a Community Benefit Fund in line with the 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.



\*All figures above based on a 17-turbine layout.

- **16 turbine layout:** between €588,672 and €706,406 annual Community Benefit Fund.

- **15 turbine layout:** between €551,880 and €662,256 annual Community Benefit Fund.



Guidelines for the annual distribution of this fund are as follows:

- A minimum of €1,000 shall be paid to each household located within 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 Projects, on “near neighbour payments” for households located outside a distance of 1 kilometre, but within a distance of 2 kilometres from such RESS 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.”

Further details can be found at <https://www.gov.ie/en/publication/5f12f-community-projects-and-benefit-funds-ress/>.

You can download the full RESS guideline handbook at [www.cummeennabuddogewindfarm.ie/community](http://www.cummeennabuddogewindfarm.ie/community)



If this renewable energy development receives a positive planning outcome, it is envisaged that the project team and the local community will work together to develop an appropriate structure that would design the Cummeennabuddoge Wind Farm 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.

Cummeennabuddoge Wind Farm has the potential to produce between 312,732 and 375,278 MWh of clean electricity a year. This means that the project could contribute between €625,464\* and €750,557\* per annum to the Community Benefit Fund for the first 15 years of its operational life.

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 - **15 turbine layout:** between €551,880 and €662,256 annual Community Benefit Fund.



## Environmental benefits

The proposed 17-turbine development would have an export capacity of between 312,732 MWh and 375,278 MWh per annum of clean, green electricity. Over the lifetime of the project, between 4 million and 4.8 million tonnes of CO2 are expected to be offset compared with traditional electricity generation.

The proposed Cummeennabuddoge Wind Farm would have the capacity to provide enough electricity to power between 74,000 and 89,000 homes annually. \*

\* The above figures are based on 17 turbines

### 16 turbine layout

- Export capacity between 294,336 MWh and 353,203 MWh per annum.
- Carbon offset of at least 3.7 million tonnes.
- Between 70,000 and 85,000 homes powered annually.

According to the 2022 Census, there are approximately 77,000 homes in Co. Kerry. This means that the proposed Cummeennabuddoge Wind Farm would have the capacity to power every single property in Co. Kerry.

During construction and turbine manufacture, some carbon emissions will inevitably occur. This is anticipated to be offset by the wind farm itself within just over one to two years of operation. Full details will be provided in the Environmental Impact Assessment Report (EIAR).

### 15 turbine layout

- Export capacity between 275,940 MWh and 331,128 MWh per annum.
- Carbon offset of at least 3.5 million tonnes.
- Between 66,000 and 79,000 homes powered annually.

## Employment opportunities

According to The Economic Impact of Onshore Wind in Ireland study by KPMG in 2021, 5,130 are directly supported by onshore wind. To meet the Government's onshore wind target of 9,000 MWh 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.

The proposed Cummeennabuddoge Wind Farm brings employment opportunities. At peak construction, up to an estimated 130 people would be directly employed. Two long-term, technical employees are 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 the local authorities of Kerry County Council and 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 local authorities will collect between €1 million to €1.2 million in total annually from the proposed wind farm. \*

\* The above figures are based on a 17 turbine wind farm  
 - 16 turbine wind farm: estimated between €960,000 to €1.15 million in annual rates payments  
 - 15 turbine wind farm: between €900,000 to €1.1 million in annual rates payments



# The Planning Process

As co-development partners, FuturEnergy Ireland and SSE Renewables have formed the project company Cummeennabudodge Wind DAC.

The project company will submit the planning application directly to An Bord Pleanála. This is the regulatory process when a project is of sufficient scale to be deemed Strategic Infrastructure Development (SID) i.e., with a capacity greater than 50 MW.

As part of the project design and environmental assessment, consultation was carried out with An Bord Pleanála and the local planning authority, Kerry County Council, in December 2021 and January 2022 respectively. The Cummeennabudodge team also consulted with Cork County Council during an EIA scoping process in August 2021.

The planning application will be supported by an Environmental Impact Assessment

Report (EIAR) and a Natura Impact Statement (NIS).

When the EIAR is complete, FuturEnergy Ireland and SSE Renewables will be ready to submit the planning application. It is anticipated that this will be submitted in Q4 2023. The intention to submit the application will be advertised in local newspapers and notices will be erected at the site.

When all documentation has been received by An Bord Pleanála, the full documentation will be uploaded and available to view at [www.cummeennabudodgeplanning.ie](http://www.cummeennabudodgeplanning.ie)

The planning documents will also be available on An Bord Pleanála's website [www.pleanala.ie](http://www.pleanala.ie)

The EIAR will also be available for viewing at the offices of An Bord Pleanála and Kerry County Council and Cork County Council.

## How can you engage with the planning process?

There is a useful Frequently Asked Questions section on An Bord Pleanála's website at <https://www.pleanala.ie/en-ie/strategic-infrastructure-development> that provides guidance on public participation. Any person or body may make submissions on the project to the Board while the documents are available for viewing after the application has been submitted.

View of proposed and existing turbines from a local road in the townland of Dromickbane, Co. Kerry



# The Environmental Impact Assessment Report

The EIAR that accompanies the planning application will focus on the areas outlined here. Atmos Consulting Ltd is compiling the EIAR with the input of other specialist consultants.

- Chapter 1: Introduction and background
- Chapter 2: EIA Approach & Methodology
- Chapter 3: Design Evolution and Consideration of Reasonable Alternatives
- Chapter 4: Description of Development
- Chapter 5: Planning Policy and Development Context
- Chapter 6: Population and Human Health
- Chapter 7: Landscape and Visual
- Chapter 8: Traffic and Transport
- Chapter 9: Biodiversity
- Chapter 10: Ornithology
- Chapter 11: Soils, Geology and Hydrogeology
- Chapter 12: Hydrology, Water Quality and Flood Risk
- Chapter 13: Air and Climate
- Chapter 14: Noise
- Chapter 15: Cultural and Archaeological Heritage
- Chapter 16: Shadow Flicker
- Chapter 17: Material Assets (including aviation and telecommunications)
- Chapter 18: Risks and Major Accidents
- Chapter 19: Transboundary Effects
- Chapter 20: Interactions of the Foregoing
- Chapter 21: Schedule of Mitigation

Below please find an introduction to some of the EIAR chapters that may be of interest. More information on these topics will be available in

the full EIAR that accompanies the planning application.

## Biodiversity

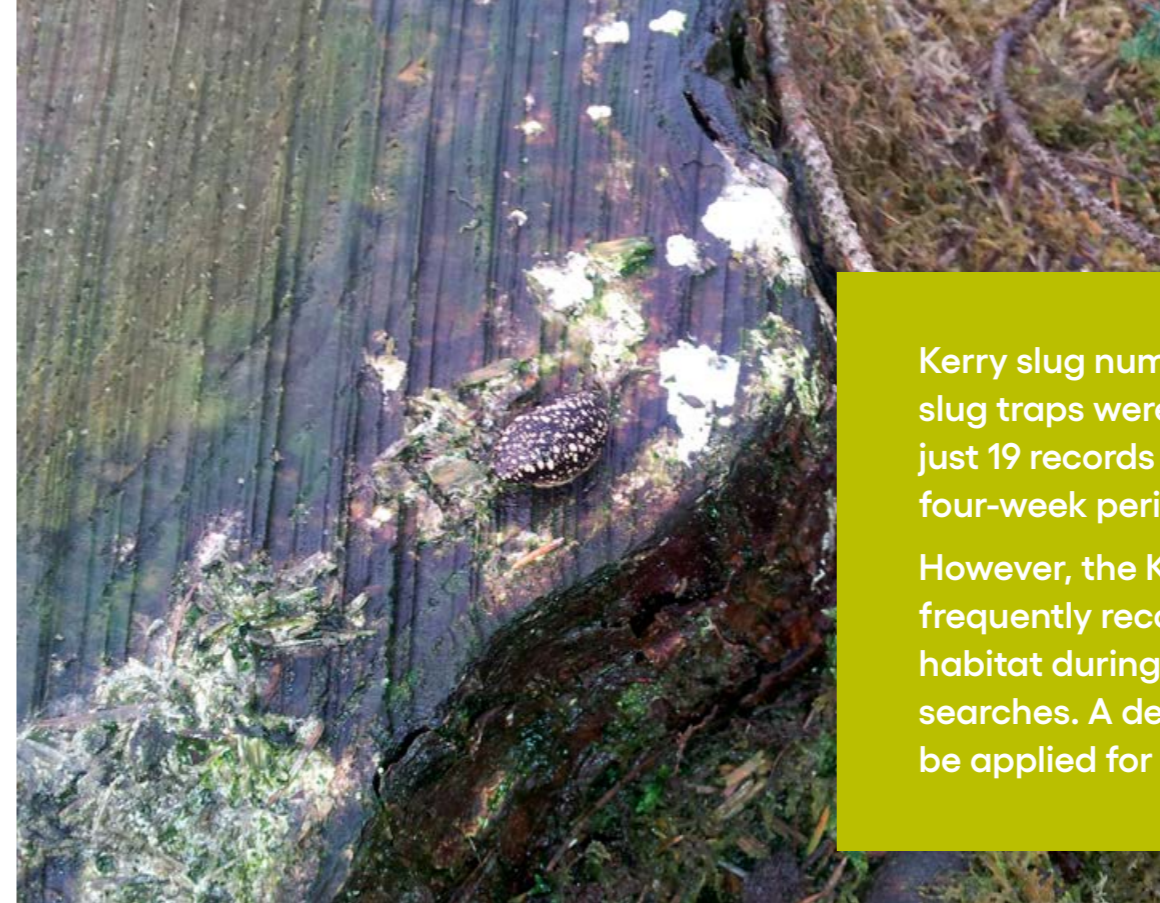
Detailed baseline habitat, flora and fauna surveys have been carried out at the site. Apart from the Coillte forest, which is the predominant habitat, small habitats of wet heath and cutover bog are present.

The heath is mainly wet heath and is present outside the footprint of the existing forestry track and plantation. Heath habitats, while widespread in southwest Ireland, are important habitats that are listed on Annex I of the EU Habitats Directive. As such, proposed infrastructure in these areas has been minimised where possible during the site design process.

Due to the presence of habitats of conservation importance on site, care will be taken to minimise the impacts during the construction phase. As part of the mitigation, the project will carry out enhancement works on an area of bog and heath that has been disturbed by afforestation.

The site supports a good population of the Kerry slug, which is a protected species and listed on Annex II of the Habitats Directive. Mitigation will ensure that the effect on this important species is minimised.

Detailed bat surveys resulted in a number of species being recorded. Common pipistrelle used the site the most followed by Leisler's. Soprano pipistrelle, myotis species and brown long-eared bats also use the site in lower numbers.



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. A derogation licence will be applied for to relocate the slugs.



While there are no known roosts on site, there is moderate to good foraging habitat. All species are protected under the EU Habitats Directive Annex IV and the Wildlife Acts. The Leisler's population in Ireland is considered important due to the density of individuals within the country.

Mitigation will be implemented to minimise impacts on bats, including the risk of collision with turbines.

The site is not located within any Natura 2000 Site, or designated or proposed Natural Heritage Area. However, the Clydagh River directly north of the site is a component of Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment Special Area of Conservation. Aquatic surveys found that water quality and food source is suitable for salmon and trout in the system.

Mitigation measures, such as separation distances from water courses, have been embedded into the design. These include watercourse crossing designs that allow undisturbed passage of water and continue to allow fish to migrate.

## Ornithology

Ornithologists have completed vantage point surveys (six vantage points VPs), breeding bird surveys, breeding raptor surveys, winter bird transect surveys, hen harrier roost surveys, breeding woodcock surveys and red grouse surveys for the proposed development.

Two years of bird survey work were completed from 2018 to 2020 in accordance with Scottish National Heritage best practice guidelines. Ornithologists carried out further surveys from January to March 2021.

The Mullaghanish to Musheramore Mountains Special Protection Area is within 600 metres to the east and south of the proposed development. Hen harrier are the qualifying interest.

Vantage point surveys recorded 13 target species, of which golden plover (Annex I listed) and kestrel (red-listed) were the most commonly recorded at 22 and 25 flights respectfully. Only eight hen harrier sightings were recorded over the course of the survey programme.

Breeding survey results suggest no evidence of breeding hen harrier. The results also show a likelihood of kestrel breeding given the numbers recorded; however, no nests were found.



In terms of potential impacts on birds and breeding, the site does not appear to be functionally supporting the Mullaghanish to Musheramore Mountains Special Protection Area due to the low numbers of hen harrier. Hen harrier get a lot of benefit from newly planted forestry, therefore their activity may change and will be considered as part of the EIAR.

During the construction phase, mitigation measures will be in place to minimise impacts on breeding birds. These include pre-commenced surveying and/or starting construction works outside the breeding season.

Sensitive mitigation, such as the timing of the works, will also ensure that construction does not cause disturbance to protected avian species.

## Hydrology and Water Quality

Specialists have completed baseline studies of water (groundwater and surface water). The team has developed a proposed drainage design to ensure that there is no increase in downstream flooding as a result of the proposed wind farm. Due to the nature of wind farm developments, where all construction activities take place near the ground surface, impacts on groundwater are generally considered to be negligible.

Surface water is the main sensitive receptor for Cummeennabuddoge Wind Farm due to the Clydagh River north of the site, which is a tributary of the River Flesk, which in turn flows into Lough Leane.

There are historic issues with water quality at Lough Leane, with extensive algae bloom in 1997 which was attributed to agriculture. Felling has been ongoing in the catchment since 1997 without a decline in water quality.



A detailed water quality programme captured a full year of data. Furthermore, Coillte monitors water quality in accordance with its felling licence. The water quality monitoring will help identify any changes that may occur in the water environment as a result of the proposed scheme.

A 60-metre setback buffer from watercourses was applied when developing Cummeennabuddoge Wind Farm.

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

A water quality management plan will be in place for the construction phase of Cummeennabuddoge Wind Farm to facilitate close monitoring and avoid significant adverse impacts.

## Soil and Geology

Peatlands are known to store carbon and are referred to as 'carbon sinks'. The International Union for Conservation of Nature recognises

that peatlands are the largest natural land-based carbon store. However, the union also recognises that damaged peatlands are a major source of greenhouse gas emissions.

Due to the current land use at the Cummeennabuddoge site study area, which is an operational commercial forest, the peat has been drained over time, due to planting and harvesting rotations and therefore changed in composition of underlying peat over time.





The presence of peat also introduces the risk of peat instability, which could result in a landslide. A by-product of this could be impacts to water quality. Thus far, site investigations have indicated that the majority of peat at the site is shallow and strong. Investigations have only identified localised pockets of deeper peat which are constrained by rock depressions.

This site bears none of the characteristics of an area where peat slippages have occurred. Such slippages involve large, deep areas of very wet, weak peat.

Nevertheless, specialist consultants have undertaken initial peat landslide hazard risk analysis and identified areas with a potentially high susceptibility of peat slides. These areas were considered as a design constraint and have informed the final layout of Cummeennabuddoge Wind Farm.

A Peat Management Plan will manage any peat removal and detail reuse within the site. It is anticipated that all excavated peat will be temporary and can be reinstated within the site through landscaping, the reinstatement of borrow pits and peat storage areas, of which there are four proposed.

Excavation of bedrock from the four proposed on-site borrow pits 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.

## Population and human health

The assessment examines the potential impacts of the project, both beneficial and adverse, 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.

Shadow flicker occurs when rotating wind turbine blades cast shadows over a window in a nearby property. Shadow flicker is an indoor phenomenon that may be experienced by somebody in a room when sunlight reaching the window is momentarily interrupted by the shadow of a turbine blade.

Shadow flicker typically occurs within 10 times the rotor diameter of a turbine, which is known as the zone of theoretical shadow flicker. There are only two properties within this zone, and these will be properly assessed.

Any potential shadow flicker impact can be accurately modelled because it only occurs when the sun is shining, and the turbine blades are moving in such a way that they momentarily block the sunshine and create a shadow.

Modelling can give the start and end time of any incidence of shadow flicker within the zone of theoretical shadow flicker, on any day or all days of the year when this might occur, subject to prevailing weather conditions. Where a shadow flicker impact is predicted to occur, the total maximum daily and annual durations can be predicted.

Any incidence of predicted shadow flicker can be attributed to a particular turbine or group of turbines. This allows for the planning of effective mitigation strategies.

## Air and climate

During the construction phase there may be an imperceptible temporary negative impact to local air quality in the immediate vicinity of the proposed site arising from vehicle exhaust emissions and dust generation, but the overriding long-term impact of the proposed Cummeennabuddoge Wind Farm will be positive.

Once operational, electricity generated by the wind farm will displace electricity that would otherwise have been generated by fossil fuels, therefore reducing CO2 emissions by at least 114,000 tonnes of CO2 per annum (and at least 4 million tonnes over the lifespan of the wind farm), which will 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 (from the 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 30 m/s.

Construction noise will occur during excavation and earth moving, the laying of roads and hard standings, the transportation of materials and erection of the turbines. The construction stage will be phased and temporary.

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

To inform the noise impact assessment, baseline noise monitoring of the existing noise environment was carried out over a six-week period from June 2021. Following the establishment of 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 Cummeennabuddoge Wind Farm were then compared against these limits.

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



\*The above figures are based on 17 turbines.

- **16 turbine wind farm:** CO2 emissions reduced by at least 107,000 tonnes per annum (at least 3.8 million tonnes over the lifespan).
- **15 turbine wind farm:** CO2 emissions reduced by at least 100,000 tonnes per annum (at least 3.5 million tonnes over the lifespan of the wind farm).

## Landscape And Visual

The assessment of landscape and visual effects examines the effects of the development on the landscape as a resource in its own right and also views of that landscape experienced by those engaged in particular activities or resident at certain locations.

Mountains and hillsides with relatively narrow, visually enclosed valleys characterise the central study area. The proposed Cummeennabuddoge Wind Farm is within the Derrynasaggart Mountains while to the southeast the landscape dissipates into more gently rolling farmland.

The proposed turbines are located in the Clydagh River, the Paps and the Derrynasaggart Mountains Landscape Character Area (LCA). This area is characterised by:

- Enclosure from high mountains
- Peat bog and coniferous forests
- Wind turbines on higher ground with housing restricted to valley floors
- Significant views from the N22 route that passes across the LCAd
- The Visually Sensitive Special Amenity area which covers most of the LCA, views and prospects from the N22 and the the archaeological landscape, which includes the Paps.

The Kerry County Development Plan 2022-2028 zones the site as a “Visually Sensitive Area”. In these areas, development will only be considered subject to satisfactory integration into the landscape and compliance with the proper planning and sustainable development of the area.

The design of Cummeennabuddoge Wind Farm has taken into consideration the effects of the landscape as well as the effects of the existing wind farms and this proposed development in the area.

In terms of visual impact, despite the site’s elevation in the Derrynasaggart Mountains, Cummeennabuddoge Wind Farm has the potential to be relatively contained. This is best illustrated on the presented photomontages within this brochure that demonstrate how the visual effects are contained within 5km north of the site.

There are very few notable impacts at centres of population and along major routes. For instance, visual effects dissipate south towards Ballyvourney, Co. Cork, where theoretically a small number of the turbines are visible in combination with existing wind farms.

View of proposed and existing turbines from a forestry track in the townland of Annaghbeg, Co. Kerry



## Cultural Heritage

When developing Cummeennabudoge Wind Farm, the team applied an appropriate setback distance of 50 metres to cultural heritage and archaeological monuments. Field inspections were carried out on all identified and accessible cultural heritage assets within the development boundary.

These inspections identified a number of Record of Monuments and Places (RMPs), National Inventory of Architectural Heritage (NIAH) and previously unknown assets.

As such, no turbines or proposed access tracks are within proximity of any assets identified.

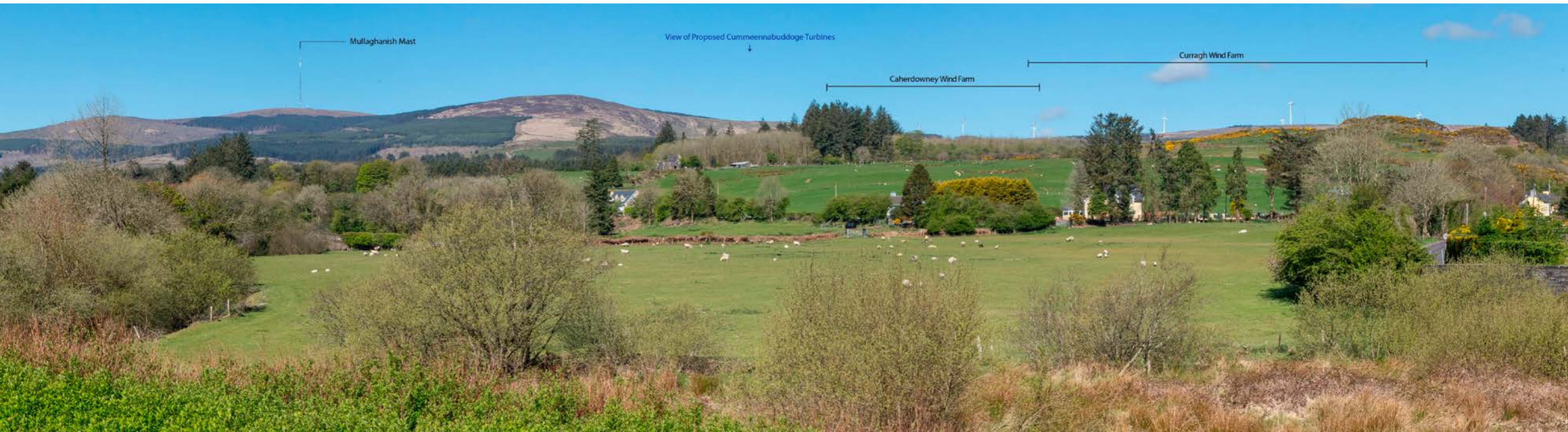
Known archaeological monuments within the site will be securely cordoned off and avoided during the construction phase. In addition, an archaeologist will be appointed to supervise ground works during construction.

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

The known locations of the archaeological monuments within the site will be avoided as part of the development and will be securely cordoned off within protective buffer zones during the construction phase.



View of proposed and existing turbines off the R582 in the townland of Carriganimmy, Co Cork.



# Material assets

## Roads and Traffic

An assessment of the impact of the construction and operational phase on traffic using the public road network in the vicinity of the proposed Cummeennabuddoge 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.

From here, they will use the new Macroom Bypass that ends northwest of Ballyvourney.

The delivery vehicles will continue on the N22 and use a minor road that leads to the existing Coillte site entrance and forms the proposed site entrance of Cummeennabuddoge Wind Farm.

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. Stone would be extracted from the site from the onsite borrow pits, subject to quality and quantity being available on site.

## 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.

View of proposed and existing turbines off the R582, in the townland of Caherdowney, Co. Cork



## Next Steps

- **Community Engagement Clinic**

This is an opportunity to meet the Cummeennabudoge team who will be available to address individual queries and provide project information. We will be back in touch when a location and a date have been confirmed.

- **Planning submission**

It is anticipated that a planning application will be submitted to An Bord Pleanála for the proposed Cummeennabudoge Wind Farm in Q4 2023. The intention to submit 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 An Bord Pleanála, the full documentation will be uploaded and available to view at [www.cummeennabudogepanning.ie](http://www.cummeennabudogepanning.ie)

## Contact Us

We encourage and welcome your input and comments. Please get in touch by phone, e-mail or post.

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