2. BACKGROUND TO THE PROPOSED DEVELOPMENT

This section of the Environmental Impact Assessment Report (EIAR) presents information on renewable energy and climate change policy and targets, the strategic, regional and local planning context for the Proposed Development, planning history, scoping and consultation, as well as setting out the nature of the cumulative impact assessment process undertaken.

2.1 Renewable Energy Policy and Targets

The Climate Action Plan, published by the Government in 2019, clearly sets out this need for and urgency of change, as reproduced below:

> *"The accelerating impact of greenhouse gas emissions on climate disruption must be arrested. The window of opportunity to act is fast closing, but Ireland is way off course.... The shift in climate is bringing profound shifts of desertification, rising sea levels, displaced population, profound challenges to the natural world, and economic and social disruption. We are close to a tipping point where these impacts will sharply worsen. Decarbonisation is now a must if the world is to contain the damage and build resilience in the face of such a profound challenge."*

Furthermore, the Programme for Government released in June 2020 also highlights the need for a clean and reliable supply of energy:

> *"Energy will play a central role in the creation of a strong and sustainable economy over the next decade. The reliable supply of safe, secure and clean energy is essential in order to deliver a phase-out of fossil fuels. We need to facilitate the increased electrification of heat and transport. This will create rapid growth in demand for electricity which must be planned and delivered in a cost-effective way."*

The primary driver behind the Proposed Development is the need to provide additional renewable energy to offset the use of fossil fuels within the electricity generating sector. Increasing electricity generation from wind power represents the most economical renewable option to reduce emissions within the power generation sector and is the most mature technology available to achieve national targets that have been established for decarbonisation. The Proposed Development represents the addition of 3 wind turbines immediately adjacent to an existing wind farm development (Cork County Council Pl.Ref.15/730 and An Bord Pleanála Pl0.246353) and will efficiently aid in meeting Irelands energy and climate targets.

2.1.1 Renewable Energy Resources

Renewable energy resources include solar, wind, water (hydropower, wave and tidal), heat (geothermal) and biomass (wood, waste) energy. These sources are constantly replenished through the cycles of nature, unlike fossil fuels, which are finite resources that are becoming increasingly scarce and expensive to extract.

Renewable energy resources offer sustainable alternatives to our dependency on fossil fuels as well as a means of reducing greenhouse gas emissions and opportunities to reduce our reliance on imported fuels. These resources are abundantly available in Ireland, yet only a fraction has been tapped so far (Source: Sustainable Energy Authority of Ireland (SEAI) website, https://www.seai.ie/.

A gradual shift towards increasing our use of renewable energy resources would result in:

- Reduced carbon dioxide emissions;
- Secure and stable energy for the long-term;
- Reduced reliance on fuel imports;
- Investment and employment in our indigenous renewable energy projects; often in rural and underdeveloped areas.

Renewable energy development is recognised as a vital component of Ireland's strategy to tackle the challenges of combating climate change and ensuring a secure supply of energy. Ireland is heavily dependent on the importation of fossil fuels to meet its energy needs, with imported fossil fuels accounting for 66% of Ireland's dependency in 2017 at an estimated cost of €4 billion. This high dependency on energy imports is highly risky and Ireland is currently extremely vulnerable both in terms of meeting future energy needs and ensuring price stability. ('*Energy in Ireland 2018 Report'*, Sustainable Energy Authority of Ireland', December 2018). The "*Energy in Ireland 2019 Report"*, Sustainable Energy Authority of Ireland', (December 2019) has noted that final energy demand grew by 4.5% with increases in all sectors, resulting in a primary energy demand increase of 1.6%. Overall demand for fossil fuels increased by 0.1% in 2018. Furthermore, the share of electricity generated from renewable sources increased by 3.1 percentage points in 2018, to 33.2%, the 2020 target is 40%. The key targets for 2030 have been set out as follows:

- At least 40% cuts in greenhouse gas emissions (from 1990 levels)
- At least 32% share for renewable energy
- At least 32.5% improvement in energy efficiency

2.1.2 EU Policy

The European Union (EU) Directive on the Promotion of the Use of Energy from Renewable Sources (Directive 2009/28/EC) was adopted on 23rd April 2009. This Directive establishes a binding target of 20% of overall EU energy consumption to come from renewable sources by 2020, as well as a binding 10% minimum target for energy from renewable resources in the share of transportation fuels. Ireland's target under Directive 2009/28/EC is for renewable resources to account for 16% of total energy consumption by 2020. Directive 2009/28/EC imposes a legal obligation on each Member State to:

- Ensure that its 2020 target is met.
- Introduce "*appropriate measures*" and outline them in a National Renewable Energy Plan. The "*appropriate measures*" include ensuring that grid-related measures and administrative and planning procedures are sufficient to achieve the 2020 target. The Draft National Renewable Energy Plan for Ireland was published in June 2010.

Failure to meet EU targets on the use of energy from renewable sources could result in EU sanctions *('Jobs and Investment in Irish Wind Energy', Deloitte/Irish Wind Energy Association, 2009*).

Under Directive 2009/28/EC Ireland's mandatory target was for renewable resources to account for 16% of total energy consumption by 2020. The SEAI monthly electricity generation figures for December 2020 indicate that Ireland hit its 40% renewable energy target for 2020 with a share of renewable electricity recorded at 40.2%[1]. Reporting on these figures and official confirmation on Ireland's target status for 2020 is due for publication by the SEAI in the coming months, along with further insight into energy demand trends and usage over the year 2020 in light of Covid-19. As published by the SEAI in May 2020, the impact of Covid-19 on energy demand reduction became evident in energy demand trends from the period January 2020 to May 2020[2] and so electricity demand and subsequent generation figures for the year 2020 will need to be analysed relative to the impact of Covid-19.

2.1.3 2030 Climate and Energy Framework 2014

The 2030 Climate and Energy Framework was adopted by EU leaders in October 2014 and marks a further development of EU renewable energy policy. The framework defines further EU wide targets and builds on the 2020 climate and energy package.

The Framework set three key targets for the year 2030:

[1] *https://www.seai.ie/data-and-insights/seai-statistics/monthly-energy-data/electricity/*
[2] *Tracking effect of COVID-19 on energy supply and demand (SEAI, May 2020) https://www.seai.ie/publications/Tracking-effect-of-COVID-19-on-energy-demand.pdf*

- A binding commitment at EU level of at least 40% domestic Green House Gas reduction by 2030 compared to 1990;
- An EU wide, binding target of at least 27% renewable energy by 2030; and
- An indicative EU level target of at least 27% energy efficiency by 2030.

On the 30 November 2016, the EU Commission published a proposal for a revised Renewable Energy Directive to ensure that the target of at least 27% renewables in the final energy consumption in the EU by 2030 is met.

The European Commission published its proposal for an effort sharing regulation on the allocation of national targets for greenhouse gas emissions for the period 2021-2030 in July 2016. The proposal implements EU commitments under the Paris Agreement on climate change (COP21) which is discussed below in Section 2.3 and marks an important milestone in the allocation to Member States of a package of climate targets that were formally adopted as part of the 2030 Climate and Energy Framework.

On the 27th of June 2018 EU ambassadors endorsed the provisional agreement reached by the Bulgarian Presidency on the revision of the renewable energy directive. The new regulatory framework is expected to pave the way for Europe's transition towards clean energy sources such as wind, solar, hydro, tidal, geothermal, and biomass energy. The agreement introduced a binding renewable energy target for the EU for 2030 of at least 32% (up from 27%) of final energy consumption.

2.1.4 Progress on Targets

The overall share of renewables in primary energy stood at 11.2% in 2019 which is up from the 2018 figure of 10%, and 9.3% in 2017. As per the EU Renewable Energy Directive, the target for Ireland is set at 16% share of renewable energy in gross final consumption (GFC) by 2020. As per the SEAI's Energy in Ireland 2020 Report (Section 2.1.5), the contribution from renewables in in 2019, has risen to 12% of the GFC. According to the SEAI's Renewable Energy in Ireland 2020 Update (discussed further below) this has increased again with the total electrical output from wind in 2018 at 8,640GWh (not normalised) which was a 16% increase in the previous year. The SEAI's Renewable Energy in Ireland 2020 Update goes on to note that wind generated 28% of all electricity in 2018 second only to gas.

In Ireland, it is widely acknowledged that the vast majority of the renewable electricity requirement is expected to be met through the development of indigenous wind power, as Ireland has a strong wind resource potential, with one of the best onshore wind speed averages in Europe ('The Value of Wind Energy to Ireland', Pőyry, 2014). In 2015, wind energy accounted for 84% of renewable electricity generation. 2016 was less windy than 2015 and electricity generated from wind fell by 6.5% but still accounted for 82% of renewable electricity ('Energy in Ireland 1990 – 2016', Sustainable Energy Authority of Ireland, 2017). Further, the SEAI Energy *In Ireland 2019 Report* (December 2019) confirms that most of the growth in renewable energy has come from wind. Wind provided 84% of all renewable energy generated in 2018.

The June 2018 '*Off Target Report'* published by the Climate Action Network (CAN) Europe, which ranks EU countries ambition and progress in fighting climate change, listed Ireland as the second worst performing EU member state in tackling climate change. It also stated that Ireland is set to miss its 2020 climate and renewable energy targets and is also off course for its unambitious 2030 emissions target. The report states:

> *"Ireland has failed to prepare effective policies to align near-term climate action with EU and Paris Agreement commitments. Without new, immediate and substantive efforts to cut emissions, Ireland faces annual non-compliance costs of around €500 million."*

The Department of Climate Change, Action & Environment (DCCAE) reported in their *'Fourth Progress Report on the National Renewable Energy Action Plan'* December 2017 that Ireland will achieve 13% of its 16% RES target by 2020. SEAI in their report 'Ireland's Energy Targets – Progress, Ambition & Impacts' (April 2016) estimates that Ireland's inability to achieve its 2020 renewable energy targets will result in fines of between €65 million and €130 million per percentage shortfall on its overall binding target after 2020 until it meets its targets.

The Climate Change Advisory Council (CCAC) similarly notes within their *2019 Annual Review* that while the share of renewable electricity generation, particularly wind, is increasing in Ireland, the pace of decarbonisation of the electricity generation sector is not compatible with a low-carbon transition to 2050. As such, Ireland can continue to 'comply' with EU targets by purchasing emission allowances; however, the expenditure of public funds to do so would not result in any domestic benefit, and furthermore, would result in a more difficult and expensive challenge for the country to meet its future 2030 targets and beyond. The CCAC 2019 review concludes that continued and additional investment in capacity and technologies in the renewable energy sector is required to reach these said targets.

Plate 2-1 shows the latest data available for the share of renewable energies in gross final energy consumption according to the Eurostat online data and the targets that have been set for 2020. The share of renewables in gross final energy consumption stood at 19.7% in the EU-27 in 2019. The data shows that eighteen member states have reached a share equal to or above their 2020 target. This is not the case with Ireland who, as evident in Plate 2.1, are still considerably below meeting its 2020 target. Per the 2019 data Ireland was at 11.9% of its 16% target.

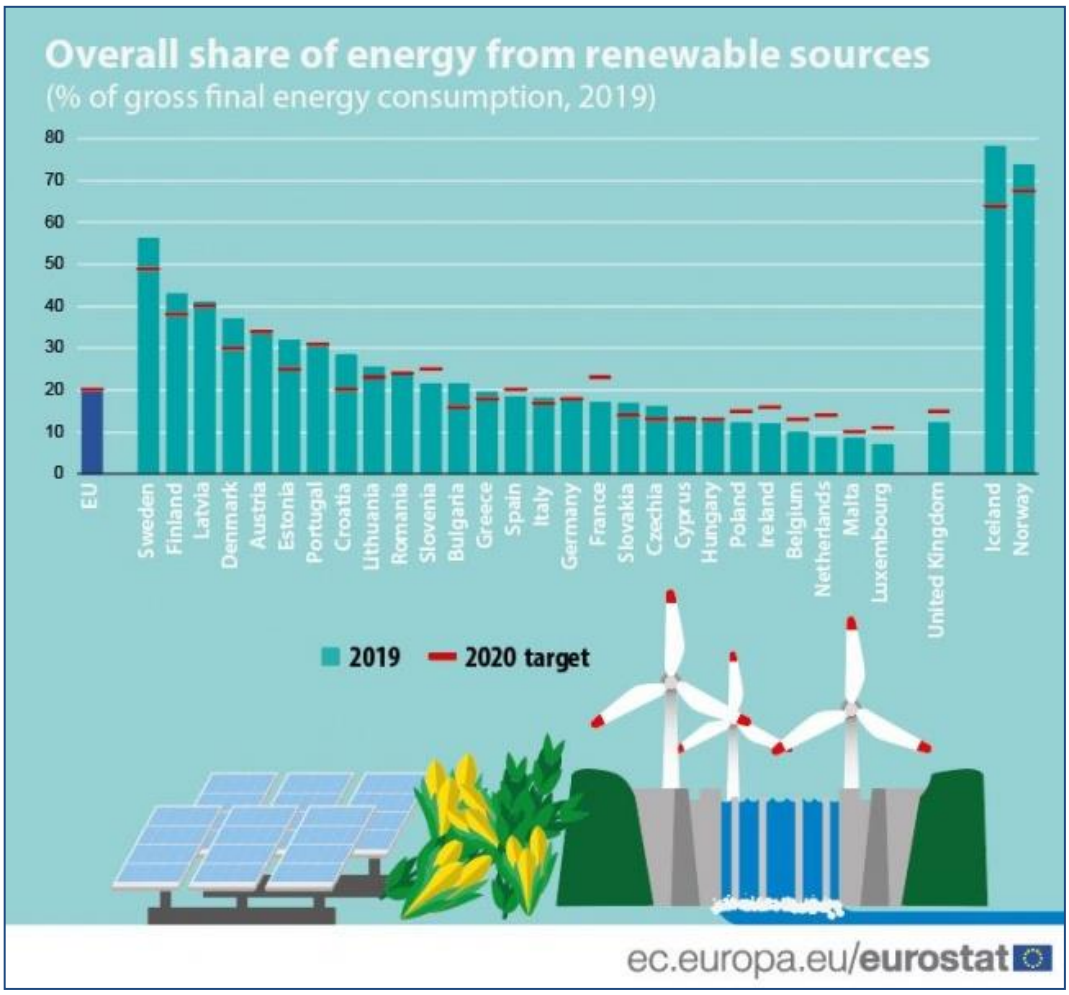


Plate 2-1 Share of renewables in gross final energy consumption - (Source: https://ec.europa.eu/eurostat/statistics-explained/images/b/b4/Share_of_energy_from_renewable_sources_2017_infograph.png)

EirGrid in their '*All Island Generation Capacity Statement 2020 - 2029'* (August 2020), state that it is assumed that renewable targets will be largely achieved through the deployment of additional wind powered generation in Ireland. As per the latest statistics issued by IWEA new wind farms commissioned in Ireland have brought the total wind capacity to 4,235MW (https://www.iwea.com/about-wind/facts-stats).

It is noted by EirGrid within their 2020 – 2029 statement that, at a median demand level there is not adequate generation capacity to meet demand from 2026 on an All-Island basis once Moneypoint closes

at the end of 2025. Should any other plant close then this could give rise to earlier deficits. This is especially pertinent with regard to the closure of the peat fired Shannonbridge and Lough Ree Power Stations. In this context, the importance of wind energy becomes more apparent as it is estimated that 1 MW of wind capacity can provide enough electricity to supply approximately 650 homes[3].

It is noted that the key driver for electricity demand in Ireland for the next number of years is the connection of new large energy users, such as data centres. The EirGrid 2020-2029 report notes that "*the demand forecast in Ireland continues to be heavily influenced by the expected growth of large energy users, primarily Data Centres*". In Ireland, the growth in energy demand for the next ten years varies between 23% in the low demand scenario, to 47% in the high scenario. The Median Forecast is generally aligned with EirGrid's Tomorrow Energy Scenarios in which Eir Grid predict that an overall Energy Requirement for Ireland of approximately 41TWh by 2030. Accordingly, the Proposed Development will assist in meeting the increasing electricity demand. The All-Island Generation Capacity Statement 2020-2029 is discussed further under Section 2.1.6 below.

2.1.5 SEAI Energy in Ireland 2020 Report

In December 2020 the SEAI produced the Energy in Ireland 2020 Report which provides the most up to date figures available (from 2019) in relation to energy production and consumption in Ireland. The annual publication from SEAI presents national energy statistics on energy use in Ireland over the period 2005 to 2019. In the context of 2020, it has been noted that due to the global health crisis and measures deployed to mitigate its effects, the way that energy is used has changed. It is noted that:

> *"We have seen large reductions in transport energy use in particular, and after an initial decrease in electricity use, we saw all time high levels of demand following the recent easing of restriction leading into Christmas 2020."*

Within the 2020 reflections it is set out that while overall energy use in Ireland in 2019 was at almost the same level as in 2001, the CO^2 emissions from energy are down by almost one fifth with the economy one and a half times larger. Further to the above with regards to electricity the 2020 Report states that in April and May electricity use was initially down somewhat on 2019, but from late summer on electricity use has been up on the previous year. A new all-time peak in demand of 5,357MW was set which was 245 MW higher than the previous record set in 2010.

In terms of final energy demand this fell by 0.6%, primary energy demand also fell by 1.2% with the use of fossil fuels also decreasing by 3% in 2019. Renewables made up 12.0% of gross final consumption (the 2020 target was 16%), it is noted that this avoided 5.8 million tonnes of CO^2 emissions and over €500 million of fossil fuel imports. The share of electricity generated from renewable sources increased from 33.2% in 2018 to 36.5% in 2019 (the 2020 target was 40%). Wind generation accounted for 32% of all electricity generated and avoided 3.9 million tonnes of CO2 emissions.

Section 2.6 of the 2020 Report gives updates surrounding electricity, under this it is noted that final electricity demand peaked in 2008 (2,295ktoe) and began falling in the years following this. However, demand started to grow again in 2015, in 2019 demand grew by 2% and surpassed the 2008 record by 6.6% at 2,444ltoe. Primary energy is the total amount of energy required, including all the energy that is consumed for energy transformation processes such as electricity generation and oil refining. We look at primary energy by fuel, sector and mode. The following are the main trends in primary energy:

- Fossil fuels accounted for 87% of all the energy used in Ireland in 2019. Demand for fossil fuels fell by 3% in 2019, and was 17% lower than in 2005.
- Coal use decreased by 53% in 2019 and its share of total primary energy requirement fell to 2.6%, down from 10.5% in 2015. Since 2005, coal demand has fallen by 80% (10.8% per annum).
- Total renewable energy increased by 10.3% during 2019. Hydro and wind increased by 28% and 16% respectively. Biomass use fell by 3.9% in 2019 and other renewables

[3] *https://www.iwea.com/about-wind/faqs*

increased by 15%. The overall share of renewables in primary energy stood at 11.2% in 2019, up from 10% in 2018.

- Ireland returned to be a net importer of electricity in 2019 for the first time since 2015, importing 55 ktoe.

In terms of energy generation in 2019, the share of renewables in the generation fuel mix increased to 25.7%, compared with 22.3% in 2018 due, mainly, to increased wind generation. In 2019, electricity generated from renewable sources amounted to 11,780 GWh, accounting for 37.6% of gross electricity consumption (compared with 33% in 2018). Wind again accounted for the largest renewable energy generator, furthermore wind energy was the second largest source of electricity generated in 2019 after natural gas.

Wind accounted for 57% of the contribution towards Ireland's renewable energy target in 2019. The peak recorded wind power output was 3,337 MW, delivered on 21 February 2020, this represented 72% of demand at that time. Furthermore, wind also accounted for 85% of renewable energy in 2019. Plate 2-2 below shows the annual growth in installed wind generation capacity and overall cumulative capacity since 2000.

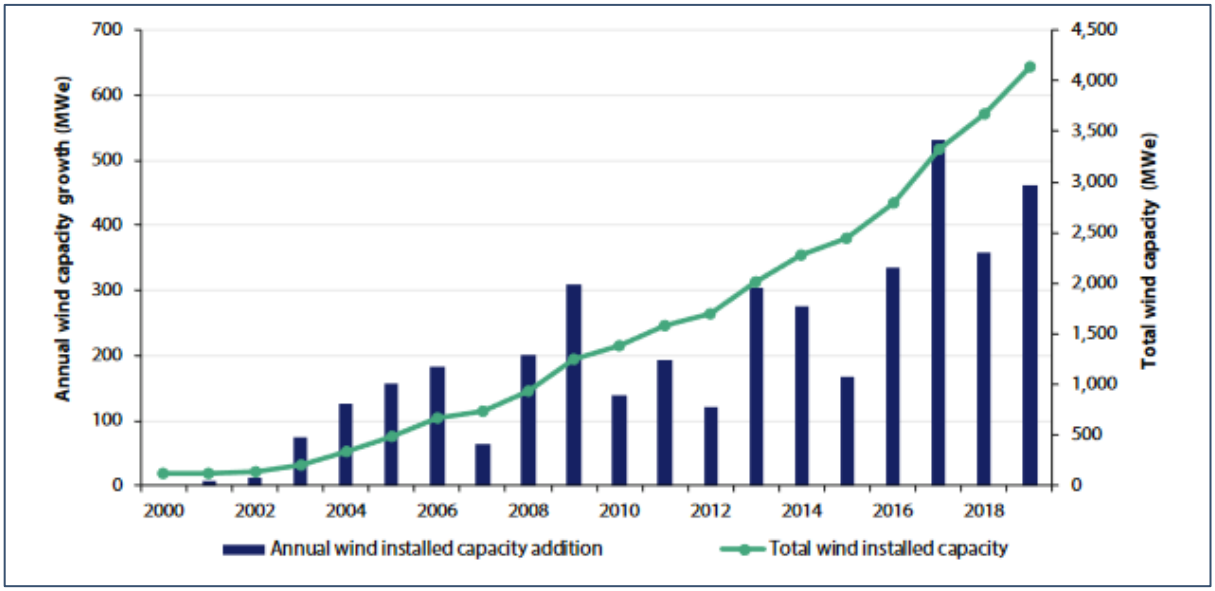


Plate 2-2 Installed Wind Generating Capacity 2000-2019

2.1.6 All-Island Generation Capacity Statement 2020-2029 - EirGrid

The All-Island Generation Capacity Statement 2020-2029 was published by EirGrid in August 2020. Within the key message of the statement it is highlighted that the overall demand is set to increase and is forecast to increase significantly due to the expansion of large energy users including data centres. In Ireland, the growth in electricity demand for the next ten years varies between 33% in the median demand scenario, to 50% in the high scenario. The Median Forecast is generally aligned with EirGrid's Tomorrow Energy Scenarios which predict an overall Energy Requirement for Ireland of approximately 41TWh by 2030

The statement notes that within the Republic of Ireland new wind farms commissioned in 2019 brought the total wind capacity to 4,127 MW contributing to the increase in overall RES-E percentage to 35.7%. The Statement goes on to noted that:

> *"It can be assumed that Ireland's renewable targets will be achieved largely through the deployment of additional wind powered generation."*

Furthermore, it is noted that the installed wind capacity within Ireland has increased from 135MW to over 4127MW between 2002 and 2019, this value is set to further increase as Ireland endeavours to meet its renewable targets.

2.1.7 Summary of Compliance with Renewable Energy Policy and Targets

At present Ireland faces significant challenges through efforts to meet its EU targets for renewable energy by 2030 and its commitment to transition to a low carbon economy by 2050. The Proposed Development can significantly aid towards Ireland meeting its energy and climate targets along with addressing the country's over-dependence on imported fossil fuels.

2.1.8 National Energy Policy

2.1.8.1 Introduction

This section of the EIAR provides a breakdown of national energy policy with regards to the Proposed Development. Under the national policy energy section, the following are discussed:

- National Renewable Energy Action Plan, 2010;
- White Paper on Energy Policy in Ireland 2015-2030;
- Ireland's Transition to a Low Carbon Energy Future 2015-2030;
- Electricity Support Schemes: I-SEM Arrangements Decision Paper, 2017;
- Draft National Energy & Climate Plan 2021-2030;
- Renewable Electricity Support Scheme RESS 2020; and,
- Programme for Government 2020.

National policy has developed in line with European and International policies, targets and commitments, in that the importance and urgency of decarbonising the energy generation sector, the economy in general and reducing greenhouse gas emissions has become increasingly more apparent. The Proposed Development complies with the nationally stated need to provide a greater amount of renewable energy onto the national grid and will further reduce the national reliance on fossil fuels for electricity generation.

2.1.8.2 National Renewable Energy Action Plan, 2010

Article 4 of Directive 2009/28/EC on the promotion of the use of energy from renewable sources required each Member State to adopt a national renewable energy action plan (NREAP) to be submitted to the European Commission. The NREAP sets out the Member State's national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020, and demonstrates how the Member State will meet its overall national target established under the Directive.

Ireland's National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and planned measures to deliver on Ireland's 16% target under Directive 2009/28/EC. In relation to wind energy, the NREAP states:

> *"It is noted that as a country, Ireland has immense potential for the development of renewable energy particularly wind energy, both on and offshore and wave energy. The development and expansion of the use of renewable energy, together with measures aimed at a reduction and more efficient use of energy are important as regards meeting our climate change objectives and priorities, both nationally and at European level. At a high level a significant increase in renewable energy and the protection of the environment are thus mutually reinforcing goals."*

2.1.8.3 White Paper on Energy Policy in Ireland 2015-2030

On 12th May 2014, *'The Green Paper on Energy Policy in Ireland'* was launched, opening the way for a public consultation process on the future of energy policy in Ireland for the medium to long-term. The paper acknowledged that energy is an integral part of Ireland's economic and social landscape; and that a secure, sustainable and competitive energy sector is central to Ireland's ability to attract and retain Foreign Direct Investment and sustain Irish enterprise. The three key pillars of energy policy are to focus on security, sustainability and competitiveness.

The White Paper entitled *'Ireland's Transition to a Low Carbon Energy Future 2015-2030',* published in December 2015 provides a complete energy update and a framework to guide policy up to 2030. The Paper builds upon the White Paper published in 2007 and takes into account the changes that have taken place in the energy sector since 2007.

The White Paper states that onshore wind continues to be the main contributor of renewable energy, - 18.2% of total generation and 81% of renewable electricity (RES-E) in 2014. The impacts of climate change in the context of EU and national policy refers to the change in climate that is attributable to human activity arising from the release of greenhouse gases into the atmosphere and which is additional to natural climate variability (Department of the Environment, Heritage and Local Government, 2006). In 2008, the Environmental Protection Agency (EPA) published the results of a study entitled *'Climate Change – Refining the Impacts for Ireland'*, as part of the STRIVE (Science, Technology, Research and Innovation) Programme 2007 – 2013. This report states that mean annual temperatures in Ireland have risen by 0.7° Celsius (C) over the past century. Mean temperatures in Ireland relative to the 1961 to 1990 averages are likely to rise by 1.8 to 4.0° C by the 2050s and by in excess of 2°C by the end of the century due to climate change.

The policy framework sets out a vision for a low carbon future that maintains Ireland's competitiveness and ensures a supply of affordable energy. The paper advises that a range of policy measures will be employed to achieve this vision and will involve amongst many things, generating electricity from renewable sources of which there are plentiful indigenous supplies and increasing the use of electricity and bio energy to heat homes and fuel transport.

In the White Paper the Department confirmed that onshore wind is the cheapest form of renewable energy in Ireland:

> *(Onshore Wind) "is a proven technology and Ireland's abundant wind resources means that a wind generator in Ireland generates more electricity than similar installations in other countries. This results in a lower cost of support."*

2.1.8.4 Ireland's Transition to a Low Carbon Energy Future 2015-2030

As discussed above a Government White Paper entitled 'Ireland's Transition to a Low Carbon Energy Future 2015-2030' was published in December 2015 by the Department of Communications, Energy and Natural Resources. This Paper provides a complete energy update and a framework to guide policy up to 2030. The Paper builds upon the White Paper published in 2007 and takes into account the changes that have taken place in the energy sector since 2007.

The policy framework was developed to guide policy and actions that the Irish Government intends to take in the energy sector up to 2030 and also reaching out to 2050 to ensure a low carbon future that maintains Ireland's competitiveness and ensures a supply of affordable energy. The Energy Vision 2050, as established in the White Paper, describes a 'radical transformation' of Ireland's energy system which will result in greenhouse gas (GHG) emissions from the energy sector reducing by between 80% and 95%, compared to 1990 levels. The paper advises that a range of policy measures will be employed to achieve this vision and will involve amongst many things, generating electricity from renewable sources of which there are plentiful indigenous supplies and increasing the use of electricity and bio energy to heat homes and fuel transport.

In this White Paper, the then DCENR confirmed that onshore wind is the cheapest form of renewable energy in Ireland, stating:

"Onshore wind continues to be the main contributor (18.2% of total generation and 81% of RES-E in 2014). It is a proven technology and Ireland's abundant wind resource means that a wind generator in Ireland generates more electricity than similar installations in other countries. This results in a lower cost of support."

2.1.8.5 Electricity Support Schemes: I-SEM Arrangements Decision Paper, 2017

The Department of Communications, Climate Action and Environment (DCCAE) has updated its existing electricity support schemes supported by the Public Service Obligation (PSO) Levy (primarily for renewable energy). In May 2017, DCCAE published an information paper which outlined a number of options being considered as part of this decision-making process and set out the Department's emerging thinking on the optimal outcome. Having sought stakeholder views in relation to the options being considered (as set out in the May 2017 document) and drawing on the supporting analysis provided by the EirGrid modelling, the DCCAE published its final decisions on these matters in June 2018. The three published decisions are set out below, however, it should be noted that the DCCAE has reserved the right to periodically review the impact of the decisions.

- Decision 1: The market revenue calculation for the purposes of calculating the PSO levy for supported wind generation (Alternative Energy Requirement (AER), Renewable Energy Feed In Tariff (REFIT) 1 and 2) will be amended to adapt to the Integrated Single Electricity Market (ISEM). The market revenue calculation for wind generators will, for the energy component, be based on the lower of a blend of 80% of the Day Ahead Market Price and 20% of the Balancing Market Price, and the Day Ahead Market Price for all supported wind generators above 5MW capacity. For supported wind generators below 5 MW, the market revenue calculation will, for the energy component, be based on the lower of a blend of 70% of the Day Ahead Market Price and 30% of the Balancing Market Price, and the Day Ahead Market Price.
- Decision 2: The market revenue calculation for the purposes of calculating the PSO levy for other supported generation (under REFIT 1, REFIT 2, REFIT 3 and the Peat PSO Scheme) will be amended to adapt to the Integrated Single Electricity Market. For these generators (peat, hydro and biomass) supported under the PSO levy, the market revenue calculation for the energy component will be based on the Day Ahead Market Price.
- Decision 3: The market revenue calculations for the purposes of calculating the PSO levy for all supported generation will take into account only capacity market revenues and not capacity market costs.

In summary, at national level it is clear that there remains ongoing promotion of the use of energy from renewable sources in line with EU Directives. Furthermore, Ireland's wind resource is expected to play a pivotal role in this. As such, the Proposed Development will directly contribute to these policy targets and requirements.

2.1.8.6 Draft National Energy & Climate Plan (NECP) 2021-2030, December 2018

The Draft National Energy & Climate Plan (NECP) 2021-2023 was published by the Government of Ireland in December 2018. The NECP has been prepared in accordance with the Governance of the Energy Union and Climate Action Regulation. This first draft takes into account energy and climate policies developed to date, the levels of demographic and economic growth identified in the Project 2040 process and includes all of the climate and energy measures set out in the National Development Plan 2018-2027.

The NECP sets out how EU Countries (including Ireland) intend to address energy and climate related issues[4]:

- energy efficiency

[4] *https://ec.europa.eu/info/energy-climate-change-environment/overall-targets/national-energy-and-climate-plans-necps_en*

- renewables
- greenhouse gas
- emissions reductions
- interconnections
- research and innovation

Furthermore, a progress report must be prepared by each country within the EU every 2 years. The consultation period for the NECP closed in February 2019, it was expected that a final version of the NECP was to be submitted in December 2019 however it appears that this deadline has been missed.

2.1.8.7 Renewable Electricity Support Scheme RESS

The Climate Action Plan, published in June 2019, is the Government's plan to give Irish people a cleaner, safer and more sustainable future. The Plan sets out actions across every sector which will ensure we meet our future climate commitments. A key part of the Plan is a move to 70% renewable electricity by 2030, a measure which will be driven by the introduction of the Renewable Electricity Support Scheme ('RESS').

The RESS is an auction-based scheme which invites renewable electricity projects to bid for capacity and receive a guaranteed price for the electricity they generate. Terms and Conditions for the first competition (RESS 1:2020) was published in February 2020 and will provide support to renewable electricity projects in Ireland. It is intended that the RESS will deliver, amongst other policy objectives:

> *"An ambitious renewable electricity policy to 2030 increasing energy security, energy sustainability and ensuring the cost effectiveness of energy policy"*

The preliminary results of the RESS 1 auction were published on the 4th of August 2020, EirGrid ran the auction in on the 28th of July 2020 and of the 108 projects who submitted an offer price, 82 projects have been deemed to be provisionally successful while 26 were considered to be unsuccessful. The successful projects constitute a mix of on-shore wind and solar.

The Auction Scheme and the ECP framework has now been established and is operational and will facilitate and provide a pathway to realise the for renewable electricity (RES-E) ambition of up to 70% by 2030, that has been established.

2.1.9 Programme for Government 2020

The Programme for Government 2020 was published in June 2020. In relation to climate change the programme recognises that the next ten years are a critical period in addressing the climate crisis. It is an ambition of the programme to more than halve carbon emissions over the course of the decade (2020-2030). The programme notes that the government are committed to reducing greenhouse gas emissions by an average 7% per annum over the next decade in a push to achieve a net zero emissions by the year 2050. The programme also recognises the severity of the climate challenge as it clarifies that *"climate change is the single greatest threat facing humanity".*

With regards to energy the programme notes that the government will implement a new National Energy Efficiency Action Plan to reduce energy use, including behavioural and awareness aspects of energy efficiency such as building and data management. Further, the government are also committed to the rapid decarbonisation of the energy sector, along with this it is noted that the necessary steps will be taken to deliver at least 70% of renewable electricity by the year 2030.

2.2 Climate Change Policy and Targets

2.2.1 Introduction

This section of the EIAR presents the various policies and targets which relate to climate change. The below headings and sub-headings explore climate change in the context of EU and national policy and are broken down into the following sections:

- Impacts on Climate Change;
- International Policy;
  - United Nations Framework Convention on Climate Change;
  - Kyoto Protocol Targets;
  - Doha Amendment to the Kyoto Protocol;
  - COP21 Paris Agreement;
  - COP25 Madrid- Current Progress;
  - Progress on Targets;
  - Emissions Projections;
- National Policy;
  - National Climate Change Adaptation Framework 2012;
  - National Policy Position on Climate Action and Low Carbon Development, 2014;
  - Climate Action and Low Carbon Development Act 2015;
  - National Adaptation Framework - Planning for a Climate Resilient Ireland 2018;
  - Report of the Joint Committee on Climate Action Climate Change: A Cross-Party Consensus for Action, March 2019;
  - Climate Action Plan, 2019; and,
  - Draft Climate Action and Low Carbon Development (Amendment) Bill 2020.

International and national policy consistently identifies the need to reduce greenhouse gas (GHG) emissions and stresses the importance of reducing global warming. The context of international policy has altered over the last 30 years from being of a warning nature to the current almost universally accepted belief that we are in a climate crisis. The current Proposed Development, as a generator of renewable energy, will contribute to the decarbonisation of the energy sector and reduce harmful emissions. In this regard, it is in broad compliance with national and international climate change policy and targets.

Under a report published by the EPA titled *"Irish Climate Futures: Data for Decision-making"* (June 2019) the following is acknowledged:

> *"That the world has warmed since the 19th century is unequivocal. Evidence for warming includes changes in surface, atmospheric and oceanic temperatures; glaciers; snow cover; sea ice; and sea level and atmospheric water vapour."*

The report continues to note that should business as usual continue the Earth's average temperature is likely to increase by between 2.6°C and 4.8°C above today's levels, for Ireland, the changes listed (extreme events and sea level rise) would probably mean more frequent wet winters, dry summers and hot summers. It is acknowledged that this would pose challenges for water and flood risk management, agriculture and tourism.

2.2.2 Impacts on Climate Change

Climate change, in the context of EU and national policy, refers to the change in climate that is attributable to human activity arising from the release of greenhouse gases into the atmosphere and which is additional to natural climate variability (Department of the Environment, Heritage and Local Government, 2006). In 2008, the Environmental Protection Agency (EPA) published the results of a

study entitled 'Climate Change – Refining the Impacts for Ireland', as part of the STRIVE (Science, Technology, Research and Innovation) Programme 2007 – 2013. This report stated that mean annual temperatures in Ireland have risen by 0.7 Celsius (C) over the past century. Mean temperatures in Ireland relative to the 1961 to 1990 averages are likely to rise by 1.4 to 1.8°C by the 2050's and by more than 2°C by the end of the century due to climate change.

Future precipitation changes are less certain to project than temperature but constitute the most important aspect of future climate change for Ireland. The study projects that winter rainfall in Ireland by the 2050's will increase by approximately 10%, while summer rainfalls will reduce by 12 – 17%. Lengthier heatwaves, much reduced number of frost days, lengthier rainfall events in winter and more intense downpours and an increased propensity for drought in summer are also projected. The STRIVE report on climate change impacts states that Ireland can and must adapt to the challenge of climate change. It notes that:

> *"Barriers to this, both scientific and socio-economic, are required to be identified and addressed in order that Ireland can be optimally positioned to thrive in a changing world."*

2.2.3 International Policy

2.2.3.1 United Nations Framework Convention on Climate Change

In 1992, countries joined an international treaty, the United Nations Framework Convention on Climate Change (UNFCCC), as a framework for international efforts to combat the challenge posed by climate change. The UNFCCC seeks to limit average global temperature increases and the resulting climate change. In addition, the UNFCCC seeks to cope with impacts that are already inevitable. It recognises that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases. The framework set no binding limits on greenhouse gas emissions for individual countries and contains no enforcement mechanisms. Instead, the framework outlines how specific international treaties (called "Protocols" or "Agreements") may be negotiated to set binding limits on greenhouse gases.

2.2.3.2 Kyoto Protocol Targets

Ireland is a Party to the Kyoto Protocol, which is a protocol to the UNFCCC. The Kyoto Protocol is an international agreement that sets limitations and reduction targets for greenhouse gases for developed countries. It came into effect in 2005, as a result of which, emission reduction targets agreed by developed countries, including Ireland, are now binding. Further details on Ireland's obligations under the Kyoto Protocol are presented below.

Under the Kyoto Protocol, the EU agreed to achieve a significant reduction in total greenhouse gas emissions of 8% below 1990 levels in the period 2008 to 2012. Ireland's contribution to the EU commitment for the period 2008 – 2012 was to limit its greenhouse gas emissions to no more than 13% above 1990 levels.

2.2.3.3 Doha Amendment to the Kyoto Protocol

In Doha, Qatar, on 8th December 2012, the "Doha Amendment to the Kyoto Protocol" was adopted. The amendment includes:

- New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 1 January 2013 to 31 December 2020;
- A revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and
- Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

During the first commitment period, 37 industrialised countries and the European Community committed to reduce GHG emissions to an average of 5% against 1990 levels. During the second commitment period, Parties committed to reduce GHG emissions by at least 18% below 1990 levels in the eight-year period from 2013 to 2020; however, the composition of Parties in the second commitment period is different from the first.

Under the protocol, countries must meet their targets primarily through national measures, although market-based mechanisms (such as international emissions trading) can also be utilised.

2.2.3.4 Conference of the Parties (COP)21 Paris Agreement

COP21 was the 21st session of the Conference of the Parties (COP) to the UNFCCC. Every year since 1995, the COP has gathered the 196 Parties (195 countries and the European Union) that have ratified the Convention in a different country, to evaluate its implementation and negotiate new commitments. COP21 was organised by the United Nations in Paris and held from 30th November to 12th December 2015.

COP21 closed on 12th December 2015 with the adoption of the first international climate agreement (concluded by 195 countries and applicable to all). The 12-page text, made up of a preamble and 29 articles, provides for a limitation of the global average temperature rise to well below 2°C above pre-industrial levels and to limit the increase to 1.5°C. It is flexible and takes into account the needs and capacities of each country. It is balanced as regards adaptation and mitigation, and durable, with a periodical ratcheting-up of ambitions.

A recent article published by the IPCC (Intergovernmental Panel on Climate Change) on the 6th October 2018 titled '*Global Warming of 1.5°C*', notes the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways; in the context of mitigation pathways, strengthening of the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. This special report is part of an invitation contained in the Decision of the 21st Conference of Parties of the United Nations Framework Convention on Climate Change to adopt the Paris Agreement, and provides an update on the impact of climate change if emissions are not reduced.

2.2.3.5 COP25 Madrid- Current Progress

COP25, the 25th session of the COP, was held between the 2nd and 13th of December 2019 in Madrid. The conference was characterised by repeated warnings from civil society (NGOs and corporates) on emerging evidence and scientific consensus on climate change risk. Specifically, it is noted that there are only '10 years left' before the opportunity of limiting global warming to 1.5°C is no longer feasible. As such, the only scenario that makes it possible is a '7.6% reduction of global GHG emissions every year between 2020 and 2030, and to reach net zero emissions by 2050'. However, there was no consensus achieved between States to finalise the operating rules of the Paris Agreement and ensure that it became operational by 2020. Three issues which emerged between States from the COP25 are summarised below:

- There was no uniform consensus between States to raise countries' climate ambitions, e.g. to make increased commitments in light of growing climate change data. Some States were opposed to imposing any obligation on countries to submit enhanced pledges next year, arguing it should be each country's own decision. All states must submit a review of their commitments for COP 26 in 2020. At the current level of climate targets, within a decade, the objective of the Paris Agreement will no longer be achievable;
- There was no agreement on finalising Article 6, the foundations for international cooperation to combat climate change. The aim was to establish the rules for new international mechanisms for financing and transferring GHG emission reductions; and
- There was no agreement on financing (Green Climate Fund); specifically, relating to both loss and damage caused by climate change.

Despite the lack of consensus to the above challenges, the COP25 did achieve more limited success in the introduction of the *"San Jose Principles for High Ambition and Integrity of International Carbon*

Markets", which sets out the framework on which a robust carbon market should be built. These 12 no. principles include, but are not limited to:

- Ensures environmental integrity and enables the highest possible mitigation ambition;
- Delivers an overall mitigation in global emissions, moving beyond zero-sum offsetting approaches to help accelerate the reduction of global greenhouse gas emissions;
- Prohibits the use of pre-2020 units, Kyoto units and allowances, and any underlying reductions toward Paris Agreement and other international goals; and
- Ensures that double counting is avoided and that all use of markets toward international climate goals is subject to corresponding adjustments.

These principles were supported by 23 EU, including Ireland, and Latin American countries, 5 pacific islands and 2 countries in the Caribbean.

In addition, the European Union's Green Pact was introduced on the 11th of December with agreement of the European Council and all Member States (except Poland)on the ambition of climate neutrality in 2050, supported by a financing plan of €1,000 billion over 10 years.

2.2.3.6 Progress on Targets

The '*Europe 2020 Strategy*' is the EU's agenda for growth and jobs for the current decade. The Europe 2020 Strategy targets on climate change and energy include:

- Reducing GHG emissions by at least 20% compared with 1990 levels;
- Increasing the share of renewable energy in final energy consumption to 20%; and
- Moving towards a 20% increase in energy efficiency.

The 'Europe 2020 indicators – climate change and energy' report (*http://ec.europa.eu/eurostat/statistics-explained/index.php/Europe_2020_indicators_-_climate_change_and_energy*) provides a summary of recent statistics on climate change and energy in the EU, with reference to the progress of Member States in meeting the required targets. In 2016, EU greenhouse gas emissions, including emissions from international aviation and indirect carbon dioxide (CO2) emissions, were down by 22.4% when compared with 1990 levels. The EU is therefore expected to exceed its Europe 2020 target of reducing GHG emissions by 20% by 2020. In 2016, renewable energy provided 17.0% of gross final energy consumption in the EU, up from 9 % in 2005.

While the EU as a whole is projected to exceed its 2020 target of reducing GHG emissions by 20%. The Europe 2020 report emphasises the importance of continued action on climate change:

> *"Despite the EU's shrinking share in global CO2 emissions, recent findings on the potentially catastrophic impacts of climate change confirm the ongoing importance of its climate and energy goals. EU emission cuts alone cannot halt climate change, but if it can show that a low-carbon economy is feasible, and can even increase innovation and employment, it will serve as a role model to other regions. Continuous investment in advanced low-carbon technologies can also help the EU uphold technological leadership and secure export markets. A successful transformation of the energy sector ... is pivotal in this respect."*

2.2.3.7 Emissions Projections

In June 2019, the EPA published an update on Ireland's Greenhouse Gas Emission Projections 2018-2040. The report provides an assessment of Irelands progress towards achieving its emission reduction targets set under the EU Effort Sharing Decision (Decision No 406/2009/EU) – i.e. to achieve a 20% reduction of non-Emission Trading Scheme (non-ETS) sector emissions, i.e. agriculture, transport, residential, commercial, non-energy intensive industry and waste, on 2005 levels, with annual binding limits set for each year over the 2013-2020 period.

Greenhouse gas emissions are projected to 2020 using two scenarios; '*With Existing Measures'* and '*With Additional Measures'*. The '*With Measures'* scenario assumes that no additional policies and

measures, beyond those already in place by the end of 2017 are implemented. The '*With Additional Measures'* scenario assumes implementation of the '*With Existing Measures'* scenario in addition to further implementation of Government renewable and energy efficiency policies and measures, as set out in the NREAP and the National Energy Efficiency Action Plan (NEEAP).

The EPA Emission Projections Update notes the following key trends:

- 2019 greenhouse gas emission projections show total emission increasing from current levels by 1% and 6% by 2020 and 2030, respectively, under '*With Existing Measures'* scenario. Under '*With Additional Measures'*, emissions are estimated to decrease by 0.4% and 10% by 2020 and 2030, respectively;
- Under the '*With Existing Measures'*, emissions from Energy Industries are projected to increase by 31% between 2018 and 2030 to 15.4 Mt CO2eq. Under the 'With Additional Measures', emissions between 2018 and 2030 are predicted to decrease by 27% to 8.6 Mt CO2eq;
- Under '*With Existing Measures'*, approximately 41% of electricity generation is projected to come from renewable energy sources by 2030. In the 'With Additional Measures' scenario, it is estimated that renewable energy generation increases to approximately 54% of electricity consumption;
- Agriculture and transport dominate non-ETS sector emissions accounting for 75% and 80% of emissions in 2020 and 2030, respectively. In 2020, the sectors with the largest contribution of emissions are Agriculture, Transport and Energy Industries with 34%, 21% and 20% share in total emissions, respectively, under the With Additional Measures scenario. In 2030 this is projected to change to 38%, 22% and 16% for these sectors, respectively, which reflects the growth in emissions from agriculture and reduction of emissions from power generation; and
- Ireland has exceeded its annual binding limits in 2016 and 2017. However, even using this mechanism, Ireland will still be in non-compliance according to the latest projections.

The 2019 EPA report states that "*A significant reduction in emissions over the longer term is projected as a result of the expansion of renewables (e.g. wind), assumed to reach 41-54% by 2030, with a move away from coal and peat".* Over the period 2013 – 2020, Ireland is projected to cumulatively exceed its compliance obligations by approximately 10.3 Mt CO2 (metric tonnes of Carbon Dioxide) under the "*With Existing Measures*" scenario and 9.2 Mt CO2 under the "*With Additional Measures*" scenario.

2.2.4 National Policy

2.2.4.1 National Climate Change Adaption Framework 2012

Ireland's first National Climate Change Adaptation Framework (NCCAF), which was published in December 2012, aims to ensure that adaptation actions are taken across key sectors and also at local level to reduce Ireland's vulnerability to climate change. The NCCAF requires the development and implementation of sectoral and local adaptation plans which will form part of the national response to the impacts of climate change. Each relevant Government Department (or State Agency, where appropriate) are required to prepare adaptation plans for their sectors. Twelve sectors were identified in total including Transport, Flood Defence, Agriculture and Energy. The Climate Action and Low Carbon Development Act 2015 (see Section 2.2.4.6) puts the development of National Climate Change Adaptation Frameworks and Sectoral Adaptation Plans on a statutory basis.

The Climate Action and Low Carbon Development Act 2015 states that following Government approval of the first statutory National Climate Change Adaptation Framework it must be reviewed at least every 5 years after that.

Following approval of the statutory National Adaptation Framework, Section 6 of the Act requires the Government to request all relevant Government Ministers to prepare sectoral adaptation plans covering the relevant sectors under their remit within a specified period. The National Adaptation Framework Plan was published on the 19th January 2018 and is discussed below at Section 2.2.4.4.

2.2.4.2 National Policy Position on Climate Action and Low Carbon Development 2014

The National Policy Position on Climate Action and Low Carbon Development, published by the Department of Environment, Community and Local Government in April 2014, provides a high-level policy direction for the adoption and implementation by Government of plans to enable the State to move to a low-carbon economy by 2050. The position paper acknowledges that the evolution of climate policy in Ireland will be an iterative process, based on the adoption by Government of a series of national plans over the period to 2050. Statutory authority for the plans is set out in the Climate Action and Low Carbon Development Act 2015.

2.2.4.3 Climate Action and Low Carbon Development Act 2015

The Climate Action and Low Carbon Development Act 2015 was signed into law on 10th December 2015. The Act provides for the establishment of a national framework with the aim of achieving a low carbon, climate resilient, and environmentally sustainable economy by 2050, referred to in the Act as the "national transition objective".

The Act provides the tools and structures to transition towards a low carbon economy and it anticipates that it will be achieved through a combination of:

- A National Mitigation Plan (to lower Ireland's greenhouse gas emissions levels); - see below
- A National Adaptation Framework (to provide for responses to changes caused by climate change);
- Tailored sectoral plans (to specify the adaptation measures to be taken by each Government ministry); and
- Establishment of the Climate Change Advisory Council to advise Ministers and the Government on climate change matters.

2.2.4.4 National Adaption Framework Planning for a Climate Resilient Ireland 2018

Ireland's first statutory National Adaptation Framework (NAF) was published on 19th January 2018. The NAF sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The NAF was developed under the Climate Action and Low Carbon Development Act 2015. The NAF builds on the work already carried out under the National Climate Change Adaptation Framework (NCCAF, 2012). It is detailed that under the NAF 'a number of Government Departments will be required to prepare sectoral adaptation plans in relation to a priority area that they are responsible for.

Chapter 1 of the NAF provides a summary of observed and projected global climate change and the international and European policy drivers for adaptation to climate change. It also contains a summary of observed and projected climate change impacts in Ireland. The following are detailed under the NAF:

- Warming of the global climate system is unequivocal and it is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century.
- Observations show that global average temperatures have increased by 0.85℃ (in the range 0.65 to 1.06°C) since 1850.
- In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans.
- Increasing magnitudes of warming increase the likelihood of severe, pervasive and irreversible impacts.
- The impacts and risks of climate change can be reduced and managed through mitigation and adaptation actions.
- Changes in Ireland's climate are in line with global trends. Temperatures have increased by about 0.8°C since 1900, an average of about 0.07°C per decade over that period, and

changes in precipitation regimes, sea level rise and extreme events (storms, flooding, sea surges and flash floods) are also being observed.
- The overall trend in Ireland is consistent with global patterns of change, with a high degree of climate variability and associated uncertainties in relation to extreme events.

The NAF acknowledges, as per the Intergovernmental Panel on Climate Change (IPCC, 2013), that 95% probability that the global warming of the last 50 years is a result of human activities, with the main contribution to this warming coming from the burning of fossil fuels.

Chapter 3 of the NAF provides a number of guiding principles for adaptation at national level. It includes steps for creating an enabling environment for adaptation planning. It sets out the sectors for which adaptation plans under the NAF are to be prepared, along with proposals for local authority or regional level adaptation strategies. Detailed under chapter 3 of the framework are the guiding principles for adaptation, regardless of how successful efforts to mitigate GHG emissions prove to be, the impact of climate change will continue over the coming decades because of the delayed impacts of past and current emissions. There is no choice, therefore, but to take adaptation measures to deal with the unavoidable impacts of climate change and associated economic, environmental and social costs. This is recognised at international, European Union and national level. It is stated that:

> *"Adaptation not only depends on action by all levels of government but also on the active and sustained engagement of all stakeholders, including sectoral interests, the private sector, communities and individuals. Everybody has a role to play in making sure Ireland is taking appropriate adaptation action to achieve a climate resilient future. This is a joint responsibility where "climate proofing" our country is an undertaking for which all of society is responsible and everyone has a role to play."*

2.2.4.5 Report of the Joint Committee on Climate Action Climate Change: A Cross-Party Consensus for Action, March 2019

In March 2019, the Joint Committee on Climate Action Change released a report detailing a cross party consensus for action. The report in its introduction notes that *"Irelands performance in meeting international obligations has to date been poor".* The Committee places concern that predictions of emissions indicate that the state is off track in meeting its 2020 and 2030 targets under the Kyoto protocol and the EU Directives.

The committee recommended that new climate change legislation be enacted by the Oireachtas in 2019. The following recommendations have been listed:

1. A target of net zero economy wide GHG emissions by 2050.
2. A provision for a 2030 target, consistent with the GHG emissions reduction pathway to 2050 to be set by 2020 by Statutory Instrument requiring the formal approval of both Houses of the Oireachtas following receipt of advice from the Climate Action Council.
3. Provision for five-yearly carbon budgets, consistent with the emissions reduction pathway to 2030 and 2050 targets, to be set by Statutory Instrument requiring the formal approval of both Houses of the Oireachtas following receipt of advice from the Climate Action Council.
4. A target for the renewable share of electricity generation of 70% by 2030.

Further to this the committee acknowledge that the measures which are currently in place along with the measures suggested within the report will not be sufficient in meeting Ireland's targets.

Chapter 7 of the report outlines the committee's recommendations for developing Ireland's capacity in renewable energies and renewable electricity in particular. It is noted that the transformation of Ireland's energy system will be required for the country to meet its GHG emission targets. To reach net zero emissions by 2050 the report recognises that the country will be required to fully decarbonize electricity generation. Section 7.5 relates to onshore renewable energy generation, it is acknowledged that onshore wind energy is currently the primary source of renewable electricity within Ireland, accounting for 84% of renewable power generated in 2017, it is also detailed that, 'onshore wind alone will not supply Ireland

with sufficient electricity to become self-sufficient, it is evident that it must be used alongside other sources of renewable energy'.

Under its recommendations, the Committee encourages the upgrading of existing onshore wind turbines where this will yield additional potential. While acknowledging that there are challenges in relation to securing additional on-shore wind generated renewable energy the Report fully supports the increased provision of on-shore wind farm development at appropriate locations (such as that of the current proposal) and acknowledges that on-shore wind has a pivotal role to play in achieving climate action targets.

2.2.4.6 Climate Action Plan 2019

The Climate Action Plan 2019 (CAP) was published on the 1st of August 2019 by the Department of Communications, Climate Action and Environment. The CAP sets out an ambitious course of action over the coming years to address the impacts which climate may have on Irelands environment, society, economic and natural resources. This Plan clearly recognises that Ireland must significantly step up its commitments to tackle climate disruption.

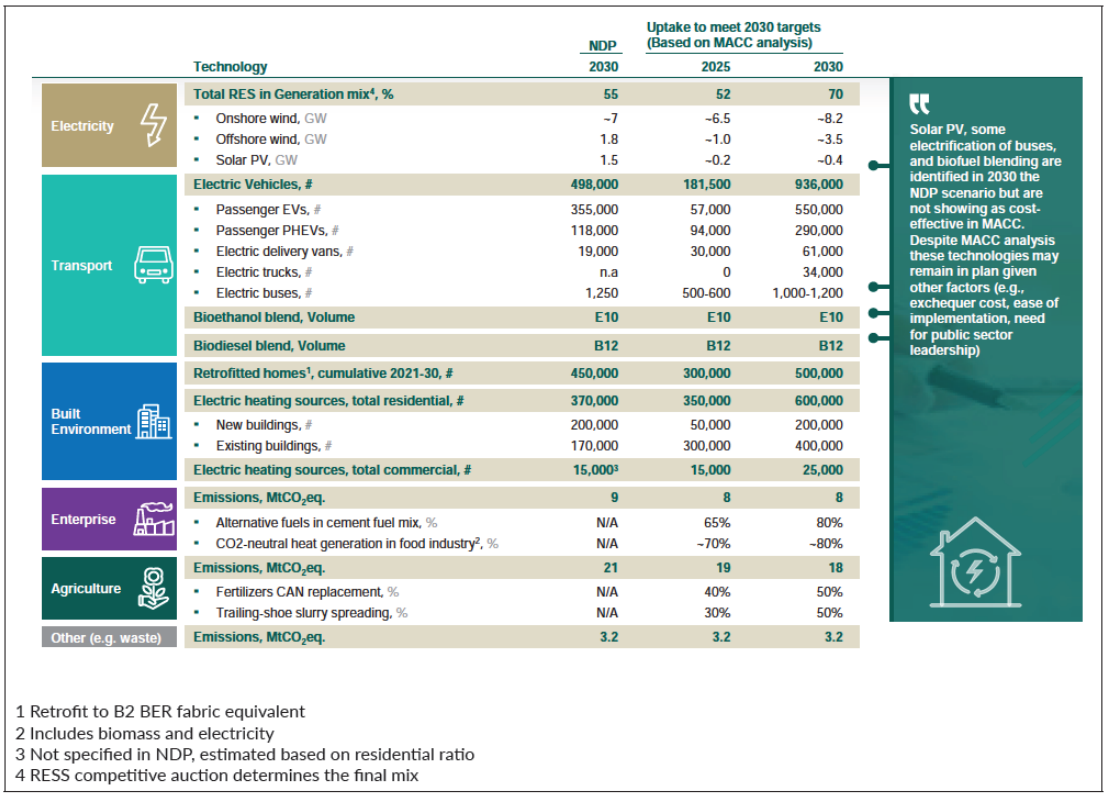
Chapter 1 of the CAP sets out the nature of the challenge which Ireland faces over the coming years. The CAP notes that the evidence for warming if our climate system is beyond dispute with observations showing that global average temperatures having increased by more than 1 °C since pre-industrial times. These changes will cause extensive direct and indirect harm to Ireland and its people, as well as to other countries more exposed and less able than we are to withstand the associated impacts, which are predicted to include:

- Rising sea-levels threatening habitable land and particularly coastal infrastructure,
- Extreme weather, including more intense storms and rainfall affecting our land, coastline and seas,
- Further pressure on our water resources and food production systems with associated impacts on fluvial and coastal ecosystems,
- Increased chance and scale of river and coastal flooding,
- Greater political and security instability,
- Displacement of population and climate refugees,
- Heightened risk of the arrival of new pests and diseases,
- Poorer water quality,
- Changes in the distribution and time of lifecycle events of plant and animal species on land and in the oceans.

It is also recognised within the Plan that in addition to the above many of the pollutants associated with climate change are also damaging to human health.

It is the ambition of the CAP to deliver a step-change in our emissions performance over the coming decade, so that we will not only meet our EU targets for 2030 but will also be well placed to meet our mid-century decarbonisation objectives.

Plate 2-3 below depicts Irelands decarbonisation pathway up to the year 2030. The below will be used to manage Irelands decarbonisation pathway and details the path for the various sectors:



	Technology	NDP 2030	Uptake to meet 2030 targets (Based on MACC analysis) 2025	2030
Electricity	**Total RES in Generation mix[4], %**	**55**	**52**	**70**
	• Onshore wind, GW	~7	~6.5	~8.2
	• Offshore wind, GW	1.8	~1.0	~3.5
	• Solar PV, GW	1.5	~0.2	~0.4
Transport	**Electric Vehicles, #**	**498,000**	**181,500**	**936,000**
	• Passenger EVs, #	355,000	57,000	550,000
	• Passenger PHEVs, #	118,000	94,000	290,000
	• Electric delivery vans, #	19,000	30,000	61,000
	• Electric trucks, #	n.a	0	34,000
	• Electric buses, #	1,250	500-600	1,000-1,200
	Bioethanol blend, Volume	**E10**	**E10**	**E10**
	Biodiesel blend, Volume	**B12**	**B12**	**B12**
Built Environment	**Retrofitted homes[1], cumulative 2021-30, #**	**450,000**	**300,000**	**500,000**
	Electric heating sources, total residential, #	**370,000**	**350,000**	**600,000**
	• New buildings, #	200,000	50,000	200,000
	• Existing buildings, #	170,000	300,000	400,000
	Electric heating sources, total commercial, #	**15,000[3]**	**15,000**	**25,000**
Enterprise	**Emissions, $MtCO_2eq.$**	**9**	**8**	**8**
	• Alternative fuels in cement fuel mix, %	N/A	65%	80%
	• CO2-neutral heat generation in food industry[2], %	N/A	~70%	~80%
Agriculture	**Emissions, $MtCO_2eq.$**	**21**	**19**	**18**
	• Fertilizers CAN replacement, %	N/A	40%	50%
	• Trailing-shoe slurry spreading, %	N/A	30%	50%
Other (e.g. waste)	**Emissions, $MtCO_2eq.$**	**3.2**	**3.2**	**3.2**

Solar PV, some electrification of buses, and biofuel blending are identified in 2030 the NDP scenario but are not showing as cost-effective in MACC. Despite MACC analysis these technologies may remain in plan given other factors (e.g., exchequer cost, ease of implementation, need for public sector leadership)

1 Retrofit to B2 BER fabric equivalent
2 Includes biomass and electricity
3 Not specified in NDP, estimated based on residential ratio
4 RESS competitive auction determines the final mix

Plate 2-3 Irelands Decarbonisation Pathway Dashboard to 2030

Chapter 7 of the CAP details the plans views surrounding electricity. Within Ireland electricity accounting for 19.3% of Irelands greenhouse gases in 2017, the following is noted:

> *"It is important that we decarbonise the electricity that we consume by harnessing our significant renewable energy resources by doing this we will also become less dependent on imported fossil fuels."*

In 2017 within Ireland a total of 30.1% of electricity produced came from renewable sources, the target to be achieved by 2020 is set at 40%. The CAP goes on to note that 'given our 40% target is based on a percentage of total energy demand, this rising demand makes meeting our 2020 target even more challenging and latest forecasts indicate we may miss this target by 3 to 4 percentage points'. Further to this while decarbonising electricity is a key aspect of the strategy it is noted that this is against the background of rapid projected growth in electricity demand. It is expected that demand for electricity is forecast to increase by 50% above existing capacity in the next decade. Generation electricity builds of a renewable nature rather than fossil fuels has been marked as essential.

The CAP goes on to note that with regards to policy measures to date that they will not achieve the level of decarbonisation required in the electricity sector to meet the 2030 emissions reduction targets, as such it is listed that '*we must 'reduce our electricity sector emissions to 4-5 Mt in 2030'*. In relation to emissions the following is noted:

> *"In 2017, emissions from electricity were 12 Mt and in 2030, despite implementation of Project Ireland 2040 measures, emissions are projected to be 8 Mt. This clearly demonstrates the need for a significant step-up in ambition over existing policy, not only to meet our 2030 targets, but to set us on course to deliver substantive decarbonisation of our economy and society by 2050."*

Key Metrics	2017	2025 Based on MACC	2030 Based on NDP	2030 Based on MACC
Share of Renewable Electricity, %	~30%[20]	52%	55%	70%
Onshore Wind Capacity, GW	~3.3	6.5	N/A	8.2
Offshore Wind Capacity, GW	NA	1.0	N/A	3.5
Solar PV Capacity, GW	NA	0.2	N/A	0.4
CCGT Capacity, GW	~3.6	5.1	N/A	4.7

Plate 2-4 Potential Metrics to Deliver Abatement in Electricity

In the electricity sector, reaching a 70% share of renewable electricity would require 50-55% emissions reduction by 2030. Under section 7.2 the following targets have been set out:

- Reduce CO2 eq. emissions from the sector by 50–55% relative to 2030 Pre-NDP projections
- Deliver an early and complete phase-out of coal- and peat-fired electricity generation
- Increase electricity generated from renewable sources to 70%, indicatively comprised of:
  - at least 3.5 GW of offshore renewable energy
  - at least 3.5 GW of offshore renewable energy
  - up to 1.5 GW of grid-scale solar energy
  - up to 8.2 GW total of increased onshore wind capacity
- Meet 15% of electricity demand by renewable sources contracted under Corporate PPAs

Achieving 70% renewable electricity by 2030 will involve phasing out coal- and peat-fired electricity generation plants, increasing our renewable electricity, reinforcing our grid (including greater interconnection to allow electricity to flow between Ireland and other countries), and putting systems in place to manage intermittent sources of power, especially from wind.

Section 7.2 of the CAP notes the 'Measures to deliver targets' in which efforts to meet the 2030 ambitions which includes increased harnessing of renewable energy. As seen in Plate 2-4 above, **CAP identifies a need for 8.2GW of onshore wind generation and states that in 2017 there was 3.3GW in place, therefore Ireland needs to more than double its installed capacity of wind generation.** Accordingly, the CAP presents clear and unequivocal support for the provision of additional renewable energy generation and presents yet further policy support for increased wind energy.

2.2.4.7 Climate Action and Low Carbon Development (Amendment) Bill 2021

The Climate Action and Low Carbon Development (amendment) Bill 2021 was published by the Irish Government in March 2021. The Bill supports Ireland, in law, to move to a climate resilient and climate neutral economy by 2050. It will establish a legally binding framework with clear targets and commitments set in law, and ensure the necessary structures and processes are embedded on a statutory basis to ensure we achieve our national, EU and international climate goals and obligations in the near and long term. The Bill significantly strengthens the framework for governance of climate action by the State in order to achieve national, EU and international climate goals and obligations.

The Bill includes the following key elements:

- Places the commitment to achieve a climate neutral economy no later than 2050 on a statutory basis. Introduces system of successive 5-year, economy-wide carbon budgets starting in 2021;
- Strengthens the role of the Climate Change Advisory Council in proposing carbon budgets;
- Provides that the first two carbon budgets proposed by the Climate Change Advisory Council should equate to a total reduction of 51% in emissions over the period to 2030.
- Introduces a requirement to annually revise the Climate Action Plan and prepare at least once every five years a National Long Term Climate Action Strategy;
- Introduces a requirement for all Local Authorities to prepare individual Climate Action Plans which will include both mitigation and adaptation measures, be updated every five years, Local Authority Development Plans must also align with their Climate Action Plan;
- Providing that the Minister request, within 18 months of the enactment of the Bill each local authority to prepare a Climate Action Plan to include both mitigation and adaptation measures (such plans must be updated not less than once every 5 years) and
- Gives a stronger oversight role for the Oireachtas through an Oireachtas Committee.

2.2.5 Summary of Compliance with Climate Change Policy

The Proposed Development constitutes the provision of 3 no. additional wind turbines at the existing Carrigarierk Wind Farm development which will generate renewable electricity and make it available to the national grid while making more sustainable use of existing infrastructure and resources (the connecting substation and grid connection route already being consented and in place). The Proposed Development will therefore increase the amount of renewable energy that will be available on the national grid and will contribute to Irelands efforts and stated policy to decarbonise the economy. The proposed renewable energy will help Ireland address the challenge of decarbonising electricity generation as well as addressing the country's over-dependence on imported fossil fuels.

2.3 Strategic Planning Context

2.3.1 Introduction

This section of the EIAR Provides the strategic planning context of the Proposed Development. As is examined below, the Proposed Development is in line with national, regional and local policies, frameworks, guidelines and plans. This section has been broken down into the following:

- National Planning Framework 2018 - 2040,
  - Key Sustainability Elements of National Planning Framework,
- Regional Policy,
  - Regional Spatial and Economic Strategy for the Southern Region,
- Local Policy
  - Cork County Development Plan 2014,
  - Cork County Development Plan Review
- Other Relevant Guidelines,
  - DoEHLG Wind Energy Guidelines 2006,
  - Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change 2017,
  - Department Circular PL5/2017,
  - IWEA Best Practice Guidelines for the Irish Wind Energy Industry 2012,
  - IWEA Best Practice Principles in Community Engagement and Community Commitment 2013,
  - IWEA Community Engagement Strategy 2018,
  - Code of Practice for Wind Energy Development in Ireland - Guidelines for Community Engagement 2016,
  - Commission for Regulation of Utilities: Grid Connection Policy,
  - Renewable Energy Support Scheme (RESS), and
  - Forest Service Guidelines

- DoEHLG Wind Energy Guidelines 2006
- Draft Revised Wind Energy Development Guidelines, December 2019

As a renewable energy project, the current proposal is broadly consistent with the overall national policy objectives to increase penetration and deployment of renewable energy resources and has been designed in the context of the relevant wind energy and other guidelines. The specific compliance with the County Development Plan provisions are dealt with in detail in the local policy section below.

2.3.2 National Planning Framework 2018-2024

The National Planning Framework ('NPF'), published in February of 2018, aims to shape and guide the future growth and development of Ireland up to 2040 and supersedes the National Spatial Strategy 2002-2020 ('NSS').

The NPF notes that while the overall quality of the country's environment is good it is not without challenges. The NPF notes that the manner in which we plan for potential issues is important in the context of sustainability of our environment.

> *"While the overall quality of our environment is good, this masks some of the threats we now face. Key national environmental challenges include the need to accelerate action on climate change, health risks to drinking water, treating urban waste water, protecting important and vulnerable habitats as well as diminishing wild countryside and dealing with air quality problems in urban areas. It is also important to make space for nature into the future, as our population increases."*

A key aspect of the NPF surrounds the long-term sustainability of the environment, it aims to ensure that decisions that are made today meet our future needs in a sustainable manner.

> *"The manner in which we plan is important for the sustainability of our environment. Our planning system has influence across a wide range of sectors, both directly and indirectly and interacts with many common issues related to effective environmental management, including water services, landscape, flood risk planning, protection of designated sites and species, coastal and marine management, climate mitigation and adaptation, and land use change."*

The Government will address environmental and climate challenges through the following overarching aims as listed under 'Resource Efficiency and Transition to a Low Carbon Economy':

- Sustainable Land Management and Resource Efficiency
- Low Carbon Economy
- Renewable Energy
- Managing Waste

The NPF notes that the population of Ireland is projected to increase by approximately 1 million people by 2040 and that in order to strengthen and facilitate more environmentally-focused planning at the local level, the NPF states that future planning and development will need to

> "*Tackle Ireland's higher than average carbon-intensity per capita and enable a national transition to a competitive low carbon, climate resilient and environmentally sustainable economy by 2050, through harnessing our country's prodigious renewable energy potential.*"

In order to meet legally binding targets agreed at EU level, it is a national objective for Ireland to make a transition and become a competitive low carbon economy by the year 2050. To aid in meeting these targets the National Planning Framework notes that the Government will aim to support the following objectives:

- Integrating climate considerations into statutory plans and guidelines. In order to reduce vulnerability to negative effects and avoid inappropriate forms of development in vulnerable areas.

- More energy efficient development through the location of housing and employment along public transport corridors, where people can choose to use less energy intensive public transport, rather than being dependent on the car.

The NPF highlights that Ireland's national energy policy is focused on three pillars: (1) sustainability, (2) security of supply and (3) competitiveness. Furthermore, it is noted that *"The Government recognise that Ireland must reduce greenhouse gas emissions from the energy sector by at least 80% by 2050, compared to 1990 levels, while at the same time ensuring security of supply of competitive energy sources to our citizens and businesses."* The NPF notes that our transition to a low carbon energy future requires:

- A shift from predominantly fossil fuels to predominantly renewable energy sources.
- Increasing efficiency and upgrades to appliances, buildings and systems.
- Decisions around development and deployment of new technologies relating to areas such as wind, smartgrids, electric vehicles, buildings, ocean energy and bio energy.
- Legal and regulatory frameworks to meet demands and challenges in transitioning to a low carbon society.

The transition towards a low carbon and climate resilient society is identified as one of the national strategic outcomes to guide the implementation of the NPF. National Policy Objective 55 of the NPF specifically relates to renewable energy, stating it is an objective to:

> *"Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050".*

National Strategic Outcome 8-Transition to a Low Carbon and Climate Resilient Society aims to *"Deliver 40% of our electricity needs from renewable sources by 2020 with a strategic aim to increase renewable deployment in line with EU targets and national policy objectives out of 2030 and beyond."*

The NPF further emphasises that new energy systems and transmission grids will be necessary for a more distributed, more renewables focused energy generation system to harness the considerable on-shore and off-shore potential from energy sources such as wind, wave and solar and *"connecting the richest sources of that energy to the major sources of demand".* The NPF recognises that the development of on-shore and off-shore renewable energy is critically dependent on the development of enabling infrastructure including grid facilities to connect to major sources of energy demand.

2.3.3 Regional Policy

2.3.3.1 Regional Spatial and Economic Strategy for the Southern Region

The Regional Spatial and Economic Strategy for the Southern Region (RSES) came into effect on 31st January 2020. The RSES seeks to achieve balanced regional development and full implementation of Project Ireland 2040 – the National Planning Framework. It will be implemented in partnership with local authorities and state agencies to deliver on this vision and build a cohesive and sustainable region. The RSES sets out a vision for the Southern Region to:

- Nurture all our places to realise their full potential
- Protect, and enhance our environment
- Successfully combat climate change
- Achieve economic prosperity and improved quality of life for all our citizens
- Accommodate expanded growth and development in suitable locations
- Make the Southern Region one of Europe's most creative, innovative, greenest and liveable regions

The RSES provides the framework through which the NPF's disruptive vision and the related Government policies and objectives will be delivered for the region.

With regards to climate change the RSES notes that:

> *"Climate Change represents the most serious threat to human life and the environment. If action is not taken on a global scale, global warming will continue to change weather patterns, cause sea levels to rise, threaten the future of entire nations and pose wider risks in terms of degradation of biodiversity, and threaten the planet's ability to provide adequate food and shelter for the human population."*

As noted, and recognised by the RSES Ireland and the EU are signatories to the Paris Agreement, a legally binding international agreement to restrict global temperature rises to below 2°C above pre-industrial levels, and to limit any increase to 1.5°C to significantly reduce the risks and impacts of climate change. It is further noted that *'Ireland's international commitments also extend to the UN's Sustainable Development Goal 13, to 'take action to combat climate change and its impacts."*

Chapter 5 of the RSES notes details the regions plans and objectives with regards to the environment. The RSES underlines the need to:

> *"Safeguard and enhance our environment through sustainable development, transitioning to a low carbon and climate resilient society."*

The observed and predicted climate changes for Ireland include the following:

- An increase in average temperatures of 0.8% between 1900 and 2011 with projected increases across all seasons 0.9% -1.7% to 2050;
- Observed increases in rainfall with projected reductions in average levels for 3 seasons, but a substantial increase in frequency of heavy precipitation events;
- A projected increase in the number and intensity of storms in the North Atlantic;
- Sea levels rising at approximately 3.5cm per decade, continuing to rise up to 0.8m per decade;
- An increase in sea surface temperatures by 0.7C since 1850 with a projected warming of 1.9c by the end of the century.

The following objectives have been listed with regards to the decarbonisation of energy:

- RPO 87- Low Carbon Energy Future
  The RSES is committed to the implementation of the Government's policy under Ireland's Transition to a Low Carbon Energy Future 2015-30 and Climate Action Plan 2019. It is an objective to promote change across business, public and residential sectors to achieve reduced GHG emissions in accordance with current and future national targets, improve energy efficiency and increase the use of renewable energy sources across the key sectors of electricity supply, heating, transport and agriculture.
- RPO 88- National Mitigation and National Adaption Framework
  The RSES is committed to the implementation of the National Mitigation Plan and National Adaptation Framework: Planning for a Climate Resilient Ireland to enable the Region transition to a low carbon, climate resilient and environmentally sustainable economy. It is an objective to ensure effective co-ordination of climate action with the Climate Action Regional Offices and local authorities to implement the National Mitigation Plan and the National Adaptation Framework in the development and implementation of long-term solutions and extensive adaptation measures.

Further the following objectives have been put in place with regards to climate resilience:

- RPO 89- Building Resilience to Climate Change
  a) It is an objective to support measures to build resilience to climate change throughout the Region to address impact reduction, adaptive capacity, awareness raising, providing for nature-based solutions and emergency planning;
  b) Local Authorities and other public agencies shall continue to work with the Office of Public Works to implement the Flood Risk Management Plans and address existing and potential future flood risks arising from coastal, fluvial, pluvial, groundwater and potential sources of flood risk.

In relation to wind energy the RSES recognises and supports the many opportunities for onshore wind as a major source of renewable energy. It is noted that *'opportunities for both commercial and community wind energy projects should be harnessed, having regard to the requirements of DoHPLG Guidelines on Wind Energy'*. It is recognised that wind energy, with current and future developments technology, has an important role in delivering value and clean electricity for Ireland.

The following policies relating to wind energy development have been included in the RSES:

- RPO 95- Sustainable Renewable Energy Generation
  It is an objective to support implementation of the National Renewable Energy Action Plan (NREAP), and the Offshore Renewable Energy Plan and the implementation of mitigation measures outlined in their respective SEA and AA and leverage the Region as a leader and innovator in sustainable renewable energy generation.
- RPO 96- Integrating Renewable Energy Sources
  It is an objective to support the sustainable development, maintenance and upgrading of electricity and gas network grid infrastructure to integrate a renewable energy sources and ensure our national and regional energy system remains safe, secure and ready to meet increased demand as the regional economy grows.
- RPO 97- Power Stations and Renewable Energy
  It is an objective to support the sustainable technology upgrading and conversion of power stations in the Region to increase capacity for use of energy efficient and renewable energy sources.
- RPO 98- Regional Renewable Energy Strategy
  It is an objective to support the development of a Regional Renewable Energy Strategy with relevant stakeholders.
- RPO 99- Renewable Wind Energy
  It is an objective to support the sustainable development of renewable wind energy (on shore and offshore) at appropriate locations and related grid infrastructure in the Region in compliance with national Wind Energy Guidelines.
- RPO 100- Indigenous Renewable Energy Production and Grid Injection
  It is an objective to support the integration of indigenous renewable energy production and grid injection.
- RPO 221- Renewable Energy Generation and Transmission Network
  a) Local Authority City and County Development Plans shall support the sustainable development of renewable energy generation and demand centres such as data centres which can be serviced with a renewable energy source (subject to appropriate environmental assessment and the planning process) to spatially suitable locations to ensure efficient use of the existing transmission network;
  b) The RSES supports strengthened and sustainable local/community renewable energy networks, micro renewable generation, climate smart countryside projects and connections from such initiatives to the grid. The potential for sustainable local/community energy projects and micro generation to both mitigate climate change and to reduce fuel poverty is also supported;
  c) The RSES supports the Southern Region as a Carbon Neutral Energy Region.

2.3.4 Local Policy

2.3.4.1 Cork County Development Plan 2014-2020

The Proposed Development lies within the functional area of Cork County Council and therefore is subject to the provisions of the Cork County Development Plan 2014 – 2020 (CCDP).

Cork County Council is commencing the preparation of a new County Development Plan for the period of 2022-2028 (Draft Plan). Cork County Council have published a draft plan on the 22nd of April 2021, this is discussed further under Section 2.3.4.2 below. The 2014 CCDP remains the current relevant policy document and adopts the principle of sustainability by promoting and encouraging the integration of economic, environmental, social and cultural issues into various policies and objectives.

A key aim of the CCDP is to ensure that sufficient energy and related infrastructure is available to meet the existing and future needs of County Cork, recognising the importance of exploiting the renewable energy resources of the County in order to reduce dependence on fossil fuels, improve security of supply, reduce greenhouse gas emissions helping to address the climate change challenge and creating environmental benefits while taking full advantage of the opportunities that will arise from the emerging renewable energy sector in terms of sustainable jobs and making a positive contribution towards the move to a competitive, low carbon green economy and enhancing national competitiveness.

The Cork County Development Plan also contains a Wind Energy Strategy (WES) which includes provisions relating to wind deployment areas, development management standards, site selection, visibility and visual amenity.

The CCDP acknowledges the key strategic role Cork plays in energy provision in Ireland and recognises that energy generation and energy-related activity in Cork is likely to change significantly over the coming years, including the continuing movement towards a low carbon-based economy. The Plan further emphasises that the development of renewable energy sources is central to overall energy policy in Ireland and a key aim of the CCDP is to support the sustainable development of renewable energy sources. Accordingly, the following objectives are seen as key in aiding this transition whilst ensuring that energy demands are also met to sustain existing and future requirements, attracting inward investment and reinforce County Cork's position to becoming self-sufficient in renewable energy:

- County Development Plan Objective ED 1-1:
  "Ensure that through sustainable development County Cork fulfils its optimum role in contributing to the diversity and security of energy supply and to harness the potential of the county to assist in meeting renewable energy targets".
- County Development Plan Objective ED 3-2:
  "Wind Energy Projects On-shore wind energy projects should focus on areas considered 'Acceptable in Principle' and Areas 'Open to Consideration' and generally avoid "Normally Discouraged" areas in this Plan".
- County Development Plan Objective ED 3-3:
  "Wind Energy Generation Support a plan led approach to wind energy development in County Cork and identify areas for wind energy development. The aim in identifying these areas is to ensure that there are no significant environmental constraints, which could be foreseen to arise in advance of the planning process".

The development of renewable energy sources is central to overall energy policy in Ireland. It is noted that *'renewable energy reduces dependence on fossil fuels, improves security of supply, and reduces greenhouse gas emissions, protection against climate change while delivering new jobs to the economy'*. The Plan aims to support the sustainable development of renewable energy sources. Section 9.3 of the Cork County Development Plan 2014 sets out the councils onshore energy strategy.

The Plan identifies, in broad strategic terms, three categories of '*Wind Deployment Area'* for large scale commercial wind energy developments as shown in Plate 2-5 below. These categories are as follows:

- **'Acceptable in Principle':** These areas (River Ilen basin north of Skibbereen and an area south of Macroom) are in optimal locations for wind farm development without significant environmental impacts. They have viable wind speeds (>7.5m/s) and good proximity and access to the grid. These areas exclude urban areas and town green belts, avoid Natura 2000 Sites, high value landscapes and Natural Heritage Areas.
- **'Open to Consideration':** This area comprises almost 50% of the County area. Within these areas there are locations that may have the potential for wind farm developments but there are also some environmental issues to be considered. This area has variable wind speeds and some access to the grid.
- **'Normally Discouraged'**: These areas (coastal areas, some areas in North Cork, Cork Harbour and the Lee Valley) are normally not suitable for commercial wind farm developments due to their overall sensitivity arising from ecological, landscape, amenity, recreational and settlement considerations.

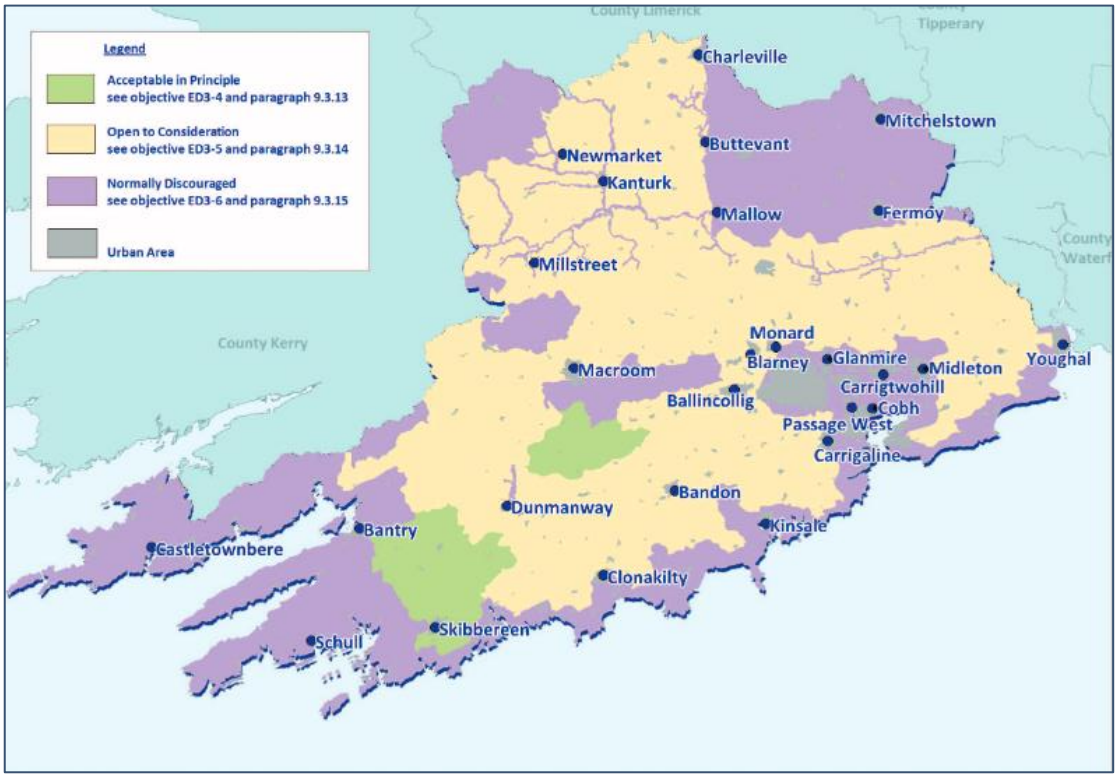


Plate 2-5 Cork Wind Energy Strategy (Source: Cork County Development Plan 2014-2020)

Contained within the Cork County Development Plan 2014-2020 are Plan Objectives corresponding to each of the above categories. These are as follows:

- **County Development Plan ED 3-4: Acceptable in Principle**
  "Commercial wind energy development is normally encouraged in these areas subject to protection of residential amenity particularly in respect of noise, shadow flicker, visual impact and the requirements of the Habitats, Birds, Water Framework, Floods and EIA Directives."

- **County Development Plan ED 3-5: Open to Consideration**
  "Commercial wind energy development is open to consideration in these areas where proposals can avoid adverse impacts on:

  - Residential amenity particularly in respect of noise, shadow flicker and visual impact
  - Urban areas and Metropolitan/Town Green Belts;
  - Natura 2000 Sites (SPA and SAC), Natural Heritage Areas (NHAs) or adjoining areas affecting their integrity;
  - Architectural and archaeological heritage;
  - Visual quality of the landscape and the degree to which impacts are highly visible over wider areas."

- **County Development Plan ED 3-6**
  "Normally Discouraged – Commercial wind energy developments will be discouraged in these areas which are considered to be sensitive to adverse impacts associated with this form of development (either individually or in combination with other developments)."

The study area for the Proposed Development is highlighted in Figure 2-1. As can be seen from this figure, the site of the Proposed Development is located in an area designated '*Open to Consideration*'. Accordingly, in relation to the provisions of ED 3-5 (referred to above) are considered to be appropriate in this instance. Any planning application must demonstrate that it can avoid adverse impacts on the five listed criteria. The Proposed Development represents the provision of 3 no. additional wind turbines at

the Carrigarierk Wind Farm which was permitted by An Bord Pleanála under Pl04.246353 in which permission for five turbines was granted. As such the principle of wind energy development within the general area is well established. Notwithstanding this, and in the interests of clarity the Proposed Development satisfies the requirements of the criteria set out in ED 3-5 of the CCDP as follows:

Residential amenity particularly in respect of noise, shadow flicker and visual impact

A noise assessment has been carried out and included under Chapter 11 of this EIAR. As noted within the conclusion under Chapter 11 detailed information on the site layout, turbine noise emission levels and turbine height, worst-case cumulative turbine noise levels have been predicted at NSL's for a range of operational wind speeds. As noted the predicted operational noise levels will be within the applicable noise limits; therefore, it is not considered that a significant effect is associated with the Proposed Development.

A shadow flicker assessment was carried out and the results presented under Chapter 5 of this EIAR. The WindFarm computer software was used to model the predicted daily and annual shadow flicker levels in significant detail, identifying the predicted daily start and end times, maximum daily duration and the individual turbines predicted to give rise to shadow flicker. Of the 37 No. properties modelled; it is predicted that 23 properties may experience daily shadow flicker levels in excess of the DoEHLG guideline threshold of 30 minutes per day. This prediction is assuming worst-case conditions (i.e. 100% sunshine on all days where the shadow of the turbines passes over a house, wind blowing in the correct direction, no screening present, etc.) and in the absence of any turbine control measures. When the regional sunshine average (i.e. the mean number of sunshine hours throughout the year) of 32.5% is taken into account, the DoEHLG guideline limit of 30 hours per year will only be exceeded at two of the modelled properties., however it should be noted that both of which are participating landowners.

Noise and shadow flicker arising from any Proposed Development are identifiable and controllable phenomena that are, as standard practice, mitigated and monitored by condition throughout the operational phase of any permitted development.

Chapter 13 of this EIAR addresses the potential landscape and visual impacts of the Proposed Development and its likely significant direct and indirect effects. The Proposed Development of three turbines and associated infrastructure have been sited in a landscape of 'Transitional Marginal Land' upon the northern slope of the Carrigarierk ridgeline, where they have been strategically sited to visually integrate with the five existing turbines of the Existing Carrigarierk Wind Farm. The design of the Proposed Development was informed by a detailed iterative process, resulting in a suitably scaled and appropriate design for this location. It was concluded under the landscape assessment under Chapter 13 that "*the Proposed Development is an appropriately designed and suitably scaled project, and likely landscape and visual effects are deemed to be acceptable.*"

Urban areas and Metropolitan/Town Green Belts;

The Proposed Development will not give rise to any adverse impacts on any urban areas or metropolitan/town green belts. The Proposed Development site is located within a rural area, it should be noted that there are no large population settlements within the vicinity of the site. The Proposed Development is located approximately 10km from Dunmanway (listed within the CCDP as county town within the CCDP), approximately 20km from Macroom (listed as a ring town within the CCDP) and approximately 20km from Bantry (listed as a county town within the CCDP). The Proposed Development is also located to smaller settlements including approximately 4km from Inchigeelagh. The separation distance between the Proposed Development and urban, metropolitan and greenbelt areas are such that the Proposed Development will not give rise to adverse impact.

Natura 2000 Sites (SPA and SAC), Natural Heritage Areas (NHAs) or adjoining areas affecting their integrity;

A Natura Impact Statement (NIS) has been prepared to accompany the proposed planning application. In assessing the Proposed Development, it was the conclusion of the NIS that:

> *Where the potential for any adverse effect on any European Site has been identified, the pathway by which any such effect may occur has been robustly blocked through the use of*

avoidance, appropriate design and mitigation measures as set out within this report and its appendices. The measures ensure that the construction and operation of the proposed development does not adversely affect the integrity of European sites.

Therefore, it can be objectively concluded that the Proposed Development, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site.

Architectural and Archaeological Heritage;

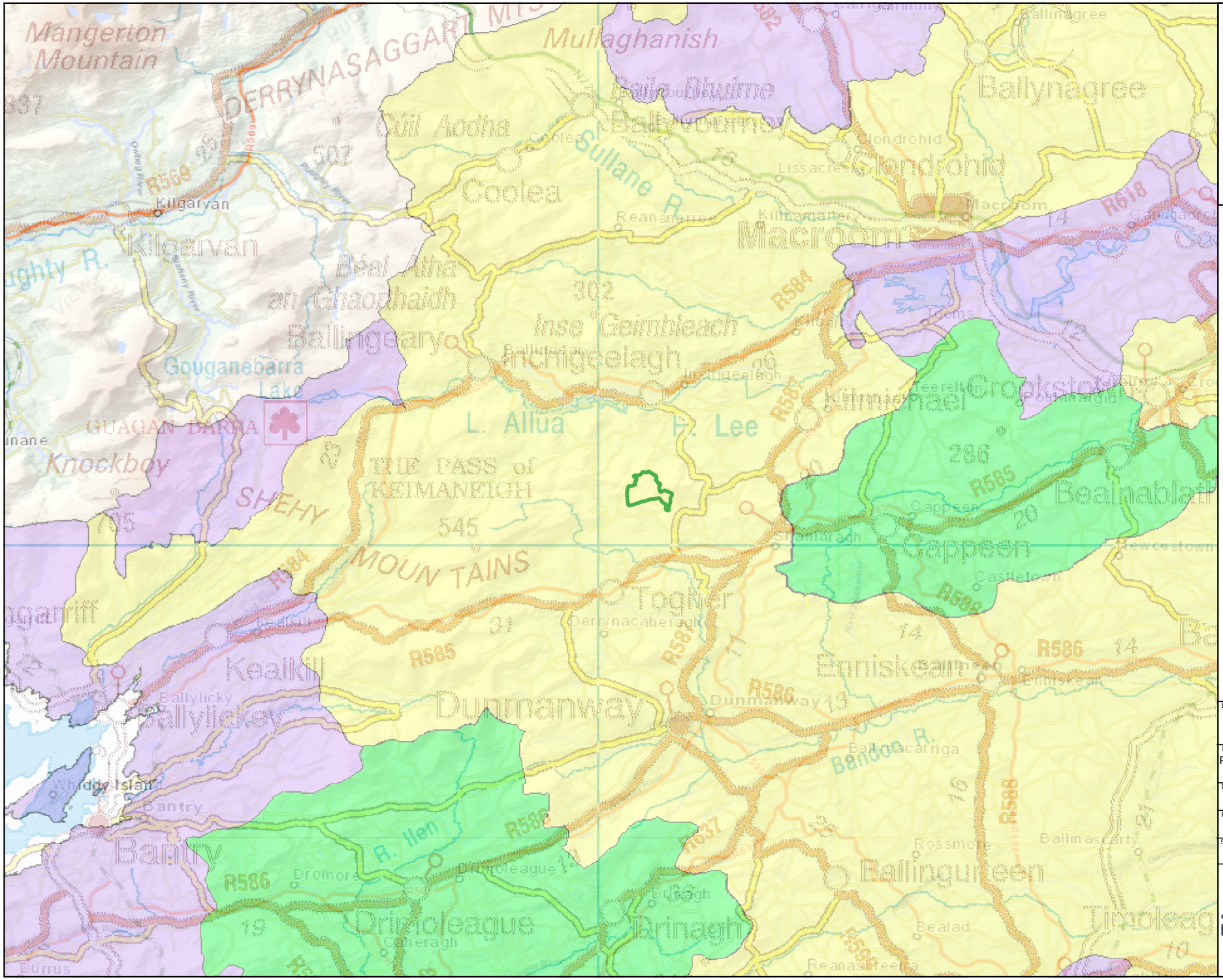
Chapter 12 of the EIAR presents the results of the assess the potential direct and indirect effects of the Proposed Development on the surrounding archaeological, architectural and cultural heritage landscape. The assessment was based on GIS based mapping, ZTV and Viewshed analysis to assist with the assessment of impacts on setting followed by a desktop analysis of all baseline data and a comprehensive programme of field inspection of the proposed infrastructure within the Proposed Development EIAR Site Boundary.

In terms of recorded archaeological monuments there is one recorded monument located within the EIAR boundary. No direct impacts to the site of the monument will occur if mitigation measures are implemented. The sub-surface archaeological potential of the Proposed Development area is considered to be medium and this potential effect is mitigated by pre-development archaeological testing and on-site archaeological monitoring during construction. No structures in the Record of Protected Structures or National Inventory of Architectural heritage are located within the EIAR Site Boundary. 19th century field walls, 19th century huts/houses and a derelict dwelling have been excluded from the Proposed Development area by re-design and these local cultural heritage features will be fenced off prior to construction to ensure their adequate protection.

As noted a full archaeological, architectural and cultural heritage assessment has been carried out, the results of this assessment can be viewed under Chapter 12 of this EIAR.

Visual quality of the landscape and the degree to which impacts are highly visible over wider areas

As referenced in the above section Chapter 13 of this EIAR addresses the potential landscape and visual impacts of the Proposed Development and its likely significant direct and indirect effects. To reiterate the above it was concluded under the landscape assessment under Chapter 13 that "*the Proposed Development is an appropriately designed and suitably scaled project, and likely landscape and visual effects are deemed to be acceptable.*". Please refer to Chapter 13 which presents a robust assessment of landscape with regards to the Proposed Development.



Map Legend

EIAR Site Boundary

Cork Wind Energy Strategy 2014

- Acceptable in Principle
- Open to Consideration
- Normally Discouraged

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N

Drawing Title: Wind Energy Strategy 2014

Project Title: Proposed Carrigarierk 2 Wind Farm, Co. Cork

Drawn By	Checked By
David Naughton	Órla Murphy
Project No.	Figure No.
200425	Figure 2-1
Scale	Date
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Landscape Policy

General policy on landscape is covered in the CDP by the following objectives:

> ***Objective GI 6-1: Landscape***
> *(a) Protect the visual and scenic amenities of County Cork's built and natural environment.*
> *(b) Landscape issues will be an important factor in all landuse proposals, ensuring that a proactive view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability.*
> *(c) Ensure that new development meets high standards of siting and design.*
> *(d) Protect skylines and ridgelines from development.*
> *(e) Discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments.*
>
> ***Objective GI 6-2: Draft Landscape Strategy***
> *Ensure that the management of development throughout the County will have regard for the value of the landscape, its character, distinctiveness and sensitivity as recognised in the Cork County Draft Landscape Strategy and its recommendations, in order to minimise the visual and environmental impact of development, particularly in areas designated as High Value Landscapes, where higher development standards (layout, design, landscaping, materials used) will be required.*

Chapter 13 of this EIAR presents a detailed and comprehensive analysis of the Proposed Development in the context of its landscape setting. Please refer to Chapter 13 for a full assessment of landscape in the context of the Proposed Development. As noted in the above section it is concluded that "*the Proposed Development is an appropriately designed and suitably scaled project, and likely landscape and visual effects are deemed to be acceptable*".

2.3.4.2 Draft Cork County Development 2022-2028

The Draft Cork County Development Plan 2022-2028 (DCDP) was published by Cork County Council on the 22nd of April 2021 for public comment. Once finalised the DCDP will be the main guidance document for the county over the 2022-2028 period. The following is noted as an aim under the DCDP to:

> *"Incorporate sustainable development, climate change mitigation and adaptation, social inclusion, high quality design and resilience as fundamental principles, cross cutting and underpinning the Development Plan."*

Chapter 13 of the DCDP sets out the council's guidance surrounding energy, the council note the following as the aim for Chapter 13:

> *"Facilitate and support investment in sustainable energy production and infrastructure in Cork to meet the future local, regional and national needs, while transitioning to a low carbon economy, addressing the climate change challenge with greenhouse gas emissions and protection of the environmental, cultural and heritage assets of the county. Cork will benefit through its contribution to national renewable energy targets, in a renewable energy framework that will also ensure the protection of local environmental assets in line with the National Planning Framework, the Regional Spatial and Economic Strategy and all other key Energy policies."*

The DCDP notes that reliable energy services are essential to the daily function of a number of areas including society and the economy. Additionally, the DCDP recognises that the overall demand for energy has continued to grow in line with increasing population an economic growth. It is also set out that greenhouse gases which are produced in energy generation are one of the major contributions to climate change, the DCDP notes that *"'radical transformation' of our energy system is required to meet National, European, and International climate policy objectives*".

Cork County Council under the DCDP recognise the various guidance documents at the international (refer to Section 2.2.3 of this report for summary of international policy), national (refer to Section 2.2.4 of this report for summary of national policy) and regional level (refer to Section 2.3.3 of this report for summary of regional policy). The role which Cork has in the national energy supply is made clear, in terms of renewable energy Cork currently has 38 commissioned wind farms with capacity to produce 603 MW of electricity. While this is noted, Cork County Council also recognise that there is further progress to be made:

> *"...if Ireland is to meet our renewable energy target then we need to double capacity nationally over the next ten years. On a pro rata basis, that could see capacity in Cork expand to 1,100MW."*

In terms of the DCDP's Wind Energy Strategy the strategy identifies three categories of 'Wind Deployment Area' for large scale commercial wind energy developments - acceptable in principle, open to consideration and normally discouraged. The Proposed Development in this regard is located within an area which has been deemed '*open to consideration*'. Under this designation, as per objective ET 13.7 (objective ET 13.7 included below for ease of reference), commercial wind farms in these areas are open to consideration where they can avoid impacts on a number of criteria. The criteria include residential amenity, ecology, heritage and landscape. These criteria have been considered under Section 2.3.4.2 of this report in responding to the provisions of Objective ED-5 under the Cork County Development Plan 2014-2020. The policies and objectives contained within the DCDP remain broadly consistent with the existing policies and objectives of the Cork County Development Plan 2014-2020.

A number of relevant objectives contained within the DCDP are noted in the below:

- ET 13.1 Energy
  Ensure that County Cork fulfils its potential in contributing to the sustainable delivery of a diverse and secure energy supply and to harness the potential of the county to assist in meeting renewable energy targets.
- Objective ET 13.2 Renewable Energy
  a) Support Ireland's renewable energy commitments as outlined in Government Energy and Climate Change policies by facilitating the development of renewable energy sources such as wind, solar, geothermal, hydro and bio-energy and energy storage at suitable locations within the county where such development has satisfactorily demonstrated that it will not have adverse impacts on the surrounding environment (including water quality), landscape, biodiversity or amenities.
  b) Support and facilitate renewable energy proposals that bring about a direct socio-economic benefit to the local community. The Council will engage with local communities and stakeholders in energy and encourage developers to consult with local communities to identify how they can invest in/gain from significant renewable energy development.
  c) Support the development of new and emerging renewable energy technologies / fuels for the transport sector.
- ET 13.4: Wind Energy
  In order to facilitate increased levels of renewable energy production consistent with national targets on renewable energy and climate change mitigation as set out in the National Energy and Climate Plan 2021-2030, the Climate Action Plan 2019, and any updates to these targets, and in accordance with Ministerial Guidelines on Wind Energy Development, the Council will support further development of on-shore wind energy projects including the upgrading or expansion of existing infrastructure, at appropriate locations within the county in line with the Wind Energy Strategy and objectives detailed in this chapter.
- ET 13.5: Wind Energy Projects
  a) Support a plan led approach to wind energy development in County Cork through the identification of areas for wind energy development. The aim in identifying these areas is to ensure that there are no significant environmental constraints, which could be foreseen to arise in advance of the planning process.
  b) On-shore wind energy projects should focus on areas considered 'Acceptable in Principle' and 'Areas Open to Consideration' and generally avoid "Normally Discouraged" areas in this Plan.

- ET 13.7: Open to Consideration
  Commercial wind energy development is open to consideration in these areas where proposals can avoid adverse impacts on:
  - Residential amenity particularly in respect of noise, shadow flicker and visual impact; • Urban areas and Metropolitan/Town Green Belts;
  - Natura 2000 Sites (SPA and SAC), Natural Heritage Areas (NHA's) or adjoining areas affecting their integrity and other sites of significant ecological value.
  - Architectural and archaeological heritage;
  - Visual quality of the landscape and the degree to which impacts are highly visible over wider areas.

  In planning such development, consideration should also be given to the cumulative impacts of such proposals.

2.3.4.3 Summary Conclusion on Compliance with Development Plan

In summary the County Development Plan fully recognises the importance of combating climate change and deriving more energy from renewable sources. The Proposed Development which constitutes the provision of wind turbines within an area that has been designated as 'open to consideration' within the County Development Plan, additionally the principle of wind energy in this area has previously been considered appropriate for wind energy (Cork County Council Pl.Ref.15/730 and ABP 04.246353). Furthermore, the Biodiversity and Landscape sections of this EIAR demonstrate that the proposal will not give rise to significant adverse impacts on natural heritage, landscape or visual amenity. The Noise and Shadow flicker assessments also show that the Proposed Development will not give rise to significant adverse impacts on residential amenity. The County Development Plan makes it clear that with regards to planning policy context and the Wind Energy Strategy, appropriate wind energy developments are supported at this location. Accordingly, the Proposed Development is compliant with the relevant provisions of the Cork County Development Plan 2014 - 2020. Additionally, in light of the Draft Cork County Development Plan 2022-2028 we wish to reiterate that the policies and objectives contained within the DCDP remain broadly consistent with the existing policies and objectives of the Cork County Development Plan 2014-2020.

2.3.5 Other Relevant Guidelines

2.3.5.1 DoEHLG Wind Energy Guidelines 2006

In June 2006, the then Department of Environment, Heritage and Local Government (DoEHLG) published '*Wind Energy Development Guidelines for Planning Authorities'* (the Guidelines) under Section 28 of the Planning and Development Act, 2000. The aim of these guidelines was to assist the proper planning of wind power projects in appropriate locations around Ireland. The Guidelines highlight general considerations in the assessment of all planning applications for wind energy. They set out advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission. They contain guidelines to ensure consistency of approach throughout the country in the identification of suitable locations for wind energy development.

Each wind project has its own characteristics and defining features, and it is therefore impossible to write specifications for universal use. Guidelines should be applied practically and do not replace existing national energy, environmental and planning policy. While the 2006 Guidelines remain the relevant guidelines in place, at the time of lodgement, decision makers (Planning Authorities and An Bord Pleanála) are not bound to their provisions and they can (and do) consider updated standards/requirements/specifications in assessing impacts and the proper planning and sustainable development of the area.

2.3.5.2 Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change 2017

In July 2017, the Department of Housing, Planning, Community and Local Government (DoHPCLG) published '*Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and*

Climate Change' under Section 28 of the Planning and Development Act 2000. Planning authorities are obliged to have regard to guidelines issued pursuant to Section 28 in the performance of their functions under the Planning and Development Act 2000 (as amended).

The guidelines state that it is a specific planning policy requirement under Section 28(1C) of the Act, that in making a development plan with policies or objectives that relate to wind energy developments that a Planning Authority must:

1. "Ensure that overall national policy on renewable energy as contained in documents such as the Government's 'White Paper on Energy Policy - Ireland's Transition to a Low Carbon Future', as well as the 'National Renewable Energy Action Plan', the 'Strategy for Renewable Energy' and the 'National Mitigation Plan', is acknowledged and documented in the relevant development plan or local area plan;
2. Indicate how the implementation of the relevant development plan or local area plan over its effective period will contribute to realising overall national targets on renewable energy and climate change mitigation, and in particular wind energy production and the potential wind energy resource (in megawatts); and
3. Demonstrate detailed compliance with item number (2) above in any proposal by them to introduce or vary a mandatory setback distance or distances for wind turbines from specified land uses or classes of land use into their development plan or local area plan. Such a proposal shall be subject to environmental assessment requirements, for example under the SEA and Habitats Directives. It shall also be a material consideration in SEA, when taking into account likely significant effects on climatic factors, in addition to other factors such as landscape and air, if a mandatory setback or variation to a mandatory setback proposed by a planning authority in a development plan or local area plan would create a significant limitation or constraint on renewable energy projects, including wind turbines, within the administrative area of the plan."

2.3.5.3 Department Circular PL5/2017

On the 3rd of August 2017, the Department of Housing, Planning and Local Government issued Circular PL5/2017 to provide an update on the review of the wind energy and renewable policies in development plans, and the advice contained within a previous Departmental Circular PL20-13. Circular PL20-13 advised that local authorities should defer amending their existing Development Plan policies in relation to wind energy and renewable energy generally as part of either the normal cyclical six-yearly review or plan variation processes and should instead operate their existing development plan policies and objectives until the completion of a focused review of the Wind Energy Development Guidelines 2006. The new circular (PL05/2017) reconfirms that this continues to be the advice of the Department.

The Department circular also sets out the four key aspects of the *preferred draft approach* being developed to address the key aspects of the review of the 2006 Wind Energy guidelines as follows:

- The application of a more stringent noise limit, consistent with World Health Organisation noise standards, in tandem with a new robust noise monitoring regime, to ensure compliance with noise standards;
- A visual amenity setback of 4 times the turbine height between a wind turbine and the nearest residential property, subject to a mandatory minimum distance of 500 metres between a wind turbine and the nearest residential property;
- The elimination of shadow flicker; and
- The introduction of new obligations in relation to engagement with local communities by wind farm developers along with the provision of community benefit measures.

2.3.5.4 IWEA Best Practice Guidelines for the Irish Wind Energy Industry 2012

The Irish Wind Energy Association (IWEA) published updated Wind Energy Best Practice Guidelines for the Irish Wind Industry in 2012. The guidelines aim to encourage and define best practice development in the wind energy industry, acting as a reference document and guide to the main issues relating to wind energy developments. The purpose of the guidelines is to encourage responsible and sensitive wind energy development, which takes into consideration the concerns of local communities, planners, and other interested groups. The guidelines outline the main aspects of wind energy

development with emphasis on responsible and sustainable design and environmental practices, on aspects of development which affect external stakeholders, and on good community engagement practices. In approaching the development of IWEA's guidelines the aim was to be complementary to the Department of the Environment Heritage and Local Government's 'Wind Energy Development Guidelines' (2006).

2.3.5.5 IWEA Best Practice Principles in Community Engagement and Community Commitment 2013

Following on from the IWEA published Best Practice Guidelines in March 2012, the Association extended its guidance with the publication of this Best Practice in Community Engagement and Community Commitment 2013. IWEA and its members support the provision of financial contributions by wind farm operators to local communities and have sought to formulate best practice principles for the provision of a community commitment. The document sets out IWEA's best practice principles for delivering extended benefits to local communities for wind farm developments of 5 Megawatts (MW) or above. Best Practice Principles of community engagement when planning the engagement strategy and preparing associated literature are also outlined in the document. The aim of these guidelines is to ensure that the views of local communities are taken into account at all stages of a development and that local communities can share in the benefits.

The applicants have engaged in ongoing consultations with the population in the direct vicinity of the Proposed Development through a number of means including the creating of a project specific website, letters and advertisements in local newspapers to inform the various parties of the Proposed Development. A dedicated community liaison officer has also been appointed to the project with the general public being provided with various contact details (including email address and phone number) to facilitate any queries which may arise. In the light of the various Covid-19 restrictions which have been implemented by the government of Ireland over 2020 and 2021 the applicants have been unable to facilitate door to door call outs and public events as initially planned for, however, the applicants have made an effort to provide meaningful engagement as outlined.

Further details on the community engagement that has been undertaken as part of the Proposed Development are presented in Section 2.6 below and in Appendix 2-3 – Community Report.

2.3.5.6 Code of Practice for Wind Energy Development in Ireland- Guidelines for Community Engagement 2016

In December 2016, the Department of Communications, Climate Action and Environment (DCCAE) issued a Code of Practice for wind energy development in relation to community engagement. The Code of Good Practice is intended to ensure that wind energy development in Ireland is undertaken in adherence with the best industry practices, and with the full engagement of local communities. Community engagement is required through the different stages of a project, from the initial scoping, feasibility and concept stages, right through construction to the operational phase. The methods of engagement should reflect the nature of the project and the potential level of impact that it could have on a community. The guidelines advise that ignoring or poorly managing community concerns can have long-term negative impacts on a community's economic, environmental or social situation. Not involving communities in the project development process has the potential to impose costly time and financial delays for projects, or prevent the realisation of projects in their entirety. Community engagement in relation to the Proposed Development is discussed in full in Section 2.6 below.

2.3.5.7 Commission for Regulation of Utilities: Grid Connection Policy

The Commission for Regulation of Utilities (CRU) (previously the Commission for Energy Regulation (CER)) launched a new grid connection policy in March 2018 for renewable and other generators, known as ECP-1, which seeks to allow *"shovel ready"* projects that already have a valid planning permission, connect to the electricity networks. The principal objective which guides this decision is to allow those projects to have an opportunity to connect to the network, along with laying the foundations for future, more regular batches for connection. In August 2018, the applicants for new connection capacity under

ECP-1 were published. The CRU have launched ECP2 in June of 2020, under ECP2 the following timelines have been set:

- ECP-2.1 applications in September 2020
- ECP-2.2 applications in September 2021
- ECP-2.3applications in September 2022

The enduring connection policy regime replaces the previous 'Gate' system of grid connection applications. The grid connection application window under ECP-1 was the first time since 2007 that certain renewable energy projects including wind farms had an opportunity to secure a new grid connection offer.

With the ECP2 ruleset now published and with a timeline set for the next three rounds of applications there is a clear pathway for the Project to secure a grid connection in a timely manner, subject to receipt of planning permission.

2.3.5.8 Renewable Energy Support Scheme (RESS)

The Climate Action Plan, published in June 2019, is the Government's plan to give Irish people a cleaner, safer and more sustainable future. The Plan sets out actions across every sector which will ensure we meet our future climate commitments. A key part of the Plan is a move to 70% renewable electricity by 2030, a measure which will be driven by the introduction of the Renewable Electricity Support Scheme ('RESS').

The RESS is an auction-based scheme which invites renewable electricity projects to bid for capacity and receive a guaranteed price for the electricity they generate. Terms and Conditions for the first competition (RESS 1:2020) was published in February 2020 and will provide support to renewable electricity projects in Ireland. It is intended that the RESS will deliver, amongst other policy objectives:

> *"An ambitious renewable electricity policy to 2030 increasing energy security, energy sustainability and ensuring the cost effectiveness of energy policy."*

The preliminary results of the RESS 1 auction were published on the 4th of August 2020, EirGrid ran the auction in on the 28th of July 2020 and of the 108 projects who submitted an offer price, 82 projects have been deemed to be provisionally successful while 26 were considered to be unsuccessful. The successful projects constitute a mix of on-shore wind and solar.

The Auction Scheme and the ECP framework has now been established and is operational and will facilitate and provide a pathway to realise the for renewable electricity (RES-E) ambition of up to 70% by 2030, that has been established.

2.3.5.9 Forest Service Guidelines

The Forest Service is responsible for ensuring the development of Forestry within Ireland in a manner and to a scale that maximises its contribution to national socio-economic well-being on a sustainable basis that is compatible with the protection of the environment. The forestry works (felling/planting) associated with the Proposed Development will be carried out under the relevant guidance from the Forestry Service.

2.3.5.10 Draft Guidelines

2.3.5.10.1 *DoEHLG Wind Energy Guidelines 2006 (Revisions)*

Further to the noted in Section 2.3.5.2 it should be acknowledged that the Department of the Environment, Community and Local Government published proposed revisions to the guidelines in December 2013 as part of a targeted review relating to Noise, Proximity and Shadow Flicker for discussion. Revisions to the Wind Energy Guidelines continue to be considered and draft revisions were published in December 2019, these are further discussed below.

2.3.5.10.2 *Draft Revised Wind Energy Development Guidelines, December 2019*

The Department of Housing, Planning and Local Government published the *Draft Wind Energy Guidelines* (referred to as the Draft Revised Guidelines) in December 2019 and these Draft Guidelines were under public consultation until 19th February 2020. Following the previous 2013 consultation and subsequent detailed engagement between the relevant Government Departments, a "preferred draft approach" to inform and advance the conclusion of the review of the 2006 guidelines was announced in June 2017.

In line with the previously stated "preferred draft approach", the 2019 Draft Guidelines primarily focus on addressing a number of key aspects including, but not limited to:

- Acceptable noise thresholds and monitoring frameworks;
- Visual amenity setback and spacing;
- Control of shadow flicker;
- Compliance with Community consultation and dividend requirements, as included within the obligatory Community Report; and
- Consideration of the siting, route and design of the proposed grid connection as part of the whole project.

The design of the proposed project has taken account of the "preferred draft approach" as articulated by the Department in June 2017, and accordingly, has been developed with the provisions of the current Draft guidelines in mind. At the time of writing, the Revised Wind Energy Development Guidelines have yet to be published as a final document and are yet to be adopted.

It is therefore not known what the final version of the updated Guidelines will be and the relevant guidelines remain those published in 2006. Notwithstanding this, however, where possible the Draft Guidelines have been used to inform the design of the Proposed Development. In this regard it should be noted that no turbine is proposed within 4-times tip height of any third party dwelling, furthermore both potential shadow flicker and noise impacts have been assessed in detail within this EIAR, and both these phenomena can be controlled through the operational stages to ensure compliance with any relevant standards.

2.4 Planning History

This Section of the EIAR sets out the relevant planning history of the Proposed Development site, planning applications in the vicinity of the site and other wind energy applications within the wider area.

2.4.1 Proposed Development Site

The following planning applications relate to the existing Carrigarierk wind farm partially on the site of the current Proposed Development.

Carrigarierk Wind Farm

Pl.Ref.15/730: Keel Energy Limited applied for planning permission for the construction of a 5 turbine wind farm , with a maximum ground to blade tip height of up to 140m, and all associated services. The Planning Authority refused permission, An Bord Pleanála (**PL 04.246353**) granted permission on appeal on the 28/10/2016.

Pl.Ref.17/431: Keel Energy Limited applied for planning permission for the (1) A 110kV electricity substation including 2 no. control buildings associated electrical plant and equipment, underground electricity cabling, fencing, alterations to a previously permitted borrow pit and temporary construction compound at the Carrigarierk Wind Farm (An Bord Pleanála Ref. PL04.246353, Cork County Council Ref. 15/730) in the townland of Carrigdangan; (2) 110kV underground electricity cabling connecting the proposed substation to the existing Dunmanway ESB substation; (3) 33kV underground electricity cabling connecting the proposed substation to the permitted Carrigarierk Wind Farm through the

townlands of Carrigdangan and Gortatanavally and the permitted Shehy More Wind Farm (ABP Ref. PL04.243486; Cork County Council Ref. 13/551). The Planning Authority granted permission which was upheld by An Bord Pleanála (301563-18) on the 21/06/2019.

Carrigarierk Wind Farm (including substation) has been constructed and at the time of writing was on target to be fully commissioned by Q2 2021.

2.4.1.1 Other Wind Farm Developments

The planning history of other relevant wind farm developments in the general vicinity of the Proposed Development are listed below, where there are ancillary applications related to renewable energy, details of these have also been provided in the interests of completeness. The wind farm development applications listed below and shown in Figure 2-2 are all within a 20-kilometre radius of the site of the current proposal.

Shehy More Wind Farm

Pl.Ref.13/551: Shehy More Windfarm Ltd applied for a wind farm of 12 no. turbines, with a maximum overall blade tip height of up to 131m, and all associated works The Planning Authority granted permission which was upheld by An Bord Pleanála (Ref no. 04.243486)on 23/12/2016, with the development amended to 11no. turbines.

Pl.Ref.16/256: Shehy More Windfarm Ltd applied to Cork County Council for a ten-year permission to construct an underground electricity cable. The proposed underground electricity cable will be 38kV, will run predominantly within the public road corridor and is intended to connect the proposed Shehy More Wind Farm (Pl. Ref. 13/551, An Bord Pleanála PL04. 243486) to the National Grid via either the permitted substation at Garranareagh (Pl. Ref. 11/6605, An Bord Pleanála PL04.219620) or the currently proposed substation at Barnadivane (Kneeves) (Pl. Ref. 14/557, An Bord Pleanála PL04.244439). The Planning Authority granted permission which was upheld by An Bord Pleanála (Ref. No.88.246915) on 23/12/2016.

Provision was made for the connection of Shehy More Wind Farm to the electricity substation in the townland of Carrigdangan, permitted under Pl.Ref.17/431 (described in full above). The Shehy More wind farm has been recently constructed.

Cleanrath Wind Farm

Pl.Ref.11/5245: Cleanrath Windfarm Ltd applied for construction of a wind farm consisting of 11No. wind turbines with a maximum ground to top blade tip height of up to 126m with ancillary structures, 1 No. permanent 85 meter meteorological mast, 1 No. substation compound with control house, internal road network and associated drainage features, 1 No. wind turbine delivery entrance, 1 No. light vehicle access entrance, 2 No. borrow pits, underground cabling, temporary construction site compound, and associated works. The Planning Authority refused permission, this was overturned by An Bord Pleanála and permission was granted on the 29/04/2013(PL 04.240801).

Pl.Ref.15/6966: Cleanrath Windfarm Ltd applied for 11 no. wind turbines with a maximum ground to blade tip height of up to 150m, and all associated site works including grid connection The Planning Authority granted permission, whose decision was upheld by An Bord Pleanála(Ref no 246742.) on the 19/05/2017. Permission for the grid connection route was also incorporated within this permission, with a separate application for that part of the grid connection within County Kerry being granted under a separate permission.

PL04 .307939: Substitute consent for the Cleanrath Windfarm development. This application was due to be decided by the 17/12/2020.

9 no. turbines are constructed at Cleanrath Wind Farm and it is currently in a controlled operational mode pending the outcome to the substitute consent application (PL04.307939).

Derragh Wind Farm

Pl.Ref.12/5270: Framore Ltd applied to Cork County Council for the development of 6 turbines (each with a total tip height of 150m), and all associated works. The Planning Authority granted permission which was upheld by An Bord Pleanála (Ref No.04.242223) on the 15/11/2013.

Derragh Wind Farm is operational.

Derreenacrinnig West Wind Farm

Pl.Ref.10/857: George O'Mahony applied for a seven turbine wind farm with a hub height of 55 metres and a rotor diameter of 52 metres, and all associated works. The Planning Authority granted permission which was upheld by An Bord Pleanála (Ref no.88.239767) on the 05/12/2012.

Pl.Ref.19/10: The Electricity Supply Board applied for the installation of approximately 3.2km of underground cable ducting and associated electrical cabling, approximately 1.2km of overhead line supported on wood polesets, and all other ancillary works. The remainder of the cable is subject to an application for leave to apply for substitute consent to An Bord Pleanála Reference 302837-18. The Planning Authority granted permission which is at present on appeal with An Bord Pleanála under 305790-19.

ABP.Ref.04.302837: ESB Networks applied for leave to apply for substitute consent for a grid connection circuit between Derreenacrinnig West Windfarm and Ballylickey ESB sub-station. An Bord Pleanála granted leave to apply on the 23/05/2019.

ABP.Ref.04.304999: ESB Networks applied to An Bord Pleanála for an extension of time to apply for substitute consent for a grid connection circuit between Derreenacrinnig West Windfarm and Ballylickey ESB sub-station. An Bord Pleanála granted the extension on the 06/08/2019.

ABP.Ref. 04 305609: The Electricity Supply Board applied for substitute consent to An Bord Pleanála for the Derreenacrinnig West wind farm grid connection. An Bord Pleanála granted permission on the 09/06/2020.

Derreenacrinnig West Wind Farm at the time of writing is not constructed.

Millane Hill Wind Farm

Pl.Ref.98/1482: B9 Energy Services Ltd applied for construction of a wind farm comprising of 10 no.turbines and all associated works. The Planning Authority granted permission which was upheld by An Bord Pleanála (Ref no. 04/108950) on the 25/05/1999.

Millane Hill Wind Farm is operational.

Killaveenoge Windfarm

Pl.Ref.11/50: Environ Renewables Ltd applied for planning permission for a wind farm of up to 8 no. turbines with tip height of up to 110m, site substation with compound (to include grid transformer, end mast and electrical equipment), upgrade of existing entrance and existing forestry road, construction of new access roads, hardstandings, rock borrow pit, meteorological mast (74.5m high), underground cabling and all ancillary site works. The Planning Authority granted permission on the 14/09/2011.

Pl.Ref.13/635: Environ Renewables Ltd applied for planning permission for permission to construct a windfarm and all associated infrastructure. The proposed wind farm will comprise the provision of a total of up to 10 No. wind turbines, with a maximum overall blade tip height of up to 131m and is intended to replace the wind farm development previously permitted at this location under planning ref 11/50. The wind farm development was granted permission by An Bord Pleanála (PL.88.242998) on the 17/06/2014.

Pl.Ref.18/242: Killaveenoge Windfarm Ltd applied for planning permission to construct a battery storage compound adjacent to the existing Killaveenoge electricity substation. The Planning Authority granted permission, this was upheld by An Bord Pleanála (Ref. No. 302579-18)

Killaveenoge Wind Farm is operational.

Knockeenboy Wind Farm

Pl.Ref.11/59: James O'Regan applied for development of seven wind turbines with a hub height of up to 70 metres and a rotor diameter of up to 71 metres, and all associated works. The Planning Authority granted permission which was upheld by An Bord Pleanála (Ref no. 88.240070) on the 25/05/1999. 24/08/2012.

Knockeenboy Wind Farm at the time of writing is not constructed.

Knocknamork Wind Farm

Pl.Ref.19/4972: Knocknamork Ltd. applied for planning permission for a renewable energy development consisting of the provision of a 7-turbine wind farm, solar photovoltaic array, electricity substation, battery storage compound and all associated works. The wind turbines had an overall blade tip height of up to 150 metres The Planning Authority granted permission on the 18/11/2019.

Knocknamork Wind Farm at the time of writing is not constructed.

Wind Farm at Kilvinane and Garranure

Pl.Ref.01/980: Leonard Draper applied for a windfarm consisting of 4 wind turbines, electrical substation with control building, 50m meteorological mast, upgrading of entrance & assoc. works. The Planning Authority granted permission which was upheld by An Bord Pleanála on the 23/10/2001 (04.127137).

Pl.Ref.07/1892: Leonard Draper applied for an extension of duration for 01/980.

Pl.Ref. 10/781: Leonard Draper applied for modification and extension of an existing windfarm development permitted planning Reg. No. 01/0980 and extended under planning Reg. No. 10/342 at Garranure, Kilvinane and Carrigeen, Ballynacarriga, Dunmanway, Co. Cork. The Proposed Development comprises of the replacement of an existing wind turbine (hub height 55m, rotor diameter 58m) with a larger turbine (max. hub height 80m, max. rotor diameter 90m), the replacement of a currently permitted turbine (01/0980, 10/342) with a larger turbine (max. hub height 80m, max. rotor diameter 90m) and the erection of a fifth turbine (max. hub height 80m, max rotor diameter 90m), the extension of the existing substation control building and associated site infrastructure including crane hardstanding areas, underground cabling and drainage. The Planning Authority granted permission which was refused by An Bord Pleanála on the 14/07/2011 (88.239280).

Pl.Ref.11/676: Leonard Draper applied for modification of an existing windfarm development permitted under Planning Reg. No. 01/980 at Garranure, Kilvinane and Carrigeen, Ballynacarriga, Dunmanway, Co. Cork. The Proposed Development comprises of the replacement of two existing wind turbines (hub height 60m, rotor diameter 80m) with two larger turbines (max. hub height 67m, max. rotor diameter 90m. The Planning Authority granted permission which was then refused by An Bord Pleanála on the 06/02/2012 (88.240143).

Kilvinane and Garranure Wind Farm is operational.

Currabwee Wind Farm

Pl.Ref.98/680: Patrick Kingston applied to Cork County Council for construction and operation of a wind farm consisting of 8 no. 600 kW wind turbines and associated buildings. The Planning Authority granted permission on the 01/10/1998.

Currabwee Wind Farm is operational.

Cappaboy Beg/Curraglass Wind Farm

Pl.Ref.00/6590- South Western Services Co-Op Ltd. applied to Cork County Council for a windfarm to include 10 no. turbines, 2 no. meteorological masts, substation with control building, site tracks, upgrading of site access & assoc. works. The Planning Authority granted permission which was upheld by An Bord Pleanála. This wind farm was commissioned in 2006, however, the turbines were removed by the operator in June2018.

Pl.Ref.03/3773- The Electricity Supply Board applied to Cork County Council for construction of two overhead 38kv lines. The application was lodged with Cork County Council on the 28th of July 2003, the application was granted by the Planning Authority on the 28th of October 2003. The overhead 38kv lines have been constructed and are currently in place.

Pl.Ref.03/6910: GaoitheGlas Teo applied to Cork County Council for modifications to a previously permitted 10 no. turbine windfarm to include increase in hub height from 47m to 65m, increase in blade tip height from 75m to 91m and the movement of a number of turbines to new locations. The Planning Authority granted permission, An Bord Pleanála subsequently refused permission on appeal.

Pl.Ref.19/519: Redfaze Limited applied to Cork County Council for retention of the existing electricity substation and associated facilities at Curraglass, and permission for the construction of an extension to the existing electricity substation, comprising up to 4 no. battery storage units, palisade fencing, bunded concrete plinths, associated electrical equipment, transformers and all ancillary site works. The Planning Authority refused permission, and following appeal An Bord Pleanála (ABP-306263-19) also refused permission.

Pl.Ref.20/350: Wingleaf Ltd applied for a ten-year planning permission for a renewable energy development with a 30-year operational life (from the date of commissioning) and will consist of the following i. Up to 7 no. wind turbines with an overall blade tip height of up to 178.5 metres and all associated foundations and hard-standing areas; ii 2 no. borrow pits; iii 1 No. permanent meteorological mast with a maximum height of up to 112 metres; iv. Upgrade of existing and provision of new site access roads; v. Upgrade to existing access junction; vi. A 38kV electricity substation, including 4 no. battery storage containers, 1 no. control building with welfare facilities, associated electrical plant and equipment, security fencing, and waste water holding tank; vii. Forestry Felling; viii. A temporary construction compound; ix. Site Drainage; x. All associated internal underground cabling, including underground grid connection cabling to the existing overhead line; and xi. All associated site development and ancillary works. The Planning Authority refused permission, the application is currently on appeal with An Bord Pleanála (308244).

Curraglass Wind Farm at the time of writing is an active planning application under appeal to An Bord Pleanála.

Dromleena Wind Farm

Pl.Ref.09/63: Organic Power Ltd applied for 11no. wind turbines and all associated works in the townlands of Dromleena, Inchanadreen and Derrynasafagh, Dunmanway, Co. Cork. The Planning Authority granted permission on the 23/12/2009.

Pl.Ref.19/384: Organic Power Ltd applied for an extension of duration for Pl.Ref. 09/63. The Planning Authority granted permission on the 29/07/2019 and this consent remains effective until July 2024.

Dromleena Wind Farm at the time of writing is not constructed.

Barnadivane Wind Farm

Pl.Ref.03/2365: Barna Wind Energy Ltd applied for a windfarm to include 23 no. turbines, 60m meteorological mast, 110kv substation and switch station, entrances, site tracks & associated works. The Planning Authority granted permission which was over-turned by An Bord Pleanála who refused permission on the 22/03/2004.

Pl.Ref.05/5907: Barna Wind Energy Ltd applied for 18 no. wind turbines, 18 no. transformers, 110kV substation, 110kV switch station, 1 no. 70m high wind monitoring mast, construction and upgrading of site entrances, site tracks and associated works. The Planning Authority granted permission which was upheld by An Bord Pleanála on the 14/02/2007.

Pl.Ref.11/6605: Barna Wind Energy Ltd applied for planning permission for completion of construction of 18 wind turbines, 18 transformers, a 110 KV substation, 110 KV switch station, 70 metres wind monitoring mast, construction and upgrading of site entrances, site tracks and associated works as permitted under ABP ref. no. PL 04.219620 (Pl. reg. no. 05/5907). The Planning Authority granted permission on the 09/02/2012. Permission was subsequently quashed following judicial review.

Pl.Ref.14/557: Arran Windfarm Ltd applied for planning permission for the construction of an electricity substation compound, this application is intended to replace the substation already granted permission under PL04.219620 (05/5907) and subsequently extended under 11/6605. The electricity substation layout includes 3 no. control buildings, associated electrical plant and equipment, security fencing and ancillary works. The Planning Authority granted permission on the 13/01/2015 which was upheld by An Bord Pleanála under Pl04.244439 however this decision was quashed following judicial review. The application remains at appeal stage under Pl308208-20.

Pl.Ref.14/6760: Barna Wind Energy (BWE) Ltd. applied for the construction of six wind turbines, with a maximum tip height of up to 131m and associated turbine foundations and hardstanding areas, 1 no. permanent meteorological mast up to 90m in height, upgrade of existing and provision of new site tracks and associated drainage, new access junction and improvements to public road to facilitate turbine delivery, 1 no. borrow pit, underground electrical and communications cables, permanent signage and other associated ancillary infrastructure. This application is intended to replace the development already granted permission under PL04.219620 (05/5907) and subsequently extended under 11/6605. The Planning Authority granted permission which was upheld by An Bord Pleanála under Pl04.248153 however this decision was subsequently annulled. The application remains at appeal stage under Pl04.308210. At the time of writing the Barnadivane Wind Farm remains at appeal.

Garranereagh Wind Farm

Pl.Ref.03/2047: Art Generation Ltd applied for a wind farm to include 5 no. turbines, control housing and electrical compound anemometer mast, anemometer, service roadways & assoc. works. The Planning Authority granted permission on the 27/11/2003.

Pl.Ref.08/9783: ART Generation Ltd applied for completion of wind farm (extension of duration) to include 5 no. turbines, control housing and electrical compound, anemometer mast, anemometer, service roadways and associated works granted under Pl. Reg. No. 03/2047 (new permission to expire on 01/11/2011). The Planning Authority granted permission on the 21/01/2009.

Pl.Ref.10/5711: Sigatoka Ltd. applied for construction of a wind farm development comprising of 4 wind turbines with a hub height of up to 80m with blade length of 41m, site roads, hardstands, upgrading of site entrance and associated ancillary works. This application will replace a previous planning permission for a wind farm permitted under planning reg. no. 03/2047 and extended under planning reg. no. 08/9783. The Planning Authority granted permission on the 16/12/2010.

Garranereagh wind farm is operational.

Coomatallin Wind Farm

Pl.Ref.00/6380: Eirtricity Developments Ltd applied for a windfarm consisting of 7 no. wind turbines, meteorological mast(50m high),electrical sub- station, control building, up- grading entrance & anc. works. The Planning Authority granted permission on the 13/08/2001.

Pl.Ref.06/960: Airtricity Developments Ltd applied for a windfarm consisting of 7no. wind turbines, meteorological mast (50m high), electrical sub-station, control building, upgrading entrance and ancillary works. The Planning Authority granted permission on the 25/08/2006.

Pl.Ref.12/436: SSE Renewables (Ireland) Ltd applied for the construction of a two turbine extension to an existing four turbine wind farm at the townlands of Coomatallin, Kippagh and The Pike near Drinagh, Co. Cork. The maximum hub height will be 65m and the maximum rotor diameter will be 82.5m resulting in a maximum tip height of 106.25m. The associated works will include turbine foundations and hardstanding, transformers, access track, drainage and an extension to the existing substation. The Planning Authority granted permission on the 27/09/12.

Pl.Ref.15/675: Coillte applied for a single electricity generating wind turbine with a hub height of up to 65m and a rotor diameter of up to 55m, giving an overall tip height not exceeding 92.5m, with associated hardstand area, control building, access track and associated site works. The Planning Authority granted permission on the 08/03/2016.

Coomatallin Wind Farm is operational.

Lahanaght Hill Wind Farm

Pl.Ref.00/805: James O'Regan and Vincent Collins applied for a windfarm to include 3 no. turbines, meteorological mast, control building, substation, new roads & upgrading of existing road. The Planning Authority granted permission on the 21/12/2001.

Lahanaght Hill Wind Farm is operational.

Wind Farm at Belrose Upper

Pl.Ref.09/4457: Organic Power Ltd applied for ten year permission to erect 14 no. wind turbines at four separate sites in the townlands of Belrose Upper, Enniskeane Kilnacranagh East, Laravoolta,. The Planning Authority refused permission.

The wind farm at Belrose Upper was not permitted.

Inchee Wind Farm (Kerry and Cork)

Pl.Ref.05/9528: Gearoid Twomey applied for the erection of 1 no. 80m high wind turbine, 90m rotor blade diameter, on site tracks and cabling. The Planning Authority granted permission.

Pl.Ref.05/9488: Sean Twomey applied for the erection of 1 no. 80m high wind turbine, 90m rotor blade diameter, on site tracks and cabling. The Planning Authority granted permission.

Pl.Ref.06/8272: Gearoid Twomey applied for the erection of 1 no. wind turbine of 80m hub height and 90m diameter rotor blade and on site tracks, cabling and hard standing. The Planning Authority refused permission.

Pl.Ref.06/8273: Sean Twomey applied for the erection of 1 no. wind turbine of 80m hub height and 90m diameter rotor blade, on site tracks, cabling and hardstanding. The Planning Authority granted permission on the 21/11/2006.

Pl.Ref.11/6225: Sean Twomey applied for the completion of erection of 1 no. wind turbine of 80m hub height and 90m diameter rotor blade, on site tracks, cabling and hard standing as permitted under Planning Reg. No. 06/8273. The Planning Authority granted permission on the 21/11/2011.

The permission for the Inchee Wind Farm has expired

Carrigduff Wind Farm

Pl.Ref.01/1248: Green Energy Co Ltd applied for the construction of Wind Farm consisting of 20 wind turbines of 80m hub height & 80m blade diameter elect substation with control building & assoc works. The Planning Authority granted permission which was upheld by An Bord Pleanála on the 17/04/2003.

Pl.Ref.08/5944: Green Energy Company Ltd applied for completion (extension of duration) of wind farm consisting of 19 no. wind turbines of 80m hub height and 80m blade diameter and electrical substation with control building granted under Planning Reg. No. 01/1248. The Planning Authority granted permission on the 03/06/2008.

Pl.Ref.08/7158: Green Energy Company Ltd applied for alterations to locations of 4 no. wind turbines(permitted under 01/1248) and increase in hub height from 65m to 80m and construction of on site tracks and associated works. The Planning Authority granted permission on the 03/10/2008.

Carrigduff Wind Farm is operational.

Goulacullin Wind Farm

Pl.Ref.97/4390: George O'Mahony applied for the erection of a windfarm comprising of 12 no. 660 kw wind turbines with ancillary equipment for generation of electricity & control building. The Planning Authority refused permission on the 01/10/1998.

Pl.Ref.99/5076: George O'Mahony applied for the erection of a windfarm comprising of 12 no. wind turbines & ancillary equipment for generation of electricity & control building. The Planning Authority refused permission which was upheld by An Bord Pleanála on the 13/04/2000.

Pl.Ref.02/5124: George O'Mahony applied for a windfarm to include 5 no. turbines, ancillary equipment for generation of electricity, control buildings, substation & 40m wind monitoring mast. Permission was granted by the Planning Authority on the 22/10/2003.

Pl.Ref. 08/2119: George O'Mahoney applied for erection of wind farm comprising 5 wind turbines with towers up to 46m in height and rotor diameter up to 62m and ancillary equipment for generation of electricity with control building and substation and 40m wind monitoring mast. The Planning Authority granted permission on the 03/02/2009.

Pl.Ref.14/00143: George O'Mahoney applied for an extension of duration for 08/143.

Pl.Ref.19/112: George O'Mahony applied for the erection of wind farm comprising of 5 wind turbines with towers up to 46m in height and rotor diameters up to 62m and ancillary equipment for generation of electricity with control building and substation and 40m wind monitoring mast. An extension of time was subsequently granted on planning application reference 08/2119 under planning reference 14/00143. The Planning Authority refused permission on the 11/04/2019.

Permission for the Goulacullin Wind Farm has expired.

Application at Dromleena

Pl.Ref.18/128: Innisfree Wind Farms Ltd. applied for 2 no. (two) electricity generating wind turbines with maximum tip height of 130 metres, an Electrical Compound, Sub-Station Building, 4 no. (four) car parking spaces and all associated site roads and site works. The Planning Authority refused permission on the 08/05/2018.

The Dromleena Wind Farm was not permitted.

Cummeen Wind Farm

Pl.Ref.18/176: Cummeen Windfarm Developments Limited for 4 no. (four) electricity generating wind turbines with maximum tip height of 125 metres, an Electrical compound, Sub-Station Building, 4 no. (four) car parking spaces and all associated site roads and site works. The Planning Authority refused permission on the 28/05/2018.

Cummeen Wind Farm was not permitted

Application at Coomanore South

Pl.Ref.98/1166: Green Power Ltd applied for the construction of a 12 MW Windfarm to incl. 20 no. wind turbines, associated control building/compound & internal site access tracks. The Planning Authority refused permission which was upheld by An Bord Pleanála on the 25/05/1999.

The Wind Farm development at Coomanore South was not permitted.

Application at Coomleagh East

Pl.Ref.99/1708: E.F. Energy (Developments) Ltd applied for a windfarm to include 20 no. turbines, meteorological mast, control building, notice board, access tracks, upgrading of laneway & ancillary works. The Planning Authority refused permission on the 03/06/1999.

Pl.Ref.99/5557: E.F. Energy (Developments) Ltd applied for a windfarm to include 7 no. turbines, meteorological mast, control building, notice board, access tracks, upgrading of laneway & ancillary works. The Planning Authority refused permission which was upheld by An Bord Pleanála on the 23/06/2000.

The Wind Farm at Coomleagh East was not permitted.

2.4.1.2 County Kerry

Midas Wind Farm

Pl.Ref.01/3571: Application by Everwind Ltd to construct a wind farm(8 no. turbines). The Planning Authority granted permission on the 03/12/2002.

Pl.Ref.02/719: Application by John Joseph Harrington to construct a wind farm consisting of 6 no. wind turbine generators, electrical substation, septic tank, percolation area, access roadways, buried cable ducts and a 50m anemometer mast. The Planning Authority granted permission on the 07/01/2003.

Pl. Ref. 03/1188: Application by Midas Energy Ltd. for a wind farm comprising 9 no. turbines and associated works. The Planning Authority granted planning permission.

Pl.Ref.03/2609: Application by John O'Donoghue to erect 5 wind turbines of 60m hub height, 52m rotor blade diameter, on site tracks and cabling. The Planning Authority granted permission on the 18/02/2004.

Pl.Ref.03/2610: Application by John D Mccarthy to erect four wind turbines of 60m hub height, 52m rotor blade diameter, on-site tracks and cabling. The Planning Authority granted permission on the 18/02/2004.

Pl.Ref.03/3665: Application by Michael Murnane And Veronica Murnane to increase the hub heights of 7 wind turbines of planning reg no. 01/3571 from 49m to 60m hub height. The Planning Authority granted permission on the 15/03/2004.

Midas Wind Farm at the time of lodgement is operational.

Sillahertane/Coomagearlaghy II Wind Farm

Pl.Ref.03/1359- Morgan Roche applied to Kerry County Council to erect 10 no. 1 MW wind turbines, and all associated works. The Planning Authority granted permission on the 18/12/2003.

Pl.Ref.03/91359- SWS Natural Resources applied to Kerry County Council for an extension of duration to erect 10 no. 1MW The Planning Authority granted permission on the 22/04/2008.

Pl.Ref.12/380- Bord Gais Eireann Ltd. applied to Kerry County Council to carry out upgrading and modifications to sections of an existing site access road to facilitate on-going operational and maintenance

works to permitted Sillahertane wind farm (ref 03/1359). The Planning Authority granted permission on the 22/08/2012.

Sillahertane/Coomagearlaghy II Wind Farm at the time of lodgement is operational.

Inchicoosh Wind Farm

Pl. Ref. 07/1605: Application by John O'Donoghue, Helen O'Sullivan and Daniel Quill for a wind farm consisting of 6 no. turbines and all associated works. The Planning Authority granted planning permission and this wind farm is currently operational.

Pl. Ref. 07/4364: Application by John O'Donoghue, Helen O'Sullivan and Daniel Quill for a wind farm consisting of 1 no. Turbines and all associated works. The Planning Authority granted planning permission in February 2008.

Inchicoosh Wind Farm at the time of lodgement is operational.

Coomagearlaghy-Kilgarvan Wind Farm

Pl.Ref.02/1241- Coillte Teoranta and SWS Services applied for permission for a wind farm consisting of 17 no. wind turbines, and all associated works. The Planning Authority granted permission on the 27/12/2002.

Coomagearlaghy-Kilgarvan Wind Farm at the time of lodgement is operational.

Lettercannon Wind Farm

Pl.Ref.03/2508- John Dineen applied to Kerry County Council for the development of 4 no. 1MW wind turbines service roadways and all associated works. During further information the applicant revised the layout to include 8 no. turbines. The Planning Authority granted permission, on appeal An Bord Pleanála (Ref no. 08/209629) granted permission however this was for 6 no. turbines on the 27/04/2005.

Pl. Ref. 07/4515- SWS Natural Resources LTD applied to Kerry County Council to move one wind turbine as an alteration to the six wind turbine development granted planning permission by An Bord Pleanala (ABP ref pl. 08.209629 and Kerry County Council planning register ref 03/2508). The Planning Authority granted permission on the 19/03/2008.

Pl. Ref. 07/4701- SWS Natural Resources LTD applied to Kerry County Council to erect one wind turbine (T9), hub height 80m, blade diameter 90m, as an addition to a six wind turbine development granted planning permission by An Bord Pleanála (ABP ref: pl.08.209629 and Kerry County Council planning register ref. 03/2508) and associated works. The Planning Authority granted permission on the 22/02/2008.

Lettercannon Wind Farm at the time of lodgement is operational.

Application at Gortnakill

Pl.Ref.04/1663: Michael Paul McSweeeney applied to Kerry County Council to erect 6 no. 2.5mw wind turbines, 3 no. 50m wind monitoring masts, service roadways and control house. an EIS has been submitted in support of this application. Refused by the Planning Authority on the 11th of June 2004.

Pl.Ref.06/1396: Paul McSweeeney applied to Kerry County Council to erect four wind turbines hub height 80m, blade diameter 90m, two 80m high meteorological masts, construction and extension of existing internal site tracks and associated works. The Planning Authority refused permission, this was subsequently reversed and granted by An Bord Pleanála (08.218526) on the 13/03/2007.

Pl.Ref.06/91396: Paul McSweeeney applied to Kerry County Council to erect four wind turbines, hub height 80 metres, blade diameter 90 metres, two 80 metres high meteorological masts, construction and

extension of existing internal site tracks and associated works. Permission was granted by Kerry County Council on 4th of January 2012.

Permission for the wind farm at Gortnakills has expired.

Inchee Wind Farm (Kerry and Cork)

Pl.Ref.08/120: Inchee Energy applied to Kerry County Council to erect 2 wind turbines of 80 metres hub height and 90 metres rotor blade diameter on site tracks and all necessary cabling. The Planning Authority granted permission on the 11/03/2008.

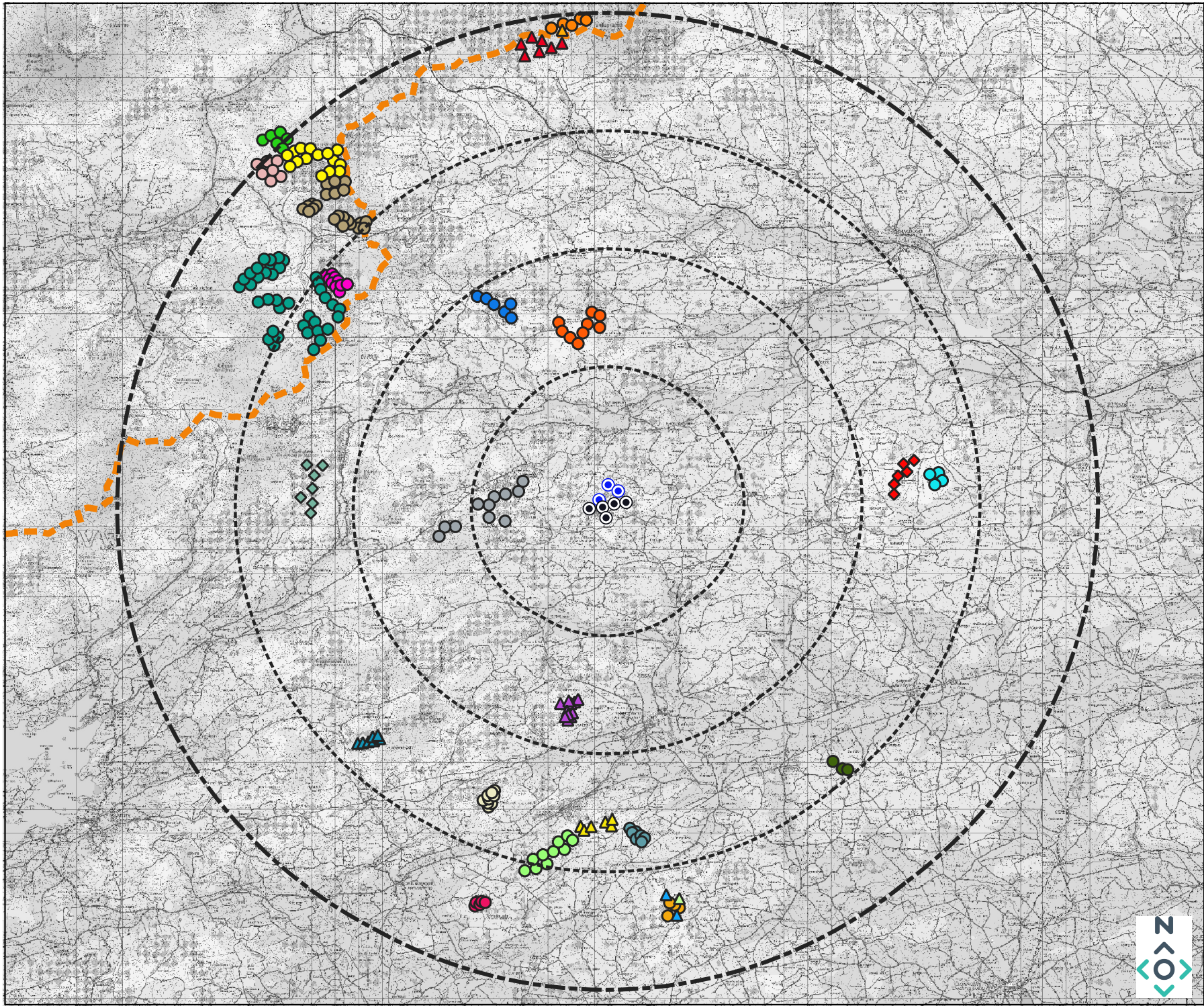
Pl.Ref.08/9120: Inchee Energy applied to Kerry County Council for an extension of duration to erect 2 wind turbines permitted under Pl.Ref.08/120. The Planning Authority granted permission.

The permission for the Inchee Wind Farm has expired

Grousemount Wind Farm

PA0044: E.S.B. Wind Development Limited applied to An Bord Pleanála for construction of Grousemount Wind Farm, comprising 38 no. Wind Turbines and all associated works in townlands in County Kerry and County Cork. An Bord Pleanála granted permission on 21/07/2016. This is an amalgamation of Grousemount (Pl.Ref.03/3524, Pl.Ref.10/1333 and 15/0262) and Barnastooka (10/0197, 14/0412 and 15/0327)

Grousemount Wind Farm at the time of writing is operational.



Map Legend

- Proposed Turbine Locations
- Existing Carrigarierk Wind Farm
- Border of County Cork and County Kerry

Other Wind Farms

- Barnadivane -Proposed
- Cleanrath - Existing
- Clydaghroe - Existing
- Clydaghroe Extension - Permitted
- Coomagearlaghy-Kilgarvan - Existing
- Coomatallin - Existing
- Coomatallin Extension 1 - Permitted
- Coomatallin Extension 2 - Permitted
- Currabwee - Existing
- Curraglass - Proposed
- Derragh - Existing
- Derreenacrinning - Permitted
- Dromleena - Permitted
- Garranereagh - Existing
- Grousemount - Existing
- Inchincoosh - Existing
- Killaveenogue - Existing
- Kilvinane - Existing
- Knockeenboy - Permitted
- Knocknamork - Permitted
- Lahanaght - Existing
- Lettercannon - Existing
- Midas - Existing
- Millane Hill - Existing
- Shehymore - Existing
- Sillahertane-Coomagearlaghy II - Existing

Drawing Title

Other Wind Farms within 20km

Project Title

Proposed Carrigarierk 2 Wind Farm, Co. Cork

Drawn By	Checked By
JW	ÓM
Project No.	Drawing No.
200425	Figure 2-2
Scale	Date
1:215000	08.04.2021

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2.4.1.3 Applications in the Vicinity of the Proposed Development Site

Appendix 2-1 which provides a review of the planning applications which have been made to the Planning Authority in the immediate vicinity of the Proposed Development site. A total of 78 planning applications have been identified as part of the planning search which was carried out. The planning search captures an area of approximately 2km surrounding the Proposed Development site. The majority of applications identified sought permission for the construction, alteration, servicing or extension of duration of dwellings within the area. Furthermore, a number of planning applications which sought permission for agricultural developments were also made, these included for the development of livestock sheds and dungsteads.

The full list of the noted planning history can be vied under Appendix 2-1 of this report.

2.5 Scoping and Consultations

2.5.1 Scoping

Scoping is the process of determining the content, depth and extent of topics to be covered in the environmental information to be submitted to a competent authority for projects that are subject to an Environmental Impact Assessment (EIA). This process is conducted by contacting the relevant authorities and Non-Governmental Organisations (NGOs) with interest in the specific aspects of the environment with the potential to be affected by the proposal. These organisations are invited to submit comments on the scope of the EIAR and the specific standards of information they require. Comprehensive and timely scoping helps ensure that the EIAR refers to all relevant aspects of the Proposed Development and its potential effects on the environment and provides initial feedback in the early stages of the project, when alterations are still easily incorporated into the design. In this way scoping not only informs the content and scope of the EIAR, but it also provides a feedback mechanism for the proposal design itself.

A scoping report, providing details of the application site and the Proposed Development, was prepared by McCarthy Keville O'Sullivan Ltd. (MKO) and circulated in early November 2020. MKO requested the comments of the relevant personnel/bodies in their respective capacities as consultees with regards to the scope and preparation of the EIAR.

2.5.2 Scoping Responses

Table 2-1 lists the responses received from the bodies to the scoping document circulated in early November 2020. Copies of all scoping responses received by February 2021 are included in Appendix 2-2 of this EIAR. If further responses are received, the comments of the consultees will be considered in the construction and operation of the Proposed Development in the event of a grant of planning permission. The recommendations of the consultees have informed the scope of the assessments undertaken and the contents of the EIAR.

Table 2-1 Scoping Responses

No.	Consultee	Response
1	An Taisce	No response received to date
2	Bat Conservation Ireland	Response received on 6th November 2020
3	BirdWatch Ireland	No response received to date
4	Broadcasting Authority of Ireland	Response received on 13th November 2020

No.	Consultee	Response
5	Commission for Regulation of Utilities Water and Energy	No response received to date
6	Cork Airport	Response received on 10th December 2020
7	Cork County Council – Environment Section	No response received to date
8	Cork County Council – Economic Section	No response received to date
9	Cork County Council – Water Section	No response received to date
10	Cork County Council – Roads Section	No response received to date
11	Cork County Council – Heritage Officer	No response received to date
12	Department of Agriculture, Food and the Marine	Response received on 24th November 2020
13	Department of Communications, Climate Action and the Environment	No response received to date
14	Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media	Response received on 20th December 2020 and 5th February 2021
15	Department of Defence	No response received to date
16	Department of Transport	Response received on 3rd December 2020
17	EirGrid	No response received to date
18	Environmental Protection Agency	No response received to date
19	ESB Telecoms	No response received to date
20	Fáilte Ireland	Response received on 23rd November 2020
21	Forest Service	No response received to date
22	Geological Survey of Ireland	Response received on 18th November 2020
23	Health Service Executive South	Response received on 19th November 2020
24	Iarnród Éireann	Acknowledgement received
25	Inland Fisheries Ireland	Response received on 23rd November 2020
26	Irish Aviation Authority	Response received on 23rd November 2020
27	Irish Peatland Conservation Council	No response received to date
28	Irish Raptor Study Group	No response received to date
29	Irish Red Grouse Association	No response received to date

No.	Consultee	Response
30	Sports Ireland (formerly Irish Sports Council)	No response received to date
31	Irish Water	No response received to date
32	Irish Wildlife Trust	Acknowledgement received
33	Office of Public Works	No response received to date
34	South Western IRBD	No response received to date
35	Sustainable Energy Authority of Ireland	No response received to date
36	The Heritage Council	No response received to date
37	Transport Infrastructure Ireland	Response received on 13th November 2020
37	Virgin Media (formerly TV3)	No response received to date
38	Waterways Ireland	No response received to date

Table 2-3 overleaf presents the key points from the scoping responses and identifies where such points have been addressed in this EIAR.

2.5.3 Telecommunications

As part of the early constraints study undertaken in the early design stages, telecommunications bodies were contacted, and the responses set out in Table 2-2 below received.

Table 2-2 Telecommunications Responses

No.	Consultee	Date of response	Response received and further action
1	Airspeed Communications	26th August 2020	No links in the area therefore no potential for adverse impacts to arise.
2	BT Communications Ireland	25th August 2020	No impacts noted therefore no potential for adverse impacts to arise.
3	Commission for Communications Regulation	7th September 2020	Email received with a list of operators to consider consultation with. The list did not contain any additional operators which had not already been consulted.
4	Eir	8th September 2020	No links in the area therefore no potential for adverse impacts to arise.
5	ESB Telecoms	9th September 2020	No links in the area therefore no potential for adverse impacts to arise.
6	Imagine Group	26th August 2020	No links in the area therefore no potential for adverse impacts to arise.

No.	Consultee	Date of response	Response received and further action
7	Ripplecom	25th August 2020	No links in the area therefore no potential for adverse impacts to arise.
8	RTE Transmission Network Ltd	25th August 2020 and 27th August 2020	RTE 2rn initially identified a link (Mullaghanish to Leap) which ran through the study are provided.
9	Tetra Ireland Communications Ltd.	15th September 2020	No impacts noted therefore no potential for adverse impacts to arise.
10	Three Ireland	7th October 2020	No links in the area therefore no potential for adverse impacts to arise.
11	Towercom	7th September 2020	No significant impact anticipated therefore no potential for adverse impacts to arise.
12	Viatel Ireland Ltd	None received	No response
13	Virgin Media	2nd October 2020	No links in the area therefore no potential for adverse impacts to arise.
14	Vodafone Ireland	6th October 2020	No links in the area therefore no potential for adverse impacts to arise.
15	MP&E Trading Company Ltd	27th August 2020	No links in the area therefore no potential for adverse impacts to arise.

Table 2-3 Review of Scoping Responses

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
1	Bat Conservation Ireland	Bat Conservation Ireland responded to state that they are a small charity and do not have the resources to comment on planning applications. They asked that the applicant ensure that all bat surveys are undertaken according to best practice guidelines	N/A
2	Broadcasting Authority of Ireland	Not aware of any issues from existing wind farms into existing FM networks. Proposed Development is not located close to any existing or planned FM transmission sites.	N/A
3	Cork Airport	After reviewing the location of the proposal, Cork Airport confirmed that the DAA would have no comments to make on the proposal. However, they did recommend that the proposal was brought to the attention of the Irish Aviation Authority,	N/A Irish Aviation Authority (IAA) were scoped with as part of the planning application process. Please see below response from the IAA.
4	Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media Development Applications Unit (DAU)	The Department in their first response makes reference to underwater archaeology. The Department makes reference to the EIAR which will include an Archaeological Impact Assessment (AIA). They note that the AIA should include comprehensive assessment of all watercourses within the footprint of the extended wind farm, to include wading survey/dive survey (if depth is beyond wading limits) and this should be accompanied by a metal detection survey. This is recommended as a means to ensure the continued preservation (either in situ or by record) of underwater cultural heritage and all associated features, objects and structures. A second response was received on 5th February 2021. Their response references the presumed entrance access road, from the public road to the south-east of the development boundary, and notes it is within the catchment of the Caha River part of the Bandon River candidate Special Area of Conservation (cSAC no. 2171). They further note that this European site is designated for freshwater pearl mussel. They note that the EIAR and NIS should ensure that adequate mitigation and monitoring measures are described, and laid out clearly in a Schedule of Commitments The Department further notes that the Gearagh candidate Special Area of Conservation (cSAC no. 108) is downstream of part of the Proposed Development and any in-combination impacts of drainage (water quality and contribution to hydrographic peak) on this site should be assessed in the EIAR. It is noted that the Proposed Development is on a low ridge. A monitoring system for detecting bird casualties should be proposed as part of the above Schedule of Commitments. Finally, they note that there should be sufficient survey of the development area following protected species: merlin, white-tailed sea eagle, Kerry slug, bat species, otter (including along the haul routes).	Chapter 12, Section 12.1.3 Chapter 6, Section 6.6.3 Chapter 9, Section 6.6 Chapter 6, Section 6.5.2 Chapter 7, Section 7.4

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
5	Department of Agriculture, Food and the Marine	If the Proposed Development will involve the felling or removal of any trees, the developer must obtain a Felling License from this Department before trees are felled or removed.	Chapter 4, Section 4.3.8 A Felling Licence will be obtained prior to any tree felling.
6	Department of Transport	Response received asking that the EIAR considers the level of impact the Proposed Development may have on the public road network during both construction and longer term. Also asked for clarification on whether cabling will be installed in public road network for purposes of grid connection and potential impacts arising from this. EIAR should also consider overground grid connection as an alternative option.	Chapter 14 – Material Assets – Traffic and Transport Assessment
7	Fáilte Ireland	Provided a copy of Fáilte Ireland standard *Guidelines for the Treatment of Tourism in an EIS* which should be taken into account during preparation of the EIAR. The document highlights how tourism can be incorporated into different assessments throughout the EIAR.	Chapter 5, Section 5.3 Chapter 5, Section 5.9.2.5 and Section 5.9.3.3
8	Geological Survey of Ireland	GSI provided details on their datasets which should be utilised as part of the assessment, <u>Geoheritage</u> The response notes that County Geological Sites (CGS) are being recognised and adopted under the National Heritage Plan and are now included in County Development Plans to ensure the recognition and appropriate protection of geological heritage within the planning system. The records show that there are no CGS located in the vicinity of the Proposed Development. <u>Groundwater</u> Groundwater and Flood Risk Management need to be considered as part of the assessment. <u>Geohazards</u> GSI recommend that the potential for landslides are considered and assessed. The response also makes reference to use of natural resources, and where relevant, should be discussed within the assessment.	Chapter 8, Section 8.3.6 Chapter 9, Section 9.3 Chapter 8, Section 8.3.9 Appendix 8-1 – Peat Stability Risk Assessment

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
9	Health Service Executive	› The HSE provided several guidance documents and reports to consider during preparation of the EIAR. › The HSE also asked that early and meaningful public consultation is carried with the local community. › The EIAR should detail what will happen to the turbines once they have been decommissioned and how they will be recycled. › The EIAR should note the opportunity for potential health gain as well as potential negative impacts. › An assessment of Consideration of Alternatives should be carried out. › The potential impacts due to noise and vibration, air quality, shadow flicker, surface and ground water quality and geology should also be assessed. › The EIAR should include details of all ancillary features of the Proposed Development. › The EIAR should include a detailed Cumulative Impact assessment.	Chapter 2, Section 2.6.2 Appendix 2-3 – Community Report Chapter 4, Section 4.9 Chapter 5, Section 5.5 and Chapter 10, Section 10.2.3 Chapter 3 – Site Selection and Reasonable Alternatives Chapters 5,8,9,10 and 11 Chapter 4 – Description of the Proposed Development Chapters 5-14
10	Inland Fisheries Ireland	With respect to the Proposed Development IFI would ask: (a) There be no drainage or other physical interference with the bed or bank of any watercourse without prior consultation with IFI. (b) Suspended solids and or hydrocarbon contaminated site run-off waters are controlled adequately so that no pollution of surface waters can occur. More specifically IFI feels the following issues should be addressed: (i) Identifying and zoning the project for environmental impact should a peat slip occur (ii) Setting out contingency plan should a peat movement occur. (iii) Setting out a plan for the control of silt in such a scenario, including measures to be put in place at the initial stages of construction. (c) In the event of any watercourse crossings being bridged or culverted the following general criteria should apply, (i) The free passage of fish must not be obstructed. (ii)The original slope of the riverbed should be maintained with no sudden drops on the downstream side.	Chapter 9, Section 9.5.2.2, 9.5.2.5 & 9.5.2.8 Appendix 4-4 - Construction Environmental Management Plan

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
		(iii) Bridges are preferable to culverts. (iv) All instream works should be carried out only in the April-September period.	
11	Irish Aviation Authority	The Authority advised that they have no specific requirements in relation to the development of the EIAR based on the approximate location of the development and the information submitted. IAA provided a list of other aeronautical contacts who should also be consulted. IAA provided the usual generic observations for Wind Farm EIAR Scoping relating to: › the construction of the windfarm, › concerning the need for an obstacle lighting scheme, › 30 days notification in relation to crane operations and submission of as constructed coordinates.	Chapter 14, Section 14.2.3.2.3 and Section 14.2.4.3.2
10	Transport Infrastructure Ireland	TII note the below recommendations as general guidance for the preparation of the EIAR in regard to proposed national road schemes. The developer should have regard to the following: › Consultations should be had with the relevant Local Authority/National Roads Design Office, with regard to locations of existing and future national road schemes in the vicinity of the subject development site. › TII would be specifically concerned as to potential significant impacts the development would have on the existing national road network (and junctions with national roads) in the proximity of the Proposed Development. › The developer should assess visual impacts from existing national roads. › The developer should have regard to any Environmental Impact Statement and all conditions and/or modifications imposed by An Bord Pleanála, regarding road schemes in the areas concerned. The developer should, in particular, have regard to any potential cumulative impacts. › The developer, in preparing EIAR, should have regard to TII Publications (formerly DMRB and the Manual of Contract Documents for Road Works). › The developer, in preparing EIAR, should have regard to TII's Environmental Assessment and Construction Guidelines, including the 'Guidelines for the Treatment of Air Quality During the Planning and	Chapter 14 – Traffic and Transport Chapter 14, Section 14.1.4 Chapter 13, Section 13.7 Chapter 14, Section 14.1.10 Chapter 14, Section 14.1.1.4 Chapter 10, Section 10.1.5

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
		Construction of National Road Schemes' (National Roads Authority (NRA), 2006).	
		› The EIAR should consider the 'Environmental Noise Regulations 2006' (SI 140 of 2006) and, in particular, how the development will affect future action plans by the relevant competent authority. The developer may need to consider the incorporation of noise barriers to reduce noise impacts (see 'Guidelines for the Treatment of Noise and Vibration in National Road Schemes' (1st Rev., NRA, 2004)).	Chapter 11, Section 11.5
		› It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria, and having regard to best practice, a Traffic and Transport Assessment (TTA) be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site, with reference to impacts on the national road network and junctions of lower category roads with national roads. TII's 'Traffic and Transport Assessment Guidelines' (2014) should be referred to in relation to Proposed Development, with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of the TII's 'TTA Guidelines', which addresses requirements for sub-threshold TTA.	Chapter 14, Section 14.1.1 and Section 14.1.4
		› The designers are asked to consult TII Publications, to determine whether a Road Safety Audit is required.	Chapter 14, Section 14.1.8
		› In the interests of maintaining the safety and standard of the national road network, the EIAR should identify the methods/techniques proposed for any works traversing/in proximity to the national road network.	Chapter 14, Section 14.1.6
		› In relation to haul route identification, the applicant/developer should clearly identify haul routes proposed and fully assess the network to be traversed. Separate structure approvals/permits and other licences, may be required in connection with the proposed haul route, including where temporary modification to the road network may be required. Consultation with relevant PPP Companies and MMaRC Contractors may also be required. All structures on the haul route should be checked by the applicant/developer, to confirm their capacity to accommodate any abnormal load proposed.	Chapter 14, Section 14.1.8
		› Where the windfarm scheme includes grid connection proposals, the scheme promoter should note locations of existing and future national road schemes and develop proposals to safeguard proposed road schemes. In the context of existing national roads, alternatives to the provision of cabling along the national road network, such as alternative	N/A

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
		routing or the laying of cabling in private lands adjoining the national road, should be considered in the interests of safeguarding the investment in and the potential for, future upgrade works to the national road network. The cable routing should avoid all impacts to existing TII infrastructure, such as traffic counters, weather stations, etc. and works required to such infrastructure shall only be undertaken in consultation with and subject to the agreement of TII. Any costs attributable shall be borne by the applicant/developer. The developer should also be aware that separate approvals may be required for works traversing the national road network and/or motorway network where applicable.	

2.6 Other Consultation

2.6.1 Pre-Planning Meeting - Cork County Council

A pre-planning meeting was held with the Planning Department of Cork County Council in relation to the Proposed Development prior to the submission of this planning application. The meeting was held on the 21st of January 2021 which was attended by Greg Simpson, Thomas Watt and Carol Stack on behalf of Cork County Council, William O'Connor and Fionnan MacDermott on behalf of Keel Energy Ltd and Jimmy Green, Órla Murphy and Paul Sweeney on behalf of MKO. Items discussed at the meetings included an overview of the proposal, the planning history of the site, planning policy context, site selection, planning application approach, Environmental Impact Assessment Report, visuals/landscape, community engagements and cumulative projects.

2.6.2 Community Consultation

Public consultation on the Proposed Development began in late 2020 at the beginning of the development process. A Community Liaison Strategy (CLS) was established and set into motion with a nominated Community Liaison Officer (CLO) appointed. Since this time, the CLO has been the main point of contact to the local community.

The CLS is based on the '*Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement'* (December 2016). The Code's core fundamentals are to engage with the local community in an open, honest and transparent manner with the aim to not only provide clear and understandable information on a project but also to gain feedback to understand the views of the local community and to use this information to inform the design process. This allows the local community an opportunity to input and have an influence on the final project design.

Consultation began in December 2020 and continued to February 2021. Door-to-door consultation with local residents was not possible due to the Covid-19 restrictions. Information was sent out to all households within 2 kilometres of the Proposed Development site and was carried out by a Community Liaison Officer, James Crowley. This consultation process was carried out to provide those living closest to the Proposed Development site with a description of the project, regular updates on the progression of the development and an opportunity to provide feedback and comments on the project. It also provided the locals with an opportunity to give their ideas with regards to projects that could be funded by a Community Benefit Scheme.

The Proposed Development has the potential to have significant benefits for the local economy, by means of landowner payments and commercial rate payments. An important part of wind farm development, which Keel Energy Ltd. has been at the forefront of developing, is its Community Benefit Package. The concept of directing benefits from wind farms to the local community is promoted by the National Economic and Social Council (NESC) and the Irish Wind Energy Association (IWEA) among others. While it may be simpler and easier to put a total fund aside for a wider community area, Keel Energy Ltd. is endeavouring to develop new ways to direct increased gain towards the local community with particular focus on those living closest to the Proposed Development.

The feedback received from scoping consultees and throughout the public consultation process informed the Proposed Development design and assessments undertaken during the EIAR preparation. A Community Report, further detailing the consultation process with the community, is included as Appendix 2-3.

2.7 Cumulative Impact Assessment

The EIAR Directive and associated guidance documents state that as well as considering any direct, indirect, secondary, transboundary, short-, medium-, and long-term, permanent and temporary, positive and negative effects of the project (all of which are considered in the various chapters of this EIAR), the

description of likely significant effects should include an assessment of cumulative impacts that may arise. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project. The factors to be considered in relation to cumulative effects include population and human health, biodiversity, land, soil, water, air, climate, material assets, landscape, and cultural heritage as well as the interactions between these factors.

To gather a comprehensive view of cumulative impacts on these environmental considerations and to inform the EIAR process being undertaken by the consenting authority, each relevant chapter within this EIAR includes a cumulative impact assessment where appropriate.

The potential for cumulative impacts arising from other projects has therefore been fully considered within this EIAR.

2.7.1 Methodology for the Cumulative Assessment of Projects

To gather a comprehensive view of cumulative impacts on these above environmental considerations and to inform the EIA process being undertaken by the consenting authority, each relevant chapter within the EIAR addresses the potential for cumulative effects where appropriate.

The potential cumulative impact of the Proposed Development (which includes the proposed means of grid connection) and other relevant developments has been carried out with the purpose of identifying what influence the Proposed Development will have on the surrounding environment when considered cumulatively and in combination with relevant approved, and existing projects in the vicinity of the Proposed Development site.

The cumulative impact assessment of projects has three principle aims:

- To establish the range and nature of existing and/or approved projects within the cumulative impact study area of the Proposed Development.
- To summarise the relevant projects which have a potential to create cumulative impacts.
- To identify the projects that hold the potential for cumulative interaction within the context of the Proposed Development and discard projects that will neither directly or indirectly contribute to cumulative impacts.

Assessment material for this cumulative impact assessments carried out within this EIAR was compiled in relation to the relevant developments within the vicinity of the Proposed Development from which there may be potential for cumulative impacts to arise. The material was gathered through a search of relevant online planning registers, reviews of relevant EIS/EIAR documents, planning application details and planning drawings, and served to identify past and future projects, their activities and their environmental impacts.

2.7.2 Projects Considered in Cumulative Assessment

The projects considered in relation to the potential for cumulative impacts and for which all relevant data was reviewed (e.g. individual EIS/EIAR's, layouts, drawings etc) include those listed previously above in Section 2.4 and all relevant associated works. Each individual chapter will assess the Proposed Development in combination with these other projects which have been further detailed below.

Other Wind Farms

There are a number of wind farms located within a 20-kilometre radius of the Proposed Development site, as identified previously in this Chapter, shown in Figure 2-2 and listed in Table 2-4 below. Any cumulative affects arising in combination with any of the below existing, permitted and proposed wind farms listed below are considered in the relevant chapters of this EIAR.

Table 2-4 Other Wind Farms within 20km

No.	Other Wind Farms	Status	No. of Turbines
County Cork			
1	Carrigarierk Wind Farm	Existing	5
2	Shehy More Wind Farm	Existing	11
3	Cleanrath Wind Farm	Existing	9
4	Derragh Wind Farm	Existing	6
5	Derreenacrinnig West Wind Farm	Permitted	7
6	Millane Hill Wind Farm	Existing	9
7	Killaveenoge Wind Farm	Existing	10
8	Knockeenboy Wind Farm	Permitted	6
9	Knocknamork Wind Farm	Permitted	7
10	Kilvinane Wind Farm	Existing	3
11	Currabwee Wind Farm	Existing	7
12	Curraglass Wind Farm	Proposed	7
13	Dromleena Wind Farm	Permitted	11
14	Barnadivane Wind Farm	Proposed	6
15	Garranereagh Wind Farm	Existing	4
16	Coomatallin Wind Farm	Existing	4
17	Coomatallin Wind Farm Extension 1	Permitted	2
18	Coomatallin Wind Farm Extension 2	Permitted	1
19	Lahanaght Wind Farm	Existing	5

County Kerry			
20	Clydraghroe Wind Farm	Existing	2
21	Clydraghroe Wind Farm Extension 1	Existing	1
22	Clydraghroe Wind Farm Extension 2	Permitted	1
23	Clydaghroe-Cummeenabuddoge Wind Farm	Existing	2
24	Midas Wind Farm	Existing	23
25	Sillahertane Wind Farm	Existing	10
26	Inchincoosh Wind Farm	Existing	6
27	Grousemount Wind Farm	Existing	38
28	Coomagearlaghy-Kilgarvan Wind Farm	Existing	15
29	Lettercannon Wind Farm	Existing	7

Forestry and Replanting

The Proposed Development site is used primarily for commercial forestry in its current land use. Regular felling operations will continue in conjunction with the Proposed Development. The potential for cumulative effects during the construction, operational and decommissioning phases of the Proposed Development have therefore been assessed. The Forest Service is responsible for ensuring the development of Forestry within Ireland in a manner and to a scale that maximises its contribution to national socio-economic well-being on a sustainable basis that is compatible with the protection of the environment. The forestry works (felling/planting) associated with the Proposed Development will be carried out under the relevant guidance and under licence from the Forestry Service. The replanting lands, which have been assessed as part of this planning application, have been assessed where relevant within the EIAR in combination with the Proposed Development.

Other Developments/Landuses

The review of the Cork County Council planning register documented relevant general development planning applications in the vicinity of the Proposed Development site, most of which relate to the provision and/or alteration of one-off rural housing and agriculture-related structures, as described in Section 2.4 above. These applications and landuses have also been taken account in describing the baseline environment and in the relevant assessments.

Furthermore, the cumulative impact assessments carried out in each of the subsequent chapters of this EIAR consider all potential significant cumulative effects arising from all land uses in the vicinity of the Proposed Development. These include ongoing agricultural practices, and drainage/maintenance works/programmes. Overall, the Proposed Development has been designed to mitigate impacts on the

environment and a suite of mitigation measures is set out within the EIAR. The mitigation measures set out in this EIAR have been developed to ensure that significant cumulative affects do not arise during the construction, operational or decommissioning phases of the Proposed Development. Additional detail in relation to the potential significant cumulative effects arising and, where appropriate, the specific suite of relevant mitigation measures proposed are set out within each of the relevant chapters of this EIAR.