

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 planning context for the proposed development, a description of the proposed development site and planning history, scoping and consultation, and the cumulative impact assessment process undertaken as part of this EIAR.

2.1 Renewable Energy Policy and Targets

The details below set out the need for the proposed development to aid Ireland in meeting its national targets and European commitments in relation to climate change and decarbonisation. As is discussed throughout this chapter the latest projections have shown that Ireland is not set to meet its 2020 targets this year. Within this chapter the information is presented and assessed under the following:

- > Renewable Energy Resources;
- > EU Policy;
- > Progress on Targets; and,
- > National Energy Projections.

The proposed development comprises the provision of wind turbines which will generate renewable energy and provide it for use onto the national grid. The need to decarbonise and reduce emissions has always been imperative, however, in recent years the urgency involved has become clearer to all stakeholders. The Climate Action Plan published by the Government in 2019 has clearly identified the need for and urgency of change, it states:

“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 provision of a significant wind energy development and will contribute towards Irelands energy 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; and
- 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 67% of Ireland’s dependency in 2018 at an estimated cost of €5 billion (Source: *‘Energy in Ireland 2019 Report’* Sustainable Energy Authority of Ireland (SEAI), December 2019). 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. The SEAI *‘Energy in Ireland 2019 Report’* has noted that final energy demand grew by 4.5% with increases in all sectors in 2018, resulting in a primary energy demand increase of 1.6%.

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 established a binding target of a minimum 20% reduction in greenhouse gas emissions based on 1990 levels, 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 and 20% reduction in primary energy use compared with projected levels by improving energy efficiency. Directive 2009/28/EC legally obliges each Member State to:

- Ensure that its 2020 target is met; and
- 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.

These targets represented an important first step towards building a low-carbon economy. They are also headline targets of the Europe 2020 strategy for smart, sustainable and inclusive growth. This recognises that tackling climate and energy challenge contributes to the creation of jobs, the generation of “green” growth and a strengthening of Europe’s competitiveness.

The achievement of the above targets will ultimately require ‘safe, secure, sustainable and affordable energy’ in order to accommodate the transition to a low-carbon economy. Failure to meet EU targets on the use of energy from renewable sources could result in substantial EU sanctions.

Ireland’s mandatory target under Directive 2009/28/EC is for renewable resources to account for 16% of total energy consumption by 2020. This will be met by 40% from renewable electricity, 12% from renewable heat and 10% from the renewable transport sector.

At present it is anticipated that Ireland is unlikely to meet the targets issued under Directive 2009/28/EC, this is further discussed in the below sections.

2.1.2.1 2030 Climate Change and Energy Framework

The 2030 Climate and Energy Framework was adopted by EU leaders in October 2014 and marked 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:

- A binding commitment at EU level of at least 40% domestic Greenhouse 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.

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) 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 on the revision of the renewable energy directive. The new regulatory framework paves the way for Europe's transition towards clean energy sources such as wind, solar, hydro, tidal, geothermal, and biomass energy. The agreement sets a headline target of 32% energy from renewable sources at EU level for 2030. Other key elements of the agreement include:

- The design of support schemes will provide for a possibility of technology specific support, aligned with state aid guidelines. The opening of renewable support towards neighbouring member states will be voluntary, at an aspirational pace of at least 5% between 2023 and 2026 and 10% between 2027 and 2030. Except for certain cases, member states will be obliged to issue guarantees of origin;
- Permit granting procedures will be simplified and streamlined with a maximum of two years for regular projects and one year in case of repowering, both extendable for an additional year in case of specific circumstances and notwithstanding environmental and judicial procedures;
- The annual increase of energy from renewable sources in heating and cooling will be 1.3 percentage points indicatively, or 1.1 percentage points if waste heat is not taken into account; and
- Via obligations on fuel suppliers, renewables will reach a level of at least 14% in transport by 2030, supplemented by a set of facilitative multipliers to boost renewables in different sectors.

Based on the SEAI National Energy Projections 2019 it is the expectation that Ireland will fall short of its mandatory European target for an overall 16% renewable energy share in 2020, with overall achievement reaching approximately 13%.

2.1.2.2 Progress on Targets

The overall share of renewables in primary energy stood at 11.0% in 2018 (Source: ‘Energy in Ireland 2019 Report’ SEAI, December 2019). 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 2019 Report, the contribution from renewables in 2018 was 11% of the GFC.

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'*, Póyry, 2014). 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. Wind generation in turn accounted for 28.1% of all electricity generated in Ireland in 2018. The use of renewables in electricity generation in 2018 reduced CO₂ (carbon dioxide) emissions by 4 Mt (million tonnes) and avoided approximately €430 million in fossil fuel imports.

Notwithstanding the above, 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 was set to miss its 2020 climate and renewable energy targets and is also off course for its unambitious 2030 emissions target. The report states:

“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'*, which was published in February 2018 and is the most recent progress report, that Ireland was expected to achieve 13% of its 16% RES target by 2020. SEAI in their report *'Ireland's Energy Targets – Progress, Ambition & Impacts'* (April 2016) estimated that Ireland's inability to achieve its 2020 renewable energy targets would 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 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 *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 were set for 2020. The share of renewables in gross final energy consumption stood at 18.0% in the EU-28 in 2018. The data shows that twelve member states reached a share equal to or above their 2020 target. This is not the case with Ireland who, as evident in Plate 2.1, were still considerably below meeting its 2020 target.

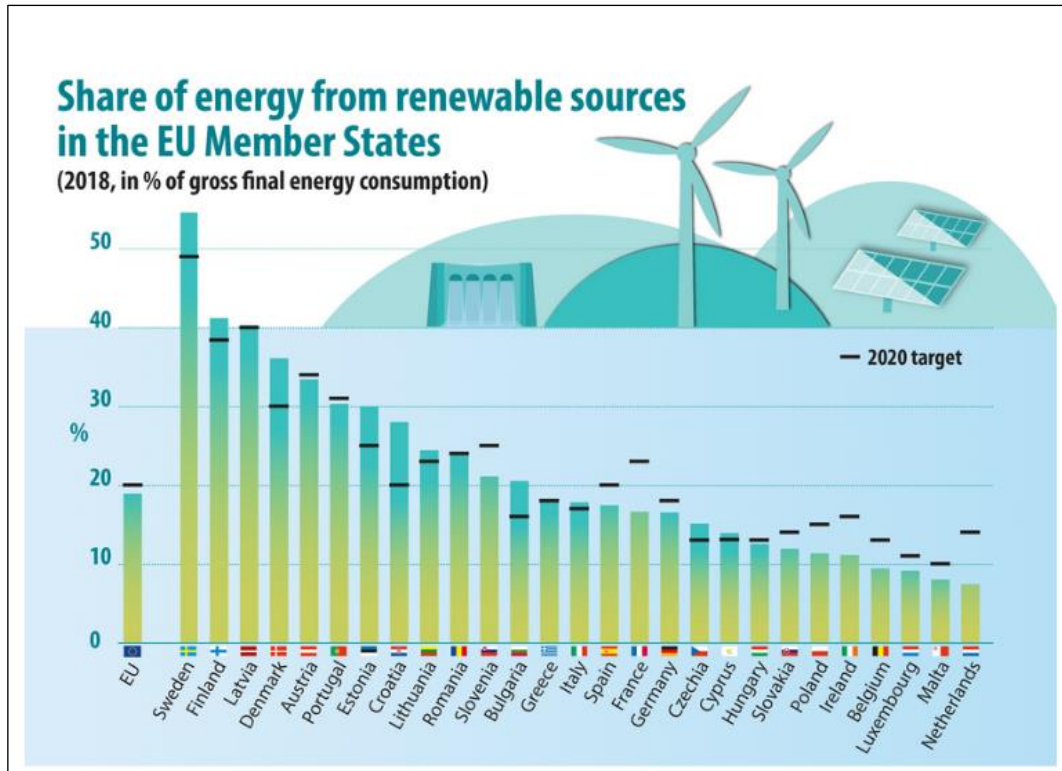


Plate 2.1 Share of energy from renewable sources, 2018¹

EirGrid in their ‘All Island Generation Capacity Statement 2019 - 2028’ (September 2019), stated that, in the absence of the National Energy and Climate Plan 2021 – 2030, it is assumed that renewable targets will be achieved largely through the deployment of additional wind powered generation in Ireland. New wind farms commissioned in Ireland in 2018 brought the total wind capacity to over 3,666 MW, contributing to the increase in overall RES-E percentage to 32.5%, with wind energy accounting for 27.6%. EirGrid estimates that between 3.9 – 4.4 Gigawatts (GW) of wind may be required to meet the 2020 Renewable Energy Supply - Electricity (RES-E) target of 40%.

It is noted by EirGrid within their 2019 – 2028 statement that, at a median demand level, Ireland does not have adequate generation capacity to meet demand from 2026 once Moneypoint closes, and should any other plant close prior to this, earlier deficits may arise. This is especially pertinent with regard to the announcement that the Electricity Supply Board intends to close the peat-fired Shannonbridge and Lough Ree Power Stations at the end of 2020. In this context, it is estimated that 1 MW of wind capacity can provide enough electricity to supply approximately 650 homes.

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. Specifically, there is currently 1000 MVA demand capacity that is contracted to data centres and other large energy users. This statement notes that “Large industrial connections normally do not dominate a country’s energy demand forecast but this is the case for Ireland at the moment”. EirGrid analysis shows that demand from data centres could account for 29% of all demand by 2028 in a median demand scenario (accounts for the connection of all 1400 MVA of potential demand in the connection process). Each MW of additional data centre load

¹ <https://ec.europa.eu/eurostat/documents/2995521/10335438/8-23012020-AP-EN.pdf/292cf2e5-8870-4525-7ad7-188864ba0c29>

will add at least 1 MW of wind to the 40% RES-E 2020 target². Alternatively, 3 MW of wind could be required per MW of data centre electricity demand, if the data centre wants to commit to being powered by 100% renewable energy. Many data centres have made such commitments and have well-publicised company policies to use only renewable electricity for their power needs.

2.1.2.3 SEAI National Energy Projections 2019

The SEAI National Energy Projections 2019 were published in May 2019 and there has been a significant increase in renewable energy share in Ireland over the past number of years. Compared to other European countries Ireland was 22nd out of the EU-28 for overall renewable energy share and 26th out of the EU-28 for progress towards overall 2020 renewable energy target.

In the context of climate change SEAI's 2019 report states that:

“Climate change is now recognised as the biggest threat to life on earth, and it is now urgent that we take immediate action to reduce anthropogenic emissions of greenhouse gases to limit its damaging effects.”

With regards to the production of electricity it is noted that while Ireland has had considerable success in increasing the share of renewables in electricity generation that there is a need to continue to achieve in this sector and take full advantage of the country's abundant resources. It continues to detail that as per the latest EirGrid Generation Capacity Statement there is a prediction of an increase of demand in the short term with 3% to 5% per year listed.

The Renewable Energy Support scheme aims to increase the deployment rate, support up to 4,500 MW of additional renewable electricity by 2030 and diversify the renewable electricity portfolio. Policy measures that could help to meet the Government increased ambition include:

- Expediting the adoption of clear, and timebound, licensing and consenting procedures for offshore renewable energy development;
- Addressing technical grid challenges to incorporating very high levels of asynchronous renewables, for example via EirGrid's Delivering a Secure, Sustainable Electricity System (DS3) programme;
- Creating a clear, and timely, grid connection access and concession regime for offshore and new onshore renewable energy development, with due regard for methods by which the State can most cost effectively reduce or manage risk;
- Creating markets for grid services such as energy storage and other services supporting high levels of renewables on-grid;
- Supporting onshore wind farms reaching end of life, by providing clarity for re-powering investment decisions intertwined with new wind guidelines;
- Assisting the timely delivery of increased interconnection;
- Establishing corporate power purchase agreements mechanisms with mandated minimum renewable energy purchases or self-generation for large electricity demand users to leverage private investments in renewable electricity;
- Encouraging prosumers by consideration of communication methods, market mechanisms, market rules, frameworks and setting a price for export to the grid from point source generation, in line with the ambitions outlined in the Clean Energy Package;

² Data centres have high load factors of around 80%. Each 1MW uses $24 \times 365 \times 80\% = 7\text{GWh}$. EU targets require that 40% or 3GWh of that should come from renewables. A 1MW wind turbine produces roughly 3GWh/yr.

- Developing community energy and small-scale renewable generation projects to enable a shift to a more distributed generation system with demand response capabilities.

Section 9 of the report details the effort which must be made for closing the gaps to targets. It is detailed that “given the cumulative nature of emissions, an immediate acceleration of emissions reductions is required to put Ireland on the committed long-term trajectory”. Included as part of this is the country’s commitments under the Paris Agreement. Further to this:

“Increased ambition and delivery targets supporting a sustainable energy transition are anticipated to be included in the upcoming All of Government Climate Action Plan being produced by DCCAE.”

It is noted under the strategy that to achieve the level of ambition set for 2020 and 2030 the country will be dependent on:

- Increased deployment rates of sustainable energy technologies and practices across the entire economy;
- The development of a national training and skills strategy to support growth of the clean energy technology sector;
- Support for changes in business models, nascent clean energy technology supply chains and the addressing of existing market failures;
- Early resolution of planning and regulatory barriers, including continued public engagement, and the development of appropriate market structures – especially for electrification of heat and transport supported with high levels of renewable electricity;
- Significant mobilisation of private investment in renewable energy and energy efficiency – additional spend on efficiency is known to achieve multiple benefits including warmer, healthier and more cost effective buildings;
- The acceleration of innovation and technology adoption, especially in the area of electricity demand response, grid flexibility and storage;
- The exploitation of advances in Information Communications Technology (ICT) and national strengths in this field to advance renewables and energy efficiency, particularly in relation to passenger mobility solutions;
- Aggressively adopting the ‘avoid, shift and improve’ transport energy policy principles – this involves managing mobility demand to avoid trips or a shift to the most efficient modes, plus improving the energy efficiency of vehicles as well as reducing the carbon intensity of fuels;
- Taking in the ethical cost of carbon consideration in all aspects of public and private enterprise planning, involving the enforcement of the polluter pays principle by including the negative external costs associated with emissions such as healthcare or environmental reparation costs,
- An approach to carbon neutrality in the agriculture and land-use sector, including forestry, that does not compromise capacity for sustainable food production;
- The promotion of an environmentally aware and concerned citizen and community ideology to combat climate change, including recognition of the impact of diet and consumerism on climate change.

2.1.2.4 SEAI Energy in Ireland 2019 Report

In December 2019 SEAI produced the Energy in Ireland 2019 report, which provides the most up to date figures available (from 2018) in relation to energy production and consumption in Ireland. The report found that despite the increase in energy demand energy-related CO₂ emissions fell slightly mainly due to (a) a reduction in the amount of coal used for electricity generation (arising from a technical fault at Moneypoint – Ireland’s only coal-fired electricity generation plant) combined with (b) increased contributions from wind generation. In relation to renewable energy targets, the 2019 report found that:

- The share of electricity generated from renewable sources increased by 3.1 percentage points in 2018, to 33.2%. The 2020 target being 40%;
- The share of energy used for transport from renewable energy resources decreased from 7.4% in 2017 to 7.2% 2018. The 2020 target is 10%;
- The share of energy used for heat from renewable resources decreased from 6.7% in 2017 to 6.5% in 2018. The 2020 reduction target is 12%.

At the end of 2018 the installed capacity of wind generation reached 3,676 MW, and during 2018, 358 MW of wind capacity was installed. The SEAI 2019 report also makes the following statements:

“EirGrid and ESB Networks note that as of 2019 there is 1,873 MW of additional wind generation planned, either with connection contracts in place or applications for connection underway. Historically, there has been a maximum of just over 500 MW installed in any one year since 2005 and on average the installation rate has been 200 MW.”

“In relation to the displacement of fossil fuels by renewable energy, it is estimated that in 2018 approximately €623 million in fossil fuel imports were avoided, of which €432 million was avoided by wind generation.”

In relation to the findings of this December 2019 SEAI report, it is clear that wind energy represents the strongest and most deployable renewable energy resource available to reduce dependence on fossil fuels in Ireland. While it is clear that additional deployment is on-going, it is also apparent that it is unlikely that the 2020 targets for renewable electricity generation will be met this year. Achieving targets becomes even more challenging in the context of increasing electricity demand.

The proposed development represents an opportunity to bring forward an additional renewable energy source which will contribute towards achieving further decarbonisation of the electricity generation sector.

2.1.2.5 SEAI Renewable Energy in Ireland 2020 Update

The SEAI’s Renewable Energy in Ireland 2020 Update was published in April 2020. Section 5.2 of the report details the most recent updates with regards to wind energy, it is noted that the total electrical output from wind in 2018 (not normalised) was 8,640 GWh. This was an overall increase of 16% when compared to 2017 figures. In 2018 it was found that energy generated by wind accounted for 28% of the gross electrical consumption, this was second to only natural gas.

Plate 2-2 below depicts the annual growth in installed wind-generation capacity and overall cumulative capacity since 2000. It should be highlighted that in 2018, 258 MW of wind capacity was installed within Ireland, furthermore an additional 461 MW was installed in 2019 bringing the total installed capacity to 4,137 MW.

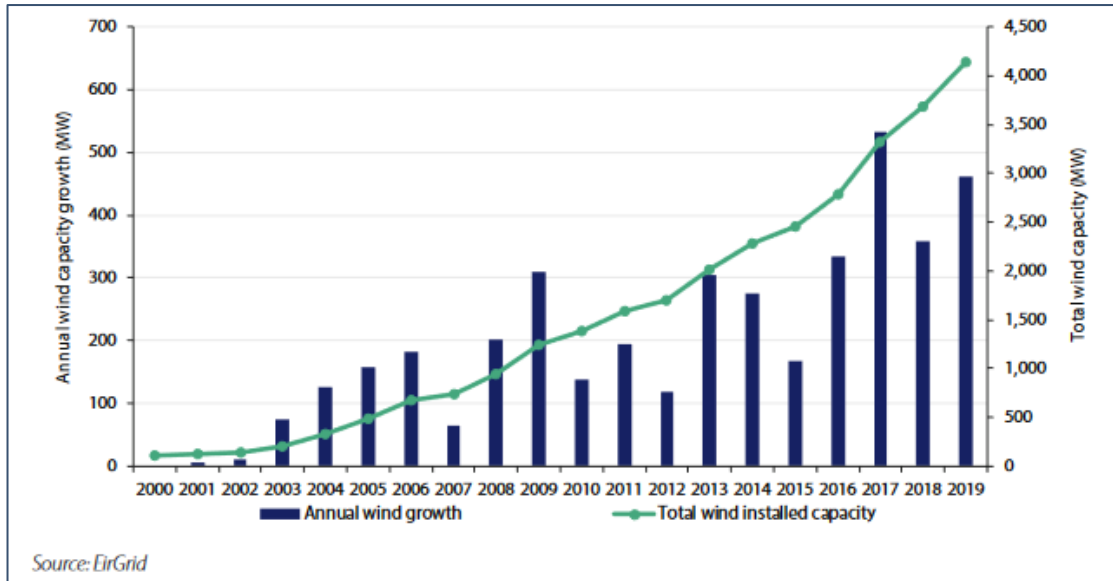


Plate 2.2 Installed wind-generation capacity 2000 to 2019 (Source: SEAI, 2020)

In relation to renewable electricity as is depicted in Plate 2-3 below Ireland was 12th out of the EU-28 at 33.2%, above the EU-28 average of 32.1%. The report notes that the top performing countries tend to have large hydropower resources, including Austria and Sweden. Furthermore, it is noted that Ireland had the second highest share of wind-generated electricity in 2018 at 28.1%.

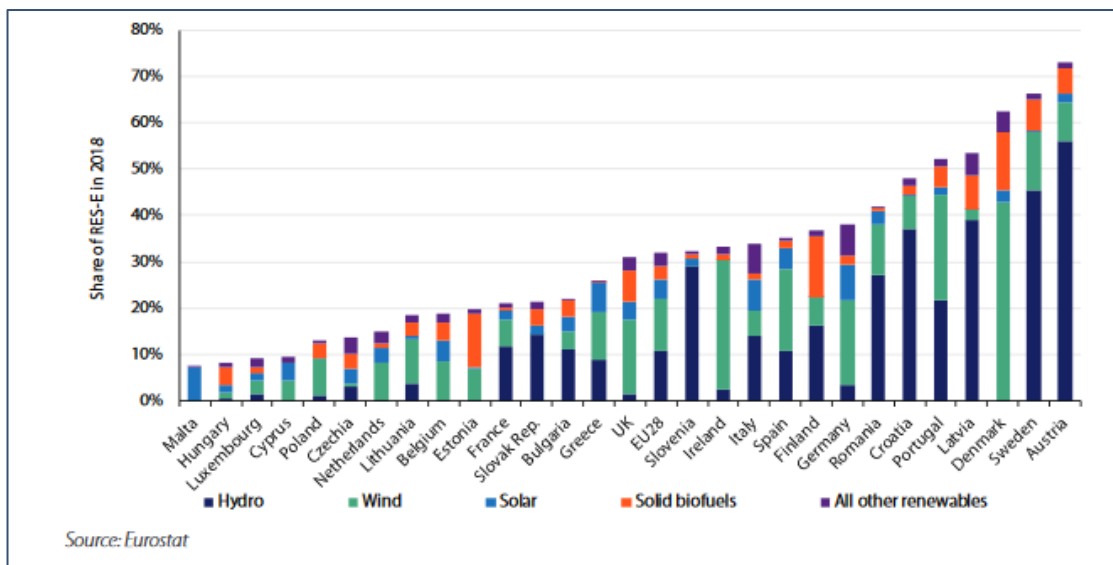


Plate 2.3 Renewable Electricity Share in 2018 for EU Member States (Source: SEAI, 2020)

Notwithstanding the above the report acknowledges that Ireland is not on track to meet its 2020 renewable energy targets, and overall Ireland has made the second lowest progress to meeting the overall Renewable Energy Share (RES) target of all EU states.

2.1.2.6 All-Island Generation Capacity Statement 2020-2029

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’s Energy Scenarios which predict an overall Energy Requirement for Ireland of approximately 41 TWh (Terawatt-hours) 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%. Ireland has a national target of 40% by 2020. The Statement goes on to note 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 135 MW to over 4,127 MW between 2002 and 2019, this value is set to further increase as Ireland endeavours to meet its renewable targets.

With regard to battery storage and energy storage in general, the statement notes that Battery Energy Storage does not contribute directly to each region’s RES-E target however it can help to facilitate the integration of increased renewable energy capacity. It is noted that sufficiently flexible energy storage systems, particularly those connected through fast-response electronic interfaces would ideally complement a varied and disperse generation portfolio.

2.1.3 National Policy

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

- Irelands Energy Policy Framework 2007-2020;
- National Renewable Energy Action Plan;
- White Paper on Energy Policy in Ireland 2015-2020;
- National Strategy for Intensifying Wind Energy Development 2000;
- Draft National Energy & Climate Plan 2021-2030; 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.

2.1.3.1 National Renewable Energy Action Plan, 2010

Article 4 of the Renewable Energy Directive 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.

The NREAP sets out the Government’s strategic approach and planned measures to deliver on Ireland’s 16% target under the Renewable Energy Directive. In relation to wind energy, the NREAP states:

“...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.”

2.1.3.2 White Paper on Energy 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.

A Government White Paper entitled ‘Ireland’s Transition to a Low Carbon Energy Future 2015-2030’ was published in December 2015 by the then 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 built upon the White Paper published in 2007 (‘Delivering a Sustainable Energy Future for Ireland: The Energy Policy Framework 2007 – 2020’ Department for Communications, Marine and Natural Resources, 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 that:

“Onshore wind continues to be the main contributor .. 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.”

With regard to the storage of energy, the White Paper acknowledges the need for the ‘development and renewal’ of energy networks to meet economic and social goals. The ‘development and renewal’ of energy infrastructure will be critical for the secure provision of energy and the achievement of national renewable energy targets. The White Paper notes the following:

“Electricity storage is expected to play an important role in facilitating the deployment of intermittent renewable energy technologies like wind, solar PV and ocean energy. The EU’s Energy Roadmap 2050 confirms that storage technologies remain critical, and that future integration of RES-E will depend on increased storage capacity. Electricity storage can be deployed in a number of circumstances in Ireland, including at grid-scale...”

“Grid energy storage involves the storage of electrical energy on a large scale, transformed into other forms of energy, for optimum utilisation by the grid. A variety of technologies can be used including pumped storage hydroelectricity, compressed air storage, battery storage and thermal storage devices. Electrical energy is stored during times when production exceeds consumption, and this is returned to the grid when production falls below consumption. Grid energy storage can mitigate some of the grid-connection challenges posed by intermittent power plants, such as renewable electricity plants powered by wind, solar or tidal power, and can help to better manage the electricity system”.

It is broadly acknowledged that an uninterrupted supply of energy is vital to the functioning of Irish society. The development of adequate infrastructure (such as the proposed development) and the diversification of energy supply, which avoids overdependency on any particular fuel, supplier, route or region, again facilitated by the Project, is necessary in securing a resilient energy system and renewable electricity supply.

2.1.3.3 **National Strategy for Intensifying Wind Energy Development 2000**

The Strategy for Intensifying Wind Energy Development was published in 2000 by the Renewable Energy Strategy Group as part of the Department of Communications, Energy and Natural Resources. The main aim of the group was to develop a strategy for the increased contribution of onshore wind energy to electricity generation. During the initial six-month period of the preparation of the strategy, the group examined many aspects of, and constraints to, the further development of wind energy.

The principal conclusion of the Renewable Energy Strategy Group was that three key elements: Electricity Market, Electricity Network and Spatial Planning, needed to be integrated into a plan-led approach to wind energy deployment. The recommended strategy, arising from this approach, has been designed to meet the targets set for deployment of renewable energy at least cost.

The recommended plan-led approach as described in the Strategy sees spatial planning considerations as crucial in determining suitable areas where wind farms may be accommodated. It states that these decisions should be informed by the availability of the resource (wind), the strength of the electricity networks, and landscape and other planning considerations.

2.1.3.4 **Draft National Energy and 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:

- > energy efficiency
- > 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.

2.1.3.5 **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. The measures to achieve this include the following:

- Hold the first Renewable Electricity Support Scheme (RESS) auction by the end of 2020, with auctions held each year thereafter, including the first RESS auction for offshore wind in 2021.
- Give cross-government priority to the drafting of the Marine Planning and Development Bill, so that it is published as soon as possible and enacted within nine months.
- Produce a whole-of-government plan setting out how at least 70% renewable electricity generation by 2030 will be delivered and how the necessary skills base, supply chains, legislation, and infrastructure to enable it will be delivered. This new plan will make recommendations for how the deployment of renewable electricity can be sped.
- Complete the Celtic Interconnector to connect Ireland’s electricity grid to France.
- Commence planning for future interconnection with our neighbours.
- Finalise and publish the Wind Energy Guidelines, having regard to the public consultation that has taken place.
- Develop a Solar Energy Strategy for rooftop and ground, based photovoltaics, to ensure that a greater share of our electricity needs is met through solar power.
- Continue Eirgrid’s programme ‘Delivering a Secure, Sustainable Electricity System’ (DS3).
- Strengthen the policy framework to incentivise electricity storage and interconnection.
- Support the clustering of regional and sectoral centres of excellence in the development of low-carbon technologies.
- Invest in research and development in ‘green’ hydrogen (generated using excess renewable energy) as a fuel for power generation, manufacturing, energy storage and transport.

2.1.4 Summary of Compliance with Renewable Energy Policy and Targets

It is now clear that Ireland is unlikely to meet its 2020 target for renewable energy as well as the longer-term movement away from fossil fuels. Furthermore, Ireland faces significant challenges 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 will aid in and contribute towards Ireland addressing these challenges as well as addressing the country’s over-dependence on imported fossil fuels.

2.2 Climate Change Policy and Targets

2.2.1 Introduction

This section of the EIAR presents the relevant and specific policies and targets which relate to climate change and greenhouse gas emissions. 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:

- > 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 Adaptation Framework - Planning for a Climate Resilient Ireland, 2018;
- > National Policy Position on Climate Action and Low Carbon Development, 2014;
- > Climate Action and Low Carbon Development Act, 2015;
- > National Mitigation Plan;
- > Report of the Joint Committee on Climate Action Climate Change: A Cross-Party Consensus for Action, March 2019; and,
- > Climate Action Plan, 2019.

International and national policy consistently identifies the need to reduce 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, the proposed renewable energy development 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 International Policy

2.2.2.1 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 sets 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.

2.2.2.2 Kyoto Protocol Targets

Ireland is a Party to the Kyoto Protocol, 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 binding.

2.2.2.3 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 1st January 2013 to 31st December 2020;
- A revised list of 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.

2.2.2.4 COP21 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 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.

2.2.2.5 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 countries, 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 €100 billion over 10 years.

2.2.2.6 Progress on Targets

The ‘*Europe 2020 Strategy*’ is the EU’s agenda for growth and jobs. 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 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. The EU is expected to exceed its Europe 2020 target of reducing GHG emissions by 20% by 2020. However, while the EU as a whole is projected to exceed it’s 2020 target of reducing greenhouse gas emissions by 20%, Ireland is currently one of the countries projected to miss its national targets. 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.”

While official figures for 2020 have not been released to date, the 2019 SEAI National Energy Projections Report, published last year (2019) acknowledges that Ireland will fall short of its 2020 targets, it states “...it is expected that Ireland will fall short of its mandatory European target for an overall 16% renewable energy share by 2020, with overall achievement approximately 13%”. The report goes on to confirm “Compared with other European Countries Ireland was 22nd out of the EU28 for overall renewable energy share and 26th out of the EU-28 for progress towards overall 2020 renewable energy target.”

2.2.2.7 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 Ireland’s 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 were projected to 2020 using two scenarios; ‘With Existing Measures’ and ‘With Additional Measures’. The ‘With Existing 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 (million tonnes of Carbon Dioxide) under the “With Existing Measures” scenario and 9.2 Mt CO₂ under the “With Additional Measures” scenario.

2.2.3 National Climate Change Policy

2.2.3.1 National Climate Change Adaptation 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 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 2.2.3.2.

2.2.3.2 National Adaptation Framework Planning for a Climate Resilient Ireland 2018

Ireland's first statutory National Adaptation Framework (NAF) was published on the 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. The NAF can be broken down as follows:

Chapter 1 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 °C (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;
- Uncertainties exist in relation to the extent and rate of future climate change. Addressing uncertainties is a challenge but should not be read as an excuse for inaction as there is overall agreement on the robustness of trends and projections;
- The impacts and risks of climate change can be reduced and managed through mitigation and adaptation actions;
- Adaptation actions must be risk based, informed by the vulnerabilities of exposed societies and systems and an understanding of projected climate change;

- 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;
- Climate change will have diverse and wide ranging impacts on Ireland’s environment, society, economic development, including managed and natural ecosystems, water resources, agriculture and food security, human health and coastal infrastructures and zones;
- 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;
- Sufficient robust information exists nationally to further progress the process of implementing adaptation actions and increasing social, economic and environmental resilience to climate change.

The framework continues to detail that as per the Intergovernmental Panel on Climate Change (IPCC, 2013) it was concluded 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 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.”

Chapter 4 outlines how the Framework will be implemented with revised Governance and reporting arrangements as well as actions and supporting objectives that are to be progressed.

2.2.3.3 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.

2.2.3.4 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);
- 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.

2.2.3.5 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 *“Ireland’s 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 were 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 greenhouse gas 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, however 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.

2.2.3.6 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 Ireland's 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 of 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 2.4 below depicts Ireland's decarbonisation pathway up to the year 2030. The below will be used to manage Ireland's decarbonisation pathway and details the path for the various sectors:

Technology	NDP	Uptake to meet 2030 targets (Based on MACC analysis)	
		2030	2030
Electricity	Total RES in Generation mix¹, %	55	70
	• Onshore wind, GW	-7	-8.2
	• Offshore wind, GW	1.8	-3.5
	• Solar PV, GW	1.5	-0.4
Transport	Electric Vehicles, #	498,000	936,000
	• Passenger EVs, #	355,000	550,000
	• Passenger PHEVs, #	118,000	290,000
	• Electric delivery vans, #	19,000	61,000
	• Electric trucks, #	n.a	34,000
	• Electric buses, #	1,250	1,000-1,200
	Bioethanol blend, Volume	E10	E10
Biodiesel blend, Volume	B12	B12	
Built Environment	Retrofitted homes¹, cumulative 2021-30, #	450,000	500,000
	Electric heating sources, total residential, #	370,000	600,000
	• New buildings, #	200,000	200,000
	• Existing buildings, #	170,000	400,000
Enterprise	Electric heating sources, total commercial, #	15,000³	25,000
	Emissions, MtCO₂eq.	9	8
Agriculture	• Alternative fuels in cement fuel mix, %	N/A	80%
	• CO ₂ -neutral heat generation in food industry ² , %	N/A	-80%
	Emissions, MtCO₂eq.	21	18
Other (e.g. waste)	Emissions, MtCO₂eq.	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 2.4 Ireland’s Decarbonisation Pathway Dashboard to 2030

Chapter 7 of the CAP details the plans views surrounding electricity. 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.”

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 2.5 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
 - 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 2.5 above, CAP identifies a need for 8.2 GW 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.

The proposed Lyrenacarriga Wind Farm is in line with the overall provisions handed down within the CAP. The proposed development through the production of renewable energy will aid in Ireland meeting its binding targets. The development will also contribute to the above referred target of 8.2 GW total of increased onshore wind capacity. Furthermore the proposed development will contribute to the following:

- Provide renewable energy which will connect to the national grid (Target- 8.2 GW total of increased onshore wind capacity),
- Aid in the decarbonisation of the energy system (Target- Reduce CO₂ eq. emissions from the sector by 50–55% relative to 2030),

2.2.3.7 National Renewable Energy Action Plan

Article 4 of the Renewable Energy Directive 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.

The NREAP sets out the Government’s strategic approach and planned measures to deliver on Ireland’s 16% target under the Renewable Energy Directive. In relation to wind energy, the NREAP states:

“... 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.”

2.2.3.8 Summary of Compliance – Climate Change Policy and Targets

The proposed wind farm development will aid Ireland in meeting its long-term energy and climate targets.

As noted within this section it is expected, based on available data, that Ireland will fall short of its 2020 EU targets. Based on this Ireland will incur a number of financial penalties for missing its 2020 target. Furthermore, as noted within the CAP it is an ambition 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.

It is recognised that to achieve the 2030 target of 70% renewable electricity a number of steps including phasing out coal- and peat-fired electricity generation plants, reinforcing the grid and increasing renewable electricity will be required. The CAP identifies that Ireland will essentially need to more than double its installed capacity of onshore wind generation over the coming years. The proposed development can aid in increasing the installed capacity of wind energy within the country and aid in Ireland moving towards meeting both the 2030 targets that have been established and contribute to the decarbonisation of the economy.

2.3 Need for the Proposed Development

2.3.1 Overview

Ireland faces significant challenges to its efforts to meet EU targets for renewable energy by 2030 and its commitment to transition to a low carbon economy by 2050, as described in Sections 2.1 and 2.2 above. The need for the proposed project is driven by the following factors:

1. A legal commitment from Ireland to limit greenhouse gas emissions under the Kyoto protocol to reduce global warming;
2. A requirement to increase Ireland’s national energy security as set out in the Energy White Paper;
3. A requirement to diversify Irelands energy sources, with a view to achievement of national renewable energy targets and an avoidance of significant fines from the EU (the EU Renewables Directive);

4. *Provision of cost-effective power production for Ireland which would deliver local benefits; and*
5. *Increasing energy price stability in Ireland through reducing an over reliance on imported gas.*

These factors are addressed in further detail below.

2.3.2 Reduction of Carbon Emissions and Other Greenhouse Gases

Air pollution and the poor air quality it causes is a major environmental health risk. The European Environment Agency estimates that there were 1,180 premature deaths in Ireland in 2016 due to poor air quality, with a figure of 538,014 premature deaths across the wider EU (*'Air Quality in Ireland 2018'*, Environmental Protection Agency, 2019).

The consumption of fossil fuels for energy results in the release of particulates, sulphur dioxide and nitrogen dioxide to our air. The use of wind energy, by providing an alternative to electricity derived from coal, oil or gas-fired power stations, results in emission savings of carbon dioxide (CO₂), oxides of nitrogen (NO_x), and sulphur dioxide SO₂, thereby resulting in cleaner air and associated positive health effects.

It is estimated that the proposed wind farm will have a potential output of between 60 and 85 MW. On this basis, the proposed development will result in the net displacement of approximately 80,317 tonnes of Carbon Dioxide (CO₂) per annum. The carbon offsets resulting from the proposed development are calculated in Section 11.3.4 of Chapter 11 of this EIAR: Air and Climate.

The proposed development will therefore make a significant contribution to reducing Ireland's CO₂ emissions. The proposed development therefore represents an opportunity to further harness Ireland's significant renewable energy resources, with valuable benefits to air quality and in turn to human health.

2.3.3 Energy Security

At a national level, Ireland currently has one of the highest external dependencies on imported sources of energy, such as coal, oil and natural gas (*'Energy in Ireland 2019'*, Sustainable Energy Authority of Ireland, 2020). This leaves Ireland exposed to large energy price fluctuations at a minimum and possibility of fuel shortages if a major energy crisis were to occur. The international fossil fuel market is growing increasingly expensive and is increasingly affected by international politics which can add to price fluctuations. This volatility will be increased as carbon prices increase in the future. This has implications for every Irish citizen. The SEAI has stated that our heavy dependence on imported fossil fuels, "*is a lost opportunity in terms of keeping this money here in Ireland and further developing our abundant renewable resources*". Furthermore, coal, oil and natural gas are fossil fuels of finite availability and are therefore becoming increasingly scarce.

The cost of carbon credits is included in all electricity traded, and the price of electricity generated by coal is particularly vulnerable due to its high carbon emissions per unit of electricity generated. Coal

still generates almost 25% of Ireland’s electricity, but the Programme for Government³ called for a review of options to replace it with low carbon alternatives within a decade. Any steps to reduce this dependence on imported fossil fuels will add to financial autonomy and stability in Ireland. The use of Ireland’s indigenous energy resources, such as wind, will contribute to a reduction in energy imports.

2.3.4 Competitiveness of Wind Energy

While Ireland has a range of renewable resources, as the White Paper states “Onshore Wind 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.”

In fact, the cost of support is more than offset by the fact that adding large quantities of wind to the wholesale market drives down auction prices in any half hour trading period when the wind is blowing, i.e. for 80% of the hours of the year. A 2015 study by Pöyry, (an international consulting and engineering company) entitled ‘*Future Wind Scenarios And Electricity Market Effect In Ireland*’ showed that reaching our targets in 2020 would reduce wholesale prices by more than costs of new grid infrastructure, backup and the subsidies paid to wind, resulting in a net saving of €43 million per year in 2020.

The Joint Committee on Climate Action report, ‘*Climate Change: A Cross- Party Consensus for Action*’ (March 2019) highlights the requirements for alternate energy production. The report notes that it is planned to stop burning coal at Moneypoint by 2025 as well as peat at Bord na Móna and ESB stations by 2030.

Against this backdrop, the importance of wind energy as the main component of Ireland’s renewable energy development is acknowledged, and wind energy is accepted as the main contributor to meeting the Country’s national climate change and energy supply obligations. Notwithstanding this, it must also be acknowledged that not every part of Ireland is well endowed with wind resources and therefore, not all counties will be able to deliver wind-based renewable energy. Furthermore, whilst it is accepted that there are other renewable energy technologies in operation, for the foreseeable future many areas will be unable to deliver significant renewable energy output. This primarily applies to the more populous areas.

2.3.5 Increasing Energy Consumption

In their ‘*All Island Generation Capacity Statement 2019 - 2028*’ (EirGrid, 2019), EirGrid states that electricity demand in Ireland is increasing and is forecast to increase significantly, due to the expected expansion of many large energy users, primarily data centres. It also states that “*with this increase in demand, and the expected decommissioning of generation plant due to decarbonisation targets and emissions standards, it is expected that new generation will be required*”.

The EirGrid Capacity Statement estimates that up to 8.2 GW of increased onshore wind capacity is required to meet the 70% renewable energy target of the Climate Action Plan 2019. Assuming a minimum installed capacity of 60 MW, the proposed development will be capable of providing power

³ Department of Communications, Climate Action and Environment, National Climate Policy, available at: <https://www.dccae.gov.ie/en-ie/climate-action/topics/climate-action-at-a-national-level/Pages/default.aspx>

to approximately 43,800 households every year, as presented in the calculations in Section 4.3.1.6 of this EIAR. This calculation is based on the installation of 17 No. turbines each with a 3.5 MW output; turbines with a higher output will increase the number of houses that could be powered.

2.3.6 Economic Benefits

In addition to helping Ireland avoid significant fines and reducing environmentally damaging emissions, the proposed project will have significant economic benefits.

At a national level, Ireland currently has one of the highest external dependencies on imported sources of energy, such as coal, oil and natural gas, as detailed in Section 2.1.1 above. The SEAI report ‘*Energy in Ireland 2019*’ states that in terms of gross final energy production in Ireland in 2018, the use of renewables avoided €620 million of fossil fuel imports.

Commercial rate payments from the proposed project will be provided to Cork and Waterford County Councils each year, which will be redirected to the provision of public services within Counties Cork and Waterford. These services include provisions such as road upkeep, fire services, environmental protection, street lighting, footpath maintenance etc. along with other community and cultural support initiatives.

The 2014 report ‘*The Value of Wind Energy to Ireland*’, published by Pöyry, stated that growth of the wind sector in Ireland could support 23,850 jobs (construction and operational phases) by 2030. It is estimated that the proposed project has the potential to create up to 100 jobs spread across the construction, operational and maintenance phases of the proposed wind farm. During construction, additional employment will be created in the region through the supply of services and materials to the wind farm. There will also be income generated by local employment from the purchase of local services i.e. travel, goods and lodgings. Further details on employment associated with the proposed wind farm are presented in Section 5.2.6 of this EIAR.

The proposed development will have both long-term and short-term benefits for the local economy including income to local landowners, job creation, work opportunities for local businesses and service providers, local authority commercial rate payments a Community Benefit Scheme and Community investment opportunities. Based on the current proposal, a Community Benefit Scheme upward of €360,000 per year will be made available over the lifetime of the project. The value of this fund will be directly proportional to the level of installed MWs at the wind farm and will facilitate projects such as the recreational & amenity proposals which form part of this application. Further details on the proposed Community Gain proposals are presented in Section 4.5 of this EIAR.

2.4 Strategic Planning Context

2.4.1 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 under the following headings:

- National Planning Framework 2018 – 2040;
 - Key Sustainability Elements of National Planning Framework;
- Draft Renewable Electricity Policy and Development Framework, 2016;
- Regional Policy;
 - Regional Spatial and Economic Strategy for the Southern Region;
- Local Policy;
 - Waterford County Development Plan 2011-2017;
 - Cork County Development Plan 2014-2020;

- 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;
 - Draft Revised Wind Energy Development Guidelines 2019;
 - 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.

As a renewable energy project, the current proposal is 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 relevant County Development Plans provisions are dealt with in detail in the Local Policy section below.

2.4.2 National Policy

2.4.2.1 National Planning Framework, 2018

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. The NPF forms the top tier of the national planning policy structure, accordingly establishing the policy context for the Regional Spatial and Economic Strategies and local level development plans. In an effort to move away from developer led development to one informed by the needs and requirements of society, a number of objectives and policies have been put in place in order for the country to grow and develop in a sustainable manner.

The NPF notes that the population of Ireland is projected to increase by approximately 1 million people by 2040 which will result in a population of roughly 5.7 million. This population growth will place further demand on both the built and natural environment. 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.”

The NPF notes that while the overall quality of the country’s environment is good it is not without challenges. Furthermore they note that the manner in which we plan for the potential issues is important.

“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.”

The NPF seeks to achieve ten strategic priorities surrounding:

1. Compact Growth
2. Enhanced Regional Accessibility
3. Strengthened Rural Economies and Communities
4. Sustainable Mobility
5. A Strong Economy, supported by Enterprise, Innovation and Skills
6. High-Quality International Connectivity
7. Enhanced Amenity and Heritage
8. Transition to a Low Carbon and Climate Resilient Society
9. Sustainable Management of Water and other Environmental Resources
10. Access to Quality Childcare, Education and Health Services

Relevant to the proposed development, **National Strategic Priority No. 8** – (Transition to a Low Carbon and Climate Resilient Society) seeks to achieve this transition by 2050. The transition will “*shape investment choices over the coming decades in line with the National Mitigation Plan and the National Adaptation Framework. New energy systems and transmission grids will be necessary for a more distributed, renewables-focused energy generation system, harnessing both 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.*”

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.

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

National Policy Objective 55 of the NPF specifically relates to renewable energy, it states that 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”.

Section 10 of the NPF sets out a series of desired National Strategic Outcomes, underpinned by the national planning objectives set out in the NPF in combination with governance arrangements and aligned with capital investment. 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.

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.

In achieving this desired National Strategic Outcome of a transition to sustainable energy, the NPF re-emphasises the following national policy target of delivering *“40% of our electricity needs from renewable sources by 2020 with a strategic aim of in excess of 50% by 2030 and more by 2040 and beyond using wind, wave, solar, biomass and hydro sources”*.

2.4.2.2 Draft Renewable Electricity Policy and Development Framework (2016)

The Renewable Electricity Policy and Development Framework (REPDF) has been formulated to ensure Ireland meets its future needs for renewable electricity in a sustainable manner compatible with environmental and cultural heritage, landscape and amenity considerations⁴.

The Framework will contribute toward meeting Ireland’s future energy needs, particularly up to 2030 and beyond, as informed by national and European policy, and be reviewed at five-yearly intervals. The REPDF will be primarily for the guidance of An Bord Pleanála, planning authorities, other statutory authorities, the general public and persons seeking development consent in relation to large scale projects for the generation of renewable electricity on land. It will set out policy in respect of environmental considerations, community engagement and in relation to potential, future export of renewable electricity. It will seek to broadly identify suitable areas in the State, where large-scale renewable electricity projects can be developed in a sustainable manner. The existing system for planning permission applications to local authorities or An Bord Pleanála will remain unchanged in respect of renewable electricity projects. These will still require planning permission, including environmental impact assessment where appropriate. It is proposed that the Policy and Development

⁴ Renewable Electricity Policy and Development Framework - <http://www.dccae.gov.ie/energy/en-ie/Renewable-Energy/Pages/Renewable-Electricity-Policy-and-Development-Framework.aspx>

Framework will be focused on providing for renewable electricity projects of large scale. It is considered that a threshold of 50 MW and upwards would be appropriate, having regard to the provisions of the strategic infrastructure development legislation.

The most recent publicly circulated documentation has indicated that the updated REPDF will have the following objectives:

- To maximise the sustainable use of renewable electricity resources in order to develop progressively more renewable electricity for the domestic and potentially, for future export markets.
- To assist in the achievement of targets for renewable energy, enhance security of supply and foster economic growth and employment opportunities. It will identify appropriate parts of the country for large renewable electricity projects and will assess the environmental impact of renewable electricity projects at various scales at a national level.
- To identify strategic areas on land for large scale renewable energy generation and this analysis will include a spatial component.
- In addition, the amended scope will include renewable electricity projects below this threshold (including wind and solar PV) at a national level.

The updated scope will also include an assessment of available grid capacity in relation to the location of large and medium-scale renewable electricity generation plants. This analysis will support the strategic planning and location decision making process for Data Centres in Ireland.

2.4.3 Regional Policy

2.4.3.1 Southern Regional Assembly Regional Spatial & Economic Strategy (RSES)

The Regional Spatial and Economic Strategy (RSES) for the Southern Region 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 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 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; and
- 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 (onshore 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 101 International Hub for Energy Innovation
- It is an objective to support continued innovation and research in the energy sector and to develop a role as an international hub for energy innovation.
- RPO 102- Energy Research Funding
- It is an objective to support initiatives for energy research funding within our region to accelerate diversification away from fossil fuels to green energy, including the potential of wind, wave, solar, biomass, biofuels, biogas and hydrogen in the Region.
- RPO 103- Interconnection Infrastructure
- It is an objective to support the sustainable development of interconnection infrastructure, in particular the potential for the sustainable development of an international connection between Ireland and France in the Region.

2.4.4 Local Policy: County Development Plans

The proposed development is located within the administrative boundaries of both Waterford County Council and Cork County Council. Of the proposed 17 No. turbines, 11 turbines, substation and associated infrastructure are being proposed within County Waterford and 6 no. turbines and associated infrastructure are proposed in County Cork. Accordingly, analysis and review of both the Waterford County Development Plan 2011 – 2017 (as extended) and the Cork County Development Plan 2014-2020 (as varied) is considered pertinent in demonstrating the appropriate nature of the proposed development within both jurisdictions. The strategic analysis of both development plans in the context of the proposed renewable energy project is set out below.

2.4.4.1 Waterford County Development Plan 2011-2017 (as extended) (as varied)

On 1st June 2014, Waterford City & County Council was established following the amalgamation of Waterford City Council and Waterford County Council. The existing development plans within the amalgamated Council area, including Waterford City Development Plan 2013 – 2019 and Waterford County Development Plan 2011 – 2017, have had their lifetime extended, as per *Section 11A* of the Planning and Development Act 2000 (as amended) and currently remain in effect. Waterford City and County Council intend to commence the preparation of a new development plan for the amalgamated administrative area within 12 months of the publishing of the RSES. The RSES came into effect in January 2020.

The Waterford County Development Plan 2011 – 2017 (as varied), hereafter referred to as the WCDP, is the principal instrument that is used to sustainably manage change in land use in the County. The Plan sets out the Council’s strategic land use objectives and policies for the overall development of the County. The strategic goals of the WCDP relevant to the proposed development are as follows:

- Ensuring the timely provision of infrastructure in line with residential and economic development;
- Building upon local strengths in agriculture, enterprise, tourism, local services, land and marine based natural resources; and
- Enhancing and protecting our built and natural environment.

Underpinning these strategic goals, the WCDP notes that the requirement / ongoing need for the expansion of Waterford’s energy infrastructure is derived from both the significant development levels experienced in the County up to 2008 and the estimated needs of the future development patterns in the County. Similar to the policies ethos set out within the national and regional planning policy, the WCDP acknowledges the importance of a secure and reliable electricity supply that will support further economic and sustainable development of the County. It is important to note that at the time of writing of the WCDP, the county was approximately 90-95% dependant on energy sourced from outside the County. As such, Waterford County Council recognises that *‘the increased utilisation of the County’s indigenous energy resources in conjunction with the reduction in use of fossil fuels is imperative to developing a sustainable future’* as indicated in **Policy INF 26**:

1. To facilitate improvements in energy infrastructure and encourage the expansion of the infrastructure at appropriate locations within the County.
2. To support and facilitate the future expansion of the natural gas pipeline.
3. To facilitate, where appropriate, future alternative renewable energy developments throughout the County that are located in close proximity to the National Grid Strategy improvements so as to minimise the length and visual impact of grid connections.
4. To collaborate with EirGrid in accordance with the Grid 25 Strategy to facilitate the delivery of quality connection, transmission and market services to electricity generators, suppliers and customers utilising the high voltage electricity system at appropriate locations within County Waterford.

A Climate Change Forum was established by Waterford County Council in May 2007 to progress the initiation of energy efficient measures and sustainable energy projects to reduce CO₂ emissions. This organisation is an internal Council forum, which meets periodically to develop policies and actions that can realistically and coherently make the maximum contribution to the National effort to address climate change. As part of this, Climate Change Forum has developed a Climate Change Strategy to implement policies and practices that will have significant influence over greenhouse gas emissions in Waterford. It is a stated strategic goal for Waterford County Council to become carbon neutral by 2020. The WCDP 2011-2017 aims:

- To support and implement the policies of the Waterford County Climate Change Strategy when assessing proposals for new development (**Policy ENV 14**);
- To continue to work effectively with the Waterford Energy Bureau (WEB) to reduce greenhouse gas emissions and to support the objectives of the National Climate Change Strategy (**Policy ENV 15**); and
- To ensure that buildings are designed and constructed so as to maximise energy efficiency in line with Local Agenda 21 principles (**Objective ENV 6**).

The WCDP's vision is to develop County Waterford as the leader of the green economy by facilitating renewable energy infrastructure and promoting use of renewable energy among businesses and households throughout the County. The WCDP notes that a '*range of opportunities exist in renewable energies for farms, energy producers and business as well as providing renewable energy solutions that may attract global industries to the County*'. The following policies and objectives set out by the WCDP with regard to renewable energy generation are considered particularly relevant to the proposed development.

- **Objective ENV 5**
 - a) To encourage, where appropriate, proposals for renewable energy developments and ancillary facilities;
 - b) To promote and facilitate wind energy production in the County in accordance with the County Wind Energy Strategy and the Wind Energy Guidelines (2004) produced by the Department of the Environment, Heritage and Local Government;
 - c) To facilitate, where appropriate, the development of small scale hydroelectric power generation, in particular when developed in combination with other forms of energy infrastructure, such as wind farms; and
 - d) To support and encourage the appropriate development of the bio-energy sector and facilitate its development for energy production, heat storage and distribution.
- **Policy ENV 10:** To facilitate and encourage sustainable development proposals for alternative energy sources and energy efficient technologies.
- **Policy ECD 15:** To facilitate appropriate renewable energy infrastructure and promote the use of renewable energy among businesses and households throughout Waterford County.

The implementation of both National and EU renewable energy policies in conjunction with the above local policies are considered by the WCDP to result in the generation of renewable energy as per National and EU targets.

2.4.4.1.1 Wind Energy Strategy

Waterford County Council adopted a Wind Strategy as a variation to the 2005-2011 County Development Plan, (Appendix (8) of the WCDP 2011-2017 refers), and it provides the basis for a planned approach to wind energy development in Waterford.

- **Policy ENV 11:** To promote and facilitate the sustainable development and use of wind energy in the County and to ensure all wind energy developments comply with the Waterford County Wind Energy Strategy and the DoEHLG guidance document on Wind Energy. Screening for Appropriate Assessment will be carried out where required to ensure that there is no negative impact on the integrity (defined by the structure and function and conservation objectives) of any Natura 2000 site located at or adjacent to a proposed site for wind energy development and that the requirements of Articles 6 (3) and (4) of the EU Habitats Directive 92/43/EEC are fully satisfied. The Planning Authority shall have regard to the possible visual impact of a wind farm development on towns and villages, protected views and amenity areas outside of the administrative area of Waterford County Council in the assessment of wind energy applications.

The Wind Strategy categorises the County into 4 no. classification areas based on their suitability to harness wind energy while taking into account the sensitivity of the landscape as indicated below in Plate 2-6. The classes are as follows:

1. Strategic Areas (Areas coloured in Yellow on plate 2.6): These key areas are deemed eminently suitable for wind farm development and should be reserved for such purposes.
2. Preferred Areas (Areas coloured in Blue on plate 2.6): These areas are suitable for wind farm development and should normally be granted planning permission unless specific local planning circumstances would support a decision to refuse permission in the context of the development plan.
3. Areas Open for Consideration (Areas coloured in green on plate 2.6): Applications for planning permission will be treated on their merits with the developer having a clear responsibility to demonstrate as to why the development should be granted permission.
4. No-Go Areas (Areas coloured in Red on plate 2.6): These are areas that are particularly unsuitable for wind farm development. While these areas are considered primarily unsuitable for wind farm development, there may be pockets of land within these “no-go areas” which, due to specific criteria such as significantly high wind speeds, distance from populated areas and screening by natural topography from scenic views and prospects, may be considered for wind farm developments subject to applicants providing appropriate submissions including wire frame analysis, zones of visual influence and digital terrain models.

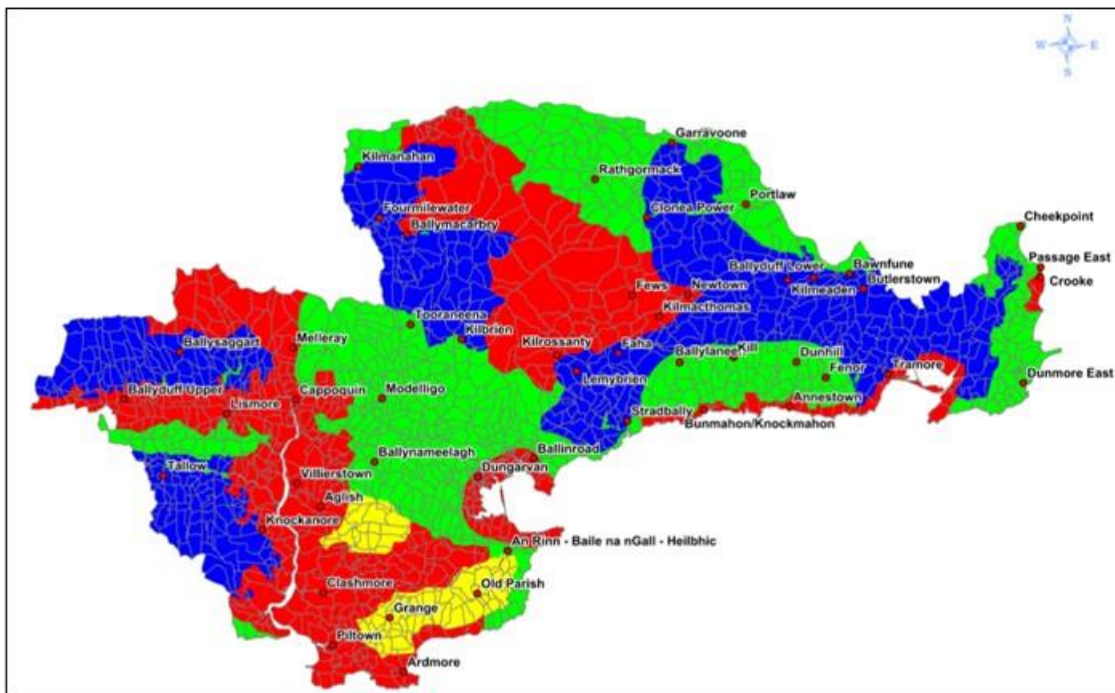


Plate 2-6 Waterford Wind Energy Strategy Map (Source: Waterford County Council)

The part of the proposed development in County Waterford is located within an area designated as a ‘Preferred Area’ for wind farm development based on the Wind Energy Strategy, as shown in Figure 2-1. As is evident based on the above classifications it is considered that these areas are suitable for wind farm development, further it is also noted that they ‘should normally be granted planning permission unless specific local planning circumstances would support a decision to refuse permission in the context of the development plan’. Based on its designation as a ‘Preferred Area’ the principle of the proposed development should be considered acceptable at this location.

The Wind Strategy also emphasises that all new wind farm developments will need to comply with the following standards:

- No turbines shall be positioned within 400m of a habitable house;
- No wind farm projects shall be at variance with the safe operations of Waterford Regional Airport; and,
- Wind farms shall be developed in accordance with recommendations in the Wind Energy Development Guidelines by the Department of the Environment, Heritage and Local Government.

With regards to the above standards the following should be noted in relation to the proposed renewable energy development:

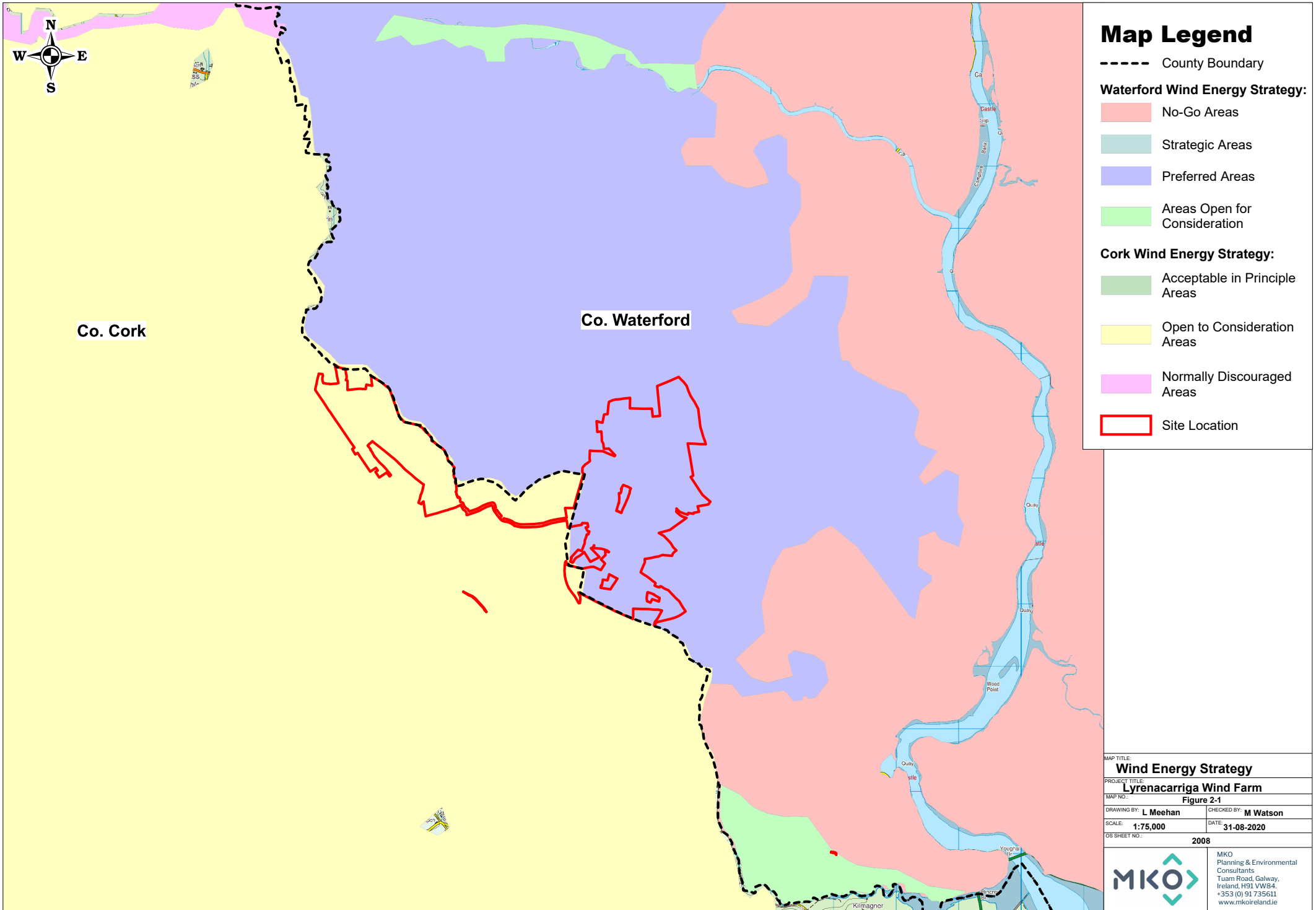
- The closest habitable house is 700 meters from the nearest turbine;
- The proposed development site is located approximately 60 kilometres from Waterford Regional Airport; and,
- The proposed development is in accordance with the Wind Energy Development Guidelines issued by the Department of the Environment, Heritage and Local Government. Furthermore, the EIAR and overall project design is cognisant of the Draft Revised Wind Energy Development Guidelines. There is, at the time of writing, no timeframe associated with the formalization of the Guidelines.


In summary the Waterford County Development Plan 2011-2017 fully recognises the importance of combating climate change and deriving more energy from renewable sources. The site is located within an area which has been designated as being a ‘preferred area’ within Waterford. The various policies, goals and objectives of the Waterford County Development Plan 2011-2017 can be seen to be broadly supportive of the proposed development. Accordingly, the proposed development can be considered compliant with the relevant provisions of the Waterford County Development Plan 2011-2017.

In addition to the above considerations, the WCDP provides further development management guidance regarding the siting of proposed wind farms in the context of transmission infrastructure and the routing of grid connections:

“Wind farm sites in all areas that are close to the electrical transmission grid should be looked at favourably because they are more likely to be financially viable and have a reduced environmental impact through grid connection. Priority will be given to developments close to high capacity grid infrastructure.”

Furthermore, it is noted that the Council will require that all cables in built up areas be placed underground. In rural areas, particularly in areas of high visual amenity, the Planning Authority may require that cables be placed underground for all or part of their length or be re-routed in order to avoid injury to amenity. In this regard it should be noted that an existing 110 kV line currently traverses the proposed development site. It is proposed that the proposed wind farm development will connect to the national grid via the existing 110kV infrastructure running through the site. The proposed development therefore benefits from on-site high capacity grid infrastructure and accordingly is compliant with the grid connection criteria within the plan.



MAP TITLE: Wind Energy Strategy	
PROJECT TITLE: Lyrenacarriga Wind Farm	
MAP NO.: Figure 2-1	
DRAWING BY: L Meehan	CHECKED BY: M Watson
SCALE: 1:75,000	DATE: 31-08-2020
OS SHEET NO.: 2008	
	
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2.4.4.2 Renewable Energy Strategy for Waterford City & County 2016-2030

Ireland has historically been heavily dependent on imported fossil fuels such as oil, gas and coal with imported oil remaining the single largest source of energy, which is a major source of greenhouse gas emissions. The development of an indigenous renewable industry is important for the following reasons:

- Security of supply – necessary to the functioning of society and the economy;
- Sustainability – it reduces reliance on imported fossil fuel and can be harvested without damaging the environment;
- Reduced CO₂ emissions – cleaner, less polluting energy sources; and
- Competitiveness – less exposure to volatile global energy prices.

The Renewable Energy Strategy 2016 – 2030 was developed as a planning framework to support and underpin the Core Strategy, policies and objectives of the Waterford County Development Plan 2011-2017 in the context of EU and national renewable energy targets. The Strategy examines the renewable energy potential for the county and considers the strategic planning factors contributing towards the deployment of such renewable energy. The Strategy aims:

“to ensure that Waterford is at the forefront of renewable energy production whilst equally promoting energy efficiency and conservation in all sectors of the economy.”

As such, the Strategic Aims of the Strategy include:

- To ensure that between now and 2030, there is a steady, progressive and measurable increase in the amount of renewable energy used in the electricity, heat and transport sectors in Waterford, commensurate with the achievement of the national target;
- To identify opportunities for various renewable energy technologies and resources appropriate to Waterford; and
- To maximise the opportunities for renewable energy development whilst safeguarding the environment and other amenities, subject to Strategic Environmental Assessment and Habitats Directive Assessment requirements.

At the time of publishing the Renewable Energy Strategy, Waterford had renewable energy production both at macro and micro level. Plate 2-7 below, compiled by the Waterford Energy Bureau, sets out the renewable energy generation in Waterford in 2016 and makes projections for renewable energy generation in the city / county up to 2030. The projections are based on current government energy policy as per the White Paper 2015 and CSO population projections. These projections indicate that Waterford will benefit from a varied portfolio of renewable energy resources encompassing a broad range of technologies.

Renewable Energy Generated In Waterford In 2016 and projected to 2030				
Energy Source	2016 Renewable Electricity Generation (MW)	% of Total Electricity (2016)	2030 Projected Renewable Electricity Generation (MW)	% of Total Electricity (2030)
Electrical				
On Shore Wind	62.9	21.68%	131.7	17.01%
Off Shore Wind	0.0	0.00%	33.0	5.94%
Solar PV	0.0	0.00%	84.1	2.89%
Hydroelectricity	1.0	0.39%	3.1	0.77%
Biomass CHP	0.0	0.00%	5.0	2.06%
Gas Fired CHP	0.4	0.36%	2.6	0.87%
Biogas CHP	0.0	0.00%	2.2	1.12%
Ocean	0.0	0.00%	10.0	0.96%
Micro	0.2	0.03%	56.9	3.00%
Total	64.5	22.46%	328.6	34.64%
Energy Source	2016 Renewable Heat Energy Generation (MW)	% of Total Heat Demand (2016)	2030 Projected Renewable Heat Energy Generation (MW)	% of Total Heat Demand (2030)
Thermal (Heat)				
Commercial Biomass Boilers	4.3	0.59%	12.3	3.39%
Domestic Stoves, Cassification and Woodchip boilers	40.1	5.29%	23.3	3.35%
Commercial Heat Pumps	0.1	0.02%	12.6	1.83%
Energy Crop Boilers	0.8	0.17%	5.0	1.75%
Cereals, Straw	0.5	0.07%	5.5	1.01%
Biomass CHP	0.0	0.00%	10.0	4.66%
Gas Fired CHP	0.5	0.18%	4.6	1.68%
Biogas CHP	0.0	0.00%	4.0	1.32%
Domestic Micro Thermal, including heat pumps, solar water heating, micro CHP	6.4	0.98%	124.8	19.06%
Commercial Solar Water Heating	0.0	0.01%	0.3	0.04%
Total	52.6	7.30%	202.3	38.09%
Renewable Energy Use In Transport in Waterford, 2016 and 2030 Projection				
Sector	% of 2016's Transport Demand		% of 2030's Projected Transport Demand	
Transport	6.36%		30.06%	
Year	% of Total Energy Demand			
2016	10.69%			
2030 Projections	32.74%			
Note: These projections indicate that the EU 2030 target requiring 27% of our Total Energy Demand to be met by renewable sources will be surpassed.				
Note: These targets have been derived from national energy targets and CSO population figures which have been extrapolated for Waterford City & County up to 2030. They are indicative only and are not intended to limit the potential for renewable energy development in Waterford.				

Plate 2-7 Renewable Energy Projections for Waterford up to 2030

Source: Waterford Energy Bureau

It is acknowledged within the Strategy that there is considerable renewable energy resource within Waterford which has not yet been capitalised on. It is noted that the County has the potential to maximise energy generation by renewable means, which will contribute to a reduction of energy imports, address security of supply issues, provide a secure, indigenous source of energy whilst also keeping wealth within the local economy.

The proposed development which constitutes the provision of a renewable energy project with a generating capacity potentially of between 60MW and 85 MW , will clearly contribute to the strategic aims and overall objectives of the Waterford Renewable Energy Strategy.

2.4.4.2.1 Scenic Landscape Evaluation

The WCDP notes the following considerations with regard to landscape and the introduction of new development:

“The landscape of Waterford is a valuable resource in that it sustains agriculture and fishing, forestry, mineral extraction and tourism and is the location of homes and communities, while

providing the routes and corridors for vital infrastructure. Over time landscapes will change in response to society’s evolving needs and uses.”

Waterford is recognised as having a variety of landscapes and is characterised by the Comeragh and Knockmealdown mountains, several south-flowing river systems and a rugged coastline with many coves and beaches. The diversity of landscapes and natural heritage within the County enables views and prospects of areas of natural beauty from many public roads. However, as recognised by the WCDP, changes in the landscape brought about by development are inevitable but nonetheless respected as reflected in the policies below:

- **Policy ENV 2:** To support provisions of the National Landscape Strategy and provide for the sustainable management of all of County Waterford’s landscapes including archaeological landscapes, coastal, upland, rural and peri-urban landscapes.
- **Policy ENV 4:** The Council will assess all proposals for development in terms of the Scenic Landscape Evaluation map, the Development Management Standards (Chapter 10) and the Rural Housing Design Guidelines (that will be prepared within one year of the adoption of the Plan).

The Scenic Landscape Evaluation (Appendix 9 of the WCDP) sets out landscape sensitivity based on the capacity of the environment to absorb new development under the following classifications:

- Degraded - Areas characterised by breakdown of natural processes or pollution;
- Robust - Areas of existing development and infrastructure;
- Normal - A common character type with a potential to absorb a wide range of new developments;
- Sensitive - Distinctive character with some capacity to absorb a limited range of new developments while sustaining its existing character; and,
- Vulnerable - Very distinct features with a very low capacity to absorb new development without significant alterations of existing character over an extended area.

That portion of the proposed development located within County Waterford is predominantly located within an area classified as ‘Normal’ as indicated below in Plate 2-8. Landscapes described as normal are judged to be subject to normal planning procedures as stated in Section 6.3(a) as follows:

“The majority of County Waterford is designated as a normal landscape. These areas have potential to absorb a wide range of new developments subject to normal planning and development control procedures. In these areas the Planning Authority will have regard to general restrictions to development such as scenic routes, siting, road set backs, road widening plans, parking numbers, road and sewage disposal criteria.”

The evaluation also defines the scenic routes identified within the County, public roads from which views and prospects of areas of natural beauty and interest can be enjoyed. It is noted that the onus should be on the applicant for permission to develop in the environs of a scenic route, to demonstrate that there will be no obstruction or degradation of the views towards visually vulnerable features nor significant alterations to the appearance or character of sensitive areas. A comprehensive Landscape and Visual Impact Assessment of the proposed development has been carried out as part of this EIAR; please see Chapter 12.

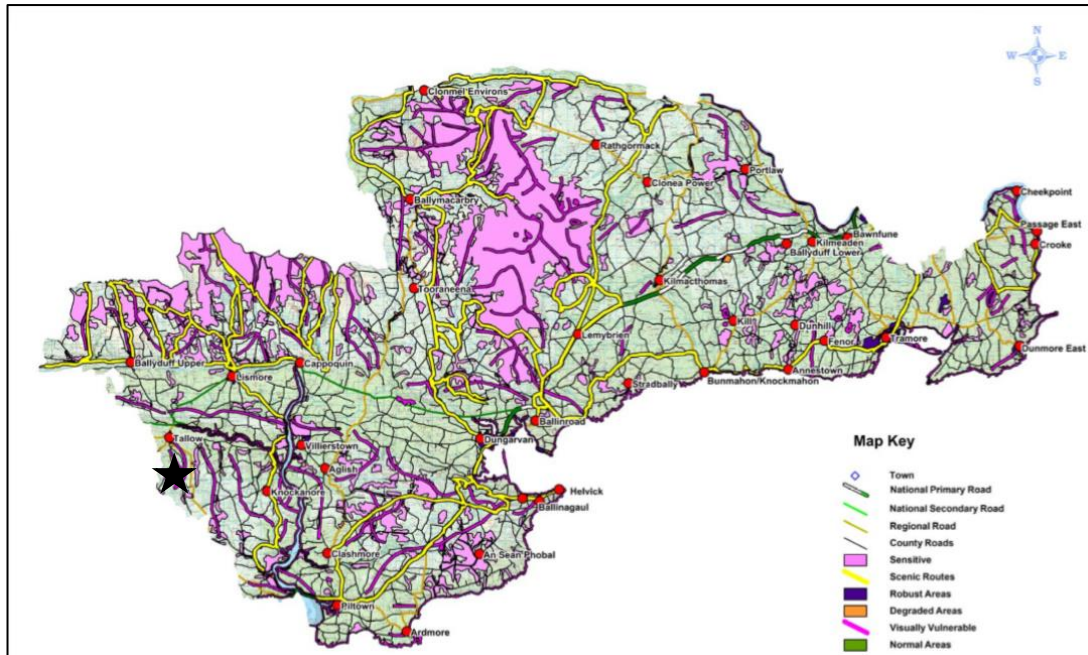


Plate 2-8 Waterford Scenic Landscape Evaluation
 Note: 'Black Star' is indicative of Project site
 Source: Waterford County Council

2.4.4.3 Waterford City and County Development Plan 2022 - 2028 Pre-Draft Strategic Issue Paper

Waterford City and County Council have begun to prepare the City and County Development Plan 2022 – 2028. The City and County Development Plan sets out a framework or blueprint for the proper planning and sustainable development for the whole of Waterford for a six years period. Within the issues paper the Council note their vision for Waterford:

“A City and County of significance, driving regional growth and prosperity, realising its full potential on behalf of the local, regional and national population. A sustainable, dynamic and resourceful place where people choose to visit, live, work, invest, experience and socialise, as a matter of choice”.

With regard to energy the council can be seen to support the national policy shift to low carbon energy solutions along with the overall need to enhance electrical generation and distribution infrastructure to ensure that current and future energy demands are met. Furthermore, in relation to electrical infrastructure upgrades to transmission and distribution networks, the increased electrical capacity to meet the increase electrical demand and the connection to the ‘Green Link’ interconnector for energy supply/security have been noted as *“vital for the future development of Waterford”*.

Surrounding climate change and environment it is set out within the issues paper that the Council recognises and understands the significance of protecting the natural environment along with the potential adverse impacts of climate change. It is noted within the issue paper that:

“Climate change adaptation and mitigation and reduction in CO₂ will underpin the development plan which will deliver a more climate resilient Waterford for future generations.”

It is noted that as part of the preparation of the development plan that the Council will include policies to support the reduction of the impacts of climate change, promote energy conservation and greater use of renewable energy sources/technologies along with other measures.

2.4.4.4 Cork County Development Plan 2014-2020 (as varied)

The Cork County Development Plan 2014-2020 (as varied) (CCDP), sets out a strategic vision and corresponding main aims underpinned by the core principles of sustainability, social inclusion, quality of design and climate change adaptation. Cork County Council is commencing the preparation of a new County Development Plan (2022-2028), this process remains in the pre-draft stage at time of writing, with various background documents having been released to inform the public discourse. Energy is dealt within in background document no. 9, in which the importance of onshore wind energy is acknowledged, as is the valuable contribution wind farms are making towards decarbonising the economy. The published background document also notes that at this stage it is not envisaged that any significant changes are required to the county’s wind energy policy.

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.

With regard to the above, the strategic Vision of the CCDP is as follows:

“Through the application of the planning principles set out in this document, to provide for the development of County Cork as an attractive, competitive and sustainable place to live, visit and do business, where the quality of its economy, natural and built environment, culture and the strength and viability of its communities are to the highest standards.”

It is noted that all of the detailed policies and objectives of the CCDP are intended to contribute to the delivery of a number of key main aims for the county as a whole. The main aims considered relevant to the proposed development are listed below:

The CCDP has been designed 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 completeness.”

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 as the move to a low carbon economy increases. The CCDP further emphasises that the development of renewable energy sources is central to overall energy policy in Ireland and a key aim of the Plan is to support the sustainable development of renewable energy sources, as set out in Objective ED 1-1, below.

- **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.

Through the delivery of a low carbon energy framework, the CCDP notes that the County Council aims to attract inward investment to the County. As such, County Cork is well positioned to become self-sufficient in renewable energy.

2.4.4.4.1 On-Shore Wind Strategy

The CCDP notes that, at the time of publishing the Plan, County Cork had the largest wind energy capacity in the Country with 283 MW from 20 no. wind farms, which was approximately 13.8% of Ireland's overall wind energy production. It is acknowledged by the CCDP that there is considerable potential for additional wind energy capacity within the County. The Plan identifies, in broad strategic terms, three categories of 'Wind Deployment Area' for large scale commercial wind energy developments, this approach facilitates commercial wind energy development in approximately 55% of Cork County with the remaining 45% unlikely to be suitable. 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.

The part of the proposed development which is located within the functional area of Cork County Council is located within an area designated as **'Open to Consideration'** for wind energy development by the CCDP. The Plan states that this category has been applied to areas with some capacity to absorb wind development, but which are sensitive enough to require a site-by-site appraisal to ascertain the suitability of the area for development. The following policies are relevant:

- **ED 3-2**: 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.
- **ED 3-3**: 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.
- **ED 3-5**: 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;
 - Architectural and archaeological heritage; and
 - Visual quality of the landscape and the degree to which impacts are highly visible over wider areas.

The portion of the proposed development site located in Co. Cork is sited in an area designated as 'Open to Consideration' for wind energy development, as shown in Figure 2-1. Accordingly, in relation to the provisions of ED 3-5 above, any proposed development must demonstrate that it can avoid adverse impacts on five listed criteria. Thus, the proposed development satisfies the requirements of ED 3-5 as follows:

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

Noise

Chapter 13 of this EIAR provides a full and robust assessment of any potential noise impacts which the proposed development may have on its surrounding environment. It is acknowledged that during the construction phase of the project there will be some effect on nearby noise sensitive properties due to noise emissions from site traffic and other construction activities. However, given the distances between the main construction works and nearby noise sensitive properties and the fact that the construction phase of the development is temporary in nature, it is expected that the various noise sources will not be excessively intrusive. Furthermore, the application of binding noise limits and hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration effect is kept to a minimum. During the operational period of the proposed development, the predicted noise levels associated with the proposed development will be within best practice noise criteria curves recommended in Irish guidance ‘*Wind Energy Development Guidelines for Planning Authorities*’, therefore it is not considered that a significant effect is associated with the development.

Shadow Flicker

Chapter 6 of the EIAR provides a full assessment of shadow flicker relating to the proposed development. It is concluded that based on the assessment, guideline limits and the comprehensive suite of mitigation measures proposed that there will be no significant adverse effects related to shadow flicker arising from the proposed development.

Visual Impact

A comprehensive landscape and visual impact assessment has been carried out as part of this EIAR; please see Chapter 12 of this EIAR. Chapter 12 also assesses potential impacts with regard to residential visual amenity assessment and has found there will be no significant adverse effects on local dwellings.

Urban areas and Metropolitan/Town Green Belts

The proposed development will not have any adverse effect of any urban areas or metropolitan/town green belts. The proposed development is located approximately 5km from the rural town of Tallow, County Waterford and approximately 11km from Youghal, County Cork which is the largest town in the general area.

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

An assessment of the proposed development has been carried out with regard to potential effects on Natura 200 sites (Special Protection Areas and Special Areas of Conservation) and on Natural Heritage Areas. The results of this assessment are presented in Chapters 7 and 8 of this EIAR: Biodiversity and Birds, and in the Natura Impact Statement (NIS) which accompanies the planning application. The NIS concludes with the following:

“This NIS has provided an assessment of all potential direct or indirect adverse effects on European Sites.

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 14 of this EIAR presents the results of the Cultural Heritage assessment (including Architectural and Archaeological Heritage) carried out by Tobar Archaeological Services for the proposed development. The assessment concluded that with regards to recorded monuments within the EIAR boundary that “no direct impacts to any of the aforementioned sites will occur”. With regards to sub-surface archaeological potential it was noted that “pre-development testing of all green field areas including the proposed grid connection cable route will be undertaken to ascertain the presence or otherwise of sub-surface archaeological features”. Please refer to Chapter 14 for with regards to the cultural heritage assessment.

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

Chapter 12 of this EIAR addresses the potential landscape and visual impacts of the Lyrenacarriga Wind Farm. The landscape and visual impact assessment of the proposed wind farm uses visibility mapping, representative viewpoints and photomontages. The potential impacts in both landscape and visual terms are then assessed, including cumulative impacts. Through the iterative project design process, informed by early-stage visual impact assessment work, landscape modelling, ZTV mapping and photomontage preparation, the proposed layout has been developed to bring forward the optimum design for the proposed development with respect to landscape and visual factors.

The landscape study area has been chosen as 20 kilometres for visual and landscape effects. As demonstrated in Chapter 12 of this EIAR the ZTV shows the potential range of visual effect that could arise. The ZTV shows a worse case “bare earth” scenario and therefore does not account for smaller topographical features, planting and screening arising from natural hedgerows and elements of the built environment. On review the ZTV of this project demonstrates that there will be no significant adverse impacts arising on any viewpoints, scenic routes or areas that have been designated as being of “High Landscape Value” within the Cork County Development Plan.

2.4.4.4.2 Landscape Strategy

The key role of the Landscape Strategy is to assist in the achievement of sustainable development, by promoting an approach to landscape planning and management which links objectives and recommendations for landscape character to existing planning policies. The CCDP emphasises the significance of the County’s landscape as a key green infrastructure asset due to its intrinsic value as places of natural beauty in addition to its importance with regard to recreation, tourism and other uses. The principal policy within the CDP regarding Landscape is **GI 6-1**, as reproduced below:

- 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 land use proposals, ensuring that a pro-active 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.

It is acknowledged within the Plan that the future development of the County will face the challenge of landscape management such that change is positive in its effects. Successfully meeting this challenge is considered a key element in achieving sustainable development. Landscape Character Assessment

(LCA), as set out within the CCDP, is designed to assist in achieving this goal. The LCA methodology involved an evaluation of each landscape character type in the County in terms of its Landscape Value, Sensitivity and Importance. The Project is partially located in Fissured Fertile Middleground (10b) as described below:

- Landscape Value: Medium
- Landscape Sensitivity: Low (robust landscapes, which are tolerant to change, and which have the ability to accommodate development pressure)
- Landscape Importance: County

It is important to note that Fissured Fertile Middleground (10b) is not designated as a High Value Landscape (HVL) by the CCDP, which are considered to be the most valuable landscapes in the County. It should be noted that an area of HVL lies approximately 5.3 kilometres to the southeast of the Project.

The CCDP does indicate that the Scenic Route S45, which runs from Youghal to Tallow, traverses the southern part of the study area. The Development Plan describes this Scenic Route as follows:

“Section of the R364 road between Youghal and Tallow leading to the County Bounds. Distant mountain views and rural landscape.”

The Scenic Route S45 has been assessed in greater detail in Chapter 12 of this EIAR.

2.4.4.5 Cork County Development Plan Review

Cork County Council has commenced the preparation of a new County Development Plan (2022-2028). The latest publications released include a public consultation document and supporting background papers which were published in March 2020, the purpose of the document was to highlight key issues that need to be considered and to promote public involvement in making the next plan.

With regards to energy the document notes that Ireland is heavily reliant on fossil fuels to generate energy, in turn, contributing to global warming and climate change. It is noted that:

“Significant progress has been made in using renewable energy to produce electricity but we still have a considerable way to go to meet our renewable energy targets...”

Energy is dealt within in background document no. 9, in which the importance of on-shore wind energy is acknowledged, as is the valuable contribution wind farms are making towards decarbonising the economy. The published background document also notes that at this stage it is not envisaged that any significant changes are required to the county’s wind energy policy. The pre-draft consultation phase of the review process has now closed. It is anticipated that the Draft County Development plan will be prepared and opened for further public consultation in April 2021.

2.4.4.6 Summary Conclusion on Compliance with Development Plans

In summary the Waterford County Development Plan 2011-2017 and Cork County Development Plan 2014-2020 fully recognises the importance of combating climate change and deriving more energy from renewable sources. The proposed development constitutes the provision of wind turbines within an area has been designated as being a ‘preferred area’ within Waterford and an area “*Open to Consideration*” within Cork. 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.

Both of the County Development Plans make 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 complies with the relevant provisions of the Waterford County Development Plan 2011-2017, Cork County Development Plan 2014 – 2020, and is therefore considered to be in accordance with the proper planning and sustainable development of the area.

2.4.5 Other Relevant Guidelines and Schemes

2.4.5.1 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. At the time of submission of this application the 2006 guidelines remain as the current relevant guidelines in force. Draft revised wind energy development guidelines were published in December 2019 and were open to consultation response submissions until February 2020, these are further discussed below in Section 2.4.5.3.1.

2.4.5.2 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.

2.4.5.3 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.

2.4.5.3.1 Draft Revised Wind Energy Development Guidelines, December 2019

The Department of Housing, Planning and Local Government published the *Draft Wind Energy Development 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.

The Draft Revised Guidelines set out the recognition that the proper planning and sustainable development of areas and regions must be taken into account when local authorities prepare their development plans and assess planning applications, irrespective of the significant role renewable energy has to play in tackling climate change. The Draft Revised Guidelines note that potential impacts of wind energy development proposals on the landscape, including the natural and built environment, must be considered along with the legitimate concerns of local communities. In this regard, and 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 2019 Draft guidelines in mind. At time of writing the Draft Guidelines are not yet in force, the relevant guidelines remain those published in 2006, and accordingly the provisions of the draft version have been considered but could not be used to inform the decision process, given that they may be subject to further change on foot of completion of the consultation process .

Notwithstanding this, however, due to the timelines associated with the planning process for renewable energy projects it is possible that a version of the Draft Revised Guidelines will be finalised during the consideration period for the current proposed development. The proposed development will adhere to the relevant noise and shadow flicker standards. The noise section demonstrates that the proposed development will not have an adverse impact on sensitive properties and shadow flicker is an entirely controllable phenomenon that will be managed to ensure relevant guidelines can be satisfied.

2.4.5.4 **IWEA Best Practice Guidelines for 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).

2.4.5.5 **IWEA Best Practice 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 Commitment. 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.

Further details on the community engagement that has been undertaken as part of the proposed development are presented in Section 2.6.4 below.

2.4.5.6 **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 Section 2.6.4 below.

2.4.5.7 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-2.3 applications 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 Lyrenacarriga Project to secure a grid connection in a timely manner, subject to receipt of planning permission.

2.4.5.8 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.

2.4.5.9 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 licence and guidance from the Forest Service.

2.5 Planning History

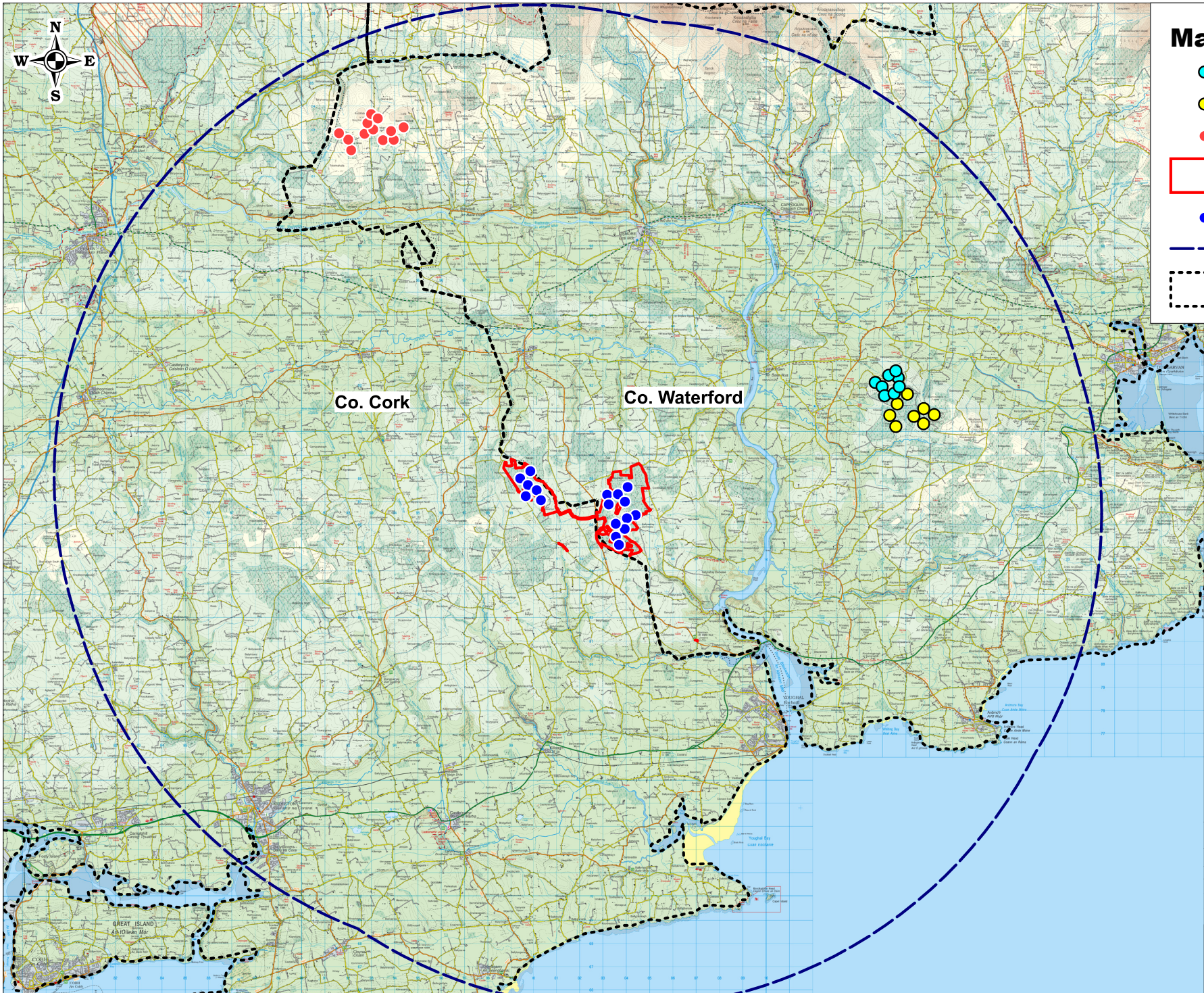
This section of the EIAR sets out the relevant planning history of the proposed wind farm site, planning applications in the vicinity of the site and other wind energy applications within the wider area.

2.5.1 Other Wind Farm Sites

Within the wider area, there have been a number of planning applications for wind farm developments (comprising two or more turbines) lodged within a 20-kilometre radius of the EIAR study area. These wind farms applications are based on a review of the Waterford County Council and Cork County Council Planning Register and include those listed below.

2.5.1.1 County Waterford

Table 2.1 below lists the existing and permitted wind farms located in Co. Waterford within 20-kilometre radius of the proposed development site. The locations of the wind farms are shown in Figure 2-2.



Map Legend

- Woodhouse Turbine
- Knocknamona Turbine
- Barranfaddock Turbine
- Site Location
- Proposed Turbine
- 20km Distance from Site
- County Boundary

Co. Cork

Co. Waterford

MAP TITLE: Other Wind Farms	
PROJECT TITLE: Lyrenacarriga Wind Farm	
MAP NO.: Figure 2-2	
DRAWING BY: L Meehan	CHECKED BY: M Watson
SCALE: 1:220,000	DATE: 31-08-2020
OS SHEET NO.: 2008	



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Table 2-1 Wind Farm Planning Applications: Co. Waterford

Planning Ref. No.	Description	Decision
Barranafaddock Wind Farm		
04/1559	12 wind turbines (80 m hub height and 80 m blade diameter), a 40m high wind measuring anemometer pole, a 110 kV sub-station including control building, and all associated works.	Granted by Waterford County Council (WCC) 22/06/2005 Granted by An Bord Pleanála 22/11/2005
10/371	5-year extension of duration of PD 04/1559.	Granted by WCC 29/11/2010
11/400	Permission for a modification to the permitted Barranafaddock Wind Farm (Planning Ref. 04/1559 & An Bord Pleanála reference number PL 24.213290). The modifications include a proposed increase in turbine hub height (to 80m) of three of the permitted eleven turbines, an increase in rotor diameter of all turbines to 90m (from 80m) and the micro-siting of ten of the permitted turbines.	Granted by WCC 04/01/2012
13/465	Proposed amendments to Planning Condition No. 3 of planning reference PD: 13/32 (Extension to Barranafaddock Wind Farm) and Planning Condition No. 2 of planning reference PD: 11/400 (Modifications to Barranafaddock Wind Farm) which relate to the operational period of the permitted wind farm.	Granted by WCC 13/01/2014
Woodhouse Wind Farm		
04/1788	Eight wind turbines, access tracks, a fenced Switchyard comprising single-story Control Building and Substation and anemometer mast.	Granted by WCC 25/04/2005
10/45	Minor modifications to a previously approved wind farm development comprising eight wind turbines (Reg Ref: 04/1788) The modifications include an increase in permitted tower height (70m to 80m) and blade length (42m to 45/46m) minor re-alignments of internal access tracks: relocation of four.	Granted by WCC 18/05/2010
10/175	Extension of Duration for Wind farm comprising eight wind turbines (04/1788).	Granted by WCC 08/07/2010

Planning Ref. No.	Description	Decision
Knocknamona Wind Farm		
14/600109	12 no. wind turbines, overall height of up to 126.6 metres, 1 no. meteorological mast up to 80 metres in height and all ancillary site works.	Refused by WCC Granted by An Bord Pleanála 14/12/2016
Knocknalougha		
00/615	Wind Farm (12 wind turbines) towers not exceeding 60m. in height, rotor diameter not exceeding 62m, and all ancillary works.	Granted by WCC Refused by An Bord Pleanála 17/07/2001
03/1204	Erection of a wind farm comprising 7 wind turbines with towers up to 46m in height and rotor diameter up to 62m and ancillary equipment for electricity generation including substation control building and monitoring mast.	Granted by WCC Refused by An Bord Pleanála 23/09/2004

2.5.1.2 County Cork

Table 2.2 below lists the existing and permitted wind farms located in Co. Cork within 20-kilometre radius of the proposed development site. The locations of the wind farms are also shown in Figure 2-2.

Table 2.2 Wind Farm Planning Applications: Co. Cork

Planning Ref	Description	Decision
Ardglass Wind Farm		
15/6587	Seven wind turbines with a maximum ground to blade tip height of up to 140m, and associated all ancillary infrastructure.	Granted by CCC Refused by An Bord Pleanála 28/06/2016
Knocknagappagh		
02/4588	Development of a wind farm include 2 no. 1 MW wind turbines, 1 no. 40m wind monitoring mast, control house and service roadways.	Granted by CCC 09/12/2003

Planning Ref	Description	Decision
08/9956	Completion of wind farm development to include 2 no. 1 MW wind turbines, 1 no. 40m wind monitoring mast, control house and service roadways granted under pl.reg.no.02/4588	Granted by CCC 19/03/2009
Crocane		
02/4699	Development of 2 no. 1 MW wind turbines, service roadways and control house in Crocane.	Granted by CCC 15/12/2003
08/9780	Completion of 2 no. 1 MW wind turbines, service roadways and control house granted under Pl. Req. No. 02/4699 (new permission to expire on 22/01/2012).	Granted by CCC 10/03/2009

2.5.2 Applications in the Vicinity of the Proposed Wind Farm Site

The majority of planning applications in the immediate vicinity of the proposed wind farm site are related to the provision and/or alteration of one-off housing and agricultural developments. Where relevant, these applications have been considered in the design of the project and are considered within the relevant sections of this EIAR. Further details are provided below.

2.5.2.1 County Waterford

There are no applications relating to significant commercial or infrastructural proposals, e.g. energy generation, transmission, industry etc., lodged within approximately 2km of the proposed wind farm within County Waterford. Planning applications in the vicinity predominantly relate to the provision of one-off housing and agricultural development. A list of the planning applications identified within 2 km of the proposed wind turbine infrastructure can be viewed under Appendix 2-1 of this EIAR.

2.5.2.2 County Cork

Similar to the above, there are no applications relating to significant commercial or infrastructural proposals lodged within approximately 2km of the proposed wind turbine infrastructure e within County Cork. The planning applications in the vicinity predominantly relate to agricultural or one-off housing associated developments. A list of the planning applications identified within 2 km of the proposed wind turbine infrastructure can be viewed in Appendix 2-1 of this EIAR.

2.6 Scoping and Consultation

2.6.1 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, 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. (now MKO) and circulated in May 2018. McCarthy Keville O’Sullivan Ltd. requested the comments of the relevant personnel/bodies in their respective capacities as consultees with regards to the EIA process.

2.6.2 Scoping Responses

Table 2-3 presents a summary of all scoping responses received. Copies of the scoping responses are included in Appendix 2-2 of this EIAR. The recommendations of the consultees have informed the EIAR preparation process and the contents of the EIAR, as described in Table 2-4.

Table 2-3 Scoping Responses

No.	Consultee	Scoping Response Date
1	Airspeed	No response received to date
2	Airwave	No response received to date
3	An Taisce	No response received to date
4	Broadcasting Authority of Ireland	Response received 25 th May 2018
5	Bat Conservation Ireland	No response received to date
6	BirdWatch Ireland	No response received to date
7	BT Communications Ireland	Response received 17 th January 2018
		Response received 16 th August 2019
8	Commission for Communications Regulation	Response received 17 th January 2018
		Response received 21 st August 2019
9	Commission for Regulation of Utilities Water and Energy	No response received to date
10	Cork Community Broadband	Response received 17 th August 2019
11	Cork County Council – Economic Development and Planning Department	Response received 13 th June 2018
12	Cork County Council - Transportation and Infrastructure Department	Response received 13 th June 2018
13	Cork County Council – Environment Department	Response received 13 th June 2018

No.	Consultee	Scoping Response Date
14	Cork County Council – Heritage Officer	Response received 13 th June 2018
15	Cork Airport	No response received to date
16	Department of Agriculture, Food and the Marine	Response received 10 th July 2018
17	Department of Communications, Climate Action and the Environment	No response received to date
18	Department of Defence	Response received 28 th May 2018 and 4 th September 2018
19	Department of Transport, Tourism & Sport	No response received to date
20	Department of Culture, Heritage and the Gaeltacht	Response received 10 th July 2018 and 11 th July 2018
21	East Cork Broadband	Response received 9 th February 2018
22	Eir	Response received 20 th February 2018
		Response received 19 th August 2019
23	Enet	Response received 21 st August 2019
24	ESB Telecoms	Response received 16 th February 2018
25	Fáilte Ireland	Response received 15 th June 2018
26	Gas Networks Ireland Ltd	Response received 21 st August 2019
27	Geological Survey of Ireland	No response received to date
28	Health Service Executive	No response received to date
29	Iarnród Éireann	No response received to date
30	Imagine Group	Response received 18 th January 2018
		Response received 16 th August 2019
31	Inland Fisheries Ireland	Response received 27 th June 2018
32	Irish Aviation Authority	Response received 13 th June 2018
33	Irish Peatland Conservation Council	No response received to date
34	Irish Red Grouse Association	No response received to date
35	Irish Raptor Study Group	Response received 29 th May 2018

No.	Consultee	Scoping Response Date
36	Irish Sports Council	No response received to date
37	Irish Telecom	No response received to date
38	Irish Water	Response received 2 nd October 2018
39	Irish Wildlife Trust	No response received to date
40	Office of Public Works	Response received 4 th July 2018
41	Ripplecom	No response received to date
42	RTE Transmission Network Ltd	Response received 17 th January 2018
		Response received 19 th August 2019
43	Sustainable Energy Authority of Ireland	No response received to date
44	Tetra Ireland Communications Ltd.	Response received 24 th January 2018
		Response received 23 rd August 2019
45	The Heritage Council	No response received to date
46	Three Ireland	Response received 17 th January 2018
		Response received 21 st August 2019
47	Towercom	Response received 18 th January 2018
48	Transport Infrastructure Ireland	Response received 12 th June 2018
49	Viatel Ireland Ltd	Response received 22 nd January 2018
50	Virgin Ireland Ltd	Response received 25 th January 2018
		Response received 20 th August 2019
51	Vodafone	Response received 17 th January 2018
52	Údarás na Gaeltachta	No response received to date
53	Waterford County Council – Planning Department	No response received (Pre-planning meetings held; see Section 2.6.3)
54	Waterford County Council – Roads Department	No response received to date
55	Waterford County Council – Environmental Services	No response received to date

No.	Consultee	Scoping Response Date
56	Waterford County Council – Culture and Heritage	Response received 13 th June 2018
57	Waterways Ireland	Response received 1 st June 2018

Table 2-4 presents a summary of the key points from the scoping responses and notes where they have been addressed in this EIAR. The responses received were fully considered and issues raised were followed up through contact with the respondent where clarification was necessary and addressed throughout the EIAR.

Table 2-4 Review of Scoping Responses

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
1	Broadcasting Authority of Ireland	Not aware of any issues from existing wind farms into existing FM networks. Proposed wind farm is not located close to any existing or planned FM transmission sites.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation: Scoping and Consultation
2	BT Communications Ireland	Confirmed that the proposed development will have no impact on the BT microwave network	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation: Scoping and Consultation
3	Commission for Communications Regulation	Provided list of telecoms operators in the area	All operators were contacted as part of the scoping exercise, see Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
4	Cork Community Broadband	The operator indicated that they no longer provide a service in the area and therefore have no links remaining in the area.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
5	Cork County Council – Environment	The environmental comments from Cork County Council focused on the controls that should be covered under a site-specific CEMP, including in relation to sediment control, stream crossings, hydrocarbons storage and welfare facilities.	Appendix 4-4 Construction and Environmental Management Plan
6	Cork County Council – Planning	Response received from Planning Department, with comments set out under headings of Ecology, Environment, Noise and Engineering as follows:	
		Ecology: Items to be addressed include Habitat survey, description of all crossings, 2 years of bird surveys, soil management, slope stability, Natura 2000 sites.	<ul style="list-style-type: none"> ➤ Chapter 7 Biodiversity: Section 7.5.2 Habitat Surveys ➤ Chapter 4 Description: Section 4.3.2.2 Watercourse Crossings ➤ Chapter 7 Biodiversity: Section 7.5.1.1 Designated Sites ➤ Natura Impact Statement ➤ Chapter 8 Birds ➤ Chapter 4 Description of the Proposed Development: Section 4.3.4 Spoil Management Plan ➤ Appendix 4-2 Geotechnical Assessment Report: Sections 8 and 9 (addressing spoil management and slope stability)
		Environment: comments as per Row No. 5 above	Appendix 4-4 Construction and Environmental Management Plan

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
		Noise: impact assessment should fully assess the impact of the proposed development on receiving noise environment and noise sensitive receptors during both the operational and construction phase.	Chapter 13 Noise and Vibration
		Engineering: comments as per Row No. 7 below	See Row No. 7 below
7	Cork County Council - Roads	Main concern from the roads department perspective is the impact to roads during construction phase. The EIA would need to clearly determine the most appropriate haul routes, having assessed impact, and propose mitigating measures. The EIA would need to assess legacy roads where proposed as haul routes.	Chapter 15 Material Assets: Section 15.1.8 Route Assessment
8	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.	<ul style="list-style-type: none"> ➤ Chapter 4 Description of the Proposed Development: Section 4.3.10 Tree Felling and Replanting ➤ Appendix 4-3 Assessment of Forestry Replacement Lands
9	Department of Defence	The Department indicated that they have no observations on the proposals at this time.	N/A
10	Department of Culture, Heritage and the Gaeltacht	Response no. 1 - DAU requested that a detailed Cultural Heritage Section be submitted to the Department for review. DAU have also requested that an Underwater Archaeological Impact Assessment of any watercourse within the footprint of the proposed wind farm be undertaken.	Chapter 14 Cultural Heritage: Sections 14.3.1.4 and 14.4.34 Site Surveys and Watercourses Wade surveys were carried out of watercourses (no deep waters present)
		Response no. 2 - The DAU have requested that a draft report of the Archaeological, Architectural and Cultural Heritage Assessment be submitted to the Department.	Chapter 14 Cultural Heritage Copy of EIAR will be provided to the Department of Culture, Heritage and the Gaeltacht
		Response no. 3 - The DAU have requested that effects of the following are assessed: Overhead powerlines or electricity cables crossing the Blackwater River or its tributaries or the Blackwater Estuary, geotechnical risk assessment where deep peat soils are to be excavated, performances of the mitigation measures, a survey for the occurrence of otter and kingfisher, baseline of survey of bats,	<ul style="list-style-type: none"> ➤ No overhead power lines proposed as part of the development (with exception of short (<50m) section to connect onsite substation to adjacent existing overhead 110 kV line). ➤ Chapter 4 Description: Section 4.3.2.2 Watercourse Crossings and Section 4.8.6.3

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
		ecological survey of the broadleaf parts of the woodlands, a survey (2 years) for breeding and wintering bird use.	<ul style="list-style-type: none"> ➤ There is no peat underlying the site. See Appendix 4-2 Geotechnical Assessment Report ➤ Chapter 7 Biodiversity: Section 7.5.2.5.2 Otter Survey ➤ Chapter 7 Biodiversity: Section 7.5.2 Habitat Survey ➤ Chapter 7 Biodiversity: Section 7.5.2.5.3 Bats ➤ Appendix 7-2 Bat Survey Report ➤ Chapter 8 Birds
11	East Cork Broadband	No links in the area therefore no potential for adverse impacts to arise.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
12	Eir	One transmission link within the proposed wind farm. A buffer of 100 meters radius away from transmission paths required. This buffer has been incorporated into the constraints mapping exercise at the start of the project.	Chapter 3 Consideration of Reasonable Alternatives: Section 3.6.1 Constraints Mapping
13	Enet	The operator has indicated that the proposed development will not affect any existing links in the area.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
14	ESB Telecoms	In initial consultation ESB Telecoms noted that the proposed development would have an impact on the ESB Networks Point to multi point telemetry system. Further analysis by ESB Telecoms indicated that the proposed heights of the turbines relative to the link would allow sufficient clearance and therefore there is sufficient head room for the link to function within the proposed development.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
15	Fáilte Ireland	<p>Provided a copy of Fáilte Ireland standard Guidelines for the treatment of tourism in an EIAR which should be taken into account. Areas identified to be assessed are:</p> <ul style="list-style-type: none"> ➤ Tourism and the Environment; ➤ Tourism in the Existing Environment; ➤ Project factors affecting Tourism; ➤ Impacts on Tourism and ➤ Mitigating adverse impact on Tourism. 	Chapter 5 Population and Human Health: Section 5.3 Tourism
16	Gas Networks Ireland Ltd	No infrastructure in the area therefore no potential for adverse impacts to arise.	N/A

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
17	Imagine Group	No links therefore no potential for adverse impacts to arise.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
18	Inland Fisheries Ireland	A number of issues have the potential to impact catchment areas of the Glenaboy River, River Bride, River Tourig and other minor tributaries. The issues include physical interference with stream channels, prevention of discharges of polluting matter such as cement, prevention of silt deposition in streams, hardcore areas and roads, stream crossings and storage of fuels/oils etc - to be addressed in assessment.	<ul style="list-style-type: none"> ➤ Chapter 4 Description: Section 4.6 Site Drainage, Section 4.8 Construction Methodologies ➤ Appendix 44 Construction and Environmental Management Plan ➤ Chapter 10 Water: Section 10.5.2 Construction Phase
19	Irish Aviation Authority	The IAA requested the following in the event that a grant of planning permission is issued: 1. Agree an aeronautical obstacle warning light scheme for the wind farm development. 2. Provide as constructed coordinates 3. Notify the Authority of intention to commence crane operations.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation. The required information will be provided to the IAA should the proposed development proceed to construction.
20	Irish Raptor Study Group	Acknowledgement of scoping document received. No further correspondence.	N/A
21	Irish Water	Irish Water noted that the proposed development is in close proximity to two source intakes, one of which is located on the Glendine River and a second source located on a nearby river/stream. Irish Water noted that the intakes supply water to the Glendine Water Treatment Plant and Boola Water Treatment Plant. Irish Water requested that an assessment of the impact of the proposed development on the assets be undertaken.	Chapter 10 Water: Section 10.3.7 Surface Water Abstractions and Section 10.3.16 Receptor Sensitivity
22	Office of Public Works	Recommend that reference be made to Section 47 and 50 of the Arterial Drainage Act 1945 and The Flood Risk Management Guidelines for Planning Authorities, November 2009.	<ul style="list-style-type: none"> ➤ Chapter 10 Water: Section 10.4.2 Proposed Drainage Management ➤ Chapter 10 Water: Section 10.3.6 Flood Risk Assessment ➤ Appendix 10-1 Flood Risk Assessment
23	RTE Transmission Network Ltd	Telecoms links unaffected. Request standard protocol agreement be put in place should the site go ahead as it may cause interference to viewers in the area	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation The protocol document is a standard requirement, and should a favourable planning decision be made, the relevant protocol

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
		receiving from RTE sites Dungarvan, Mullaganish and Ferrypoint (Youghal).	agreement will be adhered to so as to avoid any interference to broadcast signals.
24	Tetra Ireland Communications Ltd.	No links therefore no potential for adverse impacts to arise.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
25	Three Ireland	Three noted that they had one link in the area of the proposed development. In a further response from Three, they noted that a clearance of 100 metres was to be maintained between the turbines and the Three link. This buffer has been incorporated into the constraints mapping exercise at the start of the project. The regional engineers also confirmed that here are no additional links planned in the area, so the development will not impact upon the transmission network.	Chapter 3 Consideration of Reasonable Alternatives: Section 3.6.1 Constraints Mapping
26	Towercom	The telecoms provider indicated that from an initial review the proposed location of the wind farm would not appear to have significant effect on Towercom sites. In a subsequent consultation, MKO provided the turbine coordinates to Towercom. No further response has been received to date from Towercom.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
27	Transport Infrastructure Ireland	TII provided a copy of their standard recommendations as detailed below:	
		<ul style="list-style-type: none"> ➤ The EIAR should identify any methods or techniques proposed for any works traversing or in proximity to the national road network. 	Chapter 15 Material Assets: Section 15.1.8 Route Assessment
		<ul style="list-style-type: none"> ➤ Consultations should be had with relevant local authority, road departments, etc. 	<ul style="list-style-type: none"> ➤ Chapter 15 Material Assets: Section 15.1.1.4 Scoping and Consultation ➤ Chapter 2 Background to the Proposed Development: Section 2.6.3 Pre-Planning Meetings
		<ul style="list-style-type: none"> ➤ Proposed cabling and potential connection routing, the development should note proposed protection to national road schemes. Cable routing should suggest alternatives and should avoid impact with all TII infrastructure. 	No cabling or grid connection routing is proposed on national road schemes

No.	Consultee	Key Scoping Response Points	Addressed in EIA
		Separate approvals may be required for works traversing the road or motorway network.	
		<ul style="list-style-type: none"> ➤ Haul route should be clearly identified and fully assessed in regard to the surrounding road network. 	<ul style="list-style-type: none"> ➤ Chapter 15 Material Assets: Section 15.1.8 Route Assessment ➤ Appendix 15-1 Swept Path Analysis
		<ul style="list-style-type: none"> ➤ The developer should have regard to TII guidance and publications to determine further assessments, audits, etc. 	Chapter 15 Material Assets: Section 15.1.8 Route Assessment
28	Viatel Ireland Ltd	No links in the area therefore no potential for adverse impacts to arise.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
29	Virgin Ireland Ltd	Virgin Media noted that they had one link within 1 km of the proposed development site. In a further response Virgin Media noted that the proposed turbine locations would not interfere with Virgin Media Microwave Links.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
30	Vodafone	No impacts therefore no potential for adverse impacts to arise.	Chapter 15 Material Assets: Section 15.2.4.2 Telecommunications and Aviation Scoping and Consultation
31	Waterford County Council – Culture and Heritage	The following requests were set out in the Waterford County Council response:	
		Key issues to be addressed are visual impacts on landscape including landscape demesnes along the Blackwater Valley and Waterford Garden Trail.	<ul style="list-style-type: none"> ➤ Chapter 12 Landscape and Visual: Section 12.5.1.2 Co. Waterford Landscape Designations ➤ Chapter 14 Cultural Heritage: Section 14.3.2.3 Recorded Monuments (including Demesnes)
		Impacts from Forestry clearance to River Blackwater Catchment on both hydrology and qualifying habitats and species of the SAC.	<ul style="list-style-type: none"> ➤ Chapter 10 Water: Section 10.5.2.1 Felling ➤ Natura Impact Statement
		Impacts on qualifying species of the Blackwater Callows SPA in terms of potential risk of bird strike.	<ul style="list-style-type: none"> ➤ Chapter 8 Birds: Section 8.3.1 Designated Sites ➤ Natura Impact Statement
		Impacts on archaeological sites and monuments.	Chapter 14 Cultural Heritage
		Cumulative impacts with other wind farm developments in both Cork and Waterford and other proposed developments in the catchment such as the Waterford Blueway on the River Blackwater.	<ul style="list-style-type: none"> ➤ Chapter 2 Background to the Proposed Development: Section 2.5.1 Other Wind Farm Sites ➤ Chapter 2 Background to the Proposed Development: Section 2.7 Cumulative Impact Assessment. Cumulative impacts then assessed in individual subsequent chapters

No.	Consultee	Key Scoping Response Points	Addressed in EIAR
			under the relevant key environmental heading; Population & Human Health, Biodiversity, Land, Soils & Geology, Water, etc.)
		Potential for Hen Harrier within the forested area should also be surveyed for and recorded in the EIA.	Chapter 8 Birds: Sections 8.4.3 and 8.5.3 Hen Harrier
32	Waterways Ireland	Waterways Ireland had no comments as site is not within any zone of influence of Waterways Ireland navigations.	N/A

2.6.3 Pre-Planning Meetings

2.6.3.1 Waterford City and County Council

A pre-planning meeting was held with the Planning Department of Waterford City and County Council in relation to the proposed development prior to the submission of this planning application. The meeting was held on 17th of May 2018 which was attended by representatives of the Planning Department, MKO and Innogy Renewables Ireland (now RWE Renewables, part of the applicant company). Items discussed at the meetings included an overview of the proposal, the planning history of the site, site selection, Development Plan provisions, planning application approach (SID), Environmental Impact Assessment Report, project design/description, visuals, community engagements and cumulative projects.

A second pre-application meeting was held on the 16th of October 2019. During the meeting a number of updates were discussed with Waterford City and County Council; this included a presentation on the proposed layout, the wind farm design process as well as an update on public consultation and the EIAR. The status and progress surrounding the Strategic Infrastructure Development process was also discussed with Waterford County Council.

2.6.3.2 Cork County Council

A pre-application meeting was held with Cork County Council in relation to the proposed development on the 20th of May 2018. Items discussed at the meetings included an overview of the proposal, the planning history of the site, site selection, Development Plan provisions, planning application approach (SID), Environmental Impact Assessment Report, Design/description, visuals, community engagements and cumulative projects.

A second pre-application meeting was held on the 14th of August 2019. During the meeting a number of updates were discussed with Cork County Council, this included a presentation on the proposed layout, the wind farm design process as well as an update on public consultation and the EIAR. The status and progress surrounding the Strategic Infrastructure Development process was also discussed with Cork County Council.

2.6.3.3 SID Meeting- An Bord Pleanála

Pre-application consultations also took place with An Bord Pleanála as part of the Strategic Infrastructure Development process.

The first meeting between the applicant team and An Bord Pleanála was on the 30th of August 2018. During the meeting a presentation of the proposed development was given by the applicant team in which the principle of the proposed development was discussed. This included design, planning history, policy along with the receiving setting. Further aspects such as the proposed grid connection, community consultation and community benefit was also discussed.

A second meeting was held between the applicant team and An Bord Pleanála on the 11th of June 2019. At this meeting a number of further updates were given to An Bord Pleanála including surveys, updated designs along with discussions surrounding the EIAR. At this meeting the Board set out their relevant procedures.

Following the meeting the Board issued a record of the proceedings and the applicants moved to close out the pre-application process. The Board's letter dated the 29th May 2020 confirmed that the proposed development falls within the scope of paragraphs 37A(2)(a) and (b) of the Act. Accordingly, the Board have confirmed that the proposed development would be strategic infrastructure within the meaning of Section 37A of the Planning and Development Act, 2000 (as amended), and that any

application for permission must therefore be made directly to the Board. A copy of this correspondence is included as Appendix 2-3 of this EIAR.

2.6.4 Community Consultation

2.6.4.1 Overview

Engagement with the public, local residents and local public representatives took place in many forms during the project design and preparation of the EIAR. They are as follows:

- › Assigned Community Liaison Officer;
- › Door to door house calls;
- › Newsletters and Ad Mailers;
- › Project Website;
- › Public Events;
- › Multiple Radio Interviews; and,
- › Public information meeting and Virtual Exhibition.

Summary information on all of the above is provided in the following sections. A detailed Community Report is attached as Appendix 2-4 of this EIAR.

2.6.4.2 Initial Community Engagement

In February 2018, RWE Renewables (then Innogy Renewables Ireland) made the first contact with the local community with regard to the potential for development of a renewable energy project in the locality. RWE Renewables notified residents on a voluntary basis of the intended installation of a temporary anemometry (met) mast a letter was hand delivered to all house within 1km of the proposed site boundary. This letter was accompanied by a map showing the location of the temporary anemometry mast.

All elected local representatives in the Dungarvan – Lismore Constituency were provided with the same information by Innogy Renewables Ireland explaining the intentions of the applicant. The purpose of this was so that the elected local representatives were aware of the mast, should they receive enquiries from their constituents.

2.6.4.3 Community Liaison Officer

As outlined previously, a dedicated Community Liaison Officer (CLO) was appointed for the project in April 2018. The CLO was a direct contact between the project team and the local community/interested parties, providing information on the project as required and facilitating one-on one house visits as required.

2.6.4.4 Consultation with Local Representative Group

During follow up calls with elected local representatives regarding the correspondence issued in respect of the temporary met mast, Innogy learned that a Local Representative Group had been formed (which subsequently became the Blackwater Wind Aware Group or BWAG) and were kindly provided contact details for the secretary of this group. The project CLO engaged with the group, answer questions where possible and provide any information that was available at that time.

2.6.4.5 Public Information Evening

A public information event was held on 31st May 2018 at K.G.K. Community Hall, Knockanore, Co. Waterford. The purpose of this information event was to inform the wider public of progress on the

proposed development, to present the proposed site layout and to invite feedback from the local community. The public information event was attended by representatives of the applicant company and MKO Planning & Environmental Consultants.

In August 2020, in light of the ongoing Covid-19 restrictions in place, the applicants established a virtual public exhibition to allow the local community along with those interested in the project to view updated project information, photomontages and the proposed turbine layout. The applicants provided contact details to allow those who wish to give feedback on the project a dedicated line to voice their opinion. The virtual public exhibition can be viewed via the following link:

<https://www.innovision.ie/lyrenacarriga>

2.6.4.6 Door to Door House Calls

For the Stage 1 Consultation process, door-to-door engagement was extended to all houses within 2 kilometres of the proposed development. Firstly door to door house calls were carried out by the community liaison officer (CLO), two Project Managers from RWE and John Aston of Astoneco (a community engagement specialist consultancy between August and October 2018. This was followed by the delivery of two newsletters including a set of Frequently asked Questions compiled from the door-to-door engagement. Thereafter there followed various types of correspondence with near neighbours utilising a central phone line facility, the project email facility and further one-to-one meetings.

In August 2020, due to the restrictions in Ireland owing to the Covid-19 pandemic, the Stage 2 consultation process which was to include door-to-door engagement and a second public information evening hall event has been moved to online platforms, the postal and delivery system, written media and over the phone. This included a virtual online exhibition, posting of project information to the project website and telephone consultation with the local community as their enquiries are received. A more detailed breakdown of this strategy can be found in the ‘Community Report’ which is attached as Appendix 2-4 of this EIAR.

2.6.4.7 Newsletters

RWE issued a letter to all residents within 2km of the proposed development in August 2020 notifying them of the need to change the approach to community consultation considering the Covid-19 situation, with a reminder of all the relevant contacts details for getting in touch. A newsletter was also included to provide an update on the status of the project and a copy of the proposed site layout. The content of the newsletters included:

- Information on the concerns raised at the public information evening, health effects, noise, property values and water quality.
- Summary of the current project status including an update on when the frozen layout would be made available to the public.
- Community benefit fund information.
- An invitation for local businesses to register their interest in supplying to the project.

2.6.4.8 Project Website

A project website was launched on the 1st of June 2018 to provide information surrounding the proposed development to the community in the surrounding areas of the site:

www.lyrewindfarm.com

2.6.4.9 Public Information Event

A public information event was held on 31st May 2018 at K.G.K. Community Hall, Knockanore, Co. Waterford. The purpose of this information event was to inform the wider public of progress on the proposed development, to present the proposed site layout and to invite feedback from the local community. The public information event was attended by representatives of the applicant company and MKO Planning & Environmental Consultants.

In August 2020, in light of the ongoing Covid-19 restrictions in place, the applicants established a virtual public exhibition to allow the local community along with those interested in the project to view updated project information, photomontages and the proposed turbine layout. The applicants provided contact details to allow those who wish to give feedback on the project a dedicated line to voice their opinion. The virtual public exhibition can be viewed via the following link:

<https://www.innovision.ie/lyrenacarriga>

2.6.4.10 Influence of Public Consultation on the Proposed Development

Feedback from the one-to-one meetings was passed on to the Project Design Team on an ongoing and regular basis to allow the feedback from the engagement to inform the design process. Where areas of concern or interest were expressed every effort was made to not only provide accurate information but also to guide the individuals concerned towards sources of accurate information to assist them in the process of informing themselves.

Every reasonable effort was made to understand the views of those living in each household to allow the final design to take consideration of these views to the greatest extent possible. Following feedback from public consultation a number of design revisions were made to the proposed wind farm including a reduction in the number of proposed turbines, the movement of 2 construction site entrances along with changes to the overall layout to further minimise potential impacts on surrounding properties.

A full description of the design evolution of the proposed development and all reasonable alternatives considered is provided in Chapter 3 of this EIAR.

2.7 Cumulative Impact Assessment

The EIA Directive and associated guidance documents state that as well as considering any 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. 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.

2.7.1 Methodology

To gather a comprehensive view of cumulative impacts on the 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 to arise where appropriate. The potential cumulative impact of the proposed development (which includes the proposed means of grid connection) and other relevant existing and/or approved 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 permitted, proposed and constructed projects in the vicinity of the proposed development.

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 assessment was compiled on the relevant developments within the vicinity of the proposed development. The material was gathered through a search of relevant online Planning Registers, reviews of relevant 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 arising from construction, operational and decommissioning phases of the proposed development, and for which all relevant data was reviewed, include those referenced in the planning history section above and listed below.

2.7.2.1 Forestry

The proposed development site is partially used for commercial forestry. This land-use will continue in conjunction with the proposed wind farm. The potential for cumulative effects during the construction, operational and decommissioning phases of the proposed wind farm have therefore been assessed in detail in the relevant chapters of this EIAR, under the key environmental headings.

2.7.2.2 Other Wind Farms

There is a number of permitted wind farms located within a 20-kilometre radius of the proposed development site, as identified in Section 2.5.1 of this Chapter. Any cumulative effects arising from the proposed development in combination with any other wind farm are assessed in detail in the relevant chapters of this EIAR, under the key environmental headings.

2.7.2.3 Other Developments/Land-uses

The review of the Waterford County Council and Cork County Council planning register documents relevant general development planning applications in the vicinity of the proposed site of the wind farm and all its associated works, most of which relate to the provision and/or alteration of one-off rural housing and agriculture-related structures and uses, as described previously above. These applications (which include those listed previously above) 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 particularly water, 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 effects do not arise during 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.